

# ARES J. ROSAKIS

## Theodore von Kármán Professor of Aeronautics and Mechanical Engineering

California Institute of Technology

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EAS & Personal Websites: <http://eas.caltech.edu/> - <http://rosakis.caltech.edu/>

### EDUCATION:

1975	High School Diploma		Athens College
1978,1986	Engineering Science	B.A. (Hon), M.A.	Oxford University
1980	Solid Mechanics and Structures	Sc.M.	Brown University
1982	<i>Major Field:</i> Solid Mechanics <i>Minor Fields:</i> Material Science and Applied Mathematics	Ph.D.	Brown University
Thesis Title:	<i>Experimental Determination of the Fracture Initiation and Dynamic Crack Propagation Resistance of Structural Steels by the Optical Method of Caustics</i>		(Thesis Advisors: L. B. Freund, J. Duffy)

### PROFESSIONAL EXPERIENCE:

1978-1980	Graduate Research and Teaching Assistant	Brown University
1980-1982	General Electric Foundation Fellow and University Scholar	Brown University
1982-1988	Assistant Professor of Aeronautics and Applied Mechanics	California Institute of Technology
1988-1993	Associate Professor of Aeronautics & Applied Mechanics	California Institute of Technology
1993-2000	Professor of Aeronautics & Applied Mechanics	California Institute of Technology
2000	Professor of Aeronautics & Mechanical Engineering	California Institute of Technology
2003-2004	Interim Co-Director, Graduate Aeronautical Laboratories (GALCIT)	California Institute of Technology
2004 - 2009	Director of the Graduate Aeronautical Laboratories (GALCIT)	California Institute of Technology
2004-Present	Theodore von Kármán Professor of Aeronautics and Mechanical Engineering	California Institute of Technology
Summer 2005	Visiting Professor, Department of Terre-Atmosphère-Océan	École Normale Supérieure, Paris
Spring 2008	Astor Visiting Professor	Oxford University
Summer 2008	Visiting Professor	Columbia University
Spring 2009-2015	Chair, Division of Engineering and Applied Science	California Institute of Technology
Spring 2013-2015	Otis Booth Leadership Chair, Division of Engineering and Applied Science Theodore von Kármán Professor of Aeronautics and Mechanical Engineering	California Institute of Technology

### HONORS AND AWARDS:

2017	Elected Fellow, American Geophysical Union	AGU
2017	Elected Honorary Fellow, International Congress of Fracture	ICF
2016	Elected to the National Academy of Sciences	NAS
2016	Theodore von Karman Medal , American Society of Civil Engineers	ASCE
2015	Sia Nemat-Nasser Medal, Society of Experimental Mechanics	SEM
2014	Elected member of the Academia Europaea (Academy of Europe)	Academia Europaea, London
2013	Elected Corresponding member of the Academy of Athens	National Academy of Greece
2013	Elected Foreign Fellow of the Indian National Academy of Engineering	INAE
2013	Elected member of the European Academy of Sciences and Arts (Academia Scientiarum et Artium Europaea)	EASA
2013	P.S. Theocaris Award, Society of Experimental Mechanics	SEM
2012	Commandeur dans l'Ordre des Palmes Académiques	Prime Minister of the French Republic
2011	Elected Member of the National Academy of Engineering	NAE
2010	A.C. Eringen Medal, Society of Engineering Science	SES
2010	Robert Henry Thurston Lecture Award	ASME
2010	Brown Engineering Alumni Medal (BEAM)	Brown University
2009	Elected Fellow of the American Academy of Arts and Sciences	AAA&S
2009	Elected Fellow of the Society of Experimental Mechanics	SEM
2008	Hetényi Award, Society of Experimental Mechanics	SEM
2007	Harting Award, Society of Experimental Mechanics	SEM
2005	Murray Medal & Lecture, highest recognition of the society and prestige lecture	Society for Experimental Mechanics
2003	Frocht Award – Experimental Mechanics Educator of the Year	Society of Experimental Mechanics,
1998	Excellence in Teaching Award	Caltech Graduate Student Council
1996	B.L. Lazan Award, Recognition of outstanding original technical contributions in the field of dynamic fracture, Society of Experimental Mechanics	SEM
1995	Elected Fellow of the American Society of Mechanical Engineers	ASME
1993	Hetényi Award, Society of Experimental Mechanics	SEM
1989	Rudolf Kingslake Medal and Prize, International Society of Optical Engineering	SPIE
1985	U.S. Presidential Young Investigator Award, National Science Foundation	NSF, Whitehouse
1984 & 1985	IBM Faculty Development Award	IBM, Caltech
1980-82	Fellowship and University Scholarship, General Electric Foundation, Division of Engineering	Brown University
1975	Physics Prize	Athens College

## LEADERSHIP ACCOMPLISHMENTS:

### May 2009 -2015 **As Engineering and Applied Science Division Chair**

- 3 years in a row **Engineering and Technology at Caltech** was ranked #1 by the Times Higher Education World University Ranking (Thomson Reuters) for 2010-2011, 2011-2012, and 2012-2013. Also in the 2016-2017 academic year.
- Presided over the structural re-organization of the Division of Engineering and Applied Science (EAS) at Caltech.
- Replaced the amorphous “degree option” structure with seven EAS departments and presided over their administrative restructuring.
- Introduced a system of multiple fundraising advisory councils, composed of Caltech alumni and Institute trustees, corresponding to each new department.
- Established the Center for Technology and Management Education (CTME) which provides executive training, courses and certificate programs to international companies and government agencies.
- Involved in the establishment and oversight of the Resnick Energy Sustainability Institute which aims to foster transformational advances in energy science and technology through research, education, and communication.
- Member of the Board of Directors for the Joint Center for Artificial Photosynthesis (JCAP) one of the nation’s DOE hubs with the mission to keep the United States at the forefront of solar-fuel research.
- Oversaw the fundraising and renovation of the Jorgensen Laboratory to serve as the new home for two of Caltech’s key energy and sustainability research efforts: the Resnick Institute and the Joint Center for Artificial Photosynthesis.
- Presided over, along with the Chair of the Division of Geology and Planetary Sciences, the establishment of the interdisciplinary Terrestrial Hazard Observation and Reporting (THOR) Center
- Incorporated the Caltech “Center for Advanced Computing Research” (CACR) into the EAS Division.
- Established a graduate student exchange program between the Caltech’s Division of Engineering and Applied Science and Institut Supérieur de l’Aéronautique et de l’Espace, located in Toulouse (France)
- Appointed by the President of Ecuador as a founding member and Chair of the Board of Trustees (*Comisión Gestora*) of Yachay Universidad de Investigación de Tecnología Experimental (Yachay-Tech) the first International, research-centric university in Latin America.
- Created a partnership program with the Indian Space Research Organization (ISRO) and established the “Satish Dhawan” endowed Fellowship sponsored by ISRO and the Government of India. Also created the “Abdul Kalam” prize in Aerospace.
- Established the Charles M. Vest Engineering Grand Challenges Scholarship at Caltech for International collaboration (endorsed by NAE and RAE)
- Founded the new Department of “Medical Engineering” (MedE) within the EAS Division.
- Facilitated the establishment of the Caltech-Northrop Grumman Space Solar Power Initiative (SSPI)
- Established the Foster and Coco Stanback Space Innovation Fund and Graduate Fellowships supporting space-related research.
- Spearheaded the establishment of the Foster and Coco Stanback Center of Autonomous Systems and Technology (CAST).

### 2004- 2009 **As Director of GALCIT**

- Led the initiative to revitalize the Graduate Aerospace Laboratories (GALCIT). Caltech was ranked #1 or #2 in Aerospace Engineering for the last six years by the US News and World Report.
- Five new faculty members hired between 2005 and 2007 increased the size of GALCIT faculty by 40%.
- Established Masters Program in Space Engineering, in collaboration with the Jet Propulsion Laboratory (JPL); initiated follow-on PhD program in Space Engineering; guaranteed the long-term viability of these programs through new fundraising for lectureships and fellowships.
- Established a two year dual masters' program between GALCIT and École Polytechnique in France. The program received the 2010 Andrew Heiskell Award for Innovation in International Education from the Institute of International Education in New York.
- Established a Master’s of PhD exchange program with the Government of Andalucía and the University of Seville.
- Oversaw extensive fundraising and renovation of the historic Guggenheim Laboratory following removal of 10-foot wind tunnel. Four labs built, the Laboratory for Large Space Structures, the Allen Puckett Laboratory of Computational Fluid Mechanics, the Gordon Cann Laboratory of Experimental Innovation, and the Joseph Charyk Center for Bio-Inspired Design; Kármán Conference room renovated and GALCIT Archives created (made possible by Robert Herzog); and extensive new classroom, conference, office, and social spaces created.
- Established the GALCIT Director’s Advisory Board to extend the fundraising reach of GALCIT.
- Contributed to the establishment of the Keck Institute for Space Studies at Caltech and JPL.
- Led systematic effort to formally involve GALCIT and EAS faculty in joint research projects with JPL, the newly established Keck Institute for Space Studies, and the aerospace industry.
- Co-organized (with JPL and Northrop Grumman) an international conference to celebrate the 50<sup>th</sup> Anniversary of Space Exploration. (800 attendees).
- Incorporated the Aerospace Historical Society (AHS) into GALCIT and became its president. Among other outreach activities the Society is annually responsible for awarding the *International von Kármán Wings Award*.

### Caltech Leadership and Service

- Institute Cabinet for the Caltech Strategic Identity Project (The Caltech branding project)
- Member, Institute Academic Council (IACC)
- Member, Institute Administrative Council (IAC)
- Member, Steering Committee, Keck Institute for Space Studies (KISS)
- Chair, Lee-Ramo Symposia Committee, EAS Division
- Member, Committee for the Constitution of Caltech's "Institute for Space Science"
- Member, JPL Advisory Council
- Member, JPL Chief Technologist Selection Committee
- Member, Institute's Faculty Board (Caltech's governing body)
- Faculty Nominating Committee, Faculty Board
- Chair, GALCIT/JPL Committee for Space Engineering Education
- Member, EAS Division Steering Committee (DSC)
- Member, Planning Committee for the Future of the Engineering & Applied Sciences Division
- Participated and chaired over thirty departmental committees for faculty hiring, promotions, graduate student awards, laboratory staffing and renovation.

HONOR LECTURES:			
2017	Plenary Lecture	International Conference on Fracture (ICF-14)	Rhodes, Greece
2015	Induction Lecture into Academy of Athens	Academy of Athens	Athens, Greece
2013	The Nowinski Lecture	University of Delaware, Department of Mechanical Engineering	Newark, Delaware
2011	A. C. Eringen Medal Plenary Lecture	48 <sup>th</sup> Annual Technical Meeting of the Society of Engineering Science, Northwestern Univ.	Evanston, IL
2011	Mindlin Lecture	Department of Civil Engineering and Engineering Mechanics, Columbia University	New York, NY
2010	Robert Henry Thurston Lecture	ASME International Mechanical Engineering Congress & Exposition	Vancouver, British Columbia
2010	Earnest C. Watson Lecture Series	California Institute of Technology	Pasadena, CA
2010	New Developments in Elasticity: The Legacy of Robert Hooke	Mathematical Institute, University of Oxford	Oxford, England
2008	Astor Visiting Professor and Lecturer	Oxford University	Oxford, England
2007	Plenary Lecture	The Hellenic Society for Theoretical and Applied Mechanics, 8 <sup>th</sup> HSTAM International Congress on Mechanics, University of Patras	Patras, Greece
2007	Plenary Lecture	McMat 2007, ASME Applied Mechanics and Materials Conf. Univ. of Texas at Austin	Austin, Texas
2007	The George R. Irwin Centennial Conference	University of Maryland	College Park, MD
2007	Alwin Schaller Distinguished Schaller Lectureship	Mechanical Science and Engineering Department, University of Illinois	Urbana-Champaign, ILL
2007	Distinguished Lecture	Mechanical Engineering Department - Stony Brook University	Stony Brook, NY
2006	Keynote Speaker - Honoring Professor Subra Suresh, the Acta Gold Medalist	MRS 2006 Fall Meeting Symposium	Boston, MA
2006	Inaugural Distinguished Scholar Lecturer	Arizona State University	Tempe, Arizona
2005	Plenary Lecturer, outstanding and recognized expertise in the field of Fracture Mechanics	11th Conference on Fracture	Torino, Italy
2005	W.M. Murray Lecture- prestigious lecture honoring Dr. W.M. Murray for his many contributions to SEM	SEM Annual Conference	Portland, OR
2004	Distinguished Lecturer	Department of Mechanical Engineering	UC Riverside, CA
2004	Boeing Distinguished Researcher and Scholar Seminar Speaker	Boeing Company	Huntington Beach, CA
2004	Plenary Lecturer	7th National Congress on Mechanics (HSTAM2004)	Chania- Crete, Greece
2003	James F. Bell Memorial Lecturer	Department of Mechanical Engineering, The Johns Hopkins	University, Baltimore, MD
2002	Plenary Lecturer	14 <sup>th</sup> European Conference on Fracture, ECF 14, <i>Fracture Mechanics Beyond 2000</i>	Cracow, Poland
2002	Keynote Speaker	14 <sup>th</sup> US National Congress of Applied Mechanics Virginia Polytechnic Institute	Blacksburg, VA
2000	Alumni Association Seminar Day Speaker	California Institute of Technology	Pasadena, CA
2000	Plenary Lecturer	Southeastern Theoretical and Applied Mechanics Conference, SECTAM XX	Pine Mountain, GA

