

MIT Industrial Liaison Program Faculty Knowledgebase Report

2024 MIT Chile Symposium

April 2, 2024 - April 4, 2024

Antofagasta | April 2, 2024

Enjoy Hotel.

Av. Angamos N° 01455, 1272037, Antofagasta, Región de Antofagasta, Chile

[View Map](#)

8:00 AM

Registration

9:00 AM

Welcome and Opening Remarks

Alan Muchnik

VP of Strategy and Innovation

[Antofagasta Minerals S.A.](#)

Eduardo Garrido

Program Director

[MIT Corporate Relations](#)

9:15 AM

Mining of the Future
Elsa Olivetti

Co-Director, [MIT Climate and Sustainability Consortium](#)
Jerry McAfee (1940) Professor, [Department of Materials Science and Engineering](#)
Associate Dean, [MIT School of Engineering](#)



Elsa Olivetti

Co-Director, [MIT Climate and Sustainability Consortium](#)
Jerry McAfee (1940) Professor, [Department of Materials Science and Engineering](#)
Associate Dean, [MIT School of Engineering](#)

Professor Olivetti received a BS in engineering science from the University of Virginia in 2000, and a PhD in materials science and engineering from MIT in 2007. She spent her PhD program studying the electrochemistry of polymer and inorganic materials for electrodes in lithium-ion batteries. In 2014, she joined DMSE as an assistant professor. As an educator, Olivetti overhauled DMSE's undergraduate curriculum and developed new courses, including one for the MIT Climate and Sustainability Consortium Climate Scholars. She's a member of the MIT Climate Nucleus and co-director of the MIT Climate & Sustainability Consortium.

Professor Elsa Olivetti's research focuses on improving the environmental and economic sustainability of materials. Specifically, she develops analytical and computational models to provide early-stage information on the cost and environmental impact of materials. Professor Olivetti and her research-group colleagues work toward improving sustainability through increased use of recycled and renewable materials, recycling-friendly material design, and intelligent waste disposition. The Olivetti Group also focuses on understanding the implications of substitution, dematerialization, and waste mining on materials markets.

10:00 AM

Innovative Technologies for Valuable Materials Recovery
Jeffrey Grossman
Professor of Materials Science and Engineering
MacVicar Fellow, [MIT Department of Materials Science and Engineering](#)



Jeffrey Grossman
Professor of Materials Science and Engineering
MacVicar Fellow
[MIT Department of Materials Science and Engineering](#)

Professor Grossman received his Ph.D. in theoretical physics from the University of Illinois and performed postdoctoral work at the University of California at Berkeley. In 2009, he joined MIT, where he developed a research program known for its contributions to energy conversion, energy storage, membranes, and clean-water technologies. He served as the Head of the Department of Materials Science and Engineering from 2020-2023, and in 2021 he helped create and became the founding co-director of the MIT Climate and Sustainability Consortium, a new type of academia-industry partnership. In recognition of his contributions to engineering education, Grossman was named an MIT MacVicar Faculty Fellow and received the Bose Award for Excellence in Teaching. He has published more than 200 scientific papers, holds 17 current or pending U.S. patents, and co-founded two Massachusetts companies to commercialize novel membranes materials for efficient industrial separations: ViaSeparations, a company that commercializes graphene-oxide membranes to separate chemicals for manufacturing, and SiTraction, a company that commercializes silicon membranes for chemical-free, energy-efficient extraction and recycling of critical materials.

[View full bio](#)

Our planet's health needs an acceleration in the pace of progress towards clean and sustainable technologies that are critically dependent on materials innovation. In particular, the ability to recover critical materials will be essential in order to support the energy transition to clean energies. Materials science and engineering provides the ability to understand and control matter at the atomic scale to realize optimized performance across an exhaustive set of metrics. This lecture will discuss the impact of materials design, with a focus on two examples from our recent work on resilient nanofiltration membranes, which are currently being commercialized. These new membranes can be used in a range of applications important to the recovery of critical materials, from up-concentration of highly acidic streams to more energy-efficient recovery of metals with much less chemical input to enhanced and low-cost remediation mining-influenced water. I'll highlight recent results showing the potential application of these technologies in the leaching process and valorization of tailings.

10:45 AM

Coffee Break

11:15 AM

MIT Alumni Companies Showcase
Eduardo Garrido
Program Director, [MIT Industrial Liaison Program](#)



Eduardo Garrido
Program Director
[MIT Industrial Liaison Program](#)

Eduardo Garrido is a Program Director at the Office of Corporate Relations at MIT.

