



TEXAS SCIENTIFIC ITALIAN COMMUNITY

UCW UNIVERSITY CANADA WEST

XVIII CONFERENCE OF ITALIAN RESEARCHERS IN THE WORLD

VANCOUVER ~ APRIL 13, 2024

Senato della Repubblica

Camera dei Deputati

Ministero degli Affari Esteri e della Cooperazione Internazionale

Ambasciata d'Italia Ottawa

Consulate General of Italy Vancouver

Istituto Superiore di Sanità

ENEA Agenzia nazionale per le nuove tecnologie, l'energia e lo sviluppo economico sostenibile

AISSI Association of Italian Scholars and Scientists in Israel

Association of Italian Researchers in Japan

ARIA Association of Italian Researchers

ARIM

CALIFORNIA SCIENTIFIC ITALIAN COMMUNITY

MIAMI SCIENTIFIC ITALIAN COMMUNITY

Réseau des Chercheurs Italiens en France – Rete dei Ricercatori Italiani in Francia

SHRO SBARRO HEALTH RESEARCH ORG.

Message from the Conference Chairman

Desidero salutare tutti i partecipanti alla XVIII Conferenza dei Ricercatori Italiani nel mondo.
Ringrazio l'Università Canada West (UCW) ed il suo presidente Bashir Makhoul per l'ospitalità, i professori Giuffrida e Vincenti, il Comitato Organizzatore Tecnico Scientifico, i Presidenti delle Associazioni presenti e tutti i ricercatori che si sono collegati da varie parti del globo. Inoltre voglio evidenziare l'apprezzamento per i messaggi istituzionali ricevuti per l'occasione da parte del Presidente del Senato della Repubblica Ignazio La Russa, del Vice Presidente del Consiglio e Ministro per gli Affari Esteri e la Cooperazione Internazionale Antonio Tajani, del Ministro della Difesa Guido Crosetto, del Ministro della Salute Orazio Schillaci, del Ministro delle Imprese e del Made in Italy Adolfo Urso, dell'Ambasciatore d'Italia in Canada Andrea Ferrari, del presidente dell'Istituto Superiore della Sanità Rocco Bellantone, e dall'addetto scientifico dell'Ambasciata d'Italia a Ottawa la professoressa Costanza Conti.

La manifestazione che si è consolidata nel corso degli anni, conferma un punto di riferimento e di networking per i ricercatori, con il riconoscimento attraverso i patrocini da parte delle Presidenze del Senato e della Camera dei Deputati, dalla Presidenza del Consiglio dei Ministri, dal Ministero degli Affari Esteri, dal Ministero della Salute, dall'Ambasciata d'Italia a Ottawa, dal Consolato Generale d'Italia a Vancouver, dall'Istituto Superiore della Sanità, e dell'ENEA.

Purtroppo, recentemente sono venuti a mancare il Segretario Generale del Consiglio Generale degli Italiani all'Estero, Michele Schiavone, il quale ha seguito negli anni la Conferenza, ed il funzionario del Ministero degli Affari Esteri, il Console Generale Marco Nobili, il quale aveva chiesto di poter svolgere la diciottesima edizione nella città di Vancouver. Impegno che abbiamo mantenuto.

Il 15 Aprile del 1452 nasceva Leonardo da Vinci, una delle grandi menti creative del Rinascimento italiano, inventore e scienziato, artista e scultore, e la lista può andare avanti.
Quest'anno ricorre il 150mo anniversario dalla nascita di Guglielmo Marconi, l'uomo che con le sue scoperte ha lasciato l'impronta più profonda nella storia della tecnologia, inventore della radio, e premio Nobel per la fisica.
Oggi operano nel mondo della scienza e della ricerca talenti Italiani che in maniera esemplare stanno dando un enorme contributo, ottenendo risultati concreti dai loro progetti e a beneficio di tutta l'umanità.

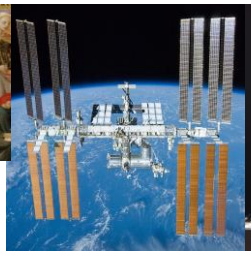
Sono entusiasta della partecipazione di numerosi Rappresentanti di Associazioni dei Ricercatori provenienti da tutti i continenti. Oggi più che mai vi è la necessità di fare rete, di collaborare, perché credo che la ricerca, la scienza ed i ricercatori possano contribuire a favorire non solo l'innovazione, ma anche la pace e la sicurezza nel mondo. Le associazioni sono un valore aggiunto fondamentale per il Sistema Italia, contribuiscono attraverso varie attività nel promuovere la ricerca, l'innovazione tecnologica e la cultura italiana. Pertanto, devono essere sostenute dalle Istituzioni per potenziare il loro raggio di azione.

Buon lavoro e con la stima di sempre.

AD MAIORA

Vincenzo Arcobelli




TEXAS SCIENTIFIC ITALIAN COMMUNITY

UCW UNIVERSITY CANADA WEST

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ucanwest.ca

April 13, 2024

Dear Esteemed Participants and Speakers

It is with immense pleasure and honour that I, Dr. Bashir Makhoul, President and Vice-Chancellor of University Canada West, extend a warm welcome to all of you attending the XVIII Conference of the Italian Researchers in the World. This year, we are privileged to host this distinguished gathering, bringing together illustrious researchers from every continent in the fields of Medicine, STEAM (Science, Technology, Engineering, Arts, and Mathematics), and Humanities.

Our university is thrilled to be the nexus for such an international assembly, showcasing the vibrant and diverse contributions of Italian researchers across the globe. Your work not only advances the frontiers of knowledge and innovation in your respective areas but also critically enhances Italy's international profile through what could be termed 'scientific diplomacy'.

Pursuing cutting-edge scientific research and developing emerging technologies are increasingly becoming interdisciplinary, weaving through our global society's economic, commercial, political, security, defence, and socio-cultural fabrics. In this context, scientific and technological cooperation holds paramount importance, and initiatives like these, forge and reinforce strategic alliances across nations.

Our longstanding tradition of collaboration in science and technology, particularly with our partners, is a testament to the powerful impact of international cooperation. Through institutional agreements and collaborative projects, we continue to foster relationships that bolster our scientific endeavours and contribute significantly to addressing the pressing challenges of our times.

I want to express my profound gratitude to the networks of Italian researchers worldwide for their invaluable contributions to these strategic partnerships. These relationships, grounded in shared principles and values, are essential for navigating today's complex international landscape.

I extend my best wishes for a fruitful and enriching conference to all the participants and speakers. May your discussions and exchanges lead to novel insights, stronger collaborations, and a brighter future for global research and innovation.

Welcome to University Canada West. May you have a memorable and successful conference.

Best wishes

Dr. Bashir Makhoul
President and Vice-Chancellor
University Canada West

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UCW

TEXAS SCIENTIFIC ITALIAN COMMUNITY

UCW UNIVERSITY CANADA WEST

Senato della Repubblica
Il Presidente

XVIII CONFERENZA INTERNAZIONALE DEI RICERCATORI ITALIANI NEL MONDO

Vancouver, 13 aprile 2024

Messaggio del Presidente del Senato

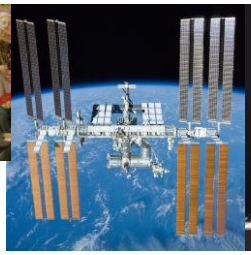
E' con grande piacere che invio il mio saluto in occasione della XVIII Conferenza internazionale dei ricercatori italiani nel mondo: un prestigioso appuntamento ai più alti livelli accademici e scientifici a cui sono stato lieto di riconoscere il patrocinio del Senato della Repubblica.

I talenti, le capacità e le instancabili energie dei tanti studiosi e scienziati italiani che, ovunque nel mondo, sono protagonisti di ambiziosi progetti e fondamentali conquiste in ogni settore del sapere e dell'innovazione rappresentano una ricchezza di cui, come Nazione, abbiamo il dovere di essere fieri e orgogliosi.

In tale cornice, desidero esprimere il mio sincero apprezzamento per l'entusiasmo e la dedizione con cui importanti realtà, come la Comunità scientifica italiana Texas, organizzatrice di questo meeting, si dedica alla valorizzazione della ricerca e dell'innovazione tecnologica italiana negli Stati Uniti ed alla creazione di preziose sinergie e collaborazioni tra i nostri Paesi e il resto del mondo sul piano scientifico e culturale così come su quello economico e produttivo.

Un impegno che, oltre ad accrescere il prestigio dell'Italia in ogni consesso scientifico internazionale, richiama l'attenzione sul valore essenziale e irrinunciabile della ricerca nell'ambito di ogni strategia di sviluppo sociale ed economico che possa dirsi veramente solida, vincente e lungimirante.




Senato della Repubblica
Il Presidente

Rinnovo quindi i miei auguri nella certezza che l'esperienza di questo meeting, insieme al confronto di idee, progetti e prospettive, contribuirà a promuovere un positivo spirito di coesione e cooperazione verso un futuro sempre più ricco di speranze e di opportunità per le generazioni di oggi e per quelle di domani.

MESSAGGIO DI SALUTO DEL VICE PRESIDENTE DEL CONSIGLIO DEI MINISTRI E MINISTRO DEGLI AFFARI ESTERI E DELLA COOPERAZIONE INTERNAZIONALE, ON. ANTONIO TAJANI, IN OCCASIONE DELLA XVIII CONFERENZA DEI RICERCATORI ITALIANI NEL MONDO

(Vancouver, 13 aprile 2024)

Rivolgo il mio più caloroso saluto a tutti i partecipanti alla Conferenza dei Ricercatori Italiani nel Mondo.

Questa iniziativa è una preziosa occasione per valorizzare il lavoro dei nostri talenti all'estero. Un patrimonio di circa 30 mila scienziati che lavorano nei centri di ricerca più avanzati del pianeta come nei Paesi emergenti, dando prestigio e visibilità al nostro sistema accademico e scientifico.

L'Italia ambisce a diventare un grande laboratorio di innovazione e crede fortemente nella ricerca scientifica quale strumento di pace e collaborazione internazionale.

Il Governo italiano e il Ministero degli Esteri sono in prima linea in una forte azione di diplomazia scientifica.

Uno sforzo corale che coinvolge il Ministero dell'Università e della Ricerca e altri Dicasteri, le Università, i Centri di ricerca, le imprese. Un gioco di squadra nel quale è prezioso il contributo che viene dalla rete degli Addetti scientifici che lavorano presso Ambasciate, Rappresentanze Permanenti e Consolati italiani all'estero e che riuniremo nei prossimi giorni a Torino.

A luglio ospiteremo a Bologna e Forlì la riunione G7 dei Ministri della Scienza e Tecnologia. In quella occasione ci concentreremo – tra le altre – sulla cooperazione nel settore delle grandi infrastrutture di ricerca, ambito nel quale l'Italia è in prima linea anche con riferimento al suo sforzo per portare in Sardegna il Progetto *Einstein Telescope*.

Allo stesso modo, discuteremo di promozione della scienza aperta, anche nel quadro di una più stretta collaborazione scientifica con l'Africa. Un tema sul quale sono impegnati diversi centri italiani di eccellenza e numerose organizzazioni scientifiche internazionali ospitate nel nostro Paese, come quelle del Polo Scientifico di Trieste.

TEXAS SCIENTIFIC ITALIAN COMMUNITY

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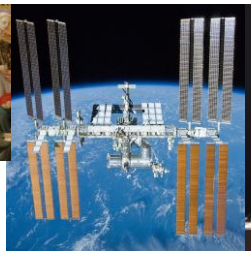
La Conferenza dei Ricercatori Italiani nel Mondo contribuisce a diffondere e valorizzare l'immagine positiva di un'Italia all'avanguardia in tanti settori della ricerca e dell'innovazione, dalla fisica, alla biologia, alla ricerca spaziale e molti altri ancora.

Su tutto questo il Governo c'è ed è pronto a fare la sua parte, anche per rendere il Paese e il suo sistema scientifico ancora più attraente per i ricercatori stranieri.

Contate su di me, contate sul Governo, buon lavoro!

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Il Ministro della Difesa

Messaggio del Ministro della Difesa
XVIII Conferenza dei ricercatori italiani nel mondo

Gentile Professore Giuffrida,

desidero innanzitutto esprimere i miei più sentiti complimenti per l'organizzazione di un evento così prestigioso, impreziosito da numerosi ricercatori italiani di spicco, che ogni giorno contribuiscono ad accrescere la reputazione e l'immagine del nostro Paese, distinguendosi per i contributi scientifici e nel campo dell'innovazione.

Questa Conferenza infatti rappresenta una vetrina dell'eccezionale Italianità, espressione migliore del talento e dell'impegno della nostra comunità scientifica a livello internazionale. Del resto, i ricercatori italiani hanno da sempre contribuito alla crescita, allo sviluppo e alla ricerca, nei settori più disparati: lo testimoniano i numerosi premi Nobel assegnati ai nostri connazionali, da Rita Levi Montalcini per la fisiologia e la medicina; da Enrico Fermi a Carlo Rubbia, fino al recente riconoscimento a Giorgio Parisi per la fisica; solo per ricordarne alcuni.

La collaborazione tra la le realtà della Difesa e la comunità scientifica è di importanza strategica, specialmente in ambiti così rilevanti per il progresso e la sicurezza come l'aerospazio, la difesa e le tecnologie emergenti. Investire nella ricerca scientifica pura, quella che sembra più lontana dall'esperienza quotidiana, significa aumentare a medio e lungo termine il benessere collettivo, per le ricadute tecnologiche, spesso originali e imprevedibili, che i risultati, le scoperte, generano in ogni campo del sapere.

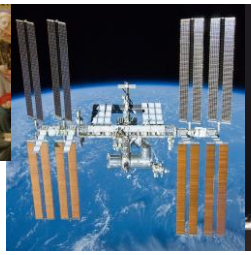
Ne è certamente un esempio il dominio dello "Spazio", uno dei settori dove la Difesa impiega uomini e risorse, e che continua a essere utile anche nello sviluppo di capacità in ambito civile favorendo il progresso delle comunicazioni satellitari, lo studio della meteorologia e la prevenzione dei cambiamenti climatici. Altri esempi sono la sperimentazione in microgravità e nel vuoto: essa rappresenta la nuova frontiera per il collaudo di mezzi e materiali, che possono accelerare lo sviluppo tecnologico in molti settori, con importanti ricadute sul benessere della collettività e sull'economia.

A tal proposito voglio ricordare il Colonnello dell'Aeronautica Militare Walter Villadei, i cui numerosi esperimenti condotti a bordo della Stazione Spaziale Internazionale, come quelli sull'aggregazione di proteine alla base di malattie come l'Alzheimer o il Parkinson, potranno avere un'importanza rilevante per gli studi di medicina e di genetica.

A causa di impegni istituzionali precedentemente stabiliti, non mi sarà possibile partecipare di persona, tuttavia, desidero esprimere il mio profondo interesse per i risultati che emergeranno dai lavori della conferenza. Colgo l'occasione per salutare Lei e tutti i partecipanti, con l'augurio di rafforzare ulteriormente il legame tra la comunità scientifica italiana e il mondo della ricerca e dell'innovazione.

On. Guido CROSETTO




Ministero della Salute

Messaggio del Ministro della Salute Orazio Schillaci

XVIII CONFERENZA DEI RICERCATORI ITALIANI NEL MONDO

13 aprile 2024

Desidero rivolgere il mio saluto ad Andrea Giuffrida, presidente della Texas Scientific Italian Community, ai relatori e a tutti i partecipanti alla XVIII Conferenza dei ricercatori italiani nel mondo.

Nel corso dei secoli, i ricercatori italiani hanno lasciato un'impronta indelebile nel panorama scientifico e medico, migliorando la vita di milioni di persone in tutto il mondo. Durante un recente viaggio negli Stati Uniti, ho avuto il privilegio di incontrare numerosi e brillanti ricercatori italiani, i quali lavorano con passione e dedizione in istituzioni di prestigio internazionale. Le loro storie di successo sono testimonianza del talento e della capacità che caratterizzano la nostra comunità scientifica.

È mia ferma intenzione promuovere attivamente il loro ruolo nel rafforzare i legami tra l'Italia e il resto del mondo, poiché ritengo che la circolazione delle competenze sia necessaria per il progresso scientifico e sociale. Investire nei talenti e nella ricerca è fondamentale per affrontare le sfide del nostro tempo e per costruire un futuro più sano, sostenibile e inclusivo per tutti. Lavorare insieme, condividere conoscenze e idee, superare confini e barriere sono leve strategiche nella lotta contro le malattie, le emergenze sanitarie e le disuguaglianze.

Ringrazio la Texas Scientific Italian Community per il suo impegno nel promuovere la ricerca e la collaborazione scientifica tra l'Italia e il Texas, nonché per il sostegno ai ricercatori italiani nel mondo. L'Italia e gli Stati Uniti hanno una lunga storia di collaborazione nel campo della ricerca scientifica e medica che ha contribuito in modo significativo al patrimonio globale della conoscenza.

A tutti voi, auguro buon lavoro.

Il Ministro delle Imprese e del Made in Italy

XVIII Conference of Italian Researchers in the World

13 aprile 2024

Messaggio

Desidero anzitutto congratularmi con il Professor Giuffrida per la levatura e gli obiettivi che il convegno da Ella ha organizzato si pone: purtroppo la fitta agenda di iniziative mi impedisce oggi di essere con voi, in occasione della XVIII Conferenza dei Ricercatori Italiani nel Mondo.

Il contributo che gli Italiani danno continuamente al sistema della ricerca nel mondo è eccezionale ed è al centro dell'attenzione di questo Governo: l'articolazione dell'iniziativa che Ella ha sottoposto al patrocinio del Ministero delle Imprese e del Made in Italy ne fa testimonianza, per ampiezza dei temi affrontati e anche per il livello dei contributi.

Quest'anno l'Italia è al centro dell'attenzione del mondo per la Presidenza del G7: il nostro Ministero ha animato, esattamente un mese or sono, insieme al Dipartimento per la Trasformazione Digitale, la prima delle

Conferenze Ministeriali, quella dedicata all'Industria, alle Tecnologie e al Digitale.

Durante questo appuntamento, preceduto da un Dialogo tra Ministri G7 e i rappresentanti dell'industria – i B7 – sono stati affrontati temi centrali per le nostre imprese e per la società nel suo insieme, a partire dal contributo che un'Intelligenza Artificiale fortemente ancora ai principi etici e valoriali, ove supportata da un quadro regolatorio allineato tra i Paesi *likeminded,* potrà dare allo sviluppo dell'intera umanità. Questo messaggio arriverà anche ai Capi di Stato e di Governo del G7, che si riuniranno nel Vertice dei Leader a Giugno. È nostro auspicio, e convinzione, che essi possano raccogliere e rilanciare questo messaggio: che un'AI opportunamente regolata possa divenire una fonte di prosperità e benessere tutte le nazioni. Ed è anche per questo che l'Italia si è impegnata nello sviluppo di un AI Hub for Development: un'iniziativa, ma anche un luogo fisico, dove i migliori talenti e le migliori capacità del G7 e delle economie emergenti possano mettere a sistema le forze, per garantire una migliore e maggiore diffusione di questa tecnologia, e in prospettiva di altre tecnologie emergenti, a servizio di cittadini, imprese e Governi.

Questo stesso spirito ispira i nostri sforzi per garantire più investimenti comuni in questo settore tra i Paesi *likeminded*, e una maggiore protezione delle nostre idee e delle nostre imprese. In questo contesto, uno degli ambiti di maggiore interesse è proprio quello della ricerca scientifica, cui l'AI, insieme ad altre tecnologie emergenti e abilitanti, può conferire una accelerazione impressionante.

Il ruolo degli scienziati e dei ricercatori, e della collaborazione tra loro e l'industria è centrale. A noi policy makers spetta creare una cornice dove sia possibile lavorare di più e meglio, in un contesto di Paesi che condividono valori e visioni; far sì che il privato ed il pubblico possano investire più velocemente e in un'ottica trans-nazionale, per accrescere la massa critica ed accelerare il passo dell'innovazione; mettere in atto azioni che accelerino la catena di trasmissione tra ricerca, industria, piccole medie imprese e società e diffondano competenze tra la forza lavoro ed i cittadini quanto più velocemente possibili.

Ci attendono, nei prossimi anni, tempi in cui la collaborazione tra Governi, sistema della ricerca e start-up sarà centrale: l'Italia, con il suo Centro di Innovazione a San Francisco, e con il suo Global Start-up Program, vanta un'eccellenza nel supporto a questa positiva forma di contaminazione tra

ecosistemi e talenti a livello internazionale, che nei prossimi mesi intendiamo rafforzare e potenziare. E la presenza di tanti Italiani di talento, di prima e successiva generazione, nel Nord America, rappresenta un asset che tutti noi intendiamo valorizzare.

Le giungano di nuovo le mie più vive congratulazioni per la riuscita del convegno e i miei più fervidi auguri di buon lavoro.

Adolfo Urso

TEXAS SCIENTIFIC ITALIAN COMMUNITY

UCW UNIVERSITY CANADA WEST

L'Ambasciatore d'Italia
Ottawa

È con grande piacere che rivolgo il mio saluto a tutti i partecipanti della XVIII edizione della "Conferenza dei Ricercatori Italiani nel Mondo" che si svolge quest'anno a Vancouver grazie al lavoro del compianto collega, il Console Generale Marco Nobili. La conferenza, organizzata da The Texas Scientific Italian Community in partnership con la University Canada West ed aperta a tutti i ricercatori italiani attivi nel mondo, ha lo scopo di valorizzarne il contributo scientifico e promuovere la divulgazione dei risultati delle loro ricerche. L'obiettivo è lo stesso della "Giornata della ricerca italiana nel mondo", istituita dal Ministero dell'Istruzione, dell'Università e della Ricerca, d'intesa con il Ministero degli Affari Esteri e della Cooperazione Internazionale e il Ministero della Salute, il 15 aprile, per celebrare la nascita di Leonardo Da Vinci. L'ingegno italiano, che nel corso dei secoli ha saputo esprimersi nel lavoro di scienziati, poeti, artisti, navigatori, sa oggi rivelarsi al mondo intero anche in termini di innovazione, tecnologia e sviluppo.

