



MaP Doctoral School | Strength & Durability of Materials

Material Strength & Durability Symposium

8 June 2023

ETH Zentrum, MM C 78.1 (Alumni Pavillon)

Strength and durability are key factors which determine the potential and limitations of materials applied in all disciplines of engineering. For this reason, the accurate prediction of material strength and toughness, the full control over material degradation due to environmental and long-term service conditions, and the optimal design of micro- and mesostructures for increased material performance and reliability are crucial challenges in the development of new technologies.

The **Material Strength & Durability Symposium**, organised by the 'Strength & Durability' track of the MaP Doctoral School at ETH Zurich, aims to bring together experts in material strength and durability covering both experimental and modeling/computational research, and to discuss recent advances in our understanding of these material properties.

Speakers: **Vikram Deshpande** (Cambridge University), **Horacio Espinosa** (Northwestern University), **Prof. John Kolinski** (EPFL), & **J.M.C. (Arjan) Mol** (Delft University of Technology)

Co-Hosts: Laura De Lorenzis (D-MAVT) & David Kammer (D-BAUG)

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Programme

09.00	Registration
09.30	Welcome & Introduction
09.35	Prof. Vikram Deshpande (Cambridge University) Anomalous Toughness of Elastic Architected Solids
10.35	Coffee Break
11.00	Prof. J.M.C. (Arjan) Mol (Delft University of Technology) From Experimental and Computational Inhibitor Screening to Advanced Characterization of Active Protective Coatings
12.00	Lunch Break (Speakers only)
13.30	Prof. Horacio Espinosa (Northwestern University) Fracture of 2D Materials – In Situ Experiments and ML Parameterized Force Fields
14.30	Coffee Break
15.00	Prof. John Kolinski (EPFL) Toughening by Crack Tip Complexity
16.00	Coffee Break
16.30	Pitch Session 1 Yaqi Zhao (D-BAUG) 2 Mohammad Alinezhadfar (D-BAUG, Empa) 3 Gilad Yakir (EPFL) 4 Cristhiana Albert (D-BAUG) 5 Eduardo Gutierrez Prieto (EPFL) 6 Arthur Girard (D-MAVT) 7 Zhikang Deng (D-BAUG)
17.30	Closing Remarks
17.35	End of Symposium
18.30	Dinner (Speakers + Co-Chairs & Doctoral Students of Track)