

Symposium in honor of the 80th birthday of Professor James R. Rice
 Mechanics of Deformation, Fracture, and Flow: from Nano to Terra
 June 7-8 and June 10-12, 2021, 10 am-12 pm EDT (Cambridge MA local time)

Monday, June 7, 2021

Chairs: Nadia Lapusta and John Shaw

9:45	<i>Pre-session time: Joining the symposium</i>	
10:00	Nadia Lapusta	Welcome and introduction
	John Shaw	Greetings from the Department of Earth and Planetary Sciences at Harvard
	Frank Doyle	Greetings from the School of Engineering and Applied Science at Harvard
10:15	John Rudnicki	Under the influence
10:30	Victor C. Li	From J-integral to infrastructure and climate change
10:45	Ares J. Rosakis	How knowing Jim Rice influenced my academic tastes
11:00	<i>Break: break-out rooms, informal meet-and-greet</i>	
11:10	Harsha S. Bhat	Slip instabilities across spatiotemporal scales
11:25	Yajing Liu	Earthquake rupture barrier and possible slow slip on East Pacific Rise transform faults
	<i>Lightning talks on promising current and future directions</i>	
11:40	Zdenek P. Bazant	Scaling law of HRR theory of plastic-hardening metals based on the gap test
11:45	Greg Beroza	Machine learning and seismicity - what's next?
11:50	<i>Discussion</i>	

Tuesday, June 8, 2021

Chairs: Chris Marone and Sinisa Mesarovic

9:45	<i>Pre-session time: Joining the symposium</i>	
10:00	Huajian Gao	Testing Griffith's theory of fracture in 2D materials
10:15	Robert M. McMeeking	Storage particle cracking, solid electrolyte surface roughening and solid-state dendrite formation in lithium ion batteries
10:30	Leslie Banks-Sills	Comparison of Mode I fatigue delamination propagation in two laminate composites
10:45	Terry E. Tullis	Evolution of frictional state is dominated by changes in contact strength, not changes in contact area
11:00	<i>Break: break-out rooms, informal meet-and-greet</i>	
11:15	Victor C. Tsai	High-frequency earthquake ground motion from structural impacts in complex fault zones
	<i>Lightning talks on promising current and future directions</i>	
11:30	Kyung-Suk Kim	Deformation and failure mechanisms of multiphase random nanostructures
11:35	Martine Ben Amar	Cusps in growing soft materials: prediction of J and M integrals
11:40	Robert Viesca	Coupling friction and fracture during geologic fault rupture
11:45	<i>Discussion</i>	

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Thursday, June 10, 2021

Chairs: Andy Ruina and Alissar Yehya

9:45	<i>Pre-session time: Joining the symposium</i>	
10:00	Paul Segall	Repeating caldera collapse events constrain fault friction at the kilometer scale
10:15	Zhigang Suo	From interface fracture to adhesion
10:30	Aleksandar Sedmak, Ružica Nikolić	J integral as a conservation law and its application for welded joints
10:45	Hiroyuki Noda	Dynamic earthquake sequence simulation with a spectral boundary integral equation method without periodic boundaries
11:00	<i>Break: Break-out rooms, informal meet-and-greet</i>	
11:15	Yonggang Huang	Modeling programmable drug delivery in bioelectronics with electrochemical actuation
	<i>Lightning talks on promising current and future directions</i>	
11:30	Xanthippi Markenscoff	Deep-focus earthquakes: the strange mechanics of dynamic phase transformations under high pressures
11:35	Jay Fineberg	How friction starts: Nucleation fronts initiate friction motion
11:40	Jean-Baptiste Leblond	Recent advances and open problems in mixed-mode (I+III) propagation of cracks in brittle materials
11:45	<i>Discussion</i>	

Friday, June 11, 2021

Chairs: Yajing Liu and Jwo Pan

9:45	<i>Pre-session time: Joining the symposium</i>	
10:00	Alan Needleman	Limits on Eshelby transformation strain set by non-negative dissipation and dissipation rate
10:15	Philippe H. Geubelle	Intersonic bursts of dynamic mode I planar cracks
10:30	Yehuda Ben-Zion	Localization of seismicity prior to large crustal earthquakes
10:45	Alissar Yehya	Influence of fluid-assisted healing on fault permeability structure
11:00	<i>Break: Break-out rooms, informal meet-and-greet</i>	
11:15	Colin R. Meyer	Thermal controls on ice stream shear margins
	<i>Lightning talks on promising current and future directions</i>	
11:30	Jeffrey Kysar	Mechanics and inner ear therapeutics
11:35	Chen Gu	Deciphering time series signal from labquakes to building shakings
11:40	Nadia Lapusta	Are mature faults dynamically or chronically weak?
11:45	<i>Discussion</i>	

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Saturday, June 12, 2021
Chair: Alan Needleman

9:45	<i>Pre-session time: Joining the symposium</i>	
10:00	<i>Remarks and Greetings to Jim and Renata</i>	
	John Hutchinson	
	Rod Clifton	
	Paul Sorensen	
	Lydia, Lauren, and Jonathan Rice	<i>Pre-recorded video</i>
	Emma Rice	<i>Pre-recorded video</i>
	Martin, Michelle, Tate, and Isla Wartak	<i>Pre-recorded video</i>
	Frederick (MD) Rices (Ken and Colleen) and Chases (Angela and Chris)	<i>Pre-recorded video</i>
	Davide Bigoni	
	Emile Okal	
	Judi Chester	
	Harsha Bhat	
	Chen Gu	<i>Pre-recorded video</i>
	Mokhtar Adda-Bedia, Jay Fineberg, and Eran Sharon	<i>Pre-recorded video</i>
	Terry and Connie Tullis	<i>Pre-recorded video</i>
	Eric Dunham	<i>Pre-recorded video</i>
	Mark Taylor	<i>Pre-recorded video</i>
	Huajian and Joan Gao	<i>Pre-recorded video</i>
	Ahmed Elbanna	<i>Pre-recorded video</i>
	Leslie Banks-Sills	<i>Pre-recorded video</i>
	John Rudnicki	<i>Pre-recorded video</i>
	Jean Sulem	<i>Pre-recorded video</i>
	Alan Needleman	
11:00	<i>Break: Break-out rooms, informal meet-and-greet</i>	
11:15	<i>Photo slide show by Nadia Lapusta</i>	
11:30	<i>Closing ceremony by John Shaw, Maryorie Grande, and Valère Lambert</i>	
11:45	<i>Concluding remarks by Jim Rice</i>	