Nel corso della mia carriera, ho sempre guardato con interesse ed attenzione al rapporto con i nostri connazionali impegnati in fondamentali attività di ricerca. Il vostro apporto è particolarmente prezioso per l'avanzamento del sapere nei diversi ambiti della conoscenza, perché la ricerca è il volano fondamentale dello sviluppo e dell'innovazione. Ma non solo, gli scienziati possono svolgere un ruolo cruciale favorendo la cooperazione fra Paesi attraverso una fondamentale azione di "diplomazia scientifica" particolarmente importante oggi alla luce delle delicate contingenze internazionali. Ogni ricercatore Italiano che lavora all'estero promuove quotidianamente, con professionalità e passione, la Scienza, la Tecnologia e la Cultura Italiana facilitando l'internazionalizzazione della nostra ricerca e del Sistema Italia e contribuendo al dialogo ed allo sviluppo delle relazioni bilaterali. Mai come adesso c'`e bisogno della scienza per tenere aperto il dialogo fra Paesi in conflitto, e per governare, sulla base di dati e conoscenze, tematiche complesse quali il cambiamento climatico o le pandemie. La ricerca scientifica, a sua volta, ha bisogno della diplomazia per proiettarsi sulla scena internazionale e per lavorare a grandi progetti e fare fronte a grandi sfide perché scienza, tecnologie e sviluppo assumono una dimensione sempre più trasversale investendo la sfera economica, commerciale, politica, sociale e culturale di ogni paese.

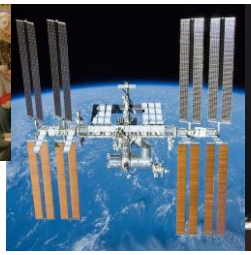
Concludo osservando che sono molto contento che la conferenza di quest'anno si svolga in Canada perché Canada e Italia sono amici, partner e alleati che condividono l'impegno a favore dell'azione per il clima, dell'innovazione e di tutte le pressanti sfide globali che vanno dalla Governance dell'intelligenza artificiale, alla cybersecutiry, allo Spazio. L'Italia ha molte competenze da offrire al Canada e questa conferenza ne è la prova.

Ringrazio tutte le persone che hanno lavorato all'organizzazione di questa bella e stimolante iniziativa e tutti gli scienziati che hanno accettato di "raccontare" i propri risultati, dimostrando non solo passione per le proprie ricerche ma anche attaccamento al proprio Paese.

A tutti voi vanno i miei migliori auguri di buon lavoro ed i miei auspici che questa possa essere una proficua occasione di incontro, scambio e crescita.

Andrea Ferrari

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Program

XVIII Conference of Italian Researchers in the World
Vancouver - April 13, 2024

09:00 (PDT) – 18:00 (Italian Time) – Moderated by

Marzio Pelu'
Journalist – Editorial Staff
Corriere Canadese
Content Editor - Cnmng News

09:00 Welcome

Bashir Makhoul
President University Canada West

Michele Vincenti
Dept. Chair of Leadership and People Management Faculty-University West Canada-
XVIII Conference Executive Director

Andrea Giuffrida
President Texas Scientific Italian Community (TSIC)

Costanza Conti
Scientific Attaché
Embassy of Italy in Canada

09:30 Opening Remarks

Vincenzo Arcobelli
Conference Chairman
Rep. General Council for Italians Abroad - (CGIE)

Rocco Bellantone
President of the Higher Institute of Health

09:40 Research - Global Engagement

Giuseppe Ciccarone
Vice-Rector
Deputy Rector for Internationalization Policies and the Third Mission,
Full Professor of Economic Policy, Dept. of Economics and Law, Sapienza University, Roma
International research excellence at Sapienza University: agreements and opportunities for young scholars

Stefano Boccaletti
Ph.D., Director of Research at the Institute of Complex Systems of the Italian CNR, Florence.
Complex networks: theory and applications

Alessandro De Lorenzo
Major General, Test Pilot,
Commander of the Air Test Division, ITAF Logistics, Italy;
Fabrizio De Paolis
Col. Ph.D. in Chemical Science, Chief of the Aerospace Material and Technologies Dept., Air Test Division
Sustainable Aviation Fuel - The Italian Air Force Experience

10:30 Associations of Italian Researchers Abroad- "Their Role"

Fabio De Furia
President, Miami Scientific Italian Community (MSIC)

Ilaria Pagani
President, Association of Italian Researchers in Australia (ARIA)

Cristina Bettin
President, Association of Italian Scholars and Scientists in Israel (AISSI)

Sarah Cosentino
President, Association of Italian Researchers in Japan (AIRJ)

Rossana De Angelis
President, Rete dei Ricercatori Italiani in Francia (RÉCIF)

Rosanna Bonasia
President, Associazione Ricercatori Italiani in Messico (ARIM)

Antonio Giordano
President, Sbarro Institute for Cancer Research (SHRO), USA.

Francesco Zappalà
Board of Directors, ARPICO (Society of Italian Researchers & Professionals in Western Canada)

11:40 Sessions Presentation

AEROSPACE

Walter Villadei
Col. Astronaut, Head of the Italian Airforce Representative in the US for the activities of Access to Space within the Commercial Spaceflight Axiom Space, Inc.
From the ISS to the new space stations. Opportunities and Perspectives

MEDICINE
Moderators
Ilaria Stefania Pagani
Ph.D., Affiliate Senior Lecturer, Faculty of Health and Medical Sciences, Leukaemia Research Group, Cancer Program SAHMRI, Adelaide, Australia

Sara Damiano
Ph.D., Researcher at the Department of Veterinary Medicine and Animal Production, University of Naples

TEXAS SCIENTIFIC ITALIAN COMMUNITY

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Program

XVIII Conference of Italian Researchers in the World
Vancouver - April 13, 2024

Viviana Vella
Ph.D., Dept. Biochemistry and Biomedicine, School of Life Sciences, University of Sussex, UK
Kinome-Wide Synthetic Lethal Screen Identifies PANK4 as a Modulator of Temozolomide Resistance in Glioblastoma

Raffaele Sarnataro
Ph.D., Research Scientist in Neuroscience Centre for Neural Circuits and Behaviour, University of Oxford, England
Mitochondrial Origins of Sleep Pressure Control

Maddalena Parafati
Ph.D., Dept. of Pharmacodynamics, College of Pharmacy, University of Florida, Gainesville
Human Skeletal Muscle-on-a-Chip to Model Tissue Formation and Disease Mechanisms: Opportunity to Study the Impact of Microgravity at the Molecular Level

Sara G.M. Piccirillo
Ph.D., Assistant Professor, Dept. Cell Biology and Physiology
Full Member, UNM Comprehensive Cancer Center
The Brain Tumor Translational Laboratory,
University of New Mexico Health Sciences Center, USA
Single-Cell and functional phenotyping analysis of glioblastoma infiltrative margin

Antonio Colaprico
Ph.D. Associate Scientist, Dept. Public Health Sciences and Sylvester Comprehensive Cancer Center, University of Miami Miller School of Medicine, Florida.
Multi-omics analysis identifies therapeutic vulnerabilities in triple-negative breast cancer subtypes

Maria Cuomo
Ph.D., Medical Biotechnologies at the Sbarro Health and Research Organization (SHRO), Temple University, Philadelphia
The Ubiquitination of UFL1 by the APC/C complex may affect the DNA repair pathway choice

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13:10

STEAM
Moderators
Simone Lucatello
National Council of Science and Technology (CONACYT) Mexico, Coordinator Leader report GEO 7 United Nations Program (UN) and Environment (UNEP)
International Environmental Scientific Diplomacy and GEO-7

Andrea Giuffrida
Ph.D., Senior Vice President for Research & Biotechnology Western University of Health Sciences, California

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Emanuele Dalla Torre
Ph.D. Associate Professor, Dept. Physics, Bar-Ilan University, Israel.
Leveraging Quantum-Inspired Optimization for Enhanced FoodTech Solutions: A Case Study of QuantyMize and Maiora Partnership

Elisabetta Boaretto
Ph.D., Professor, Scientific Archaeology Dept. Weizmann Institute of Science, Rehovot, Israel
Jerusalem and its architectural monuments: how to reconstruct the urban development using micro archaeological methods, radiocarbon dating while uncovering the archaeological record

Liliana Mammino
Ph.D., Faculty of Science, Engineering and Agriculture, University of Venda, South Africa
Computational studies of antioxidant acylphloroglucinols: an overview

Dalila Iannotta
Ph.D., School of Chemical Engineering, University of Queensland Australia
Unlocking the Potential of Extracellular Vesicles: Innovative Strategies for Purity, Precision, and Therapeutic Impact

Antonio D'Amore
Ph.D., Associate Professor
University of Pittsburgh, Dept. of Surgery and Bioengineering McGowan Institute For Regenerative Medicine;
Pietro Terranova
Ph.D., Scientist, Cardiovascular Tissue Engineering LAB Fondazione Ri.MED, Palermo, Italy McGowan Institute for Regenerative Medicine, University of Pittsburgh, USA
Grooved Double Component Mitral Shaped Collector To Mimic The Native Curvilinear Fiber Arrangement for a Tissue-engineered Mitral Valve

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XVIII Conference of Italian Researchers in the World
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Luciana Duranti
Ph.D. Professor, Information Studies. The University of British Columbia, Vancouver, Canada
PI, I Trust AI. Chair, Canadian Government Standards Board Committee for the Standard on Electronic Records as Documentary Evidence.
Paradata for Accountable AI

14:25

HUMANITIES
Moderator
Simona Palladino
Ph.D., Senior Lecturer in Social Sciences, School of Social Sciences Liverpool Hope University, UK

Alessandro Carrera
Ph.D., Professor, University of Houston, Texas, USA
The Politics of Desire: Carlo Sini reads Plato's *Republic*

Maria Carlotta Avanzi
Assistant Professor, Akita Prefectural University, Japan
Seventh Century Japanese Art and its Contextualization in East Asia Art History

Luisa Villani
Ph.D., Professor of Anthropology, Autonomous National University of Mexico, Mexico City
A Text in Movement: a Performance-Linguistics Theory

Hélène H. Leone
Ph.D., Dept. Leadership and People Management, Global Governance Project, University Canada West, Vancouver, BC. Canada
UN SDG action and impact in Italy: A cross-border study of school-university partnerships

15:25 (PDT) Conclusion

Ph.D., Michele Vincenti
XVIII Conference Executive Director

Ph.D., Andrea Giuffrida
President, Texas Scientific Italian Community

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ucanwest.ca

April 13th, 2024

Subject: Welcome to the XVIII Conference of Italian Researchers in the World

Dear Esteemed Colleagues and Guests,

On behalf of University Canada West (UCW) and the organizing committee, it is with immense pleasure and pride that I extend a warm welcome to all participants at the XVIII Conference of Italian Researchers in the World, held in the vibrant city of Vancouver, British Columbia.

This year, we are privileged to host an exemplary array of Italian academic talent drawn from five continents, showcasing groundbreaking advancements and research in fields as diverse as medicine, STEM, and the humanities. Your contributions underline the rich tapestry of Italian intellectual prowess and its pivotal role in global academic dialogue.

We are honored to have received commendations and letters of support from the highest representatives of the Italian government and prominent professional organizations in Italy. These endorsements not only elevate the prestige of our assembly but also reaffirm the global impact of Italian academia.

As the Executive Director of this esteemed event, it is a great honor for me to facilitate a platform where Italian excellence is celebrated and shared with the world. The insights and knowledge exchanged here will undoubtedly foster collaborations, inspire innovation, and continue to enhance the reputation of Italian researchers internationally.

We are thrilled to facilitate this gathering of distinguished minds and look forward to the enriching sessions, discussions, and networking opportunities that await us over the coming days.

Once again, welcome to Vancouver and to the XVIII Conference of Italian Researchers in the World. May your stay be both productive and enjoyable.

Warm regards,

Michele Vincenti, Ph.D.

Executive Director
XVIII Conference of Italian Researchers in the World
University Canada West
Vancouver, British Columbia, Canada

University Canada West | www.ucanwest.ca | info@ucanwest.ca
1461 Granville Street, Vancouver, BC

UCW

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Andrea Giuffrida, PhD, MBA
President, Texas Scientific Italian Community

Senior Vice President for Research & Biotechnology
Western University of Health Sciences, Pomona, CA

Dear Colleagues,

It fills me immense joy to extend a warm welcome to each and every one of you to the 18th Conference of Italian Researchers in the World. This remarkable gathering stands as a testament to the support and collaborative spirit fostered by our organization and various partners.

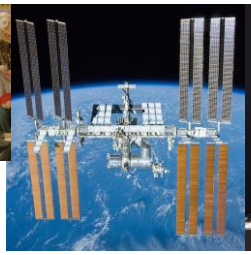
I am deeply grateful to the University of Canada West, President Bashir Makhoul, and Dr. Michele Vincenti for graciously hosting us on their beautiful campus. Our appreciation also extends to all the attendees joining us from Italy and beyond. It is truly an honor to be surrounded by such esteemed colleagues and partners as we embark on this shared endeavor.

In addition, I wish to express my gratitude for the endorsements received from numeorus representatives of Italian government entities. In particular, I would like to recognize the contributions of the President of Istituto Superiore della Sanita', Rocco Bellantone, the Presidenza del Consiglio dei Ministri, and the scientific attache' of the Embassy of Italy in Canada, Dr. Costanza Conti, among other distinguished personalities listed in our program, including Dr. Giuseppe Ciccarone from Sapienza University in Rome, Dr. Stefano Boccaletti from the Institute of Complex System of the CNR, and Drs. De Paolis and DeLorenzo from the Air Test Division of the Italian AirForce Logistics.

A special thanks goes out to all participating national and international research associations, including the Miami and California Scientific Italian Communities, the Associations of Italian Researchers in Australia, Japan and Mexico, the Association of Italian Scholars and Scientists in Israel, the Rete dei Ricercatori Italiani in Francia, the Sbarro Institute for Cancer Research, and the Society of Italian Researchers and Professionals in West Canada. Their presence and support underscore the prestige of this conference, which has evolved over the years into a premier platform for scientific exchange worldwide, as well as an opportunity to recognize and celebrate the excellence and the tremendous impact that Italian scientists have had at home and internationally.

It is exciting to see so many speakers sharing with us the highlights of their research journeys, the outstanding technological and scientific developments, and the deep connections and collaborations with our country of origin, covering a wide array of disciplines including aerospace, medicine, STEAM (Science, Technology, Engineering, Arts and Math) as well as a session on the HUMANITIES.

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Last but not least, I would like to thank Chairman Vincenzo Arcobelli and the entire organizing committee for compiling such an impressive agenda and for offering a live streaming of the conference on the TSIC Facebook page to facilitate attendance and participation.

With great respect and admiration,

Andrea Giuffrida, PhD, MBA

Costanza Conti
Scientific Attaché
Embassy of Italy in Canada

Costanza Conti, professore di Analisi Numerica all' Università' di Firenze, è dal gennaio 2023 Addetto Scientifico all'Ambasciata Italiana di Ottawa, Canada. Laureata in Matematica all'Università degli studi di Firenze ha conseguito il Dottorato di Ricerca in Matematica Applicata ed Informatica all' Università degli Studi di Napoli Federico II in co-tutela con l' INSA di Toulouse in Francia, dove ha trascorso diversi periodi di studio.

È stata visiting scientist presso diverse istituzioni straniere fra cui Hohenheim Universität in Germania, Tel Aviv University in Israele, Università della Svizzera Italiana i Svizzera, Universität Wien in Austria e l' Universitat de València in Spagna.

L' attivita' di ricerca della prof.ssa Costanza Conti e' stata sempre incentrata su tematiche di Approximation Theory, Geometric mathematical modeling, Computer Aided Geometric Design, Wavelets and frames method, Mathematical methods in Image and Signal Processing; Splines and Application to Data Analysis.

In collaborazione con quasi di 50 studiosi provenienti da più di 10 diversi paesi, ha pubblicato circa 90 articoli scientifici con h-index pari a 19. Inclusa nell' Editorial Board di riviste internazionali di matematica applicata serve spesso in qualità di referee di progetti e di riviste internazionali. Nel corso degli anni ha tenuto contributi e relazioni su invito a conferenze nazionali ed internazionali ed ha organizzato circa 20 eventi scientifici fra summer schools, conferenze e workshops in collaborazioni con importanti studiosi del settore. Recentemente si e' dedicata all'attivita' di coordinamento e direzione di associazioni e reti di ricercatori quali la International Association for Mathematics and Computer in Simulation, la Rete Italiana di Teoria dell' Approssimazione ed il Gruppo UMI Teoria dell' Approssimazione e Applicazioni.

Con la nuova posizione di Addetto Scientifico all'Ambasciata ha cominciato ad interessarsi ai temi della Diplomazia Scientifica.

MODERATOR

Marzio Pelù

Marzio Pelù, 54 years old, is an Italian professional journalist, teacher and songwriter.

After 25 years as a journalist in Italy, both as a reporter and in top roles, he currently works as reporter at Corriere Canadese, the most important Italian newspaper in print and digital form in North America, and he manages the website and all social platforms of the same newspaper and of the web agency CNMNG NEWS, based in Toronto.

He also teaches Italian at the Dante Alighieri Society of British Columbia, and he holds private lessons of Latin and Ancient Greek, since he earned his Bachelor's and Master's Degree in Classics from the University of Pisa, in Italy.

He is a songwriter too: he regularly performs live, offering original songs, Italian oldies and rearrangements of pop-rock classics.

Until he was in Italy, he also held classes of Journalism, Italian and Music in schools of all grades and, as a volunteer, in juvenile and adult prisons.

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RESEARCH – GLOBAL ENGAGEMENT

Giuseppe Ciccarone

Giuseppe Ciccarone is the Vice Rector of the Sapienza University of Rome and a Full Professor of economic policy at the Department of Economics and Law of the same University.
After graduating in Economics at Sapienza University of Rome, he was awarded the M.Phil in Economics and the Ph.D. in Economics at the University of Cambridge. He was then Post-Doctoral Fellow at the Department of Economics of Harvard University.

Starting in Sapienza University as an Assistant Professor in 1991, he became Full Professor in 2001. From 2011-2017 he was the Dean of the Faculty of Economics and from 2018-2021 he was the Director of the Sapienza School for Advanced Studies.

He is the Editor in Chief of Economia & Lavoro – Interdisciplinary review of economic policy, sociology and industrial relations, a member of the Avisory Board of Labour – Review of labour economics and industrial relations – and a member of the Editorial Boards of the Eurasian Economic Review, of the Bulletin of the North Caucasus Federal University and of the Central Asian Review of Economics and Policy.

His main research interests are in labor economics and in monetary economics and policy, with particular attention to dynamic stochastic general equilibrium models. His recent work has focused on the ability of financial imperfections to modify the effects of monetary policy on rational asset price bubbles and the role of undeclared work in affecting labor market dynamics. He also devoted substantial research effort to behavioral economics and its applications, pioneering the introduction of imperfect rationality into macroeconomic general equilibrium models. He is also interested in experimental economics and is a co-founder of the CIMEO Lab (Center for Investigation and Modelling of Economic Observations) at Sapienza University.

He presented his work and delivered keynote speeches in many international conferences. He is the author of several books and his articles have been published in important Italian and international scientific journals like: Economic Theory, Journal of Economic Behavior and Organization, Public Choice, Macroeconomic Dynamics, Economics Letters, Journal of Macroeconomics, Economic Modelling, B.E. Journal of Macroeconomics, Review of Political Economy, Journal of Modern Italian Studies.

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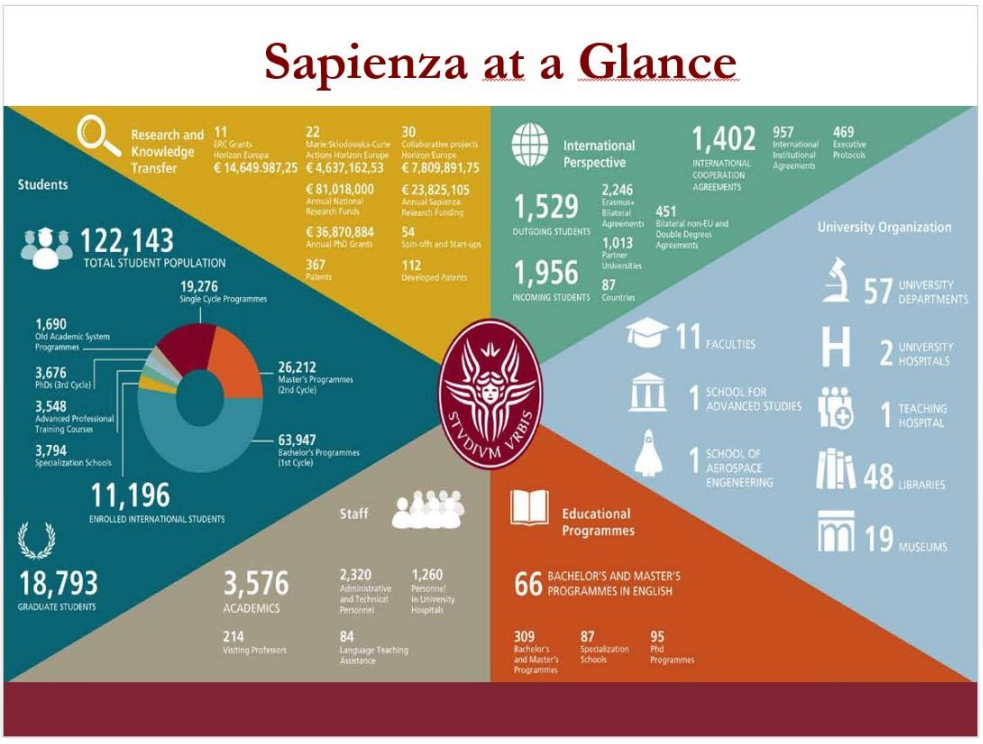

Stefano Boccaletti

Received the PhD in Physics at the University of Florence on 1995, and a PhD *honoris causa* at the University Rey Juan Carlos of Madrid on 2015.