1998	Speaker	Midwest Mechanics Seminar Tour	(nine universities)
1998	Plenary Lecturer	U.S. National Congress of Applied Mechanics	Gainesville, Florida
1997	Keynote Speaker	International Conference on Advanced Technology in Experimental Mechanics	Wakayama, Japan
1997	Keynote Speaker	Ninth International Conference on Fracture	Sydney, Australia
1995	Plenary Lecturer	ASME Summer Meeting	Los Angeles, CA

## PUBLICATIONS AND CITATIONS

Over 200 refereed book chapters and journal publications. H-index: 57, (57 publications with at least 57 citations each). Approximately 10,000 total citations, Source: Google Scholar. Author of 13 Patents

## ACADEMY MEMBERSHIPS AND PROFESSIONAL SOCIETIES - Past & Present:

### Status

#### Academies:

National Academy of Sciences	(NAS)	Member	2016
Academia Europaea	(AE)	Member	2014
Academy of Athens	(AA)	Cor. Member	2013
European Academy of Sciences and Arts	(EASA)	Member	2013
Indian National Academy of Engineering	(INAE)	Foreign Fellow	2013
National Academy of Engineering	(NAE)	Member	2011
American Academy of Arts and Sciences	(AAA&S)	Fellow	2009
New York Academy of Science	(NYAS)	Member	1999

#### Associations and Societies:

International Congress on Fracture	(ICF)	Honorary Fellow	2017
American Geophysical Union	(AGU)	Elected Fellow	2017
Seismological Society of America	(SSA)	Active Member	2009
Society of Experimental Mechanics	(SEM)	Fellow	2009
Aerospace Historical Society	(AHS)	Member	2007
Aerospace Historical Society	(AHS)	Chair	2006-09
American Association for the Advancement of Science	(AAAS)	Professional Member	
American Geophysical Union	(AGU)	Active Member	2004
American Society of Mechanical Engineers	(ASME)	Fellow	1995
Hellenic Society for Theoretical & Applied Mechanics	(Greek chapter of IUTAM)	Member	1984
British Society for Strain Measurement	(BSSM)	Member	1978
Eubean Studies Society, Athens, Greece	(a historical society)	Member	1975
Robert Boyle Society, Oxford, U.K.	(a scientific society)	Member	1975
Society of Engineering Science	(SES)	Member	
American Academy of Mechanics	(AAM)	Member	

## BOARDS, COUNCILS AND COMMITTEES:

International Congress on Fracture	(ICF)	Vice President	2017
NAE Mechanical Engineering Peer Committee	(NAE)	Member	2017-2020
Northwestern Visiting Committee for Civil and Environmental Engrg.	Northwestern Univ.	Member	2017
Yachay Tech Univ. de Investigación de Tecnología Experimental	Board of Trustees	Honorary Member	2016-17
Yachay Tech Univ. de Investigación de Tecnología Experimental	Board of Trustees	Founding Chair	2014-2016
Board of Directors – Joint Center for Artificial Photosynthesis	(JCAP)	Member	2012
Applied Mechanics Division, Executive Committee	(AMD of ASME)	Chair	2011-12
MIT Visiting Committee for Aero/Astro	(MIT)	Member	2008-2015
GALCIT Director's Advisory Council, Caltech		Founder	2007
Keck Institute for Space Studies Steering Committee	(KISS)	Member	2007-2009
Southern California Action Leadership Endeavor	(SCALE)	Member	2006
<i>Advancement of space science and engineering</i>			
GALCIT/JPL Committee for Space Engineering Education	(EAS)	Chair	2005
Jet Propulsion Laboratory Advisory Council	(JPL)	Caltech Member	2005-
Committee for Constitution of Caltech's "Institute for Space Science"	(CIT)	Member	2005-2007
JPL Chief Technologist Selection Committee	(JPL)	Member	2005 -
Scientific Advisory Board, Oraxion, Diagnostics	Oraxion	Chair	2004-2006
Board of Directors, Oraxion Diagnostics	Oraxion	Member	2002-2004
EAS Division Steering Committee (DSC)	(EAS)	Member	2004
Faculty Nominating Committee, Faculty Board	(CIT)	Member	2000-2002

Caltech Faculty Board ( <i>governing body</i> )	(CIT)	Member	1999-2002
Mechanical Sciences Program Review, Army Research Office, Research Triangle Park, NC	Board of Visitors	Member	1999-2000
Planning Committee for the Future of the EAS Division	(EAS)	Member	1999
SEM Technical Committee on future Technologies	(SEM)	Vice Chairman	1994-1999
American Society of Mechanical Engineers Technical Committee	(ASME)	Chairman	1986-1991
American Society of Mechanical Engineers Technical Committee	(ASME)	Vice Chairman	1986-1989
National Science Foundation, Individual Investigator Awards and Equipment Grants, Mechanics Program	(NSF)	Panel Member	1986

#### EDITORIAL BOARDS – Past and Present:

International Journal of Mechanics of Materials		Regional Editor	1998-2004
International Journal of Mechanics of Materials	Honorary Scientific Advisory Board and Editorial Board	Member	2004-2006
Journal of the Mechanics and Physics of Solids	Special issue on “ <i>Dynamic Failure and Thin-Film Mechanics</i> ”	Guest Editor	2003
Journal of Engineering Transactions	International Editorial Committee	Member	1996-2003
Journal of the Mechanics and Physics of Solids	Special issue on “ <i>Dynamic Deformation and Failure Mechanisms in Solids</i> ”	Guest Editor	1998
International Journal of Optics and Lasers in Engineering		Associate Editor	1993-1997
International Journal of Solids and Structures	Special issue on “ <i>Dynamic Failure Mechanics of Modern Materials</i> ”	Guest Editor	1995
International Journal of Optics and Lasers in Engineering	Special issue on “ <i>Optical Method of Caustics</i> ”	Guest Editor	1990
International Journal of Fracture	Special Issue on “ <i>Non-Linear Fracture Mechanics</i> ”	Guest Editor	1988

#### TECHNOLOGY TRANSFER:

2004 – 2006	Chair, Scientific Advisory Board, Oraxion Diagnostics, Fremont, CA
2002 – 2004	Member, Board of Directors, Oraxion Diagnostics, Fremont, CA
2002	Co-Founder (with S. Suresh, MIT) Oraxion Diagnostics Inc., a provider of advanced metrology systems for the semiconductor industry, based on Caltech & MIT technologies. This company was acquired by Ultratech in 2006.

#### INVENTIONS AND PATENTS:

		Issued:	US Patent#:
1. <i>Coherent Gradient Sensing Method and System for Measuring Surface Curvatures</i>	A Rosakis, R. Singh, E. Kolawa, N. R. Moore, Jr.	2000	6,031,611
2. <i>High Speed Infrared Imaging System and Method</i>	A.T. Zehnder, A. Rosakis, G. Ravichandran	2001	6,268,883
3. <i>Coherent Gradient Sensing Ellipsometer</i>	D. Boyd, A. Rosakis, D. Owen	2002	6,469,788
4. <i>Real-Time Evaluation of Stress Fields and Properties in Line Features Formed on Substrates</i>	S. Suresh, A. Rosakis	2003	6,600,565
5. <i>Determining Large Deformations and Stresses of Layered and Graded Structures to Include Effects of Body Forces</i>	A. Giannakopoulos, S. Suresh, A. Rosakis, I. Blech	2004	6,781,702
6. <i>Systems for Measuring Stresses in line Features formed on Substrates</i>	S. Suresh, A. Rosakis	2005	6,924,497
7. <i>Techniques for Analyzing Non-uniform Curvatures and Stresses in Thin-Film Structures on Substrates with Non-Local Effects</i>	A. Rosakis, Y. Huang	2008	7,363,173
8. <i>Full-Field Optical Measurements of Surface Properties of Panels, Substrates and Wafers</i>	A. Rosakis, D. Owen, S. Gledden, S. Olson	2008	7,369,251
9. <i>Techniques and Devices for Characterizing Spatially Non-Uniform Curvatures and Stresses in Thin-Film Structures of Substrates with Non-local Effects</i>	A. Rosakis, Y. Huang	2009	7,487,050
10. <i>Surface Characterization based on Lateral Shearing of Diffracted Wave Fronts to measure In-plane and Out-of-Plane Displacement Gradient Fields</i>	M. Mello, A. Rosakis	2009	7,538,891
11. <i>Measuring Stresses in Multi-layer Thin Film Systems with Variable Film Thickness</i>	Y. Huang, A. Rosakis	2011	7,930,113
12. <i>Characterizing Curvatures and Stresses in Thin-Film Structures on Substrates having Spatially Non-Uniform Variations</i>	A. Rosakis, Y. Huang	2011	7,966,135 B2

13. <i>Surface Characterization Based on Optical Phase Shifting Interferometry</i>	M. Mello, A. Rosakis	2011	7,990,543 B1
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#### TECHNICAL CONSULTING CONTACTS:

Boeing Aircraft, Grumman Aerospace, Intel Corporation, Jet Propulsion Laboratory, Los Alamos National Laboratories, McDonnell Douglas, Rockwell Science Center, ETech, Inc., Oraxion Diagnostics, Inc., Ceradyne Co., United Defense Co., Aonex, Inc., Northrop Grumman Company.

#### TEACHING EXPERIENCE:

1975-1982	<b>Oxford and Brown Universities:</b> Teaching Assistant, Undergraduate Courses in Engineering (Brown University), informal Lecture series (Oxford) on special topics:	a) An introduction to fracture mechanics and the optical method of caustics (Brown University)	b) Experimental methods in fracture mechanics (Oxford University)
1982-Present	<b>California Institute of Technology</b>		
	- <i>Analytical Mechanics of Deformable Bodies</i>	(Undergraduate level)	
	- <i>Experimental Methods</i>	(Advanced Undergraduate/First Year Graduate level)	
	- <i>Plasticity</i> - Also see lecture notes entitled <i>Elements of Dislocation Theories and Plasticity</i>	(Graduate level)	
	- <i>Mathematical Elasticity Theory</i>	(Graduate level)	
	- <i>Mechanics of Structures and Solids</i>	(Graduate Level)	
	- <i>Stress Waves in Solids</i>	(Graduate Level)	
	- <i>The Mechanics of Fracture</i>	(Graduate level)	
	- <i>Continuum Mechanics of Fluids and Solids</i>	(Advanced Undergraduate/Graduate level – offered for both Engineering and Geophysics students)	
	- <i>Static and Dynamic Failure of Brittle Solids and Interfaces, From the Micro to the Mega</i>	(Advanced Undergraduate/Graduate level – offered for both Engineering and Geophysics students)	

#### SHORT COURSES:

#### Organized by

1994-1998	<i>Fracture Mechanics and Failure Analysis</i> , an annual training course for engineers and scientists from national labs, industry and academia	ETech, Inc., Pasadena, CA
2000	<i>Fracture Mechanics of Microelectronics Device</i> ,	Intel University, Chandler, AZ
2003	<i>CGS Interferometry as a Wafer Level Metrology Tool</i>	International Sematech, Austin, TX
2006	<i>Full-field Interferometry Applied to the Reliability of Thin Film Structure on Silicon Substrates</i>	Oraxion Diagnostics, Singapore
2007	<i>Application of Fracture Mechanics Concepts to the Reliability Analysis of Microelectronic Components</i>	Intel Corporation, Chandler, AZ

**PERSONNEL:** Rosakis has graduated 26 PhD students and mentored 16 postdoctoral fellows. 14 of his former students now hold tenure-track positions around the world, of which 11 of them tenured. 11 of his former postdoctoral fellows now hold tenure-track faculty positions in universities, of which 6 of them tenured.