Eduardo Garrido has a strong multicultural and multidisciplinary background, with deep expertise in higher education, banking and management consulting, acquired in Argentina, Spain and USA. He currently serves as Program Director at the Industrial Liaison Program, Office of Corporate Relations (MIT), the largest conduit between corporations and MIT.

Before joining MIT, Eduardo was the Director of Santander Universities at Santander Bank, N.A., based in Boston, MA. In this role, he managed the institutional and business relationship with 46 universities, mainly in the northeastern US. He also served as Santander US representative at President Obama's 100,000 Strong in the Americas initiative and the Woman for Africa Foundation, among other relevant global higher education projects, and as Member of the Global President's Council at NYU and the Advisory Boards of the Deming Cup, ECLA (Columbia University) and Newcastle University Business School.

Before coming to the US, Eduardo had several roles at Banco Santander Rio (Argentina). As Director of Santander Universities, he started the first entrepreneurship initiative at Grupo Santander worldwide, including the launching of a business plan competition, the Technology Innovation Venture Capital Fund, and a national competitiveness development initiative. He also sponsored the first edition of MIT 50K in Argentina. As Director of Organization and Quality at Banco Santander Rio, he led the team that obtained the first Global ISO 9001:2000 certificate for a financial institution in Latin America, certifying all main processes and areas of the bank. He also steered the business process reengineering project for the whole Bank, partnering with Ernst & Young and McKinsey and Co and implemented the Retail Banking new operating model.

Before joining Banco Santander Rio, Eduardo was Senior Manager of the Financial Services and Capital Markets Group at Price Waterhouse Management Consultants in Madrid, Spain. He was the Practice Leader of Business Process Reengineering, Financial Risk Management and Risk Adjusted Profitability Measurement.

Before his assignment at Price Waterhouse he served as Director of Consulting Services at MSA International, Inc. and as Financial Control Manager at Citibank España, S.A.

Eduardo graduated as Industrial Engineer at Universidad de Buenos Aires and has a MBA degree from IE Business School.

Jeffrey Grossman
Co-Founder and Chief Scientist
[SiTraction](#)

Joseph Kenrick
Project Manager
[Lunar Outpost](#)

Rafael Villamor-Lora
VP of R&D
[Eden Geotech](#)

Moran David
CEO
[GPR](#)

Martin Capriles
Chief Strategy Officer
[InEnTec](#)

Michael Ford
Co-Founder
[Femto Energy](#)

12:15 PM Chilean Startups

12:45 PM Closing and Networking Reception

Santiago | April 4, 2024

W Hotel,
Isidora Goyenechea 3000, 7550653 Las Condes, Región Metropolitana, Chile
[View Map](#)

8:00 AM Registration

9:00 AM Welcome and Opening Remarks

Alan Muchnik
VP of Strategy and Innovation
[Antofagasta Minerals S.A.](#)

Eduardo Garrido
Program Director
[MIT Corporate Relations](#)

9:15 AM Mining of the Future
Elsa Olivetti

Co-Director, [MIT Climate and Sustainability Consortium](#)
Jerry McAfee (1940) Professor, [Department of Materials Science and Engineering](#)
Associate Dean, [MIT School of Engineering](#)



Elsa Olivetti

Co-Director, [MIT Climate and Sustainability Consortium](#)
Jerry McAfee (1940) Professor, [Department of Materials Science and Engineering](#)
Associate Dean, [MIT School of Engineering](#)

Professor Olivetti received a BS in engineering science from the University of Virginia in 2000, and a PhD in materials science and engineering from MIT in 2007. She spent her PhD program studying the electrochemistry of polymer and inorganic materials for electrodes in lithium-ion batteries. In 2014, she joined DMSE as an assistant professor. As an educator, Olivetti overhauled DMSE's undergraduate curriculum and developed new courses, including one for the MIT Climate and Sustainability Consortium Climate Scholars. She's a member of the MIT Climate Nucleus and co-director of the MIT Climate & Sustainability Consortium.

Professor Elsa Olivetti's research focuses on improving the environmental and economic sustainability of materials. Specifically, she develops analytical and computational models to provide early-stage information on the cost and environmental impact of materials. Professor Olivetti and her research-group colleagues work toward improving sustainability through increased use of recycled and renewable materials, recycling-friendly material design, and intelligent waste disposition. The Olivetti Group also focuses on understanding the implications of substitution, dematerialization, and waste mining on materials markets.