He was Scientific Attache' of the Italian Embassy in Israel during the years 2007-2011 and 2014-2018. He is currently Director of Research at the Institute of Complex Systems of the Italian CNR, in Florence.

His major scientific interests are *i)* pattern formation and competition in extended media, *ii)* control and synchronization of chaos, and *iii)* the structure and dynamics of complex networks.

He is Editor in Chief of the Journal "Chaos, Solitons and Fractals" (Elsevier) from 2013, and member of the *Academia Europaea* since 2016. He was elected member of the Florence City Council from 1995 to 1999. Boccaletti has published 302 papers in peer-reviewed international Journals, which received more than 36,200 citations (Google Sholar). His h factor is 71 and his i-10 index is 232. With more than 12,300 citations, the monograph ¨Complex Networks: Structure and Dynamics¨, published by Boccaletti in Physics Reports on 2006 converted into the most quoted paper ever appeared in the Annals of that Journal.

COMPLEX NETWORKS: THEORY AND APPLICATIONS

Stefano Boccaletti

Networks are all around us, and we are ourselves, as individuals, the units of a network of social relationships of different kinds and, as biological systems, the delicate result of a network of biochemical reactions.

Networks can be tangible objects in the Euclidean space, such as electric power grids, the Internet, highways or subway systems, and neural networks. Or they can be entities defined in an abstract space, such as networks of acquaintances or collaborations between individuals.

Historically, the study of networks has been mainly the domain of a branch of discrete mathematics known as "graph theory", which was initiated in 1736, when the Swiss mathematician Leonhard Euler published the solution to the Königsberg bridge problem (consisting in finding a round trip that traversed each of the bridges of the prussian city of Königsberg exactly once).

The last 25 years, however, have witnessed the birth of a new movement of interest and research in the study of complex networks, i.e. networks whose structure is irregular, complex and dynamically evolving in time, with the main focus moving from the analysis of small networks to that of systems with thousands or millions of nodes, and with a renewed attention to the properties of networks of dynamical units. This flurry of activity has seen the physics' community among the principal actors, and has been certainly induced by the increased computing powers and by the possibility to study the properties of a plenty of large databases of real networks. These include transportation networks, phone call networks, the Internet and the World Wide Web, the actors' collaboration network in movie databases, scientific coauthorship and citation networks from the Science Citation Index, but also systems of interest in biology and medicine, as neural networks or genetic, metabolic and protein networks. The first approach to capture the global properties of all such systems is to model them as graphs whose nodes represent the dynamical units, and whose links stand for the interactions between them.

On the one hand, scientists have to cope with structural issues, such as characterizing the topology of a complex wiring architecture, revealing the unifying principles that are at the basis of real networks, and developing models to mimic the growth of a network and reproduce its structural properties. On the other hand, many relevant questions arise when studying complex networks' dynamics, such as learning how a large ensemble of dynamical systems that interact through a complex wiring topology can behave collectively.

In my brief presentation, I will try to describe the major concepts and results recently achieved in the study of the structure and dynamics of complex networks, and to summarize the relevant applications of these ideas in many different disciplines, ranging from nonlinear science to biology, from statistical mechanics to medicine and engineering.

Major General Alessandro DE LORENZO

Maj. Gen. Alessandro DE LORENZO was born in Naples on 17 December 1969.

Enlisted in the Air Force in 1989 he attended the Aeronautical Academy with the Leone IV course.

He obtained his military pilot license at the Euro Nato Joint Jet Pilot Training (ENJJPT) in Sheppard, Texas (USA), in 1994.

As a military pilot he was assigned to the 9th Group of the 4th Wing of Grosseto. At the same Group he commanded the 96th Flight Squadron.

He then achieved the “combat ready”; qualification on F104 ASA aircraft in the all-weather fighter interceptor roles.

Assigned in 1998 to the Experimental Flight Department, he was sent to the US Navy base in Patuxent River to attend the test pilot course, obtaining the relative qualification in 2000.

Returning to the Flight Experimental Department, he was assigned to the “Conventional Aircraft” Section where he carried out the activity of experimenter mainly on C-130J, C-27J and KC767A aircraft. He also served in the Operations Service and the Testing Service.

During his activity as a test pilot, he performed the role of flight demonstrator of the G222 aircraft (2002, 2003 and 2006 seasons), the F-104 ASAM aircraft (2004 season) and the C-27J aircraft (2005 season).

From August 2009 to September 2010 he held the position of Commander of the 311th Flight Group of the Flight Test Department.

In September 2010 he was assigned to the 4th “Logistics” Department of the Air Force General Staff.

During the period November 2011 - May 2012 he held the position of Commander of the Joint Air Task Force in the Afghan operating theater at Herat airport.

Returning to the 4th Department at the end of the command period carried out in Herat, he subsequently assumed command of the 2nd Office from June 2014 to September 2015.

On 15 September 2015 he was appointed Commander of the Flight Test Department, a role he held until 13 September 2017.

From 30 September 2017 to 10 March 2019 he held the position of Head of the 3rd "Aeronautical Programs" Office of the IV Department of the General Secretariat of Defence.

He was promoted to the rank of Brig. General in July 2018.

From 11 March 2019 to 19 May 2020 he held the position of Head of the Support Service of the Logistics Command.

On 4 June 2020 he assumed the position of Commander of the 46th Pisa Air Brigade.

He is promoted to the rank of Maj. General on July 1, 2022.

On 30 August 2022, he assumed the position of Commander of the Aerospace Test Division.

He has a degree in Aeronautical Sciences and a Masters in Military Sciences and Stragic Studies by attending the 11th course of the Joint Forces General Staff Institute and the 10th Course as Legal Advisor.

To date, he has logged over 5,000 flight hours, of which 80 in operational theatre, on over 60 different aircraft and helicopters.

He was awarded the Silver Medal for Aeronautical Valor, the Mauritian Medal, and the honor of Knight of the Order of Merit of the Italian Republic.

He is married to Mrs. Claudia and has two children: Luca and Chiara.

SUSTAINABLE AVIATION FUEL – THE ITALIAN AIR FORCE EXPERIENCE

Major Gen. A. DE LORENZO, Col. F. DE PAOLIS, Lt. Col. A. CHIAPPA

In recent years, pushed by a growing collective environmental awareness, by the development of new so-called "green" technologies and the contemporary difficulty of procuring energy from traditional sources, the debate on the possibility of using biofuels, or more generally fuels of non-fossil origin, has progressively risen in the transport sector and in particular in civil and military aviation. This with the purpose of reducing overall carbon dioxide emissions into the atmosphere, in a virtuous perspective of environmental sustainability.

Despite the limited overall impact when compared with civil aviation, issues such as green technologies, alternative energy sources and more generally environmental sustainability have become primary topics also in the military world, particularly within NATO, and are strongly felt by the governance of the Italian Air Force.

Given these grounds, Italian Air Force was engaged in a study and testing project about the production and use of biofuels in aviation transport sector together with CNR (National Research Council, www.cnr.it) and ENEA (Italian governative agency for climate changes and energy sustainability, www.enea.it)

The biofuel (SAF) project has been an agreement among Ministry of Environment (nowadays called Ecology Transition Ministry), Ministry of Research and Ministry of Defense (Air Component). It was funded with European Community funds assigned to Ministry of Environment, was signed in 2017, paused on January 2020 due to Covid Pandemy, re-activated on September 2021 and closed with the first flight of a turbojet powered with a blend containing sustainable aviation fuel. It tooks place on June 8th, 2022 at Aerospace Test Division (DASAS) of Pratica di Mare – Pomezia (Rome- Italy).

In this project, the leadership on aircraft availability was given to the Air force in consideration of the Aerospace Test Division personnel skills, which is specialized and qualified on flight test activities. The project partnership posed Italian Air Force in 2022 into the first 6 over 31 NATO Countries to have performed a military flight with Sustainable Aviation Fuels (SAF). This has set an historical milestone for the use of alternative fuels in Italian military aviation being a clear sign to the NATO allies of Italy's substantial and effective contribution towards the military use of fuels from sustainable sources.

For the next future, the Aerospace Material and Technology Department of DASAS is also requested to share his know how, together with national Industry and Academy, also in a new project focused on the production of a Fully Sustainable Aviation Fuel obtained from algae fed by agri-food industry wastes.

Massimiliano Picciani

Massimiliano PICCIANI è nato a Chieti, in Abruzzo, nel 1984. Ha conseguito una Laurea magistrale in Ingegnera nucleare presso il Politecnico di Milano, con un periodo di studi in Fisica trascorso presso l'Ecole Polytechnique in Francia. Ha conseguito nel 2012 un dottorato in co-tutela tra il Politecnico di Milano (corso dottorale di Scienza e Tecnologia delle Radiazioni) e l'Université Pierre et Marie Curie di Parigi, svolgendo una tesi di dottorato in fisica statistica presso il Commissariat à l'Energie Atomique, principale centro di ricerca nucleare francese. Dopo un'esperienza come ingegnere di ricerca presso il centro R&D del gruppo industriale privato Saint-Gobain, durante il quale si è occupato di vetri e materiali per l'efficienza energetica, ha svolto la funzione di *scientific project officer* presso l'Agenzia nazionale della ricerca francese, preso la quale si è occupato di finanziamento pubblico di progetti di ricerca fondamentale con bandi nazionali ed europei del programma Horizon2020. E' oggi responsabile del finanziamento di start-up e progetti di innovazione industriale presso Bpifrance, banca pubblica d'investimenti francese, nei settori delle tecnologie *low-carbon*, dei materiali avanzati, dei metalli critici per la transizione energetica, e del nucleare di nuova generazione (Small Modular Reactors e fusione). Da aprile 2022 è anche eletto per la Francia presso il Consiglio Generale degli Italiani all'estero, dove è Presidente della Commissione tematica VIII – "Innovazione, Ricerca, Università e Digitale" di recente costituzione.

IL FINANZIAMENTO DI RICERCA E INNOVAZIONE IN FRANCIA

Massimiliano Picciani

Nell'ultimo decennio, la Francia ha intrapreso in modo risoluto un'importante serie di investimenti nell'ambito della ricerca scientifica e dell'innovazione, con l'ambizione di diventare un attore mondiale sia per la ricerca fondamentale, con la costruzione di campus universitari e di ricerca sul modello statunitense, sia per il sostegno alle start-up e all'innovazione.

Per perseguire questi ambiziosi obiettivi, oltre a un'importante serie di programmi di finanziamento triennali (l'ultimo dei quali, il programma France2030, dispone di 54 miliardi di euro), sono state create delle strutture apposite: l'Agenzia nazionale della Ricerca (ANR) e Bpifrance.

L'ANR dipende dal Ministero della Ricerca, è incaricata del finanziamento a progetti di ricerca fondamentale in tutti i settori scientifico-disciplinari, dedicati a consorzi di laboratori di ricerca nazionali (eventualmente con la partecipazione di imprese private). Tutto il processo di selezione si basa sul principio della peer review, con comitati di ricercatori di fama che valutano i progetti presentati, e con una cadenza annuale molto regolare in termini di scadenze e metodologia. Questa stessa agenzia si occupa di permettere la partecipazione dei laboratori di ricerca francesi a tutte le iniziative promosse a livello europeo nell'ambito della ricerca, come per il programma quadro Horizon Europe.

Bpifrance è invece una banca pubblica d'investimenti, con un ruolo centrale nell'assicurare il finanziamento delle start-up, ad ogni livello di maturità: da sovvenzioni dirette nello stadio iniziale, fino al conferimento di prestiti e poi alla partecipazione via equity, in uno schema di *venture capital*. L'insieme di questi strumenti di sostegno permettono un continuum di finanziamento essenziale per accompagnare le start-up francesi verso il successo commerciale in Francia e in Europa, permettendo ad oggi l'emergenza di più di dieci "*unicorns"!* Inoltre, Bpifrance svolge anche un importante ruolo di accompagnamento non finanziario, in termini di sostegno giuridico, prospezioni di mercato all'estero, e creazione di un ecosistema molto dinamico e favorevole al tech transfer tra laboratori di ricerca pubblici e attori privati.

ASSOCIATIONS OF ITALIAN RESEARCHERS ABROAD

"THEIR ROLE"

TEXAS SCIENTIFIC ITALIAN COMMUNITY

UCW UNIVERSITY CANADA WEST

MIAMI SCIENTIFIC ITALIAN COMMUNITY

The President

Vancouver, 13 Aprile 2024

Gentili Colleghi, sono molto felice di partecipare alla XVIII Conferenza dei Ricercatori Italiani nel mondo come Presidente della Miami Scientific Italian Community. La Conferenza si propone di promuovere il collegamento tra ricercatori italiani in diversi settori come l'istruzione, la cultura e la ricerca e con l'obiettivo di promuovere i punti di forza e il know-how dell'Italia nell'innovazione di qualità, anche attraverso la cooperazione con Stati, imprese e ricercatori all'estero. In questa occasione, l'evento sarà uno strumento di diplomazia per la cooperazione internazionale.

Un mio particolare ringraziamento ad Andrea Giuffrida, Presidente della Texas Scientific Italian Community per il cortese invito ed al padre fondatore della Conferenza, Vincenzo Arcobelli, un grazie per aver creato un format che da 18 edizioni mette in vetrina il meglio che il nostro paese puó offrire al mondo.

La Miami Scientific Italian Community nasce come un centro di Innovazione, Ricerca e Trasferimento Tecnologico ed è oggi l'ecosistema italiano più effervescente negli Stati Uniti. Facilitiamo l'incontro delle piccole e medie imprese con le nuove tecnologie sostenendo, direttamente e insieme ai nostri soci, programmi di sviluppo tecnologico e la partecipazione a grant USA, misure regionali nazionali ITA o Horizon Europe. Riconosciuta anche come Associazione dei Ricercatori Italiani all'estero dal Ministero degli Affari Esteri e della Cooperazione Internazionale e dal Ministero dell'Università e Ricerca, è, senza dubbio, tra le più attive associazioni di ricercatori italiani all'estero che si sono distinte per le iniziative condotte anche congiuntamente con il MAECI, successivamente sono nate con lo stesso modello di Business la Texas e poi la California. Noi allarghiamo la conoscenza e i rapporti tra la realtà italiana e quella statunitense e moltiplichiamo le opportunità.

1680 Michigan Avenue, Suite 700 Miami Beach, FL 33139 P: +1 305-707-4175 mail: info@miamisic.org

MIAMI SCIENTIFIC ITALIAN COMMUNITY

The President

La creazione della prima piattaforma italiana per lo scouting all'estero di tecnologie brevettate dal mondo della ricerca pubblica italiana è stata pensata per aggiungere alla percezione del Made in Italy all'estero che nel cuore delle Università e dei Centri di Ricerca italiani c'erano tecnologie che potevano competere con chiunque negli USA e nel mondo. Uno strumento nato per creare il collegamento tra università, aziende e finanziatori; un canale ufficiale attraverso il quale le tecnologie con potenziale vengono valorizzate. Al nostro interno abbiamo a disposizione più di 2.000 tecnologie che abbracciano tutti i principali settori tecnologici e industriali. Tutte le informazioni presenti nella "scheda brevetto" sono costruite in modo da fornire le informazioni essenziali e utili per suscitare l'interesse di potenziali investitori e creare punti di contatto con le aziende.

Le nostre Università e Centri di Ricerca sono i soggetti che costruiscono un percorso attraverso gli ambiti, i progetti e i gruppi di ricerca dove nascono e si sviluppano nuove conoscenze. Partecipano per sviluppare l'integrazione e la collaborazione della ricerca stessa. Da parte nostra occorre avere con loro un rapporto stabile, tramite il sostegno alla partecipazione alle opportunità di finanziamento europeo e internazionali, la valorizzazione dei protocolli per la promozione dei brevetti, solo per citarne alcuni e fornirgli servizi aggregati in relazione alle PMI tecnologicamente avanzate. Sono il nostro patrimonio con cui abbiamo il privilegio di scrivere un pezzo importante della storia tecnologica e industriale dell'Italia.

Ecco perché la moltitudine di soggetti qualificati e con una missione importante non solo economica per il nostro paese ma anche culturale, ha bisogno di una strategia di sviluppo a medio-lungo termine che utilizzi la conoscenza e la competenza come acceleratori fondamentali. La ricerca in generale che abbraccia discipline scientifiche e tecniche, si sviluppa a una velocità incredibile e ha il potenziale per risolvere problemi nazionali e globali e ci pone diverse sfide.

Queste sfide richiedono un ruolo per le Associazioni dei Ricercatori Italiani all'Estero, ad esse infatti é demandato, per competenza e conoscenza, la promozione dell'internazionalizzazione della ricerca italiana come strumento essenziale per sviluppare la cooperazione tra l'Italia e il resto del mondo. .

A sostegno di questo, il nostro Paese sta investendo risorse importanti sul capitolo della diplomazia scientifica mettendoci a disposizione uno strumento efficace per rafforzare le Associazioni dei Ricercatori Italiani all'estero. È quindi necessario sostenere la Diplomazia Scientifica con l'obiettivo dichiarato di irrobustire l'ecosistema italiano dell'innovazione, integrarlo sempre di piú nei territori a sostegno dei Ricercatori Italiani che rimangono una grande identitá culturale del nostro paese che prescinde dalle latitudini.

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TEXAS SCIENTIFIC ITALIAN COMMUNITY

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MIAMI SCIENTIFIC ITALIAN COMMUNITY

The President

Investire in cultura e competenze scientifiche è un obiettivo che deve riguardare tutti. Sia per garantire un futuro ai giovani, e combattere sperequazioni e disparità, sia perché si deve prendere consapevolezza che la conoscenza è il motore del presente e la molla per costruire il futuro. In questo processo le associazioni dei ricercatori sono una componente fondamentale, come ho provato a testimoniare in questo mio intervento che quindi concludo con l'auspicio di trovarci tutti alla prossima scadenza ancora più motivati e portatori dei successi ottenuti.

Viva l'Italia e buon lavoro.

Fabio De Furia

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Ilaria Pagani

"Introducing the Association of Italian Researchers in Australasia"

Dr Ilaria S Pagani[1], Dr Tiziana Torresi[2], Prof Chiara Palmieri[3]

[1]Group Leader, South Australian Health and Medical Research Institute, and Affiliate Senior Lecturer, Faculty of Health and Medical Sciences, Adelaide Medical School, University of Adelaide.
[2] Senior Lecturer in Political Theory, University of Adelaide.
[3]Veterinary Pathology at the School of Veterinary Science (SVS) of the University of Queensland (UQ)

I am delighted to introduce the Association of Italian researchers in Australasia, ARIA. We are an incorporated not-for-profit organization. It was originally founded in 2004 on request of the Italian government to bring together Italian researchers working overseas, but it was mostly active in South Australia (SA). From the beginning of 2021 under the guidance of Dr Ilaria Pagani (President) and Dr Tiziana Torresi (Vice-President), ARIA expanded to all Australasia, including all Australia, New Zealand, and the Pacific Islands. We have ARIA's representatives in almost all Australian State, including Prof Chiara Palmieri in Queensland/Northern Territories, realising the vision of a united group of Italian researchers down-under.

The new board of ARIA is a motivated and dynamic group with the vision to create a strong network of Italian researchers in every field, to create a bridge between researchers around the world, Italian and Australian governments, and to promote research collaboration.

ARIA has launched special projects, including ARIA-women and ARIA-young. The objective of **ARIA-women** is to connect and empower Italo-Australian women, promoting a more balanced representation in every field which is a serious equity issue in academia and research. Through the creation of a radio show/podcast called "ARIA nuova" on Radio Italiana 531 and posts on social media, we have given visibility to women researchers. As strongest example of our activity, last year we organised the event **"Women in Mentoring"**, with 100 attendees, including the Hon Susan Close, Deputy Premier of SA. The event was extremely successful, with the attendees sharing that they rarely have participated to an event of this kind. This highlights that we have addressed an **unmet need** in the community in SA.

Another important initiative is **ARIA Young** to provide mentorship and support to students interested in a career in research. In collaboration with Com.It.Es SA, we have created the first guide for newly arrived Italian researchers in SA, with an outline on how and where to study and do research in SA.

Our initiatives contributed to promote Italo-Australian research excellence and culture. This is testified by the numerous events organised in occasion of the Italian Research Day in the World. Notably, as result of collaboration between ARIA researchers, we recently published the book titled "Italy and Australia - Redefining Bilateral Relations for the Twenty-First Century", discussing fruitful avenues of future scientific cooperation between Italy and Australia with the aim to foster a national economic and social development.

Cristina M. Bettin, PhD
President of Italian Scholars and Scientists in Israel (AISSI)

AISSI è un'associazione nata due anni e mezzo fa. senza scopo di lucro che opera conformemente alle leggi dello Stato di Israele.

L' associazione ha diversi partners istituzionali tra cui le varie universita israeliane, e l'Istituto Nazionale di Geofisica e Vulcanologia, con cui e' stato firmato un accordo nel 2023 per il progetto la pagina della memoria, piattaforma finalizzata a ricordare, attraverso la ricerca e le varie memorie, l'impatto scientifico e culturale delle leggi razziali sulla scienza e cultura italiana. Progetto importante a cui aderiscono varie istituzioni italiane come alcune universita italiane, UCEI, CNR e Accademia deli Lincei. Tra i partners della Aissi ci sono anche l'Ambasciata Israeliana a Roma e l'Ambasciata Italiana ed il Ministero degli Affari Esteri Italiano, che e' uno dei maggiori sponsors principali per quanto riguarda le attivita'dell'associazione.

