Daniel Rittel

Daniel Rittel Introductory course and seminar on Failure of Materials and Fracture Mechanics

Introductory course and seminar on Failure of Materials and Fracture Mechanics
2015 7 8 - 7 14
Prof. Daniel Rittel (Faculty of Mechanical Engineering, Technion, Israel)
103
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D. Rittel holds a PhD in Materials Science (1988) from the Hebrew University of Jerusalem. He spent 2 years as a postdoc at Yale University working on the fracture of tungsten base heavy alloys, followed by 3.5 years at Ecole Polytechnique (France), working on experimental dynamic fracture mechanics. He joined Technion (Mechanical Engineering) in 1994 where he founded the Dynamic Fracture Laboratory.

As of today, D. Rittel holds the Zandman Chair in Experimental Mechanics, heads the Materials Mechanics Center. He is also the Deputy Senior Vice President (Vice Provost) of Technion. D. Rittel was the Clark B. Millikan Visiting Professor in Aeronautics (2007) at Caltech and incumubent of a Catedra de Excellencia at UC3M (Madrid) in 2012. And recently he was awarded the prestigious 2015 Angiola Gili è Cataldo Agostinelli international prize, by the Academy of Sciences of Torino (Italy) in the Applied and Theoretical Mechanics category.

Throughout the years, D. Rittel has developed expertise in the many aspects of dynamic failure, including fracture mechanics, constitutive behavior, dynamic failure mechanisms and numerical modeling. D. Rittel is also active in the field of Structural Health Monitoring. He is a Fellow of the Society for Experimental Mechanics (SEM). D. Rittel's interest is in the thermomechanics and physics of dynamic failure with regard to dynamic fragmentation, fracture, adiabatic shear banding and hysteretic heating. As of today, he has co-authored about 115 journal publications. Dr. Rittel is also Associate Editor of Experimental Mechanics, Mechanics of Materials and the International Journal of Engineering Science.

Schedule of the Introductory Courses and Seminars

(by Professor Daniel Rittel)

Date	8-Jul Wednesday	9-Jul Thursday	10-Jul Friday	11-Jul Saturday	12-Jul Sunday	13-Jul Monday	14-Jul Tuesday
8:30-11:30		Lecture 2 103	Lecture 3 103			Lecture 4 103	Seminar 2 5 502-1 10:00-11:30
14:30-15:30	Lecture 1 103		Seminar 1 5 502-1 15:00-16:30			Lecture 5 103	

Lecture 1 Introduction to Failure of Materials. Basic Fracture Mechanics, K_{IC}
Lecture 2 Fractographic Analysis and Micromechanisms for Monotonic Fracture
Lecture 3 Short Overview of Micromechanical Fracture Models
Lecture 4 Fatigue Failure and Fractography
Lecture 5 Failure Cases and Dynamic Failure

Seminar 1 Modelling Adiabatic Shear Failure from Energy Considerations
Seminar 2 Electro Magnetic Collapse of Thick Walled Cylinders