

International Symposium

Science Across Boundaries

Seville (Spain), March 22nd-24th, 2026

*To examine the frontiers of interdisciplinary research transforming society
& to honor the scholarly impact and global leadership of Prof. Subra Suresh*

Organizers:

Javier LLorca, IMDEA Materials, Madrid, Spain

Jaime Domínguez, Universidad Sevilla, Spain

Conference Administrator:

Mariana Huerta, IMDEA Materials, Madrid, Spain

www.scienceacrossboundaries.org

With participation and support from:



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Ming Dao, MIT, Cambridge, MA, USA
Lei Lu, Institute for Materials, Shenyang, China
Nitin Padture, Brown University, Providence, RI, USA
Chwee Teck Lim, National University of Singapore

Symposium Secretariat



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Sunday, March 22, 2026

19.00-21.00 Welcome Reception and Registration

Hotel Alfonso XIII, San Fernando 2, Seville, Spain, 41004

Monday, March 23, 2026, and Tuesday, March 24, 2026

Venue for the conference:

La Real Fábrica de Tabacos de Sevilla, Calle San Fernando, 4, 41004 Sevilla

Monday, March 23, 2026, Conference Banquet, 20:15-23:15 hours

Venue: Restaurant “Rio Grande”. C. Betis, 69. 41004 Sevilla

Symposium Program

Monday, March 23, 2026

8.30 – 9.00 Registration

9.00 – 9.30 Opening ceremony

Jaime Domínguez, President, Royal Spanish Academy of Engineering, Spain

Carmen Vargas, Rector, University of Seville, Spain

Javier LLorca, Founding-Director, IMDEA Materials Institute, Madrid, Spain

9.30 – 11.30 Session 1: Materials for a Sustainable Planet

Session Chairs: **Nitin Padture** (Brown University, Providence, RI, USA)

9.30 – 10.00: Plenary lecture 1:

Julia Marton-Lefèvre (Chair, Board of Directors, Villars Institute & Former Director General, International Union for Conservation of Nature, Switzerland; Former Exec. Director, International Council for Scientific Unions, Paris, France)

“Leadership for a Shared Planet”

10.00 – 10.30: Plenary lecture 2:

Dierk Raabe (Director, Max-Planck Institute for Sustainable Materials, Düsseldorf, Germany)

“The Science of Sustainable Materials”

10.30 – 11:00 Coffee Break

11:00 – 12.00 Panel session on Materials for a Sustainable Planet

Panel Chairs: **José Andrade** (California Institute of Technology, Pasadena, CA, USA)

Nam-Joon Cho (Nanyang Technological University, Singapore)

Panelists: **Christos Athanasiou**, (Georgia Institute of Technology, Atlanta, GA, USA)

Pradeep Guduru (Brown University, Providence, RI, USA)

Michael Saliba (Univ. of Stuttgart & Forschungszentrum Jülich, Germany)
Nuwong (Kob) Chollacoop (National Energy Technology Center, Bangkok, Thailand)

Amit Bandyopadhyay (Washington State University, Pullman, WA, USA)

12:00 - 13.30 Lunch

13.30 – 15.30 **Session 2: Science, Innovation and Society**

Session Chair: **Costas Synolakis** (USC Tsunami Research Center, University of Southern California, USA & Professor at the Technical University of Crete, and former President of Athens College, Greece)

13.30 - 14.00: **Plenary lecture 3:**

Anil Ananthaswamy (Indian Institute of Technology, Madras, India)

“AI For Physics: From the Quantum to the Cosmos”

14.00 – 14.30: **Plenary lecture 4:**

Enrico Letta (Former Prime Minister of Italy; Former Member of the European Parliament; Dean of the IE School of Politics, Economics and Global Affairs at IE University in Madrid, Spain, & President of the Jacques Delors Institute in Paris, France)

“The Fifth Freedom: Boosting Innovation in Europe”

14.30 – 15.30 **Panel session on Science, Innovation and Society**

Panel Chairs: **Lee Howell** (Executive Director, Villars Institute, Switzerland)
Dedric Carter (Chief Innovation Officer & Vice Chancellor for Innovation, University of North Carolina at Chapel Hill, NC, USA)

Panelists: **Nigel Croft** (former Chairman, ISO Joint Technical Coordination Group for Management System Standards, Geneva, Switzerland)
Christine Ortiz (Director, Technology & Policy Program, MIT, Cambridge, MA, USA)
Chris Schuh (Northwestern University, Evanston, IL, USA)
Sanjay Sampath (State University of New York, Stony Brook, NY, USA)
Vanessa Evers (National Institute of Mathematics and Computer Science, The Netherlands)