Aissi ha diversi obiettivi:

Il primo obiettivo è quello di mediare tra la comunità scientifica ed accademica italiana in Israele ed i rappresentanti diplomatici italiani locali ed il Ministero italiano dell'Università e della Ricerca (MIUR), al fine di sviluppare legami e progetti reciproci con accademici italiani, organizzazioni di ricerca italiane ed anche imprese.

Il secondo obiettivo è mediare tra la comunità scientifica ed accademica italiana in Israele e la locale comunità accademica israeliana, fornendo anche da supporto a colleghi israeliani interessati a lavorare e fare ricerca in Italia.

Il terzo obiettivo e' creare una rete di supporto e mentoring per gli studenti e post doc italiani nelle università israeliane,

Il quarto obiettivo e' quello di aiutare l'inserimeno nell' accademia italiana od impresa giovani ricercatori italiani intenzionati a ritornare in Italia.

Come parte dei suoi compiti di networking e mediazione, le attività dell'AISSI includono:

1. l'organizzazione di seminari, workshop e conferenze con studiosi italiani in Israele ed in Italia.
2. l'informazione su borse di studio, sovvenzioni e possibili supporti finanziari per attività accademiche congiunte.
3. fornire un quadro di supporto agli studiosi italiani ospiti in Israele.

Tutto ciò al fine di favorire il legame tra le comunità accademiche italiana e israeliana, migliorare le relazioni con gli uffici rappresentativi rispettivi e aumentare la consapevolezza in Italia e Israele del lavoro svolto dai membri dell'AISSI.

BIOGRAPHY

Docente Universitario alla Ben Gurion University of the Negev e responsabile di tutti gli Studi Italiani sin dal 1999. Promotrice e coordinatrice di attivita di ricerche scientifiche e culturali tra la Ben Gurion University of the Negev e l'Ambasciata Italiana di Tel Aviv. Co-fondatrice e Presidente della Aissi sin dalla sua nascita.
Storica specializzata in Storia ebraica moderna e contemporanea.
Autrice di diversi articoli scientifici sulla storia ebraica italiana, rappresentazione degli ebrei nella cultura e nella letteratura italiana, identita ebraica ed italiana ,i soldati ebrei palestinesi e la Brigata Ebraica in Italia e di libri come *Italian Jews from Emancipation to the Racial Laws* (2010) e the *Tubiba of Tangier*- The *Life and Legacy of Lucia Servadio Bedarida* (2023). Attuali ricerche in corso e pubblicazioni riguardano i rapporti politici,diplomatici,militari e scientifici tra Italia ed Israele dal 1948 ai giorni nostri.

Sarah Consentino

President, Association of Italian Researchers in Japan (AIRJ)

Sarah Cosentino is Assistant Professor in the Cognitive Developmental Robotics Lab, International Research Center for Neurointelligence (IRCN), The University of Tokyo, Japan. She graduated in Electronic Engineering from Politecnico di Milano in 2006, and, after participating in the Vulcanus in Japan internship program and a few years in industry, she came back to academia and received her Ph.D. in Robotics from Waseda University in 2015.

Her research interests are in the field of biorobotics and biomedical applications, and she is currently working on humanoid robotics, human-robot interaction and neuro-developmental engineering.

Her research work follows the participatory design approach, overstepping disciplinary boundaries and involving multidisciplinary, transdisciplinary, and interdisciplinary theoretical aspects. She spent a good part of her nearly two decades in Japan trying to consolidate the international research community in general, and strengthen the scientific relationship between Italy and Japan more in particular, which led to the foundation of AIRJ – the Association of Italian Researchers in Japan, among other things.

AIRJ, Association of Italian Researchers in Japan

AIRJ, the Association of Italian Researchers in Japan, was founded in September 2019 with the aim of facilitating relations and promoting scientific collaboration between Italy and Japan, supporting the bilateral flow of Italian and Japanese researchers, and providing a point of contact between the research institutions and organizations of the two countries. The association also interfaces with the European delegation in Japan and collaborates with other European researchers' associations in the country to create a more comprehensive exchange ecosystem between Europe and Japan.

https://www.airj.info/

Rossana De Angelis
President, Rete dei Ricercatori Italiani in Francia (RÉCIF)

RéCIF é un'associazione a fini non lucrativi, ai sensi della legge francese del 1901, e a carattere volontario.

Scopi dell'associazione:
Réseau des Chercheurs Italiens en France (RéCIF) è una rete di persone, idee e progetti, creata con lo scopo di riunire i ricercatori e i professionisti italiani operanti in Francia nei campi della Ricerca, dell'Impresa e della Cultura.

RéCIF promuove:
- La valorizzazione del ruolo del ricercatore italiano all'estero, figura professionale inserita in un tessuto sociale ed economico ben definito.
- La creazione di una rete di ricercatori e professionisti italiani operanti in Francia e nel mondo, volto alla conoscenza, al confronto e alla collaborazione reciproci.
- Lo sviluppo di una rete tra associazioni di categoria ed enti pubblici e privati, operanti in Francia e nel mondo nei campi della Ricerca, dell'Impresa e della Cultura.
- L'assistenza all'integrazione dei giovani ricercatori italiani in Francia, fornendo informazioni sulle modalità di supporto alla ricerca, e sul reperimento di stage ed attività presso enti pubblici e privati.
- L'organizzazione di eventi di discussione, confronto ed indirizzo su tematiche inerenti i mondi della Ricerca, dell'Impresa e della Cultura.

Rosanna Bonasia
President, Associazione Ricercatori Italiani in Messico (ARIM)

Master's degree in Geological Sciences and PhD in Earth Sciences from the Università degli Studi di Bari.

Post-doctorate on tephra fallout hazard assessment at Vesuvio and Campi Flegrei, at the NaIonal Institute of Geophysics and Volcanology in Naples, Italy.

Post-doctorate on tephra fallout hazard assessment for explosive Mexican volcanoes, at the Geosciences Center of the UNAM, Querétaro, Mexico.

Volcanologist by training, specialized in Computational Fluid Dynamics and risk analysis related to natural and engineering phenomena, through the application of numerical models and statistical analysis.

Currently Professor in Civil Engineering and Sustainable Technologies at the Tecnológico de Monterrey, Campus State of Mexico, Mexico.

The main research lines currently developed are:

- Analysis and evaluation of flood risk in Mexico through the study of hydrodynamic properIes in channels and dams by the application of Eulerian and Lagrangian numerical models (SPH);
- Numerical study of wave transport and calculation of energy potential on the coasts of Mexico;
- Numerical simulations using the SPH model of the tsunami impact on the coasts;
- Long-range hazard assessment of dispersion and deposit of volcanic ash, through numerical models.

DISTINCTIONS

President of the Association of Italian Researchers in Mexico (ARIM). March 2023.
Mexican National System of Researchers Level 2.
Award for Educational Excellence Cusco 2020 Edition.
Doctor Honoris Causa and Golden Order of Teaching awarded by the International Organization for Inclusion and Educational Quality (OIICE).
President of the Fluid Dynamics Division of the Mexican Physics Society. 2019 - 2021.

SCIENTIFIC PRODUCTION

More than 20 scientific aticles in JCR journals and three book chapters.
Editor of Frontiers in Earth Sciences journal special issue: “Flood Susceptibility and Risk

Maps as a Crucial Tool to Face the Hydrological Extremes in Developing Countries: Technical and Governance Aspects Linked by a Participatory Approach”.

Antonio Giordano
President, Sbarro Institute for Cancer Research (SHRO), USA

In his research throughout the years, Dr. Antonio Giordano identified a tumor suppressor gene, Rb2/p130, that has been found to be active in the lung, endometrial, brain, breast, liver, and ovarian cancers. Dr. Antonio Giordano also found that if doses of gamma radiation are combined with this gene, it accelerates the death of tumor cells. Dr. Antonio Giordano went on to discover Cyclin A, Cdk9, and Cdk10. Cdk9 is known to play critical roles in HIV transcriptions, the inception of tumors, and cell differentiation. They also play a part in muscle differentiation and have been linked to various genetic muscular disorders. Dr. Antonio Giordano has also developed patented technologies for diagnosing cancer.

Dr. Antonio Giordano has published over 700 papers on gene therapy, cell cycle, genetics of cancer, and epidemiology. In 2011, Dr. Antonio Giordano and his team uncovered anti-tumor agents that might be effective in the treatment of mesothelioma, cancer caused by prolonged asbestos exposure. Dr. Antonio Giordano and his team discovered they could induce cell death without harming healthy cells.

Innovative research led by Dr. Antonio Giordano at the Sbarro Health Research Organization (SHRO), Temple College of Science and Technology's Sbarro Institute for Cancer Research and Molecular Medicine revealed that interventions using virtual reality (VR) during chemotherapy have significant potential to improve the quality of life—and possibly survival chances, by increasing adherence to therapy—in breast cancer patients. The study found that women undergoing chemotherapy who received a VR intervention during treatment had improvements in anxiety levels and mood when compared with women who did not receive the VR intervention.

In recent years, Dr. Antonio Giordano has also focused efforts on studying the relationship between cancer and environmental pollution in the Italian region of Campania. He was among the first to report an increased incidence of various types of cancer in populations near illegal toxic waste sites and published numerous findings including the link between cancer and multiple types of toxins attributed to the landfill wastes, such as reporting high levels of the cancer-causing dioxins in surrounding wildlife and high levels of heavy metals in cancer patients from the region.

Dr. Antonio Giordano's work on the environmental disaster in this region was highlighted through two books on the subject, respectively "Campania, terra di veleni" (translated Campania; Land of Fires) and "Monnezza di stato", edited by Denaro Libri and one of these books was eventually produced as a movie. The publications also launched a petition to protect the environment, signed by over 500 researchers and people from various professional sectors.

www.drantoniogiordano.com – www.shro.org

Francesco Zappalà

Board of Directors, ARPICO (Society of Italian Researchers & Professionals in Western Canada)

PhD in Diritto dell'Economia e dell'Impresa Università degli Studi La Sapienza Rome, Italy; thesis on International Commercial Arbitration.

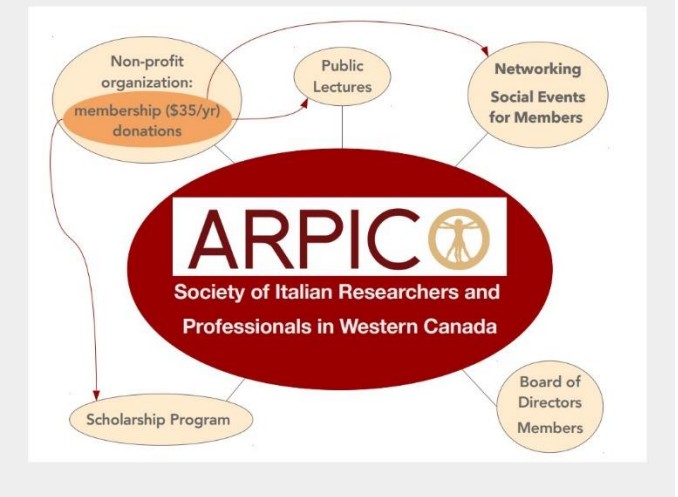
Contract Law Specialist of the Italian construction company Ghella SpA for the Broadway Subway Project, responsible for the legal administration of the contracts for the most relevant and high-impact construction project in Vancouver, Canada.

He is currently an International Arbitrator of the Camera Arbitrale of Florence, Italy, an Arbitrator of the Chamber of Commerce of Bogotá and Cali in Colombia, an Arbitrator of the Italian Camera Arbitrale Internazionale, and an Associate of the Corte Arbitral de Madrid. He is also an external legal consultant and litigation lawyer.

He has professional experience and author of legal papers in Spanish, Italian, English, and Portuguese.

He is a visiting Professor of the Master's Degree in European Private Law at Università degli Studi La Sapienza Rome, Italy, in International Arbitration.

He served as a Board Director of ARPICO (Society of Italian Researchers & Professionals in Western Canada)



TEXAS SCIENTIFIC ITALIAN COMMUNITY

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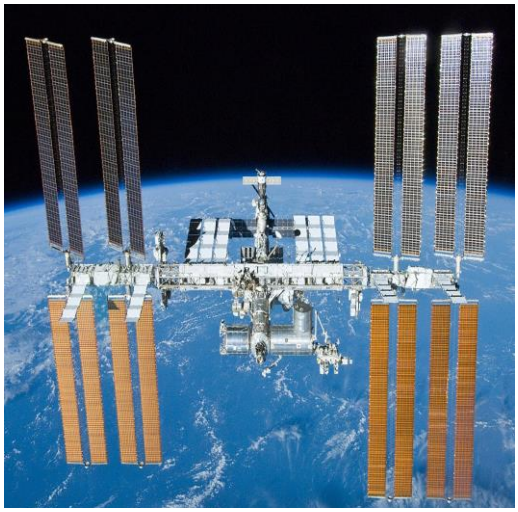

AEROSPACE

Colonel Walter VILLADEI

Cosmonaut and professional astronaut Italian Air Force Representative in the USA for the activities of access to space within the Commercial Spaceflight Col. Villadei joined Italian Air Force (ItAF) in 1993, starting his carries as cadet of the Air Force Academy in Pozzuoli. He carried out his studies in Aeronautical Engineering with a specialization in space (first ItAF officer to attend such course). In February 1999, he was posted as First Lieutenant to the 46th Air Brigade in Pisa and assigned as a Technical Officer on multiple fleets (G-222 and C-130J), participating in several operational activities abroad (United Nations Mission in Eritrea and Ethiopia, International Security Assistance Force, Enduring Freedom, Ancient Babylon, Kosovo, ex_Yugoslavia), along with several training missions in Europe and in the U.S.. Transferred to the Air Staff in October 2003, he attended an extensive advanced further specialization till May 2005, through a 2nd level Master at the University of Rome La Sapienza followed by a period of six months at the European Space Agency and a further initial studies on airborne launchers in collaboration with the national industry. In 2006 he graduated cum Laude in Astronautical Engineering at the School of Aerospace Engineering, founded by Crocco and directed for many years by Luigi Broglio. Since 2009 he has held various positions in ItAF dealing with military and dual space programs, both at the Aeronautical Space Policy Office and at the General Office for Space, where he served until mid-March 2022 as Head of the "Space Policy and Operations Office". From March 14, 2022 he assumed the position of ItAF Representative in the US for space access activities and the Commercial Spaceflight at the City of Houston (Texas).

Among the other activities in his career: from 2018 to 2022, he was national representative at the NATO Science and Technology Office (STO) for Collaborative Space Domain activities; from 2017 to 2021, he was the National Representative at the Steering Committee of the EU-SST Consortium and the IT-MOD Representative within the National Coordination Committee (OCIS) for the governance of the Space Surveillance and Tracking (SST) capability development program; from 2014 to 2021, he was the National Delegate to the European Commission, appointed by the Presidency of the Council of Ministers, for the European Committee relating to the Space

Surveillance and Tracking Support Framework. In addition, in the period 2014-2018 he was a Member of the Scientific Technical Committee of the Italian Space Agency; in the period 2014-2018 he was a Member of the Coordination Committee pursuant to the Framework Agreement between ITAF and the University of Rome Tor Vergata "for collaboration in the field of advanced training, applied research and experimentation in the aerospace sector and human space flight". He has taken part and still participates in several national working groups in the space sector.

Col. Walter Villadei is the first Italian to have attended a qualification training as Cosmonaut (2011-12), at the prestigious Y. Gagarin State Research & Test Cosmonaut Training Center in Star City, where he was rewarded with his cosmonauts wings and he's been qualified as on-board engineer/co-pilot of Soyuz-MS, in the advanced use of systems for extra-vehicular activities (Orlan systems) and the on-board systems of the Russian segment of the International Space Station (2014-2015 and 2018-2019). Since September 2021, within an agreement between Italian Air Force and Axiom Space, Col. Villadei commenced his training at NASA as "professional astronaut" and then at mid-2022 he has assigned as Ax2 mission back-up pilot.

Col. Villadei has taught in various universities; produced quite a few articles and promoted several initiatives for the benefit of young people and students to bring them closer to space. He holds diving certificates (various specialties), VDS piloting license and he is a martial arts instructor.

MEDICINE

MODERATOR

TOWARD A CURE FOR CHRONIC MYELOID LEUKAEMIA: CHANGING THE TREATMENT PARADIGM

Ilaria S. Pagani

Group Leader, South Australian Health and Medical Research Institute; Affiliate Senior Lecturer, Faculty of Health and Medical Sciences, Adelaide Medical School, University of Adelaide; President of the Association of Italian Researchers in Australasia ARIA.

I am a passionate and dynamic Mid-Career Researcher with a PhD from the Insubria University (Italy 2012) and a Specialization in Medical Genetics from the University of Milan (Italy 2012-2016). Relocating to Adelaide, Australia, in 2014, I joined the South Australian Health and Medical Research Institute (SAHMRI) under the mentorship of Professor Timothy Hughes. I am now an internationally recognised young leader in Chronic Myeloid Leukaemia (CML), and affiliated-senior lecturer at the University of Adelaide.

My seminal patient-centred research contributed to changing the treatment paradigm for CML from a lifelong disease control to a cure. This new concept is now an integral part of the National Comprehensive Cancer Network and European LeukemiaNet guidelines, testifying the IMPACT of my work. First in the world I have developed an innovative blood test for measuring the degree of suppression of the CML clone following therapy with Tyrosine Kinase Inhibitors (TKIs). This involved blood cell separation with Fluorescence-Activated Cell Sorting followed by highly sensitive patient-specific BCR::ABL1 DNA (hallmark of the disease) PCR. My research has advanced the understanding of the biology of CML, with the breakthrough discovery that the CML clone, despite being a myeloid disease, included small numbers of B and T lymphocytes.

Following this seminal discovery, in 2019 I received a prestigious international grant from the European School of Haematology to develop an innovative model to predict CML relapse by using artificial intelligence. In recognition of such achievement, I received a letter of congratulations from the Hon Steven Marshall and a medal from the Italian Embassy in Australia. I have developed traffic light recommendations for CML patients actionable in clinical practice, to identify patients who could safely cease therapy, and patients for which longer exposure to TKI or different therapy is needed.

Over the next five years I plan to undertake a comprehensive therapeutic program to cure this still fatal leukaemia. I have developed a National plan for CML, involving the creation of the first association of CML patients in Australia, CMLa. By engaging with researchers, clinicians, nurses and CML consumers, I will generate a new pathway to cure for CML patients in SA (and worldwide) accelerating my research translation.

MODERATOR

FUCOXANTHIN INDUCES APOPTOSIS THROUGH THE PI3K/Akt/mTOR SIGNALING PATHWAY IN CHRONIC LEUKEMIA CELLS

Sara Damiano

Ph.D., Researcher at the Department of Veterinary Medicine and Animal Production, University of Naples

1,2 S. Damiano, 1 C. Longobardi, 3 C. Lauritano, 2,4 A. Giordano, 2 I.M. Forte and 1 R. Ciarcia

1 Department of Veterinary Medicine and Animal Productions, University of Naples “Federico II”, Naples, Italy; 2 Sbarro Institute for Cancer Research and Molecular Medicine, Center of Biotechnology, College of Science and Technology, Temple University, Philadelphia, USA; 3 Ecosustainable Marine Biotechnology Department, Stazione Zoologica Anton Dohrn, Naples, Italy, 4 Department of Medical Biotechnologies, University of Siena, Italy

Chronic myeloid leukemia (CML) represents 14% of newly diagnosed cases of leukemia where the translocation of chromosomes 9 and 22 through the fusion of Abelson's tyrosine kinase 1 and breakpoint cluster region protein is the primary cause of the development of the pathology. Since the 2000s, the therapeutic use of imatinib as a tyrosine kinase inhibitor has improved the quality of life of CML patients [1]. However, patients develop resistance that make difficult the long term therapy [1]. Therefore, the scientific development of new alternative therapeutic strategies remains a key element for scientific research.

Recently, extracts isolated from marine organisms have been discovered to possess potent anti- tumor activities. Among these, carotenoids are a subfamily of tetraterpenoids synthesized by microalgae and macroalgae with anti-tumor activity. Fucoxanthin (FUCO) is a carotenoid that has been reported to induce apoptosis in several tumors [2]. Apoptosis failure is generally associated to the development of various human diseases [2]. Several apoptosis checkpoints regulate the equilibrium between cell death and cell survival and the PI3K/Akt/mTOR pathway appears to be vital in selecting cellular processing in tumor and normal cells [2]. Moreover, an increasing number of studies have demonstrated that high levels of reactive oxygen species (ROS) lead to apoptosis and necrosis, both processes implicated in cancer [3]. However, the role of ROS generation regarding the anticancer effects of FUCO remains poorly understood. In the present study, we explored the PI3K/Akt/mTOR pathway in FUCO-treated human K562 cells. Specifically, cytotoxicity by MTT assay and apoptosis by flow cytometry were analyzed, and gene and protein expression were evaluated by real time and western blot analyses. Our data demonstrated that FUCO inhibited PI3k/Akt/mTOR and could represent a new natural therapeutic opportunity against chronic leukemia.

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1. Chan et al. Blood Adv. 4, 2020, 530–538.

2. Satomi, et al. Biochimica et Biophysica Acta 1790, 260– 266.

3. Martindale et al. J Cell Physiol. 2002, 192(1):1-15.

KINOME-WIDE SYNTHETIC LETHAL SCREEN IDENTIFIES PANK4 AS A MODULATOR OF TEMOZOLOMIDE RESISTANCE IN GLIOBASTOMA

Viviana Vella

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ABSTRACT

Temozolomide (TMZ) represents the cornerstone of therapy for glioblastoma (GBM). However, acquisition of resistance limits its therapeutic potential. The human kinome is an undisputable source of druggable targets, still, current knowledge remains confined to a limited fraction of it, with a multitude of under-investigated proteins yet to be characterized. Following a kinome-wide RNAi screen, we identified pantothenate kinase 4 (PANK4) as a modulator of TMZ resistance in GBM.