#### RESEARCH PERSONNEL – Present:

##### Current Ph.D. Students

2013- M. Gori

##### Current Research Scientists

2014- Dr. V. Rubino

#### PERSONNEL – Past:

##### Doctoral Students: Academia:

1986	R. Narasimhan	Professor of Mechanical Engineering, Indian Institute of Science	Bangalore, India
1987	A.T. Zehnder	Professor, Dept. of Theoretical and Applied Mechanics	Cornell University
1989	S. Krishnaswamy ▲	Professor, Dept. of Mechanical Engineering	Northwestern University
1990	X. Deng	Professor, Dept. of Mechanical Engineering	University of South Carolina
1994	J. Lambros* ▲	Professor of Aeronautics	Univ. of Illinois/Urbana-Champaign
1995	H.A. Bruck	Associate Professor, Dept. of Mechanical Engineering	University of Maryland
1998	D. Conner	Visiting Associate, Dept of Materials Science	California Institute of Technology
2001	P. Guduru ▲	Associate Professor, School of Engineering	Brown University
2001	D. Coker	Vice-Chair of Aerospace Engineering Department	Middle East Technical University
2001	L.R. Xu	Associate Professor, Dept of Mechanical Engineering	University of Texas at El Paso
2005	K. Xia*	Assistant Professor, Civil Engineering & Lassonde Institute	University of Toronto
2006	G. Lykotrafitis♦	Assistant Professor, Dept. of Mechanical Engineering	University of Connecticut
2010	L. Lamberson ▲	Assistant Professor, Dept. of Mechanical Engineering	Drexel University
2014	Michael Mello ▲ Δφ	Lecturer in Mechanical and Civil Engineering	California Institute of Technology

**Doctoral Students: National Labs and Industry:**

1991	L. Lu	Team Leader	EDS/Unigraphics
1994	C. Liu	Senior Technical Staff Member	The Los Alamos National Laboratory
1996	K. Fey	Senior Biomedical Engineer	A. E. Mann Foundation for Sci. Res.
1997	J. Hodowany*^	General Manager	JC Grand Corporation, Taiwan
1993	J. Mason	Principal Engineering Consultant	Rimkus Consulting Group, Inc.
2001	B. Chow	Senior Analyst	Rustic Canyon Ventures
2001	O. Samudrala	Sr. Technical Staff Member	General Electric Global Research Center
2002	D. Anderson^	Sr. Technical Staff Member	General Electric Global Research Center
2007	M. Brown♦	Research Scientist	Northrop Grumman Aerospace Systems
2009	X. Lu♦♦	Research Scientist	Intel Corporation
2014	J. Mihaly^	Technologist, Flight Instrument Detectors & Systems Group	Jet Propulsion Laboratory (JPL)
2015	V. Gabuchian		

**Engineer's Degree Student:**

2001	K. Haberman		Los Alamos National Laboratory
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*	<i>William F. Ballhaus Prize</i>	Outstanding Doctoral Dissertation in Aeronautics.
^	<i>Ernest E. Sechler Memorial Award</i>	Most Significant Teaching and Research Contribution to GALCIT.
♦	<i>Charles Babcock Memorial Award</i>	Graduate student whose achievements in teaching (or other assistance to students) has made a significant contribution to the Aeronautics group.
Δ	<i>Demetriades-Tsafka-Kokkalis Prize</i>	Best thesis in the area of Seismo-Engineering, Prediction and Protection.
φ	<i>Donald Coles Prize</i>	Graduating PhD student in Aeronautics whose thesis displays the best design of an experiment or the best design for a piece of experimental equipment.

**Postdoctoral Scholars - Research Scientists and Visiting Associates:****Currently in Academia:**

H. Tippur	Professor of Mechanical Engineering	Auburn University
F. Benitez	Professor of Mechanical and Industrial Engineering	Univ. of Seville, Spain
M. Zhou	Professor of Mechanical Engineering	Georgia Tech
R. Singh	Associate Professor of Mechanical and Aerospace Engineering	Oklahoma State University, OK
C. Rousseau	Associate Professor	University of Rhode Island, Kingston, RI
V. Chalivendra	Assistant Professor, Mechanical Engineering	University of Massachusetts
X. Feng	Associate Professor, Engineering Mechanics	Tsinghua University, Beijing, China
S. Hong	Assistant Professor, Mechanical Engineering	Michigan State University, MI
V. Eliasson	Assistant Professor, Aerospace and Mechanical Engineering	University of Southern California, CA
H. Bhat	CNRS Research Fellow	Institut de Physique du Globe de Paris
J. Zhu	Assistant Professor of Civil and Environmental Engineering	Hong Kong Polytechnic University

**Currently in Industry:**

Y.J. Lee	Senior Scientist, Dow Corning	Midland, MI
D. Owen	Chief Technical Officer, Ultratech Inc.	San Jose, CA
H. Lee	nLight Photonics	Seattle, WA
O. Samudrala	Senior Technical Staff Member, General Electric Global Research Center	
D. Anderson	Senior Technical Staff Member, General Electric Global Research Center	Niskayuna, NY
T-S. Park	Key Account Technologist, Novellus	San Jose, CA

**Visiting Faculty/Associates:**

F.G. Benitez	Professor, Department of Mechanical Engineering	University of Seville, Spain
S. Suzuki	Professor, Department of Mechanical Engineering	Toyohashi University of Technology, Japan
D. Semenski	Associate Professor, Faculty of Mechanical Engineering and Naval Architecture University of Zagreb	Zagreb, Croatia
K. Papoulia	Associate Professor, Department of Civil Engineering	University of Waterloo, Canada
M. Oda	Assistant Professor, Faculty of Engineering	Kagoshima University, Kagoshima, Japan
M. Adams	Senior Staff Member	Jet Propulsion Laboratory
H. Georgiadis	Professor, Engineering Mechanics Division	National Technical Univ. of Athens, Greece
S. Suresh	President, Nanyang University of Science and Technology Clark Millikan Visiting Professor of Aeronautics (Caltech)	Nanyang Univ. of Science and Tech. (NTU)
Y. Huang	Joseph Cummings Professor, Dept. of Mechanical Engineering, Clark Millikan Visiting Professor of Aeronautics (Caltech)	Northwestern University
I. Vardoulakis	Professor Engineering Mechanics	National Technical Univ. of Athens, Greece

**SYMPOSIA ORGANIZED:**

Jun 2011	Organizing Committee (with Huajian Gao, Kyung-Suk Kim and G. Ravichandran)	NSF Workshop and Symposium in Honor of Professor L. B. Freund	Brown University, Providence, RI
Jan 2011	Co-organizer (Nadia Lapusta, G. Ravichandran, and M Gurnis, Caltech)	Symposium on "Mechanics in Geophysical and Materials Sciences" in honor of James Rice 70 <sup>th</sup> Birthday	California Institute of Technology
Oct 2010	Co-organizer (with Dean Katsouleas, Duke, Pres. Miller, Olin and Dean Yortsos, USC)	2010 National Summit on the NAE National Grand Challenges Summit	University of Southern California
Jun 2010	Organizing Committee (with G. Ravichandran)	9 <sup>th</sup> International Conference on Sandwich Structures (ICSS-9)	California Institute of Technology
Nov 2009	Track Chair	2009 ASME International IMECE	Lake Buena Vista, FL
Mar 2009	Co-Chair	2009 IUTAM Symposium - Dynamic Fracture and Fragmentation	Austin, TX
2008	Chair, Lee-Ramo Symposium	EAS Division	California Institute of Technology
Sep 2008	Organizer	80 <sup>th</sup> Birthday of GALCIT and Re-Dedication of the Guggenheim Building	California Institute of Technology
2008	Chair	Lee-Ramo Symposia Committee, EAS Division	California Institute of Technology
Sep 2007	Co-organizer (with Dwight Streit, NGST)	50 Years in Space GALCIT/Caltech/JPL	California Institute of Technology
Jan 2006	Lead Organizer	Conference on Advanced Materials: Professor C. Fong Shih 60 <sup>th</sup> Birthday Commemoration	Institute for Materials Res. and Engineering (IMRE), Singapore
Jun 2003	Track Co-Organizer	Symposium on "Recent Advances in Dynamic Failure & Fracture Studies" SEM Annual Conf.	Charlotte, NC
Jan 2003	Co-Organizer (with G. Ravichandran, Caltech and S. Suresh, MIT)	ONR/Elsevier Symposium – "Dynamic Failure and thin Film Mechanics," in honor of Professor L.B. Freund's 60 <sup>th</sup> birthday	California Institute of Technology
Oct 2000	Co-Organizer (with G. Ravichandran)	Symposium on "On the Mechanics of Thin Films" Honor of William Prager Medal recipient, Professor L.B. Freund, SES 37 <sup>th</sup> Annual Technical Meeting	Columbia, SC
Oct 2000	Co-Organizer (with G. Ravichandran)	Symposium on "On the Dynamic Failure of Materials," Honor of William Prager Medal recipient, Professor L.B. Freund, SES 37 <sup>th</sup> Annual Technical Meeting	Columbia, SC
May 1997	Co-Organizer (with G. Ravichandran, M. Ortiz, Y.D.S. Rajapakse and K. Iyer)	ONR-ARO Symposium - "Dynamic Deformation & Failure Mechanics of Materials," to honor Prof. Rodney J. Clifton	California Institute of Technology
Nov 1995	Co-Organizer (with Y. Rajapakse, ONR and R. Batra, VPI)	Symposium on "Dynamic Failure Mode Selection in Solids," ASME Winter Meeting	San Francisco
Jun 1995	Co-Organizer (with Y. Rajapakse, ONR)	Symposium on "Dynamic Deformation, Failure and Fracture," ASME Summer Meeting	UCLA, Los Angeles, CA,
Feb 1994	Co-organizer ( with Shukla, URI and Y. Rajapakse, ONR), ONR/ARO	Sponsored Symposium - "Dynamic Failure Mechanics of Modern Materials," in Memory of Professor Jacques Duffy	California Institute of Technology
1993	Co-organizer (with C.F. Shih, Brown U., and Y.D.S. Rajapakse, ONR)	Symposium on "The Physics and Mechanics of Bond Strength and Bond Failure of Bimaterial Interfaces," ASME Summer Annual Meeting	VPI
Sep 1992	Co-organizer (with Y. Rajapakse, ONR)	Symposium on "Dynamic Fracture Mechanics," Society and Engineering Science (SES) Annual Meeting	
1992	Co-organizer (with J. Giovanola, SRI International)	Symposium on the Promotion of the Application of Local Fracture/ Damage Models to Engineering Fracture Problems ASME Summer Mechanics and Materials Conference	Tempe, AZ
Mar 1991	Co-organizer (R. Abeyaratne, MIT, C.O. Horgan, U. of Virginia, P.J. Rosakis, Cornell U.)	Symposium on Contemporary Developments in Solid Mechanics, Honor of Professor J.K. Knowles 60th Birthday	
Jan 1991	Co-organizer (with P. Rossmannith, U. of Vienna)	International Symposium on Dynamic Failure of Materials	Vienna, Austria
May 1990	Co-organizer (with L.B. Freund, Brown U.)	Symposium on Failure Modes in Dynamic Fracture, the 11th U.S. National Congress of Applied Mechanics	University of Arizona
Jun 1988	Co-organizer (with K. Ravi-Chandar, U. of Houston, Y. Rajapakse, ONR)	Workshop on Three-Dimensional Fracture Processes, ASME Summer Annual Meeting Sponsored by ASME Technical Committee on Fracture Mechanics	Berkeley, CA