15.30 - 15.45 **Coffee break**

15.45 – 17.15 **Session 3: Mechanics of Materials—Macro-, Micro-, and Nano-Scales**

Session Chairs: **Wei Yang** (Former President, National Natural Science Foundation of China & Former President, Zhejiang University, China)
Yu-Lin Shen (University of New Mexico, Albuquerque, NM, USA)

15.45 - 16.15: **Plenary lecture 5:**

Ares Rosakis (California Institute of Technology, Pasadena, CA, USA)

"The Destructive Power of Supershear Ruptures as Observed in the Devastating, Feb 6th , 2023 , Kahramanmaraş /Pazarcık, Türkiye/Syria Earthquake: A classical lesson from Mechanics"

16:15 – 17.15 Panel session on Mechanics of Materials

Panel Chair: **G. (Ravi) Ravichandran** (Caltech, Pasadena, CA, USA)

Panelists: **Antonios E. Giannakopoulos** (National Technical University of Athens, Greece)
Upadastra Ramamurty (Nanyang Technological University, Singapore)
Sarah Bentil (Iowa State University, Ames, IA, USA)
Yang Lu (University of Hong Kong, China)
Zhiwei Shan (Xi'an Jiaotong University, China)

18.00 – 19.30 **Guided visit to the Real Alcazar de Sevilla**

20:15 – 23:15 **Conference Banquet**

Venue: Restaurant “Rio Grande”. C. Betis, 69. 41004 Sevilla

Tuesday, March 24th, 2026

9.30 – 10.30 Session 4: Bioengineering and Human Health

Session Chairs: **Taher Saif** (University of Illinois, Urbana-Champaign, USA)

9.30 – 10.00: Plenary lecture 6:

Metin Sitti (President, Koç Üniversitesi, Istanbul, Turkey)

“Minimally invasive and implantable wireless miniature medical robots inside the body”

10.00- 10.30: Plenary lecture 7:

Dennis E. Discher (University of Pennsylvania, Philadelphia, PA, USA)

“From cancer, aging, and viruses to loss of fertility - bioengineering sciences in prediction & control of evolving DNA”

10.30 - 11.00 Coffee break

11.00 – 12.00 Panel session on Bioengineering and Human Health

Panel Chairs: **Krystyn Van Vliet** (Vice President for Innovation & External Engagement Strategy)

Pierre Buffet, MD (Medical Director, Institut Pasteur, Paris; Professor of Cellular Biology at Université Paris Cité; and Clinician, Paris Public Hospital Network, Paris, France)

Panelists: **Mukesh Jain** (Dean of the School of Medicine, Brown University, USA)

Lisa Pruitt (University of California, Berkeley, CA, USA)

Tony Huang (Duke University, Durham, NC, USA)

Sarah Du (Florida Atlantic University, Boca Raton, FL, USA)

12.00 – 13.30 Lunch

- 13.30 – 15.30** **Session 5: Artificial Intelligence Across Scientific Disciplines**
- Session Chairs: **Nicholas Dirks** (President, NY Academy of Sciences, NY, USA & Former Chancellor, University of California, Berkeley, USA)
- 13:30 – 14:00: **Plenary lecture 8:**
- George Karniadakis** (Brown University, RI, USA)
“Scientific Machine Learning”
- 14:00 – 14:30: **Plenary lecture 9:**
- Ju Li, Markus Buehler & Ming Dao** (MIT, Cambridge, MA, USA)
“AI for Materials Science”
- 14.30 – 15:30** **Panel session on Artificial Intelligence Across Scientific Disciplines**
- Panel Chairs: **Mory Gharib** (California Institute of Technology, Pasadena, CA, USA)
Antoine Jerusalem (University of Oxford, UK)
- Panelists: **Pranesh Aswath** (Provost, Texas State University, San Marcos, TX, USA)
B. Ravindran (Founding Dean of the Wadhvani School of Data Science and Artificial Intelligence & Founding Head of the Robert Bosch Centre for Data Science and Artificial Intelligence, Indian Institute of Technology, Madras)
Marc Finot (Principal Consultant, MF Analytics LLC, Palo Alto, CA, USA)
Kevin Turner (University of Pennsylvania, Philadelphia, PA, USA)
- 15.30 – 15.45** **Coffee Break**
- 15:45 – 16.00** **Reports from the Co-Chairs of the Rapporteurs Council**
- Co-Chairs: **Krishnan Narayanan** (President, Itihaasa, Bengaluru, India)
Christos E. Athanasiou (Georgia Institute of Technology, Atlanta, GA, USA)
- 16:00 – 16:20** **Conference Closing Remarks**

Council of Rapporteurs for the Symposium

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