Validation of PANK4 across various TMZ-resistant GBM cell models, patient-derived GBM cell lines, tissue samples, as well as in vivo studies, corroborated the potential translational significance of these findings. Moreover, PANK4 expression was induced during TMZ treatment, and its expression was associated with a worse clinical outcome. Furthermore, a Tandem Mass Tag (TMT)-based quantitative proteomic approach, revealed that PANK4 abrogation leads to a significant downregulation of a host of proteins with central roles in cellular detoxification and cellular response to oxidative stress. More specifically, as cells undergo genotoxic stress during TMZ exposure, PANK4 depletion represents a crucial event that can lead to accumulation of intracellular reactive oxygen species (ROS) and subsequent cell death. Collectively, we unveil a previously unreported role for
PANK4 in mediating therapeutic resistance to TMZ in GBM.

BIOGRAPHY

Dr Viviana Vella began her academic journey at the University of Ferrara (Italy) where she obtained her Bachelor's degree in Medical Biotechnology, followed by her Master's degree in Molecular Biotechnology at the University of Turin (Italy). During these years, she worked on adrenocortical carcinoma and resistance to targeted anticancer therapies. She subsequently moved to the University of Sussex (UK) as Research Assistant, where she focused on studying the tumour microenvironment in breast cancer. She then undertook her Doctoral degree at the same institution, with a focus on investigating the mechanisms of chemotherapy resistance in brain tumours, specifically glioblastoma. Currently holding the position of Postdoctoral Research Fellow at the University of Sussex, Dr Vella is actively involved in various projects aimed at identifying therapeutic targets in glioblastoma and breast cancer, collaborating with several international research groups. Alongside her research work, she is engaged in teaching and training university students and is a member of several scientific societies.

MITOCHONDRIAL ORIGINS OF SLEEP PRESSURE CONTROL

Raffaele Sarnataro

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ABSTRACT

The neural control of sleep requires that sleep need is sensed during waking and discharged during sleep. While sleep loss has widespread consequences in the whole body and brain, perhaps **the only realistic opportunity for separating causation from correlation exists in specialist neurons with active roles in sleep**. To obtain an unbiased view of molecular changes in the brain underlying these processes, we characterized the transcriptomes of single sleep-control cells isolated from rested and sleep-deprived flies. Transcripts upregulated after sleep deprivation, in sleep-control neurons projecting to the dorsal fan-shaped body (dFBNs) but not ubiquitously in the brain, encode almost exclusively **proteins with roles in mitochondrial respiration and ATP synthesis**. These changes are accompanied by **mitochondrial fragmentation**, enhanced mitophagy, and increased mitochondria-endoplasmic reticulum contacts. The morphological changes are reversible after recovery sleep and blunted by interfering at both ends of the electron transport chain, via the installation of an electron overflow in the chain or by consuming ATP via forced depolarisation. **Inducing or preventing mitochondrial fission or fusion in dFBNs alters sleep and electrical properties of sleep-control cells bidirectionally**: hyperfused mitochondria increase, whereas fragmented mitochondria decrease, neuronal excitability and sleep. ATP levels in dFBNs rise after enforced waking, because dopamine-mediated arousal diminishes their ATP consumption, predisposing them to heightened oxidative stress. Uncoupling electron flux from ATP synthesis relieves the pressure to sleep, while exacerbating mismatches between electron supply and ATP demand promotes sleep. **Sleep control, like ageing, may thus be a consequence of aerobic metabolism.**

BIOGRAPHY

Raffaele Sarnataro is a neuroscientist working at the University of Oxford, where he obtained a PhD in Neuroscience.

Raffaele studied at Scuola Normale Superiore and University of Pisa, obtaining a BSc in Biotechnologies, an MSc in Molecular and Cell Biology and a Diploma di Licenza in Biology; he also holds a Master's degree in Neuroscience from the University of Oxford. During his research at Oxford, he studied the neural bases of sleep control: how sleep need is encoded in the molecular machinery and circuitry network dynamics of sleep-control neurons.

He is currently a Postdoctoral Scientist at the University of Oxford, working with Prof. Gero Miesenböck.

Before his PhD, he did research at the University of Oxford, Harvard Medical School, and Scuola Normale Superiore.

He was President of the Oxford University Cortex Club, and his research has been disseminated in several international conferences and seminars, and recognised by several awards.

HUMAN SKELETAL MUSCLE-ON-A-CHIP TO MODEL TISSUE FORMATION AND DISEASE MECHANISMS: OPPORTUNITY TO STUDY THE IMPACT OF MICROGRAVITY AT THE MOLECULAR LEVEL

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ABSTRACT

Advanced 3D bioengineered human skeletal muscle (hSKM) tissue on-a-chip can recapitulate a range of *in vitro* biological and pathophysiological components of the native tissue and accelerate the discovery and development of therapeutics. Microgravity experienced by astronauts during spaceflight has been shown to have profound effects on human physiology including muscle atrophy, reductions in bone density and immune function, and endocrine disorders. Age-related **SKM** loss, defined as sarcopenia, is a significant risk factor for disability and hospitalization in older adults for which here remains a lack of pharmacological countermeasures. **Tissue on-a-chip** r**esearch conducted in a** unique mechanical unloading environment, offered by **microgravity** on the International Space Station (ISS), **has the potential to mimic accelerated muscle aging**, as aging-like symptoms such as muscle wasting manifests rapidly in astronauts. The molecular mechanism behind the "accelerated muscle aging" in space remains elusive. We demonstrated that 3D myobundles, consisted of aligned multi-nucleated myotubes, exhibited positive force–frequency relationship in response to electrical stimulation, a very important biophysical cue for myotube formation and maintenance[1], as a preventative measure to muscle loss. Analysis of contraction images showed different contraction rates and displacement signal, between young and old donor-derived myobundles, suggesting relatively advanced mature phenotype with increased myobundle size, length and sarcomeric protein in young myobundles[1]. Also, we reported the results from young and old myobundles integrated into an autonomous **remote-controlled** CubeLab™ and flown to the ISS on two missions, SpaceX CRS-21[2] and CRS-25. Based on these findings**,** we aim **to** study changes by **monitoring real-time contractile function** and advance modeling the impact of microgravity at the molecular and cellular levels by RNA sequencing. This study will be important for understanding how **hSKM tissue** is affected by microgravity and has the potential to elucidate the role of mechanical stimuli on molecular function and the development of mechanically driven disease states.

BIOGRAPHY

Maddalena Parafati is an experienced researcher skilled in space research. She develops 3D biology platforms to mimic myogenesis and processes induced in the skeletal muscle by physical exercise, aiming to connect terrestrial life with the cosmic realm. Also, using human induced pluripotent stem cell derived (hiPSC)-derived hepatocytes she developed 2D and 3D platforms to model liver pathogenesis for drug discovery. Previously, she investigated transcriptome-level changes in skeletal muscle tissue and hiPSC-hepatic platforms exposed to microgravity[2] and lipotoxic insults[3,4], respectively, using RNA sequencing technology.

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SINGLE-CELL AND FUNCTIONAL PHENOTYPING ANALYSIS OF GLIOBLASTOMA INFILTRATIVE MARGIN

Sara G.M. Piccirillo
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ABSTRACT

Glioblastoma (GBM) is the most heterogeneous and invasive brain tumor in adults that almost inevitably recurs, despite radical treatments. As the bulk of the tumor is resected during surgery, the recurrent tumor is driven by cells left behind that are resistant to radio-therapy and chemo-therapy. As a result, only a minority of GBM patients survive 5 years after diagnosis.

In previous work, we developed a fluorescence-guided multiple sampling (FGMS) scheme allowing an objective identification of tumor areas, including the surrounding brain microenvironment. In particular, we identified and characterized specific anatomical/functional areas, defining the interface between the tumor and the normal brain parenchyma, namely the infiltrative margin (IM), and the sub-ventricular zone of the lateral ventricles. We showed that these areas represent the source of GBM cells that seed the recurrent tumor. We also showed that, despite the extensive inter-tumor heterogeneity of GBM, the IM has a distinct molecular signature that is conserved in different patient samples, thus this area may hold the key to identifying valid therapeutic targets for many patients. Previous work by others and us suggests that the IM is predominantly characterized by brain-resident microglia and only 10% of the total cells in this area are tumor cells.

Here, by using our previously published FGMS scheme we performed single-cell and functional phenotyping analysis of the IM in 15 GBM patients and analyzed the cellular composition with matched tumor mass samples and histologically normal brain samples. Interestingly, cell type/cell state annotation revealed that the IM of GBM patients is a reservoir of heterogeneous tumor cells and that the IM microenvironment is predominantly characterized by microglia and by a significant enrichment of pro-inflammatory cytokines. Single-cell interaction network analysis and functional phenotyping assays are currently ongoing to dissect the cross-talk between tumor and immune cells in the IM microenvironment and identify novel therapeutic targets.

BIOGRAPHY

Dr. Sara G.M. Piccirillo is an Assistant Professor in the Department of Cell Biology & Physiology at the University of New Mexico (UNM) Health Sciences Center and a Full Member of the UNM Comprehensive Cancer Center.
Dr. Piccirillo graduated from the University of Milan (Italy) in Medical Biotechnology in 2003 and gained a Ph.D. in Translational and Molecular Medicine in 2008 at the University of Milan-Bicocca. For her post-doctoral training, Dr. Piccirillo was awarded a Marie Curie Intra-European Fellowship in 2010 and worked as a Research Associate in the Department of Clinical Neurosciences of Cambridge University (UK). In February 2011, she was elected as a Research Fellow of Hughes Hall, one of the 31 colleges in Cambridge. In 2013, Dr. Piccirillo started a collaboration with the University of Texas Southwestern Medical Center (UTSW) in Dallas (USA) and visited the institution between 2014 and 2016 as a Senior Scientist. In 2016, she was recruited to UTSW as a Faculty Member of Internal Medicine, and in 2018 she was promoted to Research Assistant Professor. In 2019, Dr. Piccirillo joined the University of New Mexico Health Sciences Center as a Tenure-Track Assistant Professor.

Since 2007, Dr. Piccirillo has received numerous awards and grants including the 2010 Young Investigator Award from the British Neuro-Oncology Society and Brain Tumour Research UK, the 2019 Gianni Bonadonna Prize for New Drug Development in Oncology, a 3-year Independent Investigator Research Grant from the American Association for Cancer Research and Novocure and the 2021 Translational Adult Glioma Award from The Ben and Catherine Ivy Foundation. In October 2021, Dr. Piccirillo was awarded the Robert M. Faxon Jr. Endowed Professorship in Neuro-Oncology.

MULTI-OMICS ANALYSIS IDENTIFIES THERAPEUTIC VULNERABILITIES IN TRIPLE-NEGATIVE BREAST CANCER SUBTYPES

Antonio Colaprico
Ph.D. Associate Scientist, Dept. Public Health Sciences and Sylvester Comprehensive Cancer Center, University of Miami Miller School of Medicine, Florida

ABSTRACT

Triple-negative breast cancer (TNBC) is a collection of biologically diverse cancers characterized by distinct transcriptional patterns, biology, and immune composition. TNBCs subtypes include two basal-like (BL1, BL2), a mesenchymal (M) and a luminal androgen receptor (LAR) subtype. Through a comprehensive analysis of mutation, copy number, transcriptomic, epigenetic, proteomic, and phospho-proteomic patterns we describe the genomic landscape of TNBC subtypes. Mesenchymal subtype tumors display high mutation loads, genomic instability, absence of immune cells, low PD-L1 expression, decreased global DNA methylation, and transcriptional repression of antigen presentation genes. We demonstrate that major histocompatibility complex I (MHC-I) is transcriptionally suppressed by H3K27me3 modifications by the polycomb repressor complex 2 (PRC2). Pharmacological inhibition of PRC2 subunits EZH2 or EED restores MHC-I expression and enhances chemotherapy efficacy in murine tumor models, providing a rationale for using PRC2 inhibitors in PD-L1 negative mesenchymal tumors. Subtype-specific differences in immune cell composition and differential genetic/pharmacological vulnerabilities suggest additional treatment strategies for TNBC.

BIOGRAPHY

Antonio Colaprico, Eng, Ph.D is currently Associate Scientist in the Department of Public Health Sciences and Sylvester Comprehensive Cancer Center, University of Miami Miller School of Medicine, Miami, FL, USA.

Dr. Colaprico holds a Bachelor's and Master's degree in Telecommunication Engineering in 2005 and 2011, respectively, and a Ph.D. in Bioinformatics (2014) both from the University of Sannio, Benevento, Italy.

He was formerly a postdoc fellow at Machine Learning Group, Université Libre de Bruxelles, Bruxelles, Belgium.

He develops effective machine learning methods for integrative analysis of cancer proteogenomics data. He has established collaborations and conducted his research together with international teams of interdisciplinary experts of basic and applied sciences.

Dr. Colaprico has authored more than 50 scientific articles with a current h index of 29 and 15713 citations for a total of 1650 Impact Factor.

Results of his studies have been published as first and co-author in high ranked journals including Nature Communications, Nucleic Acid Research, Cell, Cancer Cell, Immunity, Cancer Discovery, and presented at meetings and conferences including the U.S. NIH-NCI's The Cancer Genome Atlas Program (TCGA) and the NIH-NCI's Clinical Proteomic Tumor Analysis Consortium (CPTAC).

Recently his publication (Lehmann-Colaprico et al., Nat Comm, 2021) about therapeutic vulnerabilities in TNBC has been listed as part of 2021 top 25 health science articles among 7362 published ones.

THE UBIQUITINATION OF UFL1 BY THE APC/C COMPLEX MAY AFFECT THE DNA REPAIR PATHWAY CHOICE

Maria Cuomo

Ph.D., Medical Biotechnologies at the Sbarro Health and Research Organization (SHRO), Temple University, Philadelphia

ABSTRACT

DNA double-strand breaks (DSBs) are the most toxic DNA lesions contributing to genome instability (Hanahan D et al., Cell. 2011; 144:646–74). DSBs can be mainly repaired by homologous recombination (HR) and non-homologous end-joining (NHEJ) (Mao Z et al., DNA Repair. 2008;7:1765–71). We recently identified CDC23 (cell division cycle 23) as a new substrate of CDK9-55, with S588 being its putative phosphorylation site (Alfano L. et al., Oncogene, 2024), in DNA repair. CDC23 is a subunit of the Anaphase-promoting complex/cyclosome (APC/C), a multimeric E3 ubiquitin ligase which is involved in the cell cycle control but recently also in DNA repair (Lafranchi L et al., EMBO J. 2014;33:2860–79.) Mutated non-phosphorylatable CDC23(S588A) affected the repair pathway choice by impairing HR favouring error-prone NHEJ (Alfano, L et al., Oncogene (2024).). Moreover, though the LC/MS analysis we identify the UFM1 specific ligase 1 (UFL1) as a new target of APC/C upon DNA damage. Ubiquitin fold modifier 1 (UFM1) in one of the newest addition to the family of ubiquitin like molecules (Millrine D et al., FEBS J. 2023 Nov;290(21):5040-5056.) and, recently, the ufmylation process has been demonstrated to be involved in HR process as part of ATM activation (Wang Z et al., Nucleic Acids Res. 2019; Qin B et al., Nat Commun. 2019.). By Co-Immunoprecipitation we observed a strong interaction between UFL1 and CDC23, as well as an increase in UFL1 ubiquitination in HeLa Cdc23S588A (engineered with CRISPR-CAS9) compared to wt HeLa cells, upon CPT treatment. These preliminary data described the potential role of CDK9-55 in choosing the correct DNA repair pathway, through the APC/C, possibly by regulating UFL1 stability.

BIOGRAPHY

Maria Cuomo, 27, graduated cum laude in 2022 from the University of Naples "Federico II" with an experimental thesis in Molecular Biology. With a passion for oncology research, I embarked on a Ph.D. in Medical Biotechnologies at the University of Siena. Currently, I am a visitor Ph.D. student at the Sbarro Health and Research Organization (SHRO) at Temple University, Philadelphia, mentored by Prof. Antonio Giordano.

THE ROLE OF CYCLIN-DEPENDENT KINASE 10 (CDK10) COMPLEX IN TRIPLE NEGATIVE BREAST CANCER (TNBC)

Sharon Burk
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ABSTRACT

In malignant triple negative breast cancer (TNBC) cells, genetic alterations, mutations, and mitogenic signals disrupt normal cell growth and division, leading to uncontrolled proliferation, aberrant division, apoptosis resistance, and invasive behavior. Key regulators of cell growth and division are cyclin-dependent kinases (CDKs), including CDK10, which possesses a unique role in both cell cycle and transcription regulation (Düster, 2022). It has been shown that in breast cancer, CDK10 acts as a tumor suppressor; therefore, the down-regulation of CDK10 expression frequently occurs in breast cancers (You 2015). Focusing on the subtype of BC known for its inapplicability to conventional therapies, Triple Negative Breast Cancer (TNBC), our preliminary data show that within the majority of TNBC primary cell lines there seems to be a loss of the expression of CDK10 whereas within the MDA-MB-468 TNBC primary cell line there is an expression of CDK10, suggesting a nuanced function in this specific subtype of TNBC, Basal-Like 1 (BL1), in which it may not act as a tumor suppressor. The study emphasizes the need for further investigations to unravel the specific signaling pathways and molecular mechanisms through which CDK10 contributes to TNBC tumorigenesis and progression. Additionally, this research hints at the potential of CDK10 as a novel prognostic biomarker for TNBC, opening new avenues for personalized therapeutic approaches in this aggressive cancer subtype.

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BIOGRAPHY

I am an Italian-American woman who was born in Rome, Italy and grew up in Sacramento, California. My academic journey reflects a commitment to retaining my Italian culture while also exploring new fields, completing a double major at the University of California, Berkeley. There, I majored in Molecular and Cell Biology with an emphasis in Developmental Genetics and Italian Studies, culminating in the prestigious Departmental Citation for Outstanding Achievement in Italian Studies.

I am currently completing my PhD at the Università degli studi di Siena in the Department of Medical Biotechnologies with an emphasis in oncology research.

I am passionate about breast cancer research and hope to continue making contributions to this field of science in the future.

Nicola Perone
M.D, F.A.C.O.G, F.A.C.S.
Adjunct Professor, Dept. of Obstetrics, Gynecology & Reproductive Sciences
UTHealth Houston - McGovern Medical School

ABSTRACT

Nicola Perone, M.D. research interests focus on the important area of operative vaginal delivery. He has invented and patented an innovative electronically controlled axis-traction handle (US Patent No.7 163 544 B1) and vacuum extractor (US Patent 7,291,156 B1), with the aim of improving the safety of these instruments. He has also invented and patented a high-fidelity simulator for operative vaginal delivery (US Patent 10,157,553 B2). This innovative simulator will allow the new generation of OB specialists to become proficient and self-confident in the use of forceps and vacuum extractor, ensuring a seamless transition into clinical practice.

BIOGRAPHY

After receiving his medical degree in Italy, from the University of Rome "La Sapienza", and completing his OB/GYN residency, Nicola Perone, M.D. transferred to Houston, for additional training. He eventually decided to make Houston his home and for many years, while also engaging in outside practice, he was a Clinical Professor in the Dept. of Obstetrics, Gynecology & Reproductive Sciences of the University Of Texas Medical School at Houston and Director of Resident Medical Education in Obstetrics and Gynecology at Memorial Hermann Hospital Northwest. In 2006 he was elected president of the Houston Gynecological and Obstetrical Society. He is currently Adjunct Professor, Dept. of Obstetrics, Gynecology & Reproductive Sciences, UTHealth Houston - McGovern Medical School.

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Simone Lucatello
National Council of Science and Technology (CONACYT) Mexico, Coordinator Leader report GEO 7 United Nations Program (UN) and Environment (UNEP)

Simone Lucatello is a Senior Researcher at Instituto Mora, a public research centre based in Mexico City, Mexico. He holds an MA in International Relations from the London School of Economics and Political Science (LSE-UK) and a PhD in Governance for Sustainable Development from Venice International University (VIU), Italy. His research interests deal with climate change impacts, disaster risk management, sustainable development.

Lucatello was Knighted in 2022 with the "Star of Italy" award (Stella d'italia) from the Italian President of the Republic Sergio Mattarella. He has worked as consultant to many United Nations agencies, including UNEP, UNODC, UNIC and OCHA, as well as the Inter-American Development Bank (IADB) and CAF. He is currently a leading author of the Global Environmental Outlook by UNEP and former coordinating author of the Intergovernmental Panel for Climate Change of the UN. (IPCC), the major international scientific body on Climate Change.

MODERATOR

Andrea Giuffrida

Ph.D., MBA, Senior Vice President for Research & Biotechnology Western University of Health Sciences, California

Dr. Andrea Giuffrida is a distinguished academic leader currently serving as the Senior Vice President for Research & Biotechnology and professor of pharmacology at Western University of Health Sciences (WesternU) in California. He received his Ph.D. in evolutionary biology from the University of Catania, Italy, and an executive master's in business administration from the University of Texas San Antonio. In 2011, he served as an AAAS Science & Technology Policy Fellow in the Office of Science Policy at the National Institutes of Health (NIH) working on the regulatory science of biomedical products and drug development. During that time, he also played a pivotal role in shaping the NIH biannual report to the American Congress. Between 2014 and 2021, he held the position of vice president for research at the University of Texas Health Science Center San Antonio. Currently, at WesternU, Dr. Giuffrida oversees the university's research infrastructure and operations, regulatory compliances, clinical trials, sponsored programs, and technology commercialization. Moreover, he serves as the university liaison for matters related to research advocacy and education, strategic partnerships, and corporate research sponsors. As a scientist, Dr. Giuffrida has provided important breakthroughs to the neuropharmacology of the cannabinoid system and its role in neurodegenerative and psychomotor disorders, and authored over 90 scientific publications. Beyond his scholarly endeavors, Dr. Giuffrida is actively engaged in life science and biotechnology networks in both Texas and California, fostering collaborations and knowledge exchange on a global scale. He served on the board of trustees of the Texas Research & Technology Foundation and the Texas Biomedical Research Institute. He is also a member of the "Group on Graduate Research, Education & Training" of the Association of American Medical Colleges (AAMC), and president of the Texas Scientific Italian Community.