Mar 1988	Co-chairman (with W. G. Knauss, Caltech) Organizing Committee	IUTAM Symposium on Nonlinear Fracture Mechanics	California Institute of Technology
1983	Co-organizer (with W. G. Knauss, Caltech, K. Ravi-Chandar, U. of Houston)	Workshop on Dynamic Fracture, Sponsored by NSF and ARO	California Institute of Technology

#### INVITED LECTURES:

Sep 1981	18th Annual Meeting of the Society of Engineering Science		
Nov 1981	Grumman Aerospace Corporation		Bethpage, NY
Dec 1981	Fraunhofer-Institut für Werkstoffmechanik, Freiburg,		West Germany
Feb 1981	University of Delaware, Department of Civil Engineering		Delaware
Feb 1981	Lehigh University, Department of Mechanical Engineering		
Mar 1981	California Institute of Technology, Division of Engineering and Applied Sci.		Pasadena, CA
Mar 1981	Tufts University, Department of Mechanical Engineering		
Mar 1981	Univ. of Illinois at Urbana-Champaign, Dept. of Theoretical & Applied Mechanics		Urbana-Champaign, IL
Apr 1981	Rensselaer Polytechnic Institute, Dept of Mechanical Engineering Mechanics		
Oct 1982	ASTM E24.08.01, Workshop on High Temperature and Dynamic Fracture, Harvard University		Boston, MA
Feb 1983	NSF, ARO Workshop on Dynamic Fracture, California Institute of Technology		Pasadena, CA
Jan 1984	Univ. of California Santa Barbara, Department of Mechanical Engineering		Santa Barbara, CA
Feb 1985	Columbia University, Department of Civil Engineering and Engineering Mechanics		New York, NY
Sep 1985	Douglas Aircraft Company		Long Beach, CA
Oct 1985	22nd Annual Meeting of the Society of Engineering Science, Penn State University		PA
Oct 1985	University of California		San Diego, CA
Feb 1986	University of California		Santa Barbara, CA
Mar 1986	University of Houston		Houston, TX
Aug 1986	23rd Annual Meeting of the Society of Engineering Science		Buffalo, NY
Mar 1987	University of California		Los Angeles, CA
Apr 1987	International Conference on Fracture & Fracture Mechanics (ICFFM)		Shanghai, China
Jun 1987	ASME Summer Annual Meeting		Cincinnati, OH
Aug 1987	International Conference on Photomechanics and Spectrum Mechanics		San Diego, CA
Oct 1987	Fall Conference of the Society of Experimental Mechanics, devoted to <i>Dynamic Failure</i>		Savannah, GA
Mar 1988	Stanford University		Palo Alto, CA
Mar 1988	IUTAM Symposium on "Non-linear Fracture Mechanics," Caltech		Pasadena, CA
Mar 1988	Focused Lecture Series on Instrumentation and Measurement at High Strain Rates, UCSD		La Jolla, CA
Jun 1988	Joint ASME-S.E.S. Meeting		Berkeley, CA
Jan 1989	University of Seville		Seville, Spain
Mar 1989	Fourth International Conference on Mechanical Properties at High Strain Rates, Oxford		Oxford, England
Mar 1989	Imperial College		London, England
May 1989	12th Canadian Congress of Applied Mechanics (CANCAM)		Ottawa, Canada
May 1989	Army Symposium on Solid Mechanics		Newport, RI
Jul 1989	Oji International Seminar on Dynamic Fracture		Toyohashi, Japan
Feb 1990	Northwestern University		Chicago, IL
Feb 1990	University of Michigan		Ann Arbor, MI
Feb 1990	Massachusetts Institute of Technology		Cambridge, MA
May 1990	US National Congress on Applied Mechanics		Tucson, AZ
Nov 1990	Cornell University		Ithaca, NY
Nov 1990	Brown University		Providence, RI
Jan 1991	International Seminar on Dynamic Failure of Material		Vienna, Austria
Mar 1991	Symposium on Contemporary Developments in Solid Mechanics, Caltech		Pasadena, CA
Aug 1991	International Conference of Engineering and Structures		Singapore
Aug 1991	SPIE Meeting		San Diego, CA
Oct 1991	TMS Fall Meeting		Cincinnati, OH
Dec 1991	ASME Winter Annual Meeting		Atlanta, GA
Mar 1992	University of California – San Diego		La Jolla, CA
Jun 1992	SEM Annual Meeting		Las Vegas, NV
Jul 1992	ONR Symposium on Composite Materials, University of Maryland		College Park, MD
Sep 1992	SES Meeting		San Diego, CA
Sep 1992	ONR Symposium on Underwater Explosion Effects on Structures and Shock Mitigation, University of Maryland		College Park, MD
Jun 1993	SES/ASME/ASCE Conference		Charlottesville, VA.
Jun 1993	IUTAM Symposium on Computational Mechanics, Brown University		Providence, RI
Jul 1993	Department of Engineering Science, University of Oxford		Oxford, UK
Jul 1993	Department of Mechanical Engineering, Imperial College of Science and Technology		London, UK

Aug 1993	Army Symposium on Solid Mechanics	Plymouth, MA
Apr 1994	Department of Mechanical Engineering, Case Western Reserve University	Cleveland, OH
Jun 1994	Department of Mechanical, Aeronautical and Nuclear Engineering, The University of California at Los Angeles	Los Angeles, CA
Nov 1994	Los Alamos National Laboratory	Los Alamos, NM
Mar 1995	Detonation Theory and Application Group, T-14, Los Alamos National Lab	Los Alamos, NM
Jun 1995	ASME Summer Meeting, <b>(Plenary Address)</b>	Los Angeles, CA
Jun 1995	McDonnell Douglas Aircraft Company	Long Beach, CA
Oct 1996	Department of Mechanical Engineering, The University of Rhode Island	Kingstown, RI
Mar 1997	Department of Mechanical Engineering, The Georgia Institute of Technology	Atlanta, GA
Apr 1997	International Conference on Fracture, <b>(Keynote Address)</b>	Sydney, Australia
Jul 1997	Int'l Conference on Advance Technology in Experimental Mechanics, <b>(Keynote Address)</b>	Wakayama, Japan
Aug 1997	Second Euroconference and International Symposium on Material Instabilities in Deformation and Fracture	Thessaloniki, Greece
Sep 1997	1 <sup>st</sup> International Conference on Damage and Failure of Interfaces, DFI-1	Vienna, Austria
Oct 1997	12 <sup>th</sup> Annual Technical Conference of the American Society of Composites	Dearborn, MI
Nov 1997	ASME Winter Annual Meeting	Dallas, TX
Dec 1997	Department of Civil Engineering, University of Illinois at Urbana-Champaign	Urbana, IL
Dec 1997	Raftopoulos Symposium Honoring Professor Demetrios D. Raftopoulos	Xanthi, Greece
Jan 1998	2 <sup>nd</sup> Meeting of the Meso-Mechanical Aspects of Material Strength and Fracture, California Institute of Technology	Pasadena, CA
Jun 1998	US National Congress of Applied Mechanics <b>(Plenary Address)</b>	Gainesville, FL
Aug 1998	11 <sup>th</sup> International Conference on Experimental Mechanics	Oxford, UK
Sep 1998	Mechanical Engineering Colloquium, Department of Mechanical Engineering, Massachusetts Institute of Technology	Cambridge, MA
Sep 1998	35 <sup>th</sup> Annual Technical Meeting of SES, Washington State University	Pullman, WA
Nov 1998	Applied Mechanics Colloquium, Harvard University	Cambridge, MA
Nov 1998	1998 International Mechanical Engineering Congress and Exposition of the ASME	Anaheim, CA
Nov 1998	Department of Naval Architecture and Marine Engineering, University of Michigan, (Midwest Mechanics Seminar Tour)	Ann Arbor, MI
Dec 1998	Department of Materials Science and Mechanics, Michigan State University, (Midwest Mechanics Seminar Tour)	Lansing, MI
Dec 1998	McCormick School of Engineering and Applied Science, Northwestern University, (Midwest Mechanics Seminar Tour)	Evanston, IL
Dec 1998	Department of Engineering Research, University of Wisconsin, (Midwest Mechanics Seminar Tour)	Madison, WI
Dec 1998	Department of Aerospace Engineering and Mechanics, University of Minnesota, (Midwest Mechanics Seminar Tour)	Minneapolis, MN
Dec 1998	Materials Research Society (MRS) 1998 Fall Meeting	Boston, MA
Dec 1998	Symposium on the Validation and Verification of Computational Mechanics Codes, California Institute of Technology	Pasadena, CA
Apr 1999	Department of Aerospace and Mechanical Engineering, University of Notre Dame, (Midwest Mechanics Seminar Tour)	South Bend, IN
Apr 1999	Metallurgical and Materials Engineering, Illinois Institute of Technology, (Midwest Mechanics Seminar Tour)	Chicago, IL
Apr 1999	Department of Theoretical and Applied Mechanics, University of Illinois At Urbana-Champaign, (Midwest Mechanics Seminar Tour)	Urbana, IL
Apr 1999	Aeronautical & Astronautical Engineering, Purdue University, (Midwest Mechanics Seminar Tour)	West Lafayette, IN
Jun 1999	1999 SEM Annual Conference	Cincinnati, OH
Jun 1999	1999 ASME Mechanics and Materials Conference, Virginia Polytechnic Institute	Blacksburg, VA
Jul 1999	12 <sup>th</sup> International Conference on Composite Materials (ICCM12)	Paris, France
Oct 1999	36 <sup>th</sup> Annual Meeting of the Society of Engineering Science (SES99), University of Texas	Austin, TX
Nov 1999	1999 International Mechanical Engineering Congress and Exposition	Nashville, TN
Dec 1999	American Geophysical Union (AGU) 1999 Fall Meeting	San Francisco, CA
Mar 2000	The American Physical Society (APS) March 2000 Meeting	Minneapolis, MN
Mar 2000	Geophysics Seminar, Dept. of Earth Sciences, University of Southern California (USC)	Los Angeles, CA
Apr 2000	20 <sup>th</sup> Southeastern Theoretical and Applied Mechanics Conference (SECTAMXX), <b>(Keynote Address)</b>	Pine Mountain, GA
May 2000	Caltech Alumni Day Seminar Talk, California Institute of Technology	Pasadena, CA
Jun 2000	ARO Workshop on Advanced Heterogeneous Systems, UCLA	Los Angeles, CA
Aug 2000	20 <sup>th</sup> International Congress of Theoretical and Applied Mechanics (ICTAM 2000)	Chicago, IL
Sep 2000	3 <sup>rd</sup> International Congress of Croatian Society of Mechanics	Cavtat - Dubrovnik, Croatia
Oct 2000	Brown University Invited Lecture, Department of Engineering, Brown University	Providence, RI
Oct 2000	17 <sup>th</sup> Danubia-Adria Symposium on Experimental Methods in Solid Mechanics,	Prague, Czech Republic