10:00 AM

Innovative Technologies for Valuable Materials Recovery
Jeffrey Grossman
Professor of Materials Science and Engineering
MacVicar Fellow, [MIT Department of Materials Science and Engineering](#)



Jeffrey Grossman
Professor of Materials Science and Engineering
MacVicar Fellow
[MIT Department of Materials Science and Engineering](#)

Professor Grossman received his Ph.D. in theoretical physics from the University of Illinois and performed postdoctoral work at the University of California at Berkeley. In 2009, he joined MIT, where he developed a research program known for its contributions to energy conversion, energy storage, membranes, and clean-water technologies. He served as the Head of the Department of Materials Science and Engineering from 2020-2023, and in 2021 he helped create and became the founding co-director of the MIT Climate and Sustainability Consortium, a new type of academia-industry partnership. In recognition of his contributions to engineering education, Grossman was named an MIT MacVicar Faculty Fellow and received the Bose Award for Excellence in Teaching. He has published more than 200 scientific papers, holds 17 current or pending U.S. patents, and co-founded two Massachusetts companies to commercialize novel membranes materials for efficient industrial separations: ViaSeparations, a company that commercializes graphene-oxide membranes to separate chemicals for manufacturing, and SiTraction, a company that commercializes silicon membranes for chemical-free, energy-efficient extraction and recycling of critical materials.

[View full bio](#)

Our planet's health needs an acceleration in the pace of progress towards clean and sustainable technologies that are critically dependent on materials innovation. In particular, the ability to recover critical materials will be essential in order to support the energy transition to clean energies. Materials science and engineering provides the ability to understand and control matter at the atomic scale to realize optimized performance across an exhaustive set of metrics. This lecture will discuss the impact of materials design, with a focus on two examples from our recent work on resilient nanofiltration membranes, which are currently being commercialized. These new membranes can be used in a range of applications important to the recovery of critical materials, from up-concentration of highly acidic streams to more energy-efficient recovery of metals with much less chemical input to enhanced and low-cost remediation mining-influenced water. I'll highlight recent results showing the potential application of these technologies in the leaching process and valorization of tailings.

10:45 AM

Coffee Break

11:15 AM

MIT Alumni Companies Showcase
Eduardo Garrido
Program Director, [MIT Industrial Liaison Program](#)



Eduardo Garrido
Program Director
[MIT Industrial Liaison Program](#)

Eduardo Garrido is a Program Director at the Office of Corporate Relations at MIT.

Eduardo Garrido has a strong multicultural and multidisciplinary background, with deep expertise in higher education, banking and management consulting, acquired in Argentina, Spain and USA. He currently serves as Program Director at the Industrial Liaison Program, Office of Corporate Relations (MIT), the largest conduit between corporations and MIT.

Before joining MIT, Eduardo was the Director of Santander Universities at Santander Bank, N.A., based in Boston, MA. In this role, he managed the institutional and business relationship with 46 universities, mainly in the northeastern US. He also served as Santander US representative at President Obama's 100,000 Strong in the Americas initiative and the Woman for Africa Foundation, among other relevant global higher education projects, and as Member of the Global President's Council at NYU and the Advisory Boards of the Deming Cup, ECLA (Columbia University) and Newcastle University Business School.

Before coming to the US, Eduardo had several roles at Banco Santander Rio (Argentina). As Director of Santander Universities, he started the first entrepreneurship initiative at Grupo Santander worldwide, including the launching of a business plan competition, the Technology Innovation Venture Capital Fund, and a national competitiveness development initiative. He also sponsored the first edition of MIT 50K in Argentina. As Director of Organization and Quality at Banco Santander Rio, he led the team that obtained the first Global ISO 9001:2000 certificate for a financial institution in Latin America, certifying all main processes and areas of the bank. He also steered the business process reengineering project for the whole Bank, partnering with Ernst & Young and McKinsey and Co and implemented the Retail Banking new operating model.

Before joining Banco Santander Rio, Eduardo was Senior Manager of the Financial Services and Capital Markets Group at Price Waterhouse Management Consultants in Madrid, Spain. He was the Practice Leader of Business Process Reengineering, Financial Risk Management and Risk Adjusted Profitability Measurement.

Before his assignment at Price Waterhouse he served as Director of Consulting Services at MSA International, Inc. and as Financial Control Manager at Citibank España, S.A.

Eduardo graduated as Industrial Engineer at Universidad de Buenos Aires and has a MBA degree from IE Business School.

Jeffrey Grossman
Co-Founder and Chief Scientist
[SiTraction](#)

Joseph Kenrick
Project Manager
[Lunar Outpost](#)

Rafael Villamor-Lora
VP of R&D
[Eden Geotech](#)

Moran David
CEO
[GPR](#)

Martin Capriles
Chief Strategy Officer
[InEnTec](#)

Michael Ford
Co-Founder
[Femto Energy](#)

12:15 PM

Closing and Networking Reception