LEVERAGING QUANTUM -INSPIRED OPTIMIZATION FOR ENCHANCED FOODTECH SOLUTIONS: A CASE OF QUANTYMIZE AND MAIORA PARTNERSHIP

Emanuele Dalla Torre
Ph.D., Associate Professor, Dept. Physics, Bar-Ilan University, Israel

ABSTRACT

The advent of quantum computing offers transformative potential across various sectors, including FoodTech and e-commerce. This study examines the groundbreaking collaboration between Maiora, a developer of advanced artificial intelligence tools, and QuantyMize, an Israeli startup innovating in quantum-inspired algorithms.

The research centers around the implementation of ECO, an algorithm developed by QuantyMize that emulates quantum computational benefits on classical computing frameworks. This algorithm was integrated into Resmart, Maiora's artificial intelligence tool designed for the catering and FoodTech industries, aiming to optimize menu offerings and supermarket product assortments without the immediate need for quantum hardware.

The integration of ECO into Resmart has demonstrated significant advancements in data processing and optimization capabilities. The algorithm enables rapid formulation of various menu options and efficient stock management strategies, aiming at three main objectives: minimizing food waste, satisfying consumer preferences, and increasing company revenues. Notably, the quantum-inspired algorithm has shown potential to enhance revenue predictions and menu attractiveness, leading to an increase in expected revenues by up to 39% compared to classical algorithms.

The collaboration between Maiora and QuantyMize marks a significant step towards practical applications of quantum-inspired algorithms in the FoodTech sector. This partnership not only showcases the immediate benefits of such technologies in improving business outcomes and customer satisfaction but also sets a precedent for the future adoption of quantum computing solutions in various industries.

Keywords: Quantum-Inspired Algorithms, FoodTech, E-commerce, Menu Optimization, Quantum Computing, Artificial Intelligence.

BIOGRAPHY

Prof. Emanuele Dalla Torre is an Italian-Israeli physicist, currently serving as an associate professor in the Physics Department at Bar-Ilan University, Israel. He is known for his research in condensed matter physics, quantum optics, and ultra-cold atomic systems. Dalla Torre completed his PhD at the Weizmann Institute of Science in 2011, and subsequently undertook postdoctoral research at Harvard University. He has been actively involved in scientific collaborations, particularly between Italy and Israel, and values these international partnerships. He has been recognized for his contributions to physics with several awards and has been involved in organizing international conferences. Dalla Torre's research interests focus on the dynamics of complex quantum systems and he leads the Dalla Torre Group at Bar-Ilan University, where they explore non-equilibrium quantum many-body systems among other topics. In 2022 he co-founded QuantyMize, a startup in the field of combinatorial optimization using quantum computers.

"JERUSALEM AND ITS ARCHITECTURAL MONUMENTS: HOW TO RECONSTRUCT THE URBAN DEVELOPMENT USING MICROARCHAEOLOGICAL METHODS, RADIOCARBON DATING WHILE UNCOVERING THE ARECHAEOLOGICAL RECORD"

Elisabetta Boaretto
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ABSTRACT

Several architectural monuments related to core of the ancient Jerusalem were the object of discussion between archaeologists and historians with no agreement being reached. By applying a novel approach in Jerusalem, we were able to resolve the chronological question. By integrating excavation, well characterized stratigraphy, and microarchaeology analyses with hundred of radiocarbon dates from excellent archaeological contexts we dated, beneath Wilson's Arch, monumental structures to very narrow windows of time–even to specific rulers. Wilson's Arch which is visible to the visitors of the Western Wall in Jerusalem was initiated by Herod the Great and enlarged during the Roman Procurators, such as Pontius Pilatus, in a range of 70 years. A theater-like structure located under the Wilson Arch is dated to the Emperor Hadrian ruling and left unfinished before 132–136 AD probably due to the starting of the Bar Kochva revolt. This work has challenged different narratives and shown that with this novel approach we can reach time resolution of less than a generation and date the development of intensely urban environments in the historical periods.

BIOGRAPHY

Elisabetta Boaretto graduated in Nuclear Physics at the University of Padua (Italy) and received a PhD in Physics at the Hebrew University of Jerusalem. She is Professor of Archaeological Science at the Weizmann Institute of Science in Israel. Her research integrates scientific methods and archaeology and she starts her projects from the excavations. She applies a variety of methods to reconstruct the archaeological record, paleoclimate and understand the domestication of plants and animal. She has a research dedicated accelerator for radiocarbon chronology and she is the Director of the Kimmel Center for Archaeological Science at the Weizmann Institute of Science.

COMPUTATIONAL STUDIES OF ANTIOXIDANT ACYLPHLOROGLUCINOLS: AN OVERVIEW

Liliana Mammino
Ph.D., Faculty of Science, Engineering and Agriculture, University of Venda, South Africa

ABSTRACT

Antioxidants play relevant roles in the prevention of degenerative diseases by modulating the concentration of reactive oxygen species. A number of acylphloroglucinols (ACPLs – compounds structurally derivative from 1,3,5-trihydroxybenzene) exhibit antioxidant activities. The activities were modeled computationally by investigating their reducing ability on the Cu^{2+} ion. ACPLs with known antioxidant properties were selected and the complexes of a considerable number of their conformers with a Cu^{2+} ion were calculated. The molecule-ion affinities were compared as indicators of the complexation ability of the individual ACPLs. The NBO and Mulliken charges and the Mulliken spin densities on the ion were compared as indicators of the molecules' reducing abilities. The results showed the involvement of additional O atoms and/or additional π bonds in the ion complexation, consistently with experimental information indicating that the molecules of ACPLs with good antioxidant activities contain additional O atoms and/or additional π bonds with respect to the 'pure' acylphloroglucinol moiety. An additional study investigated the role of the presence of three mutually *meta* phenol OH groups in the acylphloroglucinol moiety and confirmed their relevance for the antioxidant activity. A recent study investigated the role of the sp^2 O of the acyl group, and found that it is not relevant for the antioxidant activity. Overall, the results provide insights on the molecular bases of the antioxidant properties of ACPLs and offer an information ensemble that can be used for further developments of ACPL-based antioxidants, in view of possible practical applications, including pharmaceutical ones.

BIOGRAPHY

Liliana Mammino is currently a professor emeritus at the University of Venda (Thohoyandou, South Africa), where she has been working since 1997 and where she has built computational chemistry research capacity from scratch. Besides computational chemistry (her field of specialization), her research interest comprise chemistry education, language in science (with both epistemological and pedagogical perspectives), and cross-disciplinary explorations. She has published extensively in all these areas (articles in journals, book chapters, conference presentations). She has authored 8 books and has been editor or co-editor of seven multi-author books; she is currently editing three more books, including a book for the IUPAC Project # 2021-005-1-041.

UNLOCKING THE POTENTIAL OF EXTRACELLULAR VESICLES: INNOVATIVE STRATEGIES FOR PURITY, PRECISION, AND THERAPEUTIC IMPACT

Dalila Iannotta

Ph. D., School of Chemical Engineering, University of Queensland, Australia

ABSTRACT

Extracellular vesicles (EVs) represent promising avenues for both diagnostic and therapeutic applications due to their role in intercellular communication. However, ensuring sample purity is imperative for accurately attributing observed effects to EVs, particularly in complex biological matrices like blood, where lipoprotein contaminants pose significant challenges. Here, we introduce a novel EV purification method utilizing a styrene-maleic acid (SMA) copolymer to selectively breakdown lipoproteins, enabling enhanced EV yield and purity. This innovative approach not only preserves EV morphology but also improves marker expression and reduces contaminant interference, thus bolstering the accuracy and sensitivity of EV-based diagnostics and therapies. By employing SMA-based purification, we demonstrate improved fluorescent labeling, reduced macrophage interactions, and enhanced detection of EV biomarkers, underscoring the versatility and efficacy of this method. Moreover, we address the need for efficient protein loading into EVs post-isolation, circumventing the limitations of genetic engineering approaches. Through passive incubation with cationic lipids, we successfully load therapeutic proteins like CRISPR-associated protein 9 (Cas9) into EVs, enabling comparable intracellular delivery to conventional methods with reduced toxicity. This streamlined approach not only expedites protein loading but also expands the scope of EV-based therapies, offering rapid exploration and translation for clinical applications.

BIOGRAPHY

Dr. Iannotta is a pioneering figure in the field of innovative extracellular vesicle (EV)-based drug delivery systems, dedicated to advancing therapeutics. Holding a PhD in cellular and molecular biotechnology from the University of Teramo (Italy), in collaboration with prestigious institutions including G. d'Annunzio University Chieti-Pescara (Italy), Alfatest Lab (Italy), and Mayo Clinic (USA), she currently serves as a postdoctoral fellow at the School of Chemical Engineering, University of Queensland (Australia). Collaborating with Associate Professor Joy Wolfram, she confronts pivotal challenges in EV research, focusing on isolation methods and amplifying therapeutic efficacy by integrating synthetic nanoparticles with EVs. Dr. Iannotta's expertise has led to her securing principal investigator status on an industry grant, and a co-investigator role in a grant funded by an Australian agency. She passionately mentors students across multiple countries and is committed to driving innovation in EV-based therapies, as evidenced by her submission of a provisional patent.

RATIONAL SCAFFOLD DESIGN FOR IN SITU HVTE

Antonio D'Amore
Ph.D., Associate Professor University of Pittsburg, Dept. of Surgery and Bioengineering McGowan Institute for Regenerative Medicine

ABSTRACT

The D'Amore Cardiovascular Tissue Engineering group is dedicated to pushing the frontiers of science by integrating a mechanistic understanding of scaffold-host interactions with the development of innovative biomaterials and cutting-edge tissue engineering strategies. With a primary focus on addressing critical unmet clinical needs in cardiovascular diseases, our research endeavors encompass a wide array of scientific pursuits. These include in-depth investigations into quantitative histology and biomaterial micro-structure image-based analysis, aimed at unraveling the intricate details of tissue composition and organization. Additionally, our team delves into structural modeling techniques to guide the fabrication of tissue engineering scaffolds, leveraging advanced computational tools to optimize their design and functionality. Furthermore, we explore novel approaches for mechanical and topological conditioning to enhance tissue elaboration, seeking to mimic the complexity of native tissue architecture. Moreover, we are at the forefront of developing state-of-the-art cardiac restraint devices, vascular grafts, and engineered heart valves, employing cutting-edge technologies and innovative methodologies to tackle the challenges posed by cardiovascular pathologies. Through our multidisciplinary approach, which integrates expertise from biomedical, mechanical, and structural engineering, alongside contributions from biotechnologists, biologists, clinicians, interns, and Master of Science students, we strive to advance the frontiers of cardiovascular tissue engineering.

BIOGRAPHY

Antonio D'Amore is an Assistant Professor in the Departments of Surgery and Bioengineering at the University of Pittsburgh. He holds M.Sc. degrees in Mechanical Engineering from the University of Palermo (Italy) and Bioengineering from Imperial College London (UK), and a Ph.D. in Biomechanics and Tissue Engineering from the University of Pittsburgh (USA). With over 160 publications, 11 patent applications, and grants totaling more than $11 million from sources like ERC and NIH, his research focuses on surgery, bioengineering, and biomechanics. He leads a team of over 18 researchers.

GROOVED DOUBLE COMPONENT MITRAL SHAPED COLLECTOR TO MIMIC THE NATIVE CURVILINEAR FIBER ARRANGEMENT FOR A TISSUE-ENGINEERED MITRAL VALVE

Pietro Terranova

Ph.D., Scientist, Cardiovascular Tissue Engineering LAB Fondazione Ri.MED, Palermo, Italy McGowan Institute for Regenerative Medicine, University of Pittsburg, USA

Pietro Terranova[1,2], Viktor Balashov[1], Ignazio Niosi[1,3], Drake Dalton Pedersen[2], Antonio D'Amore[1,2]

1. Ri.MED Foundation
2. University of Pittsburgh
3. University of Palermo

ABSTRACT

The intricate collagen fiber network architecture in native heart valve leaflets plays a pivotal role in ensuring optimal stress distribution and effective leaflet coaptation, essential for proper valve function. However, existing heart valve bio-fabrication methods often encounter challenges in replicating the complex arrangement of continuous curved fibers found in native tissue, especially in the mitral valve (MV). To overcome this limitation and enhance the fidelity of tissue-engineered MVs, we developed a novel micro-grooved Double-Component (DC) collector. This innovative collector was designed using SOLIDWORKS® and fabricated with high precision using TRUMPF-TruPrint1000 and ETEC-P4K35 3D printers, achieving resolutions of 55µm and 25µm, respectively. Through simulations conducted in COMSOL-Multiphysics®, we refined the design parameters such as groove width, depth, and thickness to optimize the Electric Field (EF) distribution during the electro-deposition process. Subsequently, a poly-(ester urethane)-urea solution was electro-deposited onto the collector to facilitate the fabrication of tissue-engineered MVs. Morphological and mechanical properties of the resulting scaffolds were comprehensively evaluated using Scanning Electron Microscopy (SEM) and biaxial tensile tests (BTT). The findings demonstrated a refined collector design, with electrospun fibers deposited perpendicularly to the grooves, forming bridge-like structures within the scaffold. Moreover, image analysis revealed alterations in fiber orientation within the leaflet region, exhibiting a distribution along the circumferential direction with a curvilinear arrangement. Notably, biaxial tensile tests revealed significant differences in mechanical behavior between the radial and circumferential directions, underscoring the importance of scaffold design in mimicking native tissue properties. These results highlight the potential of modulating the Electric Field (EF) to precisely control fiber deposition, thereby enabling the manipulation of scaffold local anisotropy at the tissue scale and fiber undulation at the organ-level scale. Overall, our study contributes to advancing heart valve bio-fabrication strategies and holds promise for improving the development of tissue-engineered MVs with enhanced structural and functional properties.

BIOGRAPHY

Pietro Terranova currently works as a Scientist in cardiovascular tissue engineering at the D'Amore LAB - Ri.MED Foundation. I earned my bachelor's and master's degrees in mechanical engineering at the University of Palermo, respectively, in 2018 and 2020. In November 2020, I started my PhD in Tissue engineering, graduating in March 2024. My research focuses on refining bio-fabrication technologies for tissue-engineered heart valves, particularly exploring electrospinning, melt electrowriting, and robotics to enhance reliability and reproducibility for TE applications.

PARADATA FOR ACCOUNTABLE AI

Luciana Duranti
Ph.D. Professor, Information Studies. The University of British Columbia, Vancouver, Canada
PI, I Trust AI. Chair, Canadian Government Standards Board Committee for the Standards Board Committee for the Standard on Electronic Records as Documentary Evidence.

ABSTRACT

This presentation will discuss one of the (InterPARES) Trust AI project's study (see www.interparestrustai.org). The overall goal of the project (2021-2026), funded by a Partnership Grant of the Social Sciences and Humanities Research Council of Canada, is to design, develop, and leverage Artificial Intelligence tools to support the ongoing availability and accessibility of trustworthy public records. The purpose of the study I will present is to identify the paradata necessary to support accountability in the use of AI tools.
Paradata is defined by I Trust AI as "information about the procedure(s) and tools used to create and process information resources, along with information about the operation of the tools and the execution of the procedures, and about the persons carrying out those procedures and using the tools." The presentation will show the difference between metadata and paradata, the modes of explanation to be used (i.e. causal, epistemic, and justificatory), and the issues related to keeping this information overtime and linked to the outcome of the use of any AI tool.
In addition to the research completed to date, the presentation will discuss the difference between the use of AI tools in static environments and in dynamic environment. The latter involves real time constraints and shared agency, where the degree of autonomy and the role of system participation become serious challenges, together with privacy, risk-value-cost tradeoffs, and preservation of data interrelationships.

BIOGRAPHY

Dr. Luciana Duranti, a graduate of Sapienza University of Rome, Italy, is a Professor of archival theory, diplomatics, and digital records in the master's and doctoral archival programs of the School of Information of the University of British Columbia (UBC), Vancouver, Canada. Since 1998, she is the Principal Investigator of the SSHRC funded InterPARES research project, the purpose of which is to develop theory, methods and practices for the trustworthiness of digital records across technologies. Since 2015, she is the Chair of the Canadian Government Standards Board Committee for the standard on *Electronic Records as Documentary Evidence* (GCSB 72.34), including its 2024 edition. For further information about Dr. Duranti's career see www.lucianaduranti.ca and for information about her research projects see www.ciscra.org.

UNVEILING THE IMPACT OF SENSORY MARKETING IN LUXURY REAL ESTATE: A NEUROSCIENTIFIC APPROACH

Marco Baldocchi
Founder and CEO Marco Baldocchi Group Inc. of Miami

ABSTRACT

Objective:
This study delves into the efficacy of sensory marketing in the luxury real estate sector, challenging the conventional reliance on generalized marketing strategies. By focusing on the nuanced requirements and inclinations of potential buyers, it aims to demonstrate the superiority of tailored, sensory-driven approaches over tradi6onal luxury marketing cues.

Approach:
Our research centered on a unique luxury property in Miami, distinguished by its holistic and sensory-enhanced amenities. Employing a combination of eye-tracking, galvanic skin response (GSR) sensors, and facial emotion recognition technologies, we analyzed the reactions of 30 potential buyers (aged 35-55) to promotional materials. The study's goal was to assess which sensory elements most effectively captured attention and remained memorable after a seven-day period.

Results:
The findings underscore the significant advantage of sensory experiences in engaging potential buyers. Remarkably, 77% of participants displayed a heightened response to sensory stimuli compared to traditional luxury indicators. Those exposed to sensory elements retained 12% more informa6on on average, with a subset exhibiting a 37% increase in information retention. This evidence highlights the potential of sensory marketing to not only attract attention but also enhance information memorability and influence purchasing decisions in the luxury real estate market.

Conclusions:
Sensory marketing elements are conclusively more impactful than conventional luxury signals, fostering greater engagement and memory retention among potential buyers. The research advocates for a strategic shift towards sensory-centric marketing approaches, suggesting that creating a multi-sensory narrative around a property can significantly bolster its appeal and memorability in a saturated market.

BIOGRAPHY

Marco Baldocchi, founder and CEO Marco Baldocchi Group Inc. of Miami.
Director of Neuromarketing Research for the Italian National Association of Applied Neurosciences. Founding member and Head of the Research Department for Oncems (Italian Communication and Marketing Observatory for Sustainability).
Author of books and scientific publications. Lecturer at the 24Ore Business School and the Catholic University of Milan.

Member of the NMSBA (Neuromarketing Science & Business Association) he was included in the Top 10 of the Best World Speaker - Neuromarketing Series 2021.
Member of the MSIC (Italian Scientific Community of Miami) and AINEM (Italian Association of Neuromarketing)
In 2023 he was included in the prestigious Insight250 ranking, a collection of the best 250 international experts in marketing and consumer behavior and in the international edition of Marquis Who's Who.
In 2023 he was TedX Speaker in Miami (US) and Lucca (Italy).
His company has been nominated the 'Most Scientific Marketing Agency 2023 – Southeast USA' award at the 'Media Innovator Awards 2023.

ANDREA CAROBBI

Ph.D. in Biotechnology, member of the Association of Italian Scholars and Scientists in Israel

ABSTRACT

The Type 6 secretion system (T6SS) is a versatile mechanism utilized by various Gramnegative bacteria to translocate effector proteins into target cells in a one-step process. Pantoea agglomerans pv. betae (Pab) is a Gram-negative phytopathogenic bacterium that causes economic losses due to infections in Gypsophila paniculata and Beta vulgaris. Through bioinformatics analysis of Pab's genome, we identified a gene cluster (T6SS1) predicted to encode a complete T6SS, along with arrays of effector and immunity genes. We hypothesized that T6SS1 is active in Pab, potentially influencing both interbacterial interactions and virulence; and that additional effectors and immunity modules are encoded outside the cluster. Identifying such effectors and understanding the mechanism that governs their secretion remain major challenges in the field. Using secretion and competition assays, we confirmed that Pab exhibits T6SS1-dependent antibacterial toxicity against rival plant-associated bacteria. We characterized the specialized antibacterial effector VgrG as a peptidoglycan toxin, and confirmed a novel antibacterial T6SS effector and immunity. Additionally, we introduce two orphan antibacterial T6SS effectors with a shared N-terminal domain, PIX, which define a widespread class of polymorphic T6SS effectors within the Enterobacterales. We demonstrate that the PIX domain is crucial for T6SS-mediated effector secretion and that it binds to the specialized Pab VgrG protein, independently of its C-terminal toxic domain.

BIOGRAPHY

Growing up in a family of farmers inspired me to specialize in plant science and microbiology through biotechnology courses at the University of Florence and Pisa. Delving into molecular biology fundamentals, I also gained insights into critical issues such as animal production and food security, prompting positive changes in my daily life. Relocating to Israel for my PhD studies marked a significant turning point for me. The Israeli tech sector captivated me with its diversity and dynamism, with startups and companies pioneering cutting-edge technologies in alternative protein, precision agriculture, and food safety. Immersed in this stimulating environment, I honed my abilities in working with state of the art genomic and proteomic techniques. My time in Israel also involved active participation in the Association of Italian Scholars and Scientists in Israel (AISSI). AISSI aims to foster ties with Italian academics, research organizations, and companies. Through this, I engaged with esteemed Italian and Israeli researchers and politicians, discussing diverse scientific subjects. Recently, I submitted a research project with a French food-tech company that could potentially leading to a post-doc in the industry supported by an MSCA and European grant.