Oct 2000	37 <sup>th</sup> Annual Technical Meeting for the Society of Engineering Science (SES 2000), University of South Carolina	Columbia, SC
Nov 2000	2000 International Mechanical Engineering Congress and Exposition of the American Society of Mechanical Engineers (ASME-IMECE 2000)	Orlando, FL
Dec 2000	American Geophysical Union (AGU) 2000 Fall Meeting	San Francisco, CA
Apr 2001	Material Research Society (MRS) 2001 Spring Meeting	San Francisco, CA
Jun 2001	2001 Mechanics and Materials Conference, Univ. of California, San Diego	San Diego, CA
Jul 2001	Gordon Research Conference - Materials Processes Far From Equilibrium,	Meriden, NH
Nov 2001	2001 International Mechanical Engineering Congress and Exposition of the American Society of Mechanical Engineers (ASME-IMECE 2001)	New York, NY
Dec 2001	10 <sup>th</sup> International Conference on Fracture (ICF-10)	Honolulu, HI
Apr 2002	Ecole Normale Superieure Invited Lecture	Paris, France
Apr 2002	Ecole Polytechnique Invited Lecture	Paris, France
Jun 2002	14 <sup>th</sup> US National Congress of Applied Mechanics, Symposium on Material Failure at High Strain Rates, Virginia Polytechnic Institute, ( <b>Keynote Address</b> )	Blacksburg, VA
Jun 2002	14 <sup>th</sup> US National Congress of Applied Mechanics, Symposium on Research and Education in Experimental Mechanics honoring Professor J.W. Dally, Virginia Polytechnic Institute	Blacksburg, VA
Jun 2002	14 <sup>th</sup> US National Congress of Applied Mechanics, Symposium on Recent Advances in Experimental Mechanics honoring Professor I.M. Daniel, Virginia Polytechnic Institute	Blacksburg, VA
Jun 2002	14 <sup>th</sup> US National Congress of Applied Mechanics, Symposium on Topics in Mechanics of Materials honoring Professor W.G. Knauss, Virginia Polytechnic Institute	Blacksburg, VA
Jul 2002	Workshop on Friction, Fracture, and Earthquake Physics, Keck Symposium, Kavli Institute for Theoretical Physics, University of California	Santa Barbara, CA
Aug 2002	22 <sup>nd</sup> Course of the International School of Geophysics, ERMES – Earthquake Mechanics, Earth Structure, and Related Problems Conference, Ettore Majorana Foundation and Centre for Scientific Culture, Erice,	Trapani, Sicily
Sep 2002	14 <sup>th</sup> European Conf. on Fracture (ECF14), Frac. Mech. Beyond 2000, ( <b>Keynote Address</b> )	Cracow, Poland
May 2003	Geological and Planetary Sciences Division Seminar, California Institute of Technology	Pasadena, CA
Jun 2003	Society for Experimental Mechanics (SEM) Conference, Symposium on Dynamic Failure	Charlotte, NC
Jun 2003	Society for Experimental Mechanics (SEM) 2003 Conference, Symposium on Recent Advances in Dynamic Failure and Fracture Studies – Dynamic Interfacial Fracture	Charlotte, NC
Jun 2003	Society for Experimental Mechanics (SEM) 2003 Conference, Symposium on Impact Behavior of Engineering Materials II	Charlotte, NC
Jun 2003	Society for Experimental Mechanics (SEM) 2003 Conference, Symposium on Dynamic Failure and Fracture of Interfaces, Interphases, and Layered Media I	Charlotte, NC
Jun 2003	Society for Experimental Mechanics (SEM) 2003 Conference, Symposium on Dynamic Failure and Fracture of Interfaces, Interphases, and Layered Media II	Charlotte, NC
Jul 2003	14 <sup>th</sup> International Conference on Composite Materials (ICCM-14)	San Diego, CA
Jul 2003	Ringberg Workshop on Dynamic Fracture	Munich, Germany
Oct 2003	Seismology Seminar, Dept. of Earth and Space Sciences, UCLA	Los Angeles, CA
Nov 2003	Bell Memorial Lecture in Continuum Mechanics, The Johns Hopkins University	Baltimore, MD
Nov 2003	2003 International Mechanical Engineering Congress and Exposition of the American Society of Mechanical Engineers (ASME-IMECE 2003)	Washington, DC
Dec 2003	American Geophysical Union (AGU) 2003 Fall Meeting	San Francisco, CA
Apr 2004	University of Southern California, Earthquake Physics Seminar	Los Angeles, CA
May 2004	Distinguished Lecture Series, Department of Mechanical Engineering, University of California at Riverside	Riverside, CA
May 2004	SIAM Conference on Mathematical Aspects of Materials Science	Los Angeles, CA
Jun 2004	SEM X International Congress and Exposition on Experimental and Applied Mechanics, 1 <sup>st</sup> International Symposium on Optical Methodologies and Metrologies for Microelectronics and Photonics	Costa Mesa, CA
Jun 2004	7 <sup>th</sup> National Congress on Mechanics – Hellenic Society for Theoretical and Applied Mechanics (HSTAM), ( <b>Keynote Address</b> )	Chania, Greece
Sep 2004	Boeing Distinguished Researcher & Scholar Seminar (B-DRASS)	Huntington Beach, CA
Oct 2004	2 <sup>nd</sup> International Conference on Multiscale Materials Modeling, School of Engineering and Applied Science at UCLA	Los Angeles, CA
Oct 2004	Mechanics Symposia, 2004 ASME/STLE International Joint Tribology Conference, Hilton Long Beach	Long Beach, CA
Nov 2004	Presidents Circle Talk, California Institute of Technology	Pasadena, CA
Nov 2004	2004 ASME International Mechanical Engineering Congress& RD&D Expo	Anaheim, CA
Nov 2004	W.G. Knauss Symposium, California Institute of Technology	Pasadena, CA
Mar 2005	11 <sup>th</sup> International Conference on Fracture, ( <b>Plenary Address</b> )	Torino, Italy
Jun 2005	Murray Medal Lecture, Society for Experimental Mechanics, SEM Annual Conference, ( <b>Honor Lecture</b> )	Portland, OR

Jul 2005	Lecture Series, Department of Terre-Atmosphere-Ocean, École Normale Supérieure	Paris, France
Jul 2005	Lecture Series, Institute de Physique du Globe	Paris, France
Nov 2005	Kavli Institute for Theoretical Physics, Conf. on Friction, Fracture & Earthquake Physics	Santa Barbara, CA
Dec 2005	American Geophysical Union (AGU) 2005 Fall Meeting	San Francisco, CA
Jan 2006	National University of Singapore, Civil Engineering Department	Singapore
Jan 2006	2 <sup>nd</sup> MRS-S Conference on Advanced Materials, Symposium on Physics and Mechanics of Advanced Materials, Prof. C.F. Shih Symposium ( <b>Co-Chair</b> )	Singapore
Feb 2006	Inaugural Distinguished Scholar Lecture, Mechanical and Aerospace Engineering, Arizona State University	Arizona
Feb 2006	National Institute of Science and Caltech Seismology Lab, Kanamori Symposium	Pasadena, CA
Mar 2006	President's Discovery Weekend 2006, EAS Session, California Institute of Technology	Pasadena, CA
May 2006	Northrop Grumman Space Technology, Presentation Center (STPC)	Redondo Beach, CA
Oct 2006	Lecture Mechanical Engineering Department, Columbia University School of Engineering and Applied Science	New York, NY
Nov 2006	Symposium to Honoring Professor Subra Suresh, the Acta Gold Medalist, held during the MRS 2006 Fall Meeting ( <b>Keynote Speaker</b> )	Boston, MA
Dec 2006	American Geophysical Union (AGU) 2006 Fall Meeting	San Francisco, CA
Dec 2006	Transforming Space Conference, the California Space Authority, Education and Workforce Panel	Los Angeles, CA
Jan 2007	Distinguished Lecture, Mechanical Engineering Department Distinguished Lecture at Stony Brook University, ( <b>Honor Lecture</b> )	Stony Brook, New York
Feb 2007	2007 Stewardship Science Academic alliances (SSAA) Program Symposium, National Nuclear Security Administration (NNSA), Carnegie Institution,	Washington DC
Mar 2007	US Geological Survey Earthquake Hazards Seminar Series	Menlo Park, CA
Mar 2007	The George R. Irwin Centennial Conference, University of Maryland	College Park, MD
May 2007	Alwin Schaller Distinguished Lectureship, Mechanical Science and Engineering Department, University of Illinois ( <b>Honor Lecture</b> )	Urbana-Champaign, IL
May 2007	School of Earth Sciences, Department of Geophysics, Stanford University	Palo Alto, CA
Jun 2007	McMat 2007, ASME Applied Mechanics and Materials Conference, University of Texas at Austin ( <b>Plenary Lecture</b> )	Austin, TX
May 2008	Oxford University, Astor Lecture ( <b>Honor Lecture</b> )	Oxford, UK
May 2008	Oxford University Department of Engineering	Oxford, UK
Jun 2008	Southern California Earthquake Center (SCEC) Fault Zones Workshop	Oxnard, CA
Nov 2008	2008 ASME International Mechanical Engineering Congress and Exposition (IMECE)	Boston, MA
Jan 2009	Theoretical & Applied Mechanics (TAM) Colloquium, Northwestern University, Civil and Environmental Departments	Chicago, IL
Mar 2009	IUTAM Symposium: Dynamic Fracture and Fragmentation	
Apr 2009	SAA 2009 Seismological Society of America, Special Session – Supershear Earthquake Rupture Speeds	Monterey, CA
June 2009	SEM Annual Conference and Exposition on Experimental and Applied Mechanics,	Albuquerque, New Mexico
Jan 2010	International Conference on "New Developments in Elasticity: the Legacy of Robert Hooke Mathematical Institute, University of Oxford	Oxford, UK
Feb 2010	Ernest C. Watson lecture Series, California Institute of Technology, Beckman Auditorium ( <b>Honor Lecture</b> )	Pasadena, CA
Mar 2010	Joint Seminar, MAE Mechanical and Materials Engineering and Scripps Institution of Oceanography, University of California	San Diego, CA
Mar 2010	2010 Japan Society of Mechanical Engineers/Materials and Mechanics Division Symposium for Young Researchers, California Institute of Technology	Pasadena, CA
Oct 2010	The Robert Henry Thurston Lecture, ASME International Mechanical Engineering Congress & Exposition ( <b>Honor Lecture</b> )	Vancouver, B.C.
Oct 2010	2010 National Summit on the Nation Academy of Engineering Grand Challenges, University of Southern California	Los Angeles, CA
Jan 2011	Symposium on Mechanics in Geophysical and Materials Science, In honor of Professor James R. Rice, California Institute of Technology	Pasadena, CA
Mar 2011	The Mindlin Lecture, Department of Civil Engineering and Engineering Mechanics, Columbia University ( <b>Honor Lecture</b> )	New York, NY
May 2011	The Royal Astronomical Society, Earthquake Mechanics and Supershear Rupture Speeds	London, England
Jun 2011	Symposium in honor of Professor L. B. Freund, "Future Directions in Mechanics Research", Brown University	Providence, RI
Oct 2011	A. C. Eringen Medal Plenary Lecture, 48 <sup>th</sup> Annual Technical Meeting of the Society of Engineering Science, Northwestern University ( <b>Honor Lecture</b> )	Evanston, IL
Jan 2012	University of California Davis – College of Engineering, College Distinguished Lecture	Davis, CA
Jan 2012	ARCS Foundation (Achievement Rewards for College Scientists) ARCS Scholar Recognition Lecture, California Club	Los Angeles, CA

Feb 2012	UCLA Distinguished Lecture Series in Structural Engineering and Mechanics	Los Angeles, CA
May 2012	Caltech Alumni Association, Ruben H. Fleet Science Center, San Diego	San Diego, CA
June 2012	Institut de Physique du Globe de Paris (IPGP) , Tectonique et mécanique de la lithosphère Sismologie Bureau IPGP Amphitheater	Paris, France
Dec 2012	Geophysics Colloquium in the Department of Earth Sciences, ETH	Zurich, Switzerland
Apr 2013	The Nowinski Lecture, University of Delaware, Department of Mechanical Engineering <b>(Honor Lecture)</b>	Newark, Delaware
July 2013	Knowledge for the Future, Joint Assembly Gothenburg, IAHS-IAPSO-IASPEI, Gothenburg, Sweden	Gothenburg, Sweden
Nov 2013	ASME 2013 International Mechanical Engineering Congress and Exposition (IMECE), Drucker Medalist Symposium	San Diego, CA,
Dec 2015	Special General Session of the Academy of Athens (National Academy of Greece) lecture marking the occasion of Rosakis' induction into the Academy <b>(Honor Lecture)</b>	Athens, Greece
Dec 2016	American Geophysical Union (AGU) 2016 Fall Meeting	San Francisco, CA
Jun 2017	14 <sup>th</sup> International Conference on Fracture (ICF-14) <b>(Plenary Lecture)</b>	Rhodes, Greece