INNOVATIVE MICROFLUIDIC TECHNOLOGY FOR ECO-FRIENDLY EDIBLE COATINGS: A LEAP TOWARDS SUSTAINABLE FOOD

Cristian Aarón Dávalos-Saucedo

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ABSTRACT

This study showcases the development and optimization of a manual microfluidic system designed for the application of sustainable edible coatings, focusing on enhancing food preservation. A functional prototype was designed and assembled, followed by a redesign phase to improve efficiency and automation. An innovative formulation for the edible coating was developed, based on sustainability and efficacy in food preservation. The physical and chemical characterization of this coating shown promising properties for practical applications. Initial laboratory tests demonstrated the coating's feasibility on foods, highlighting its potential to extend shelf life without compromising quality. Adjustments in the microfluidic system design and coating formulation were necessary after the study of finite elements simulation to optimize the application process and enhance the coating's efficacy. Preliminary results suggest that this integrated approach can provide an effective and eco-friendly solution to food preservation challenges, emphasizing the importance of technological innovation in the food industry. Future work will focus on refining the automatic microfluidic system and thoroughly evaluating the coating's applicability in large-scale production environments.

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FOOD SECURITY OF INDIGENOUS PEOPLES: A LEGAL OBLIGATION TOWARD A RIGHT TO CULTURAL TRADITIONAL FOOD

Chiaretta Giordano
Ph.D. candidate at Tel Aviv University (Israel)
Member of AISSI

ABSTRACT

My dissertation delves into traditional food's significance for Indigenous peoples, stressing its role in cultural identity and health. It outlines the preservation challenges due to globalization and policy restrictions. The study calls for acknowledging a right to cultural traditional food within international law to protect Indigenous food security.

The dissertation is structured into four chapters, focusing on Indigenous traditional food's significance. Chapter I examines the nutritional and cultural importance of traditional foods, emphasizing their role in health, heritage, and social cohesion. It illustrates how traditional culinary practices and ingredients are essential for Indigenous peoples' health, drawing a direct link between preserving food traditions and improved health outcomes.

Chapter II examines case studies across legal jurisdictions, revealing how global food governance often fails to accommodate Indigenous dietary needs, leading to a loss of traditional food systems. This chapter underscores the vulnerability of traditional customs to external pressures, including land rights issues, intellectual property, and gender dynamics.

Chapter III provides a critical analysis of international human rights law frameworks, which focus on food and indigenous peoples' rights, identifying shortcomings in the protection of traditional food rights under current legal frameworks. It scrutinizes key documents and conventions, pointing out the lack of adequate recognition for the collective and cultural dimensions of food security among native peoples.

The final chapter includes specific strategies for legal and policy reform to uphold the cultural traditional right to food.

The dissertation highlights the critical importance of traditional food for Indigenous cultural identity, calling for legal changes to protect these traditions from modern food system impacts. It advocates for a broader understanding of the right to food to include cultural dimensions and emphasizes international collaboration to help Indigenous and marginalized groups preserve their culinary heritage.

BIOGRAPHY

Chiaretta Giordano, a dedicated advocate for Indigenous rights and food security, earned her master's in law from the University of Turin in 2015 and is pursuing her Ph.D. in International Law at Tel Aviv University. Her academic journey has been enriched by a fellowship at the Manna Center for Food Safety and Security at TAU in 2020, as well as visiting scholar roles at Arizona State University and Harvard in 2023. Her work focuses on the intersection of food security, cultural preservation, and legal advocacy for Indigenous communities.

THE MICROALGA *HALAMPHORA* SP. AS A PROMISING SOURCE OF ANTICANCER COMPOUNDS

Chiara Lauritano
Ph.D., Research scientist at Stazione Zoologica Anton Dohrn, Naples, Italy

Eleonora Montuori[1,2], Assunta Saide[2], **Chiara Lauritano**[2]

[1]*University of Messina, Viale F. Stagno d'Alcontres 31, 98166 Messina, Italy;*
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ABSTRACT

Marine microalgae are photosynthetic eukaryotic organisms that contribute at the 40% of the global productivity. These microorganisms are characterized by a great biodiversity in terms of species and compounds they may produce. Due to the high incidence of cancer, infectious diseases and the insurgence of other human pathologies, there is a continuous search for new natural products, more potent and with less side effects, and the marine realm has been shown to be a good candidate. The aim of the present study was to evaluate the biological activity of the marine diatom *Halamphora* sp. We extracted and fractionated total algal extracts obtaining five fractions. According to the protocol used, these fractions were enriched of amino acids and saccharides (fraction A), nucleosides (fraction B), glycolipids and phospholipids (fraction C), sterols and free fatty acid (fraction D) and triglycerides (fraction E), respectively. Raw extracts and fractions were tested for their cytotoxic and anti-proliferative effects on human normal and cancer cells. Results showed a dose-dependent anti-proliferative activity of raw extracts of *Halamphora* sp. against melanoma A2058 cells. The most active fraction was Fraction D at concentration of 12,5 µg/mL and real time PCR was performed to investigate the mechanism of action at gene level. The cell targets of marine compounds and their mechanism of action are, in fact, often unknown and further research is necessary to unlock the biotechnological potential of these metabolites.

BIOGRAPHY

Research scientist at Stazione Zoologica Anton Dohrn, Naples (Italy) since 2018, Dr. Lauritano graduated in Biotechnology in 2008 and obtained her PhD in Animal Biology at the University of Calabria in 2011. She has a wide experience in marine biotechnology, functional genomics and plankton ecology. Google scholar: https://scholar.google.it/citations?user=mhAvYNEAAAAJ&hl=it.

Particular interest is on bioprospecting for marine organisms, mainly microalgae. Her research activity is mainly focused on studying marine organism bioactivity for human health applications and transcriptomic/genomic analyses in order to find sequences encoding for proteins with industrial applicability.

IN VITRO EFFICACY OF GREEN TEA EXTRACT AGAINST FELINE HERPESVIRUS TYPE 1 (FHV-1)

Consiglia Longobardi
Ph.D., Research Fellow at the Department of Veterinary Medicine and Animals Productions, University of Naples "Federico II", Italy

Consiglia Longobardi (1)(2), Gianmarco Ferrara (1), Riccardo Esposito (1), Iris Maria Forte (2)(3), Antonio Giordano (2)(3), Sara Damiano (1)(2), Roberto Ciarcia (1).

(1) Department of Veterinary Medicine and Animal Productions, University of Naples Federico II, Naples – Italy
(2) Sbarro Institute for Cancer Research and Molecular Medicine, Centre of Biotechnology, College of Science and Technology, Temple University, Philadelphia - USA
(3) Department of Medical Biotechnologies, University of Siena, Siena - Italy

ABSTRACT

Feline Herpesvirus type 1 (FHV-1) is a worldwide spread pathogen that may affect felines of any age and health condition. In severe cases, a systemic antiviral therapy based on famciclovir administration can be used. Neverthless, cats with recurrent conjunctivitis requires topical ocular therapy to prevent permanent eye damage [1].

Phytotherapeutic treatments are a little-explored field for FHV-1 infections and reactivations. In this scenario, natural compounds could provide several advantages, such as reduced side effects, less resistance and low toxicity.

The current study aimed to evaluate the *in vitro* efficacy of a green tea extract (GTE) from *Camellia sinensis* with 50% of polyphenols (Italfeed) for the treatment of FHV-1 infection. For this purpose, Crandell-Reese feline kidney (CRFK) cells were treated with different doses of GTE (10-400 µg/mL) during the viral adsorption phase and throughout the following 24 hours. The MTT and $TCID_{50}$ assays were performed to determine the citotoxicity and the EC_{50} of the extract.

The western blot assay showed a reduction in the expression of viral glycoproteins after GTE treatment. The extract induced not only a suppression in viral proliferation but also in the phosphorylation of Akt protein, generally implicated in viral entry [2]. Moreover, the increase in cell proliferation observed in infected cells upon GTE addition was supported by enhanced expression of BAX and BCL-xL anti-apoptotic proteins.

In conclusion, the extract's effectiveness may offer a reliable therapeutic support, along with its easy availability, for the management of FHV-1 infection.

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BIOGRAPHY

Longobardi Consiglia: PhD in Medical Clinical and Experimental Sciences. Research Fellow at the Department of Veterinary Medicine and Animals Productions, University of Naples “Federico II”. Bibliometric Indicators related to Publications: 18 publications; h-index=8.

FERMENTATED GRAPE EXTRACT (OA ETHO) AS A NEW MODULATOR IN DNA DAMAGE RESPONSE

Giulio Mazzarotti

ABSTRACT

Introduction

DNA damage is one of the main causes of tumor development. Different sources, both endogenous and exogenous, could be affect the stability of double helix of DNA. A detrimental DNA damage is the Double-Strand -Break, which is repaired by two principal mechanisms, the Non Homologous End Joining (NHEJ) or the Homologous Recombination (HR) process, to preserve genome stability.
NHEJ is an error prone mechanism generating high number of insertions or deletions to repair the damaged DNA during the whole cell cycle *[1]*; on the other hand, the HR is restricted to the S/G2 cell cycle phases, given its dependency on the presence of the sister chromatid for the correct DNA repair *[2]*.
Although the resolution of the HR intermediates leads to error-free repair or the mutagenic pathways (Single Strand Annealing and Alternative End-Joining), but the regulation of this processes is actually under investigation.

Methods

In this work we used a Fermented grape extract, named Ethyl Acetate (OA ETOH), to evaluate its effect on DNA damage response, alone and combined with Camptothecin.
From OA ETOH we isolated two main molecules: Oleanolic Acid and Linoleic Acid. We decided to focus our attention on the Oleanolic Acid because it is known that Oleanolic acid in combination with Olaparib and radiotherapy, significantly inhibits cell proliferation if compared with the not treated samples *[3]*.

Results

We demonstrated, in HeLa cells, that combination treatment between Oleanolic Acid with Camptothecin increased phosphorylation of Replication Protein A 32 Serine 4/8 (RPA32 S4/8) protein, a marked of DNA end resection, respect to Camptothecin alone.
Furthermore, we evaluated which DNA repair mechanisms could be potentially involved in the repair of the lesions after the combination treatment with Camptothecin and Oleanolic Acid. We demonstrated that this treatment activates Single strand Annealing through the chromatin loading of DNA excision repair protein ERCC-1 and Ligase 1 (LIG1) proteins.

Discussion

By describing the role of Oleanolic Acid in the modulation of DNA repair, we demonstrated that Oleanolic Acid potentially favours an increased activity of Camptothecin in HeLa cell line, leading a new possible strategy for cancer therapy.

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BIOGRAPHY

I am Giulio Mazzarotti. I graduated in Biology at University of Sannio in Benevento. I am currently attending at the first year of the Medical Biotecnology PhD at University of Siena.

FeHV-1 INFECTION MODULATES AUTOPHAGY IN PERMISSIVE CELLS LINE

Serena Montanaro
Department of Veterinary Medicine and Animal Productions, University of Naples Federico II, Naples, Italy

Serena Montagnaro, Mariafrancesca Sgadari, Consiglia Longobardi, Giuseppe Iovane, Ugo Pagnini, Gianmarco Ferrara

ABSTRACT

FeHV-1 is the causative agent of feline infectious rhinotracheitis, a worldwide disease caused by a virus of the Herpesviridae family, genus Varicellovirus. Like other herpesviruses, it interacts in complex ways with important cellular signaling pathways. Therefore, we decided to investigate the existing relationships between FeHV-1 and the autophagic mechanism. Our data showed that FeHV-1 is able to induce autophagy in a dose- and time-dependent manner. Increased LC3-II levels and degradation of p62 were detected from 12 hours post-infection by Western blot and immunofluorescence assays. Furthermore, the possible proviral role of autophagy during FeHV-1 infection was investigated by using inhibitors and inducers of late autophagy and evaluating the effects of each drug in terms of viral yield, cytotoxic effects and glycoprotein expression. viral. Our results suggest that inhibitors of late autophagy (bafilomycin and chloroquine) have a negative impact on viral replication. Interestingly, pretreatment with bafilomycin led to an accumulation of gB, a viral protein, while the opposite effect was observed when an autophagy inducer was used. The importance of autophagy during FeHV-1 infection was further supported by the results obtained with ATG5 siRNA. In conclusion, our study demonstrates that FeHV-1 induces the autophagic process, highlighting its proviral role and the negative effects of late autophagy inhibitors on viral replication.

BIOGRAPHY

Serena Montagnaro works at the Unit of Infectipos disease, Department of Veterinary Medicine and Animal Production at the University of Naples ”Federico II” and holds a permanent position as Associate Professor of Veterinary Epidemiology (VET/05).

Degree in Veterinary Medicine (University of Naples “Federico II”). Specialization in Infectious Diseases, Prophylaxis and Veterinary Police (University of Naples “Federico II”).

ENHANCING THE SHELF LIFE OF READY-TO-EAT CHERIMOYA (ANNONA CHERIMOLA) WITH MULTILAYERED EDIBLE COATINGS

Giovanna Rossi-Márquez
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Affiliation: ***Tecnológico Nacional de México/Instituto Tecnológico José Mario Molina Campus Lagos de Moreno and Arandas

ABSTRACT

This research focuses on cherimoya (*Annona cherimola*), a fruit native to South America, noted for its cultivation since 3400 B.C. and its significance in both fresh consumption and traditional medicine. With increasing global demand, cherimoya requires temperate climate conditions, is rich in nutrients such as vitamin C, potassium, and various minerals. Fruit maturation involves changes in pulp firmness due to enzymatic action. Given the preference for ready-to-eat foods, there is interest in developing edible coatings from natural polymers to extend the shelf life of fresh cherimoya, applicable through techniques like dipping, spraying, or brushing, without compromising product quality. The research highlights the effectiveness of multilayer coatings, formed by solutions with opposite charges applied layer by layer, in enhancing fruit preservation. These coatings, primarily based on proteins and carbohydrates, have proven beneficial in maintaining firmness, membrane integrity, and visual appearance, surpassing untreated samples. They help preserve phenolic content, crucial for maintaining the nutraceutical properties of the fruit. The effect of these coatings on cut and ready-to-eat cherimoyas revealed a significant improvement in quality retention and shelf-life extension, due to a reduction in respiration rate, weight loss, and maintenance of pH and phenolic content during storage. Moreover, they minimize protein content loss and increase in soluble solids, indicating a slowdown in the maturation process. Thus, obtaining an extension of the shelf life of fresh cherimoya through sustainable methods, reducing environmental impact and food waste.

BIOGRAPHY

- Graduate Degree in Chemical-Biological analysis at the University Autonomy of Aguascalientes, Mexico; Master in Food Science and Technology at the University Autonoma of Queretaro, Mexico and PhD in Biotechnological Sciences at the University of Naples Federico II, Italy.
- 14 publications in peer-reviewed journals.
- Research stages at the University of Manitoba (Canada), Institute of Food Research (England), Centro de Investigaciones en Óptica (México), Universitá degli Studi di Napoli Federico II (Italy).
- Thesis direction and co-direction of graduate and postgraduate students.
- Guest Editor in Edible Films and Coatings: Fundamentals and Applications Edition I and II, Coatings, Multidisciplinary Digital Publishing Institute (MDPI).

A COMPARATIVE STUDY OF GREENHOUSE GAS (GHG) EMISSION REDUCTION PERFORMANCE OF TOP FIVE CANADIAN VS. GLOBAL OIL AND GAS COMPANIES

Mohsen Saeedi

Shervin Keighobadi[1] and Mohsen Saeedi[2]

1. MBA Graduate, University Canada West, Vancouver, BC, V6Z0E5, Canada
2. Professor, Department of Marketing, Strategy and Entrepreneurship, University Canada West, Vancouver, BC, V6Z0E5, Canada

ABSTRACT

The Paris Climate Change Agreement was signed and ratified by the end of 2016 as a global response to combat climate change. Canada's net-zero emission accountability act was created to ensure alignment with the Paris Agreement. Eight years after signing the Paris Agreement, this research evaluates how the top Canadian corporations reduced their carbon footprint compared to the top international companies in the oil and gas sector from 2017 to 2021. Self-reported data from corporations' ESG reports were collected and used for analyses. To eliminate the effect of the size of the operations, greenhouse gas intensity is also used/calculated for the corporations in this research. The results showed that although the reduction rate of GHGs in Canadian companies is higher than that of global companies, the value of the GHG intensity of Canadian companies is still higher than that of global companies. This indicates that Canadian oil and gas companies still need to improve their operations' efficiency to reduce their emissions per revenue.

Keywords: Oil and gas companies, Canada, GHG reduction, Carbon footprint

BIOGRAPHY

Dr. Mohsen Saeedi, a professor of environmental sustainability, joined University Canada West (UCW) in the Spring of 2022, bringing a wealth of experience to his graduate-level teaching. Dr. Saeedi embarked on his academic journey with a PhD from the University of Tehran in 2003 and later earned his second PhD from the University of British Columbia, Vancouver, Canada.

His academic tenure includes roles as a post-doctoral research fellow and sessional lecturer at the University of British Columbia. Dr. Saeedi also made significant contributions at the City University of Seattle in Vancouver, where he redeveloped and taught courses in sustainable resource use and corporate social responsibility.

In 2015, Dr. Saeedi was appointed a full professor at the Iran University of Science and Technology (IUST), marking a pinnacle in his over 18 years of successful higher-education academic career. He has held various administrative and leadership roles in academia and is an affiliate of the Iran National Academy of Sciences (IAS).

His corporate training experience is particularly notable, having developed and delivered impactful courses to over 400 professionals in the petrochemical, steel, power, and port/marine transportation sectors.

In addition to his academic pursuits, Dr. Saeedi boasts over 25 years of industrial and consulting experience. His expertise in environmental and quality management systems, sustainability studies, and diverse projects in the energy,

oil, petrochemical, mining, transportation, and construction sectors distinguishes his professional profile. He has also made significant contributions as a research engineer and senior hydrologist in Canada, working with consulting/engineering firms in North Vancouver and Burnaby.

As an author, Dr. Saeedi has an impressive portfolio of more than 165 refereed research journal articles and over 100 conference proceedings. He has authored two pivotal books: "Environmental Management of Power Plants" and "Port Projects Assessment and Terms of Reference". Dr. Saeedi is also a valued member of editorial boards for journals like "The Journal of Environmental, Energy, and Economic Research (EEER)", "Journal of Pollution", "Journal of Hydrology; Current Research", and serves as an associate editor for "Frontiers in Sustainability" and "Frontiers in Public Health".

For a comprehensive view of his publications, visit his Google Scholar profile: Dr. Saeedi's Google Scholar Profile.

Additional Training and Certificates:

- Measuring Sustainable Development, SDG Academy, 2023.
- Sustainability in Practice Certificate, Engineers Canada and Montreal Polytechnique, 2020.
- Canadian Investment Funds Course (CIFC) Certificate, IFSE Institute, Canada, 2021.
- Harmonized Life License Qualification Program (HLLQP) Certificate, Oliver's Learning Institute, Canada, 2021.
- Quality Management Systems (ISO 9001) Requirements and Implementation, SGS Iran.
- Environmental Impact Assessment (EIA), Department of Environment, UNDP, and CORDAH.
- Environmental Management Systems (ISO 14001) Internal Audit, SGS Iran.

Awards and Honors:

- Supervisor and mentor for the winning team, International Solid Waste Design Competition, SWANA, 2022.
- Excellence in Research Award, School of Civil Engineering, Iran University of Science and Technology, 2017.
- Faculty of Applied Science Graduate Award, University of British Columbia, 2014.
- CSAP of British Columbia Graduate Scholarship Award, 2014.
- PhD Scholarship, University of Tehran, awarded by the Ministry of Science, Research & Technology of Iran, 2000.
- Ranked 16th in the Iranian university entrance exam for the M.Sc. program in civil (environmental) engineering, 1994.

HUMANITIES

MODERATOR

Simona Palladino

Dr Simona Palladino is a Senior Lecturer in Social Sciences at Liverpool Hope University. Her Ph.D at Newcastle University, in Social Gerontology, was conducted via ethnography with Italian communities. She directed the documentary '*Age is Just a Bingo Number*', awarded at international film festivals. She presented her research at international conferences, such as the 'Migrating Objects: Material Culture and Italian Identity' by the Calandra Italian American Institute (New York, 2016); and conferences in San Francisco, Seoul and across the UK. Simona is a Fellow of Higher Education (PGCert LTHE), previously, she was Visiting Fellow at the University of Portsmouth (2011) and Université Libre de Bruxelles (2013). She studied at La Sapienza University of Rome (2004–2011).

THE POLITICS OF DESIRE: CARLO SINI READS PLATO'S *REPUBLIC*

Alessandro Carrera
Ph.D., Professor, University of Houston, Texas, USA

ABSTRACT

In Plato's *Republic*, any desire that does not lead to knowledge of the Good is politically destructive. In the interpretation of Italian philosopher Carlo Sini (*La virtù politica*, 2004), the *Republic* is thus a treatise against desire. Sini articulates his analysis according to the four "descents" in Plato's text. 1. Socrates goes down the Piraeus to attend the festival of the Goddess Bendis. 2. Gyges' (the mythical king of Lydia) goes down to the bowels of the earth to find the ring that makes him invisible and allows him to give vent to all his desires. 3. The philosopher descends into the cave to free the prisoners of illusions. 4. Er goes down to the netherworld to witness the fate of souls in the afterlife. Of the four descents, the most important for Sini is not the one into the cave, but the descent of Gyges and the finding of the invisibility ring. According to Sini, invisibility is one of the central concepts of the *Republic*. Language is invisible, ideas are invisible, money is invisible (according to the myth, Gyges invented money). But desire (for instance, Gyges' desire for the Queen) is an even more central concept. Socrates wants to save the Philosopher (who desires knowledge) from the greed of the Tyrant (who desires everything), and his city without desire is meant as a therapy of the conflict between the One and the Many (the Tyrant and the City), yet the many divergent directions taken by his political hypotheses show that Socrates may be the first to know that his desire is unattainable.