#### PROCEEDINGS EDITED:

Feb 1983	Co-editor of the Proceedings of the Workshop on Dynamic Fracture (with W.G. Knauss and K. Ravi-Chandar) Sponsored by NSF and ARO	California Institute of Technology, Pasadena, CA.
Mar 1988	Co-editor of the Proceedings of the IUTAM Symposium on Non-Linear Fracture Mechanics, Special issue of the <i>International Journal of Fracture</i> devoted to "Non-Linear Fracture Mechanics."	California Institute of Technology, Pasadena, CA,
Jun 1988	Co-editor of the Proceedings of the Workshop on "Three-Dimensional Fracture Processes," ASME AMD - Vol. 91, Joint ASME/SES meeting	Berkeley, CA,
1990	Guest Editor of the Special Issue of the <i>International Journal of Optics and Lasers in Engineering</i> devoted to the "Optical Method of Caustics"	
Jan 1991	Co-editor of the Proceedings of the <i>International Symposium on Dynamic Failure of Materials</i> , The Technical University of Vienna	Vienna, Austria
1992	Co-editor of the Proceedings of the <i>Symposium on the Promotion of the Application of Local Fracture/Damage Models to Engineering Fracture Problems</i> , ASME SAM	Tempe, AZ
Feb 1994	Co-editor of the Special Volume and Proceedings of the Symposium on "Dynamic Failure Mechanics of Modern Materials, in Memory of Jacques Duffy," published by <i>International Journal of Solids and Structures</i> , 1995.	California Institute of Technology, Pasadena, CA
May 1997	Co-editor of the Special Volume and Proceedings of the ONR/ ARO Sponsored Symposium on "Dynamic Deformation and Failure Mechanics of Solids," organized in honor of Professor Rodney Clifton's 60th birthday, published by the <i>Journal of the Mechanics and Physics of Solids</i> , 1998	California Institute of Technology, Pasadena, CA,
Jan 2003	Co-editor of the Special Volume and Proceedings of the NSF/ ONR/Elsevier Sponsored Symposium on "Dynamic Failure and Thin Film Mechanics," organized in honor of Professor L.B. Freund's 60 <sup>th</sup> birthday, published by the <i>Journal of the Mechanics and Physics of Solids</i>	California Institute of Technology, Pasadena, CA,
	Guest-editor of the special issue of the <i>International Journal of Solids and Structures</i> (IJSS) of the 2 <sup>nd</sup> MRS-S Conference on Advanced Materials, Symposium on Physics and Mechanics of Advanced Materials, Prof. C.F. Shih Symposium, 60th Birthday (Special Volume 06), Institute of Materials Research and Engineering (IMRE)	Singapore

## PUBLICATIONS

### MONOGRAPH, BOOK CHAPTERS, INVITED PUBLICATIONS, AND LECTURE NOTES:

- 1 Rosakis, A.J., Rosakis, P.J.  
"Elements of Dislocation Theory and Plasticity," notes based on Graduate Level Courses in Plasticity (Caltech Ae/AM 223), 1986
- 2 Rosakis, A.J.  
"Two Optical Techniques Sensitive to Gradients of Optical Path Difference: The Method of Caustics and the Coherent Gradient Sensor (CGS)," *Experimental Techniques in Fracture* (J. Epstein, Ed.), Chapter 5, Vol. III, pp. 327-426, 1992 **(By Invitation)**
- 3 Zehnder, A.T., Rosakis, A.J.  
"Temperature Rise at the Tip of Dynamically Propagating Cracks: Measurements using High Speed Infrared Detectors," *Experimental Techniques in Fracture* (J. Epstein, Ed.), Chapter 10, Vol. III, pp. 125-170, 1992 **(By Invitation)**
- 4 Liu, C., Rosakis, A.J.  
"Investigation of Transient Effects for Dynamically Initiating and Growing Cracks under Stress Wave Loading Conditions," *Dynamic Fracture Mechanics* (M.H. Aliabadi, Ed.), Chapter 4, Computational Mechanics Publications, 1995 **(Refereed)**
- 5 Rosakis, A.J., Ravichandran, G.  
"Dynamic Failure Mechanics," *Research Trends in Solid Mechanics* (G.J. Dvorak, Ed.), AIP Press, *International Journal of Solids and Structures*, **37**, 331-348, [GALCIT-SM Report 98-15] 2000 **(Refereed)**
- 6 Rosakis, A.J.  
"Intersonic Shear Cracks and Fault Ruptures," *Advances in Physics*, **51**, 1189-1257, 2002 **(By Invitation)**
- 7 Rosakis, A.J., Huang, Y.  
"Intersonic Debonding," *Comprehensive Structural Integrity Handbook, Fracture of Materials from Nano to Macro, Volume Chap8: Interfacial and Nanoscale Failure* (W. Gerberich and W. Yang, Vol. Eds.), Elsevier Ltd., pp. 137-179, 2003 **(By Invitation)**
- 8 Rosakis, A.J., Owen, D.  
"Dynamic Constitutive Behavior and Dynamic Fracture of Dionysus-Pentelicon Marble" *Mechanics of Stones: Experimental Techniques and Modeling* (Y. Vardoulakis and G. Exadaktylos, Eds.), Kluwer Academic Publishers, 2005 **(By Invitation)**
- 9 Rosakis, A. J., Lykotrafitis, G., Xia, K., Kanamori, H.  
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"Three-Dimensionality of the Stress Field Near a Stress Concentrator in a Plate of Finite Thickness," Midwest Mechanics Conference, Columbus, OH, September 1985
11. Rosakis, A.J.  
"The Optical Method of Reflected Caustics Applied to Plane-Stress Elastic-Plastic Fracture Mechanics," 22nd Annual Meeting of the Society of Engineering Science, The Pennsylvania State University, October 1985 **(Invited Contribution)**
12. Zehnder, A.T., Rosakis, A.J., Narasimhan, R.  
"On the Application of Reflected Caustics to the Measurement of the J Integral in Ductile Fracture," 10th U.S. National Congress in Applied Mechanics, Austin, TX, June 1986
13. Narasimhan, R., Rosakis, A.J. and Hall, J.  
"A Finite Element Study of Stable Crack Growth Under Plane Stress Conditions in Elastic-Plastic Solids," 10th U.S. National Congress in Applied Mechanics, Austin, TX, June 1986
14. Zehnder, A.T., Rosakis, A.J.  
"Basic Experiments on the Dynamic Fracture Initiation and Unstable Growth of Cracks in Metals Using Reflected Shadowgraphy," 10th U.S. National Congress in Applied Mechanics, Austin, TX, June 1986
15. Rosakis, A.J., Zehnder, A.T.  
"Dynamic Initiation and Unstable Growth of Cracks in Metals Under Impact Loading Conditions," Special Session on Dynamic Fracture, 23rd Annual Meeting of the Society of Engineering Science, Buffalo, NY, August 1986 **(Invited Contribution)**
16. Zehnder, A.T., Rosakis, A.J., Narasimhan, R.  
"Measurement of the J Integral with Caustics: An Experimental and Numerical Investigation," Proceedings of the Third International Symposium on Nonlinear Fracture Mechanics, Knoxville, TN, October 1986
17. Knowles, J.K., Rosakis, A.J.  
"On the Scale of the Nonlinear Effect in a Crack Problem," ASME Winter Annual Meeting, Anaheim, CA, December 1986
18. Narasimhan, R., Rosakis, A.J.  
"Stable Crack Growth in Elastic-Plastic Solids Under Plane Stress Conditions: A Finite Element Study," Proceedings of the 4th International Conference on Numerical Methods in Fracture Mechanics, San Antonio, TX, March 1987
19. Benitez, F.G., Rosakis, A.J.  
"Force at a Point in the Interior of a Three-dimensional Elastic Layer," Proceedings of the International Conference on Computational Engineering Mechanics (ICCEM-'87), Beijing, China, 1987
20. Narasimhan, R., Rosakis, A.J.  
"Influence of Hardening on the Quasi-static Extension of Mode-I Plane-Stress Cracks in Isotropic Elastic-Plastic Materials," Proceedings of the International Conference on Fracture and Fracture Mechanics (ICFFM), Shanghai, China, April 1987 **(Invited Contribution)**
21. Rosakis, A.J.  
"Plane Stress Crack Initiation and Growth in Elastic Plastic Solids: A Numerical and Experimental Study," ASME Summer Annual Meeting, Cincinnati, OH, June 1987 **(Invited Contribution)**



- 22 Rosakis, A.J., Zehnder A.T., Narasimhan, R.  
 “Caustics by Reflection and their Application to Dynamic and Elastic-Plastic Fracture Mechanics,” Proceedings of the International Conference on Photomechanics and Spectrum Mechanics, San Diego, CA, [GALCIT-SM Report SM 87-17], August 1987 (**Invited Contribution**)
- 23 Rosakis, P.J., Rosakis, A.J.  
 “Aspects of Finite Deformation in Dislocation Problems,” 20th Midwest Mechanics Conference Proceedings, W. Lafayette, IN, 1987
- 24 Parsons, I.D., Hall, J.F., Rosakis, A.J.  
 “A Finite Element Investigation of the Elastostatic State near a Three-Dimensional Edge Crack,” Proceedings of the 20th Midwest Mechanics Conference, West Lafayette, IN, August 1987
- 25 Krishnaswamy, S., Rosakis, A.J.  
 “Viscoplastic Analysis of Dynamic Growth Under Mode-I, Plane-Stress Conditions,” 24th Annual Technical Meeting of the Society of Engineering Science, Salt Lake City, UT, September 1987
- 26 Rosakis, A.J., Zehnder, A.T., Narasimhan, R.  
 “Dynamic Measurement of the J Integral by the Optical Method of Caustics,” Proceedings of the Fall Conference of the Society of Experimental Mechanics (SEM), devoted to “Dynamic Failure,” Savannah, GA [GALCIT-SM Report 87-22], October 1987
- 27 Rosakis, A.J.  
 “Experimental Aspects of Dynamic Fracture Mechanics,” Fall Conference of the Society of Experimental Mechanics (S.E.M.), devoted to “Dynamic Failure,” Savannah, GA, October 1987 (**Invited Contribution**)
- 28 Narasimhan, R., Rosakis, A.J., Hall, J.  
 “A Finite Element Study of Stable Crack Growth Under Plane Stress Conditions in Elastic-Plastic Solids. Part I: Elastic-Perfectly Plastic Solids, Part II: Influence of Hardening,” Presented at ASME Winter Annual Meeting, Boston, MA, December 1987
- 29 Benitez, F.G., Rosakis, A.J.  
 “A Modified Boundary Integral Formulation for the Study of 3-D Crack Problems in Plates,” Proceedings of the Symposium on Analytical, Numerical and Experimental Aspects of Three Dimensional Fracture Processes (A.J. Rosakis, K. Ravi-Chandar and Y. Rajapakse, Eds.), Summer Annual Meeting of ASME, Berkeley, CA, June 1988
- 30 Narasimhan, R., Zehnder, A.T., Rosakis, A.J.  
 “Three Dimensional Fields for a Through Crack in an Elastic-Plastic Solid: Numerical Analysis and Comparison to Interferometric Measurements,” Proceedings of the Symposium on Analytical, Numerical and Experimental Aspects of Three Dimensional Fracture Processes (A.J. Rosakis, K. Ravi-Chandar and Y. Rajapakse, Eds.), Summer Meeting of ASME, Berkeley, CA, June 1988
- 31 Krishnaswamy, S., Rosakis, A.J., Ravichandran, G  
 “A Bifocal Arrangement for Reflected Caustics for the Investigation of the Domain of Dominance of Asymptotic Elastic Fields in Dynamic Fracture,” Proceedings of the 7th International Conference on Fracture, Houston, TX, March 1989
- 32 Rosakis, A.J.  
 “On the Application of Optical Caustics to the Investigation of Dynamic Fracture Mechanics Problems,” Focused Lecture Series on Instrumentation and Measurement at High Strain Rates, UCSD, La Jolla, CA, March 1988 (**Invited Contribution**)
- 33 Rosakis, A.J.  
 “On Dynamic Failure Mechanics,” Fourth International Conference on Mechanical Properties of Materials at High Rates of Strain, Oxford, UK, March 20-22, 1989 (**Invited Contribution**)
- 34 Zehnder, A.T., Rosakis, A.J.  
 “Dynamic Measurement of the J Integral in Ductile Metals, Using the Optical Method of Caustics,” 12th Canadian Congress of Applied Mechanics (CANCAM), Ottawa, Canada, May 28 – June 2, 1989 (**Invited Contribution**)
- 35 Krishnaswamy, S., Rosakis, A.J., Ravichandran, G  
 “On the Domain of Dominance of Asymptotic Crack Tip Fields in the Dynamic Fracture of Metals: An Investigation Based on Bifocal Caustics and Three-Dimensional Dynamic Numerical Simulations,” Proceedings of the 2nd National Congress on Mechanics, Athens, Greece, June 1989
- 36 Krishnaswamy, S., Rosakis, A.J., Ravichandran, G  
 “A Bifocal Arrangement for Reflected Caustics for the Investigation of the Domain of Dominance of Asymptotic Elastic Fields in Dynamic Fracture,” Proceedings of the International Pressure and Piping Conference, Honolulu, HI, July 1989
- 37 Rosakis, A.J., Zehnder, A.T.  
 “High Resolution, Infrared Measurements of Temperature Fields Generated During Dynamic Crack Growth in Metals,” The Oji International Seminar on Dynamic Fracture, Toyohashi, Japan, August 1-4, 1989 (**Invited Contribution**)
- 38 Zehnder, A.T., Rosakis, A.J.  
 “Experimental Measurement of Temperature Rise Generated During Dynamic Crack Growth in Metals,” Symposium on Experimental Techniques in Micromechanics, ASME-WAM, San Francisco, CA, December 1989
- 39 Deng, X., Rosakis, A.J.  
 “Dynamic Elastic-Plastic Crack Propagation in Plane Stress,” 26th Annual Meeting of the Society of Engineering Science, University of Michigan, September 18-20, 1989
- 40 Deng, X., Rosakis, A.J.  
 “Negative Plastic Flow and its Prevention in Elasto-Plastic Finite Element Computation,” Symposium on the Finite Element Method, Duke University, March 1990
- 41 Krishnaswamy, S., Tippur, V., Rosakis, A.J.  
 “Measurement of Dynamic Crack Tip Deformation Fields Using the Method of Coherent Gradient Sensing,” U.S. National Congress of Applied Mechanics, University of Arizona, May 1990
- 42 Narasimhan, R., Rosakis, A.J., Moran, B.  
 “A Three Dimensional Numerical Investigation of Fracture Initiation by Ductile Failure Mechanisms in a 4340 Steel,” U.S. National Congress of Applied Mechanics, University of Arizona, May 1990

- 43 Freund, L.B., Rosakis, A.J.  
 “The Influence of Transient Effects on the Asymptotic Crack Tip Field During Dynamic Crack Growth,” U.S. National Congress of Applied Mechanics, University of Arizona, May 1990
- 44 Rosakis, A.J., Zehnder, A.T.  
 “Experimental Measurement of the Temperature Rise Generated During Dynamic Crack Growth in Methods,” Symposium of Failure Modes in Dynamic Fracture, US Nat.Congress of Applied Mechanics, Univ. of Arizona, May 1990 **(Invited Contribution)**
- 45 Rosakis, A.J., Krishnaswamy, S. Tippur, H.V.  
 “Measurement of Transient Crack Tip Deformation Fields Using the Method of Coherent Gradient Sensing (CGS),” Proceedings of the International Seminar on Dynamic Failure of Materials (P. Rossmannith and A.J. Rosakis, Eds.), Vienna, Austria, January 1991 **(Invited Contribution)**
- 46 Freund, L.B., Rosakis, A.J.  
 “The Influence of Transient Effects on the Asymptotic Crack Tip Field During Dynamic Crack Growth,” Proceedings of the International Seminar on Dynamic Failure of Materials (P. Rossmannith and A.J. Rosakis, Eds.), Vienna, Austria, January 1991 **(Invited Contribution)**
- 47 Rosakis, A.J.  
 “Measurement of Transient Crack Tip Deformation Fields using the Method of Coherent Gradient Sensing,” Symposium on Contemporary Developments in Solid Mechanics, held in honor of the 60th Birthday of Professor James K. Knowles, California Institute of Technology, Pasadena, CA, March 15-16, 1991
- 48 Liu, C., Rosakis, A.J.  
 “Interpretation of Optical Caustic Patterns Obtained During Unsteady Crack Growth: An Analysis Based on a Higher Order Transient Expansion,” International Symposium of the Society of Photo Instrumentation Engineering (SPIE), San Diego, CA, July 1991 **(Invited Contribution)**
- 49 Lambros, J., Mason, J.J., Rosakis, A.J.  
 “Experimental Investigation of Dynamic Mixed-Mode Fracture Initiation,” International Symposium of the Society of Photo Instrumentation Engineering (SPIE), San Diego, CA, July 1991 **(Invited Contribution)**
- 50 Tippur, H.V., Krishnaswamy, S., Rosakis, A.J.  
 “Crack Tip Deformation Measurements Using Coherent Gradient Sensing,” International Symposium of the Society of Photo Instrumentation Engineering (SPIE), San Diego, CA, July 1991 **(Invited Contribution)**
- 51 Rosakis, A.J.  
 “Measurement of Transient Crack Tip Deformation Fields using the Method of Coherent Gradient Sensing,” Joint FEFT/ICF International Conference on Fracture of Engineering Materials and Structures, Singapore, August 1991 **(Invited Contribution)**
- 52 Rosakis, A.J., Lee, Y.J., Lambros, J  
 “Dynamic Crack Growth in Bimaterial Interfaces,” Proceedings of the Symposium on The Micromechanics of Failure Resistant Materials (K.S. Kim, Ed.), ASME, WAM, December 1991 **(Invited Contribution)**
- 53 Rosakis, A.J.  
 “Transient Elastodynamic Crack Growth: Experiment and Theory,” Proceedings of the VII SEM. International Conference on Experimental Mechanics, Las Vegas, NV, June 1992 **(Invited Contribution)**
- 54 Rosakis, A.J., Narasimhan, R., Moran, B.  
 “3-D Analysis of Ductile Void Growth at a Crack Tip,” Proceedings of the Symposium on “Advances in Local Fracture/Damage Models for the Analysis of Engineering Problems” (G. Giovanola and A.J. Rosakis, Eds.), The Summer Mechanics and Materials Conference of ASME. Tempe, AZ, April 28-May 1, 1992 **(Invited Contribution)**
- 55 Rosakis, A.J., Lambros, J., Lee, Y.J., Shih, C.F.  
 “Dynamic Fracture of Bimaterial Interfaces,” 29th Annual Meeting of the Society of Engineering Science, UCSD, La Jolla, CA, September 14-16, 1992
- 56 Rosakis, A.J., Mason, J., Ravichandran, G.  
 “On the Amount of Plastic Work Converted in to Heat: An Experimental Study Using the Split Hopkinson Bar,” 29th Annual Meeting of the Society of Engineering Science, UCSD, La Jolla, CA, September 14-16, 1992
- 57 Lee, Y.J., Rosakis, A.J.  
 “Three Dimensional Numerical Investigation of Interfacial Cracks in Plates,” 29th Annual Meeting of the Society of Engineering Science, UCSD, La Jolla, CA, September 14-16, 1992 **(Invited Contribution)**
- 58 Benitez, F.G., Rosakis, A.J., Lu, L.  
 “Boundary Element Method Using the Fundamental Solution for a Three-Dimensional Layer,” Proceedings of the International Symposium on Boundary Element Methods, University of Colorado, August 3-6, 1992
- 59 Benitez, F.G., Rosakis, A.J., Lu, L.  
 “The Use of the Three-Dimensional Fundamental Solution for the Infinite Layer by a BEM Scheme,” Proceedings of the International BEM 14 Congress, Seville, Spain, November 1992
- 60 Subhash, G., Mason, J.J., Ravichandran, G., Rosakis, A.J.  
 “An Investigation of Thermomechanical Instabilities using a Kolsky Pressure Bar,” ASME 1993 Winter Annual Meeting, 1993
- 61 Mason, J.J., Rosakis, A.J., Ravichandran, G.  
 “Use of High-Speed Infrared Detectors for the Study of Dynamic Deformation and Failure,” Symposium on “Dynamics of Deformable Solids” (K.T. Ramesh, Org.), Joint ES/ASME/ASCE Conference, Charlottesville, VA, June 6-9, 1993 **(Invited Contribution)**
- 62 Rosakis, A.J., Shih, C.F.  
 “Dynamic Debonding: Part I: Experimental Observations,” Symposium on the “Physics and Mechanics of Bond Strength and Bond Failure of Bimaterial Interfaces,” (A.J. Rosakis, C.F. Shih and Y. Rajapakse, Org.), Joint SES/ASME/ASCE Conference, Charlottesville, VA, June 6-9, 1993

- 63 Rosakis, A.J., Shih, C.F.  
 “Dynamic Debonding; Part II: Theoretical Studies,” Symposium on the “Physics and Mechanics of Bond Strength and Bond Failure of Bimaterial Interfaces,” (A.J. Rosakis, C.F. Shih and Y. Rajapakse, Org.) Joint SES/ASME/ASCE Conference, Charlottesville, VA, June 6-9, 1993
- 64 Lee, Y.J., Rosakis, A.J.  
 “Interfacial Cracks in Plates: A Three Dimensional Numerical Investigation,” IUTAM Symposium on Computational Mechanics (M. Ortiz and C.F. Shih, Org.), Brown University, June 15-18, 1993 **(Invited Contribution)**
- 65 Rosakis, A.J., Lambros, J.  
 “Dynamic Failure of Bimaterials and Composites,” International Conference on Composite Materials (ICCM-9), Madrid, Spain, July 12-16, 1993
- 66 Mason, J.J., Rosakis, A.J., Ravichandran, G.  
 “On the Strain and Strain-Rate Dependence of the Fraction of Plastic Work Converted into Heat and Full Field Measurements of Adiabatic Shear Bands,” Proceedings, Army Sym. on Solid Mechanics, Plymouth, MA, Aug. 17-19, 1993 **(Invited Contribution)**
- 67 Rosakis, A. J., Lambros, J., Shih, C.F.  
 “Dynamic Failure of Bimaterial Interfaces,” Proceedings of the Winter Annual Meeting of the ASME, New Orleans, LA, December 1993 **(Invited Contribution)**
- 68 Rosakis, A.J., Lambros, J.  
 “Dynamic Decohesion of Bimaterials: Experimental Observations and Failure Criteria,” Proceedings of the NSF/ONR, Symposium on Dynamic Failure of Modern Materials, California Institute of Technology, Pasadena, CA, February 3-5, 1994
- 69 Lambros, J., Rosakis, A.J.  
 “Subsonic and Transonic Decohesion in Bimaterials,” 12th National Congress of Applied Mechanics, University of Washington, Seattle, WA, June 1994 **(Invited Contribution)**
- 70 Lambros, J., Rosakis, A.J., Karyeaclis, M.  
 “Dynamic Failure of Composite Structures,” 12th National Congress of Applied Mechanics, University of Washington, Seattle, WA, June 1994 **(Invited Contribution)**
- 71 Mason, J.J., Rosakis, A.J., Ravichandran, G.  
 “On the Fraction of Plastic Work Converted into Heat: An Experimental Study Using High Speed Infrared Detectors and the Kolsky Bar,” Proceedings of the International Conference on Mechanical and Physical Behavior of Materials under Dynamic Loading, DYMAT '94, Oxford Univ., Oxford, UK, September 1994
- 72 Deng, X., Li, W., Rosakis, A.J.  
 “Numerical Simulation of Dynamic Crack Growth and Temperature Rise in Elastic-Plastic Solids,” 12th National Congress of Applied Mechanics, University of Washington, Seattle, WA, June 1994 **(Invited Contribution)**
- 73 Lambros, J., Rosakis, A.J.  
 “Dynamic Decohesion of Bimaterial Interfaces,” 31st Annual Meeting of the SES, Dynamic Failure Mechanics Session, Texas A&M, College Station, TX, October 1994
- 74 Zhou, M., Rosakis, A.J., Ravichandran, G.  
 “Dynamically Propagating Shear Bands in Prenotched Plates,” 31st Annual Meeting of the SES, Dynamic Failure Mechanics Session, Texas A&M, College Station, TX, October 1994
- 75 Rosakis, A.J., Lambros, J., Karyeaclis, M.  
 “Experimental Investigation of Dynamic Delamination on Thick Polymeric Composite Laminates,” ASME Winter Annual Meeting, Proceedings of the Symposium on Failure Prediction in Advanced Polymeric Composites, Chicago, IL, December 1994
- 76 Lambros, J., Rosakis, A.J.  
 “Catastrophic failure of Bimaterials,” ASME Winter Annual Meeting, Symposium on the Mechanics and Materials Aspects of Failure, Chicago, IL, December 1994 **(Invited Contribution)**
- 77 Rosakis, A.J.  
 “Two-Dimensional Shear Bands Growing Dynamically in Plates: An Investigation of Transient Deformation Fields, Temperature Fields and Shear Band Toughness,” ASME Summer Meeting, UCLA, Los Angeles, CA, June 1995 **(Plenary Address)**
- 78 Rosakis, A.J., Lambros, J.  
 “Shear-Dominated, Intersonic Decohesion of Interfaces,” Symposium on “Dynamic Deformation, Failure and Fracture,” ASME Summer Meeting, UCLA, Los Angeles, CA, June 1995 **(Invited Contribution)**
- 79 Rosakis, A.J., Ravichandran, G., Zhou, M.  
 “Real-Time Experimental Observations of Two-Dimensional Dynamic Shear Band Growth,” Proceedings of the Symposium on “Fracture and Plastic Instabilities, ASME Summer Meeting, UCLA, Los Angeles, CA, June 1995 **(Invited Contribution)**
- 80 Hodowany, J., Ravichandran, G., Rosakis, A.J.  
 “Experimental Determination of the Strain and Strain Rate Dependence of the Fraction of Plastic Work Converted to Heat,” ASME Summer Meeting, UCLA, Los Angeles, CA, June 1995
- 81 Rosakis, A.J., Lambros, J., Karyeaclis, M.  
 “Experimental Investigation of Impact Induced Delamination in Thick Composite Plates Using High Speed Photography and CGS Interferometry,” ASME Meeting, W. Goldsmith Symposium, UCLA, Los Angeles, CA, June 1995 **(Invited Contribution)**
- 82 Rosakis, A.J., Ravichandran, G., Zhou, M.  
 “High Speed Temperature and Deformation Field Measurements at the Vicinity of Dynamically Growing Shear Bands,” The 1995 ASME/JSME Pressure Vessels and Piping Division Conference, Honolulu, HI, July 1995 **(Invited Contribution)**
- 83 Rosakis, A.J., Ravichandran, G. Zhou, M.  
 “Dynamically Growing Shear Bands in Materials: High Speed Optical and Infrared Measurements of Temperature and Deformation Fields,” Proceedings of the IUTAM Symposium on Nonlinear Analysis of Fracture, University of Cambridge, UK, September 1995 **(Invited Contribution)**