BIOGRAPHY

Alessandro Carrera is Professor of Italian Studies and World Cultures and Literatures at the University of Houston. He has written on Italian and Continental Philosophy, Italian and Comparative Literature, Music, Cinema, and the Arts. He has edited the special issues *Italian Critical Theory* ("Annali d'Italianistica," 29, 2011), *Music and Society in Italy* ("Forum Italicum," 49, 2, 2015), three collection of essays by Massimo Cacciari (*The Unpolitical*, Fordham UP, 2009; *Europe and Empire*, Fordham UP, 2016, and *Philosophy, Mysticism, and the Political*, SUNY Press 2022), has co-edited Emanuele Severino's *Essence of Nihilism* (Verso, 2016), and is currently editing the English edition of Carlo Sini's *La virtù politica*. He has also published *Fellini's Eternal Rome: Paganism and Christianity in the Films of Federico Fellini* (Bloomsbury, 2019). Since 2019, he is Editor-in-Chief of *Gradiva: International Journal of Italian Poetry* (Olschki).

SEVENTH CENTURY JAPANESE ART AND ITS CONTEXTUALIZATION IN EAST ASIA ART HISTORY

Maria Carlotta Avanzi
Assistant Professor, Akita Prefectural University, Japan

RESEARCH SUMMARY

My research examines and investigates seventh century Japanese Buddhist art to illuminate its development and understand its contextualization within Asian art history during this period.

A variety of artistic styles called *tayōshiki* in Japanese characterize the artistic culture in Japan during the seventh century. Researchers have pointed out that this variety is largely due to the continental influences of India, China, and the three kingdoms of Korea: that is, Paekje, Koguryo, and Silla. However, researchers are still trying to understand these influences more accurately and opinions about them vary greatly.

Hence, I have been comparatively analyzing Japanese artworks (e.g., icons, metalworks) that have been influenced by foreign cultures, but where researchers disagree about their stylistic influences. To verify when these artistic exchanges occurred, I considered ancient Japanese texts, which represent a rich source of information about Japan's international exchanges with its neighboring countries.

As a result, I was able to establish more accurately the date of production of some Japanese artworks, such as the Kannon statue at Ichijoji temple in Hyogo Prefecture, in addition to the foreign influences on their artistic styles.

Therefore, the significance of my research lies in its potential to establish more precisely the developmental steps for seventh century Japanese art and to collocate Japanese artistic styles more clearly within the larger context constituted by East Asian art during this period.

BIOGRAPHY

Maria Carlotta Avanzi is an assistant professor at Akita Prefectural University (Honjō Campus). She obtained her Master of Law (2007) and Master of Languages and Cultures of Asia and Africa (2012) at the University of Turin, Italy. She has been living in Japan since 2014. In 2018, she received her Master of Aesthetics and Art History at Kyoto University where she is currently pursuing her doctorate. Her main research area focuses on Japanese Buddhist sculptures from the seventh century and their relationship with Chinese and Korean art. Her recent interest in art history as a method for helping students become familiar with foreign languages also led her to produce a Global Citizenship course, which focuses on teaching English through art.

A TEXT IN MOVEMENT: A PERFORMANCE-LINGUISTICS THEORY

Luisa Villani
Ph.D., Professor of Anthropology, Autonomous National University of Mexico, Mexico City

ABSTRACT

My aim in this proposal concerns how the connection between mind, body, society, and environment works in the Flyers' dance, a very well-known dance in Mexico, to create meanings and to make possible the apprehension of the world. It is the interaction among brain, mind, body and environment, and the intersubjective relation among them which means the world and creates and recreates a social interaction.

The purpose of this theory I'm creating that I named "A Performance-Embodied Theory" is based on the embodied cognition theory, and wants to find the principles and patterns that organize the culture and the rules of the apprehension of the environment by Totonac people, while they are performing the dance. How can we, anthropologists, interpretate the manner Totonacs transform their unconscious knowledge in conscious knowledge, in the context of public-facing rituals, as Flyers' dance? How can we understand the scheme formation of imagination and their collective imagery? Usually, researchers interpret elements in a separate way and not as a complex ritual dancing whole, which is the original contribution of this study. My theory, which accepts the fact that we are body-mind agents wants to interpret the dance as a whole, where the different elements are joined to an integral interpretation. The impact of this study regards also the possibility not only to disseminate knowledge in an effective way but also to generate a balance between different parts of the world where knowledge is shared and rather than being received by academic institutions alone. This knowledge can be exchanged, where indigenous communities and academy could be together part of the activation and the sharing of this knowledge to the world.

Performance in a ritual is the actualization of a potential complex of meanings or cognitive domains among many potential others, in a culture: one potential dimension becomes probable, and then real, thanks to the activation of specific meanings in a context. We can only think what language permits us thinking and the lexicon we use depends on the culture we are in, and we can only activate some parts of this knowledge at once, and these parts of knowledge are connected. Thinking is acting and we can only think and categorize better, what we move and act in the environment. Only in this way, we can apprehend the world.

We recognize that, as languages geometrize the physical world thanks to the body, also ritual does. The ritual behaves as an embodied grammar or a text in movement, which depending on the ritual phases and on the words and the sentences pronounced in the ritual, activates bits of encyclopedic knowledge that the speakers have about the world. Gestures are not given by the performer but emerge from the intentional perception in which gestures are "understood" by the audio-spectator in an intercorporeal way.

In conclusion, dancers with their gestures, movements and objects they use contribute to move their knowledge of the environment and their history: the whole oral expressions and movements in the dance represent the collective imagery of the community.

BIOGRAPHY

Luisa Villani was born on January 4th, 1983, in Italy and she is an anthropologist and linguist in Mexico, post-doctoral researcher and professor at the National Autonomous University of Mexico (UNAM), Mexico City. Her studies are interdisciplinary and move from linguistic and anthropology to cognitive sciences, especially on neurosciences, cognitive linguistics, cognitive anthropology, cognitive psychology and philosophy of the mind.

First, she graduated from the University "Federico II" in Naples, Italy in Classical Studies and Classical Philology. Second, she graduated from the University "La Sapienza" in Rome, in Archeology and History Sciences of the Classical and Oriental World. Therefore, she finished a master's degree in Archeology and History of Arts in Ancient and Oriental World in the same University, with honor mention. Now she is finishing her third career in Linguistics at the National University of Anthropology and History (ENAH) of Mexico City. In her final thesis she will investigate the "Cognitive apprehension of movement among the Totonacs of the Gulf Coast, Costa-Sierra variant: a morphosyntactic and semantic analysis".

She obtained a PhD in Mesoamerican Studies at the National Autonomous University of Mexico (UNAM), with honor mention. In that thesis she studied the phenomenon and the deity of the hurricane (in myths and dances) among Totonacs of the Coast Gulf of Mexico. The post-doctoral project at Institute of Anthropological Investigations (UNAM) is about the method of cognitive linguistics she is applying to understand and interpretate the Dance of Flyers (Danza de los Voladores), an unknown variant of the dance, in the Totonac territory. As post-doctoral researcher, she created an International Seminar that she named "Cultural Cognitive Seminar". In this Seminar some international researchers have already participated.

One of her most recent papers on Flyers' Dance, published in 2021, is: "The Mathematical and Geometrical Forms of the Hurricane in the Totonac Flyers Dance at Tajin", Mexicón. Zeitschrift für Mesoamerikaforschung. The Journal of Mesoamerican Studies. München. She recently published also in the Revista de Arqueología Mexicana a monographic issue of the turkey (el guajolote). In her immediate future, she will apply for a fellowship in the Department in Cognitive Science of San Diego, Cog. Sci. UC-San Diego, in order to continue growing professionally in the area of the cognitive sciences.

UN SDG ACTION AND IMPACT IN ITALY: A CROSS-BORDER STUDY OF SCHOOLUNIVERSITY PARTNERSHIPS

Hélène H. Leone
Ph.D., Dept. Leadership and People Management, Global Governance Project, University Canada West, Vancouver, BC. Canada

ABSTRACT

Italy recognizes the importance of achieving the UN Sustainable Development Goals and is actively working to integrate the SDG Agenda 2030 in its educational system. Italy's strategy involves integrating the goals into its national policies and initiatives, providing inclusive and quality education, reducing educational disparities, and increasing access to lifelong learning opportunities. This presentation will draw on comparative cross-border knowledge from five (5) sites, including unique partnerships between educational leadership, and school administrators who have a crossover role as university educators, mentors, and/or faculty advisors, and the voices of their inservice teachers and pre-service teacher candidates. Each contribution is distinct, providing international-comparative analysis into school-university partnerships emerging from crosssectorial collaboration (Bradbury & Acquaro, 2022). Through interviews, surveys, and document analysis based on unique local contexts and policyinformed practices of the Education Sustainable Development Goals, this presentation will examine best practices and policy implications relating to Italy's educational policies, and practices. This presentation will report the findings of initial discussions drawn upon authentic experiences of educational leadership, and school administrators in their crossover roles, but also highlight knowledge-generating insights and recommendations relating to policy-informed schooluniversity partnerships and their influence on the delivery and implementation of Education for Sustainable Development Goals.

BIOGRAPHY

Hélène H. Leone holds a PhD in Education from the University of Ottawa and an MA from the School of Communications at Simon Fraser University. Her research interests include global education, leadership and administration, ethics in education, professional development, and teacher training, with a focus on European and African regions. Dr. Leone has served as a field researcher for organizations such as the Office of the Commissioner of Official Languages, the Fédération culturelle-canadienne française, and Heritage Canada. Dr. Leone currently works as a sessional instructor in the Department of Leadership and People Management at University Canada West, and in the Faculty of Education at the University of British Columbia. Additionally, Dr. Leone leads the global governance project "Bridging the Gap of Diversity and Inclusion in the 21st Century Classroom," conducting research in village schools in Burkina Faso, Cameroun, and Morocco. Dr. Leone is the founder of the British Columbia Ministry of Education's k-12 offshore school, the Canadian Bilingual School of Paris.

MIGRATION, TRAUMA, AND BELONGING: UNDERSTANDING BLACK ITALY THOUGH FILM

Moira Di Mauro-Jackson

Senior Lecturer of French and Italian, Italian Section Coordinator
Department of World Languages and Literatures, Texas State University

ABSTRACT

What makes a citizen? Is it their birthplace? Blood? Or a unique contribution they bring to society? The word citizen, etymologically understood as an inhabitant of a city or town, historically shifted to mean the nation's citizen. As countries continue to define themselves in terms of nationalist identity, they must grapple with the human tradition of geographic migration. Nowhere is this felt more palpably than on the peninsula of Italy. Known for its rich, diverse history, steeped in cultural refinement, Italy quote continues to draw new immigrants daily. As the trauma of displacement, the agony of acceptance and the fear in face of intolerance all affect the local population, as well as the im/migrants' existence, immigration in Italy and Europe continues to be a big theme at the film festivals in these countries, as well as in many new books. These are often home-grown books and movies, written from the migrants' perspectives but also taking a critical look at how the country's authorities and its people struggle to deal with a growing wave of newcomers. This concomitant loss of identity and centrality of European art film calls for a new modality of reading, which, I argue, is well served by a modified conception of the minor. Italy, or the Italian language, becomes the amplifier for these hidden voices, a means to regain some of the loss—in identity, culture, and some cases, health and sanity—obtained through this mobility. It becomes a way for these *hidden voices* to weave intricate tales about their lives as life itself: life in the good, in the bad, with sadness, but most of all full of hope.

BIOGRAPHY

Dr. Moira Di Mauro-Jackson received her PhD at the University of Texas at Austin in Comparative Literature. Her field of study revolves around French, Italian, and English Narrative and Drama of the late 19th and early 20th Centuries. Her major focus lies in the French decadent period, those works following D'Annunzio's time in Italian Literature as well as various Irish writers of the turn of the century such as Bernard Shaw, Oscar Wilde, and Yeats. Since 1987, Moira, a native Italian, has been teaching French at Texas State University in San Marcos, from where she received a Master of Arts. In 2005, Moira introduced the Italian Language Program at Texas State University and directs a Summer Abroad Program to Italy every summer. Her paper entitled "There Is No Place On Earth Like The World: Cultural and Sexual Politics in Behan's The Quare Fellow and The Hostage." has recently appeared in the volume on Prison Plays of the Rodopi Modern Literature Series. Moira is also the Vice President for the Central Texas Chapter of the American Association of Teachers of French (AATF) Executive Board and the Regional South Central Vice President of the French National Honor Society (Pi Delta Phi). Recipient of the Fall 2020 Liberal Arts College Golden Apple Award in Teaching and the Texas State University Presidential Distinction Award in Teaching, and recipient of the Fall 2023 Liberal Arts College Golden Apple Award in Service and the Texas State University Presidential Distinction Award in Service.

XVIII Conference of Italian Researchers in the World

Alessandra Guida
Ph.D., Lawyer and Lecturer in Law at Queen's University Belfast–School of Law

ABSTRACT

This research examines the work of the World Trade Organization (WTO), with a focus on the capacity of its judiciary to strike a reasoned balance between free trade in biotechnology and biosafety as to promote the 2030 Agenda for Sustainable Development and its Sustainable Development Goals. By adopting an innovative interpretation of the precautionary principle and proportionality analysis, the work offers normative suggestions to develop what the author terms "a constructive bridge of knowledge" between decision-makers, scientists, social experts and expert witnesses, which can support a judicial balance by design rather than by chance.
Biotechnology is sometimes regarded as a panacea for modern-day challenges, such as feeding a growing world population and counteracting climate-change problems, and a means of offering significant economic opportunities. However, biotechnology can present uncertain, though serious, risks to human health and the environment (i.e., biosafety). Trading biotech products magnifies these risks and benefits globally. This research explores the topical, though still underexplored, question of how to find a point of equilibrium between the revolutionary advancement offered by technology and the need to safeguard biosafety from uncertain, though potentially irreversible, technology risks. The work offers practical relevance for the resolution of legal disputes in contexts of uncertainty, as well as innovative theoretical contributions. It will be a valuable resource for policymakers working on precautionary governance and management, scholars in the areas of trade law, human rights law and environmental law, law students and practitioners, as well as NGOs working in the field of new technologies, biosafety, sustainability and food safety.

BIOGRAPHY

Dr Alessandra Guida is an admitted Italian lawyer and Lecturer in Law at Queen's University Belfast–School of Law. She is also a UK Trade and Sustainable Development Domestic Advisory Group (UK TSD DAG) Member Representative. Dr Guida holds an LL.B. & LL.M. in Law from the University of Bologna - Faculty of Law (Italy). She wrote her LL.M Dissertation at Tilburg Law School, University of Tilburg (Netherlands). She also holds a Master of Research and a Ph.D. in Law from Macquarie Law School, Macquarie University, Sydney (Australia). Dr Guida published numerous articles, book chapters, and special issues focusing on the regulation of new technologies, especially biotech, and the achievement of sustainable development in the current technology era. She is also the author of the *"Biosafety Measures, Technology Risks, and the World Trade Organization: Thriving and Surviving in the Age of Biotech"* book, which was published by Routledge in January 2023.

ITALIANS AND ITALIAN IN THE RAINBOW NATION. ANALYSIS AND CONSIDERATIONS OF ITALIAN LANGUAGE TEACHING IN THE SOUTH AFRICAN CONTEXT

Chiara Ronchetti
University of Cape Town, RSA

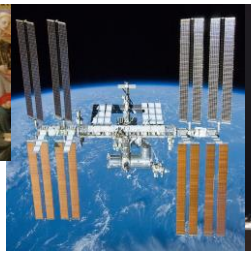
ABSTRACT

The research intends to provide an overview of the current situation of Italian teaching in South Africa, starting from the data collected and the speaker's personal experience as a language trainer. It will be noted how we are faced with a plurality of small and medium-sized realities that respond to a demand for Italian and Italian-ness at various levels and from different audiences: from primary to secondary schools, from Universities to the numerous institutions present in the area and aimed at promoting Italy's language and culture.
In order to be able to offer a picture as complete as possible, a brief history of Italian immigration to South Africa will be presented, starting from which we will analyse the evolution of the Italian presence in the country up to the present day. Through this excursus we will be able to identify where Italian fits within the multilingualism characterising South Africa, and try to ask ourselves what the future scenarios, the destiny and the social marketability of the Italian language in this context might be.

BIOGRAPHY

Chiara Ronchetti is a PhD candidate and a Lecturer of Italian at the University of Cape Town, where she researches on languages teaching and curriculum development. Her areas of interest are the creation of course materials, the universal design for learning and the linguistic landscape. She holds a Bachelor degree in Languages from the University of Milan, a Master in Linguistics and Communication from the University of Siena and she has a Master in Digital Education from the University of Florence. She has been teaching languages in Southern Africa for 15 years, both in Mozambique and in South Africa. She speaks six languages and is always eager to learn a new one.



TEXAS
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COMMUNITY
UCW
UNIVERSITY
CANADA WEST

CONCLUSION

MICHELE VINCENTI, **Ph.D, MBA, MA, FCSI, CIM, C.Mgr, CM, CITP, CMC, CPHR, SHRM-SCP**

Dr. Michele Vincenti's distinguished academic and professional journey showcases his profound expertise in organizational development, leadership, and management consulting.

His experience spans across various international institutions, marked by significant achievements in teaching, research, and professional practice. His contributions to both academia and industry, coupled with his commitment to mentorship and community involvement, underscore his exceptional credentials, making him a notable figure in his field.

Academic Credentials:

Dr. Vincenti holds a Ph.D. in Organizational Development Systems from Fielding University, with a concentration in Transformative Learning for Social Justice, and an M.A. in the same field. He also possesses an MBA in Consulting from Royal Roads University. His dissertation, titled "Emotions and Innovative Leadership: An Interpretative Phenomenological Analysis," was supervised by Dr. Katrina Rogers.

He has served as a Full Professor and Chair of the Graduate Program and Leadership Department at University Canada West since 2011, with additional appointments at Yorkville University and Simon Fraser University.
Dr. Vincenti has a substantial record of academic employment and teaching roles at various esteemed institutions worldwide, including Aspen University, Fairleigh Dickinson University, Royal Roads University, Swiss Management Center, Grenoble Ecole de Management, University of Phoenix, and London School of Business and Finance.

His teaching accolades include being a finalist for the Kelly Award at Royal Roads University and winning a Teaching Award at University Canada West in 2021.

Professional Achievements:

Dr. Vincenti is President and CEO of Alvana Business Consulting Inc, providing innovative business solutions internationally since 2003. He also heads Holon Consulting Inc, assisting companies with financial analysis, stock exchange listing, and process restructuring.

His expertise is marked by a deep understanding of international operations, cultural diversity, and organizational change. He is recognized for his ability to drive successful business turnarounds, launch impactful projects, and build profitable operations. His management style emphasizes empowering team members and fostering individual ownership.

He has been involved in various mentorship and community roles, including mentoring young entrepreneurs with Futurpreneur Canada, serving on the Board of Governors at Columbia Academy, and engaging in educational programs with Junior Achievement of British Columbia and the Immigrant Employment Council of BC.

Professional Qualifications:

Dr. Vincenti holds a multitude of professional qualifications, including Certified Management Consultant (CMC), Fellow Canadian Securities Institute (FCSI), Chartered Investment Manager (CIM), and Chartered Professional Human Resources (CPHR), among others.

ANDREA GIUFFRIDA, PhD, MBA
www.linkedin.com/in/andrea-giuffrida-phd

Dr. Andrea Giuffrida is a distinguished academic leader currently serving as the Senior Vice President for Research & Biotechnology and professor of pharmacology at Western University of Health Sciences (WesternU) in California. He received his Ph.D. in evolutionary biology from the University of Catania, Italy, and an executive master's in business administration from the University of Texas San Antonio. In 2011, he served as an AAAS Science & Technology Policy Fellow in the Office of Science Policy at the National Institutes of Health (NIH) working on the regulatory science of biomedical products and drug development. During that time, he also played a pivotal role in shaping the NIH biannual report to the American Congress. Between 2014 and 2021, he held the position of vice president for research at the University of Texas Health Science Center San Antonio. Currently, at WesternU, Dr. Giuffrida oversees the university's research infrastructure and operations, regulatory compliances, clinical trials, sponsored programs, and technology commercialization. Moreover, he serves as the university liaison for matters related to research advocacy and education, strategic partnerships, and corporate research sponsors. As a scientist, Dr. Giuffrida has provided important breakthroughs to the neuropharmacology of the cannabinoid system and its role in neurodegenerative and psychomotor disorders, and authored over 90 scientific publications. Beyond his scholarly endeavors, Dr. Giuffrida is actively engaged in life science and biotechnology networks in both Texas and California, fostering collaborations and knowledge exchange on a global scale. He served on the board of trustees of the Texas Research & Technology Foundation and the Texas Biomedical Research Institute. He is also a member of the "Group on Graduate Research, Education & Training" of the Association of American Medical Colleges (AAMC), and president of the Texas Scientific Italian Community.

USEFUL LINKS

Video messaggio Presidente Istituto Superiore Sanità, Prof. Rocco Bellantone.
https://mega.nz/file/fZIDGIyC#PCfn8UUAP2hqy0fGuzTV33BU_SMtBUgwztswZba8ZCo

XVIII Conference Video
Parte 1: https://youtu.be/43SoXRKaeX0
Parte 2: https://youtu.be/bCtXMXagJsI

From the Press:
https://www.cnmng.ca/italian-researchers-from-all-over-the-world-at-the-vancouver-conference-with-tsic-and-ucw/language/english/cnmng/34484/
https://www.corriere.ca/ricercatori-italiani-da-ogni-angolo-del-mondo-alla-conferenza-di-vancouver/
https://puntodincontro.mx/2024/04/14/conclusa-a-vancouver-la-xviii-conferenza-dei-ricercatori-italiani-nel-mondo/
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