- 84 Zhou, M., Rosakis, A.J., Ravichandran, G.  
 “Two Dimensional Dynamic Shear Band Growth in Prenotched Metal Plates Subjected to Asymmetric Impact,” Symposium on  
 Adiabatic Shear Banding,” SES Conference, New Orleans, LA, October 1995 **(Invited Contribution)**
- 85 Rosakis, A.J., Ravichandran, G., Zhou, M.  
 “Two-Dimensional Shear Band Growth in Metal Plates: An Investigation of Thermomechanical Signatures and Shear Band Driving  
 Force Notions,” ASME Winter Annual Meeting, San Francisco, CA, November 1995 **(Invited Contribution)**
- 86 Lambros, J., Rosakis, A.J.  
 “Dynamic Decohesion of the Interface Between Two Dissimilar Media,” International Conference on Mathematical Methods in  
 Physics, Mechanics & Mesomechanics of Fracture, Meso Fracture 96, Tomsk, Russia, Aug. 27-29, 1996 **(Invited Contribution)**
- 87 Zhou, M., Rosakis, A.J., Ravichandran, G.  
 “On the Growth of Shear Bands and Failure-Mode Transition in Prenotched Plates: A Study Using Singly & Doubly Notched  
 Specimens, ASME Winter Annual Meeting, Special Session on Dynamic Failure Mode Transition in Solids, (A.J. Rosakis & R.C.  
 Batra, Org.), Chicago, IL, 1996
- 88 Singh, R.P., Guduru, R.P., Rosakis, A.J., Ravichandran, G.  
 “Dynamic Crack Initiation: Optical and Temperature Measurements,” Symposium on Ductile Fracture, TMS Annual Meeting,  
 Orlando, FL, February 9-13, 1997
- 89 Haberman, K.S., Bennet, J.G, Liu, C., Stout M.G, Rosakis, A.J.  
 “The Dynamic Inelastic Behavior in Fiber Reinforced Composite Materials,” Los Alamos Tech.Report, LA-13272-MS, March 1997
- 90 Rosakis, A.J.  
 “Dynamic, Shear-Dominated Interersonic Failure of Layered Solids,” Ninth International Conference on Fracture, Sydney, Australia,  
 April 1-5, 1997 **(Keynote Address)**
- 91 Rosakis, A.J., Samudrala, O., Singh, R.P., Coker, D.  
 “Interersonic Crack Propagation in Layered Systems,” Proceedings, ONR/ARO Symposium on the Dynamic Deformation and  
 Failure Mechanics of Materials, Honoring Professor R.J. Clifton, California Institute of Technology, Pasadena, CA, May 22-  
 24, 1997 **(Invited Contribution)**
- 92 Ravichandran, G., Guduru, P.R., Singh, R.P., Rosakis, A.J.  
 “Dynamic Crack Initiation in Ductile Steels,” Proceedings, ONR/ARO Symposium on the Dynamic Deformation and Failure  
 Mechanics of Materials, Honoring Professor R.J. Clifton, California Institute of Technology, Pasadena, CA, May 22-24, 1997  
**(Invited Contribution)**
- 93 Rosakis, A.J.  
 “Dynamic Shear-Dominated, Interersonic Crack Growth in Bimaterials and Layered Systems and its Relationship to Earthquake  
 Rapture,” Proceedings of the International Conference on Advanced Technology in Experimental Mechanics, Wakayama, Japan,  
 July 1997 **(Keynote Address)**
- 94 Rosakis, A.J.  
 “Interersonic and Supersonic Fracture of Bimaterial Interfaces and its Relation to Geological Fault Rapture,” Second Euroconference  
 and International Symposium on Material Instabilities, Thessaloniki, Greece, Aug 29 - Sep 5, 1997 **(Invited Contribution)**
- 95 Singh, R.P., Rosakis, A.J., Samudrala, O., Shukla, A.  
 “Two Optical Techniques Applied to the Investigation of the Mechanics of Interersonic Crack Propagation along a Bimaterial  
 Interface,” 1st International Conference on Damage and Failure of Interfaces, DFI-1, Vienna, Austria, September 22-24, 1997  
**(Invited Contribution)**
- 96 Rosakis, A.J. Liu, C., Stout, M., Coker, D.  
 “Subsonically and Interzonically Moving Dynamic Cracks in Laminated Composites,” 12th Annual Technical Conference of the  
 American Society of Composites, Dearborn, MI, October 6-8, 1997 **(Invited Contribution)**
- 97 Rosakis, A.J., Singh, R.P., Tsuji, Y., Kolawa, E., Moore, Jr., N.R.  
 “Full Field Measurements of Curvature Using Coherent Gradient Sensing: Application to Thin Film Characterization,” ASME  
 Winter Annual Meeting, Dallas, TX, November 16-21, 1997
- 98 Rosakis, A.J., Liu, C., Stout, M., Lambros, J.  
 “Dynamic Fracture of Unidirectional Composites,” Symposium on Multiscale Analysis, ASME Winter Annual Meeting, Dallas, TX,  
 November 16-21, 1997 **(Invited Contribution)**
- 99 Guduru, P., Rosakis, A.J., Singh, R., Ravichandran, G.  
 “Dynamic Crack Initiation in Highly Ductile Metals,” U.S. National Congress of Applied Mechanics, Gainesville, FL, June 1998
- 100 Pandolfi, A., Ortiz, M., Guduru, P, Rosakis, A.J.  
 “Three Dimensional Analysis and Experiments of Dynamic Fracture of Metals,” U.S. National Congress of Applied Mechanics,  
 Gainesville, FL, June 1998
- 101 Yu, R., Xu, R., Ortiz, M., Rosakis, A.J.  
 “Three Dimensional Analysis and Experiments of Dynamic Decohesion in Layered Structures,” U.S. National Congress of Applied  
 Mechanics, Gainesville, FL, June 1998
- 102 Coker, D., Rosakis, A.J.  
 “Dynamic Crack Initiation in Unidirectional Graphite-Epoxy Composite Materials,” U.S. National Congress Applied Mechanics,  
 Gainesville, FL, June 1998
- 103 Rosakis, A.J.  
 “Interzonic, Shear Dominated, Dynamic Crack Growth in Bimaterials and Composites,” U.S. National Congress of Applied  
 Mechanics, Gainesville, FL, June 1998 **(Plenary Address)**
- 104 Liu, C., Stout, M.G., Rosakis, A.J., Haberman, K.S., Bennett, J.G.  
 “Dynamic Failure of a Graphite/Epoxy Composite Material: Experiment and Simulation,” 11th International Conference on  
 Experimental Mechanics, Oxford, UK, August 1998 **(Invited Contribution)**

- 105 Stout, M.G., Liu, C., Rosakis, A.J., Haberman, K.S., Bennett, J.G.  
 “Mechanics Analysis and Simulation of a Graphite/Epoxy Aircraft-Engine Fan-Blade Impact Event,” 11th International Conference on Experimental Mechanics, Oxford, UK, August 1998 **(Invited Contribution)**
- 106 Rosakis, A.J.  
 “Dynamic Shear-Dominated Intersonic and Supersonic Crack Growth in Bimaterials and Layered Systems,” MIT Mechanical Engineering Colloquium, Department of Mechanical Engineering, Massachusetts Institute of Technology, Cambridge, MA, September 18, 1998 **(Invited Contribution)**
- 107 Rosakis, A.J., Samudrala, O., Coker, D.  
 “Dynamic Shear-Dominated, Intersonic Crack Growth in Bimaterial and Layered Systems,” Prager Medal Symposium in honor of Professor R.J. Willis, 35<sup>th</sup> Annual Technical Meeting of SES, Washington State University, Pullman, WA, September 27-30, 1998 **(Invited Contribution)**
- 108 Rosakis, A.J., Samudrala, O.  
 “Supersonic Crack Growth Along Interfaces,” ASME WAM International Mechanical Engineering Congress & Exposition, Anaheim, CA, November 15-20, 1998 **(Invited Contribution)**
- 109 Rosakis, A.J., Coker, D.  
 “Intersonic Crack Growth in Unidirectional Composites,” ASME WAM International Mechanical Engineering Congress & Exposition, Anaheim, CA, November 15-20, 1998 **(Invited Contribution)**
- 110 Zehnder, A.T., Rosakis, A.J., Ravichandran, G.  
 “An Infrared High Speed Camera System for the Visualization and Measurement of Transient Temperature Fields Resulting During the Dynamic Deformation and Failure of Materials, ASME WAM International Mechanical Engineering Congress & Exposition, Anaheim, CA, November 15-20, 1998 **(Invited Contribution)**
- 111 Owen, D.M., Rosakis, A.J.  
 “Variation of Dynamic Crack Initiation Fracture Toughness with Loading Rates,” ASME WAM International Mechanical Engineering Congress & Exposition, Anaheim, CA, November 15-20, 1998 **(Invited Contribution)**
- 112 Rosakis, A.J., Johnson, W.L.  
 “Dynamic Failure Mechanisms in Beryllium Bearing Bulk Metallic Glasses,” Materials Research Society (MRS) 1998 Fall Meeting, Boston, MA, December 1998 **(Invited Contribution)**
- 113 Rosakis, A.J., Coker, D., Samudrala, O.  
 “Shear-Dominated Intersonic Cracks Featuring Dynamic Crack Face Frictional Contact and Shear Shock Waves; Can Numerics Capture All This?,” ARO, NSF and ASCI Symposium on the “Validation and Verification of Computational Mechanics Codes (T. Belytschko, A. Needleman, M. Ortiz, P. Yarrington and M. Zikry, Org.), California Institute of Technology, Pasadena, CA, December 1998 **(Invited Contribution)**
- 114 Rosakis, A.J., Lee, H.  
 “Deformation of Thin Structures in The Nonlinear Range: Full Field Observations and Simulations,” JPL Review, Jet Propulsion Laboratory, Pasadena, CA, March 25, 1999
- 115 Rosakis, A.J., Samudrala, O., Coker, D.  
 “Intersonic Crack Growth Along a Bimaterial Interface,” Session on Materials Behavior: Experiments and Models, SEM Annual Conference, Cincinnati, OH, June 7-9, 1999 **(Invited Contribution)**
- 116 Rosakis, A.J., Tippur, H.V.  
 “The Optical Technique of Coherent Gradient Sensing in Experimental Mechanics: An Overview,” Symposium on “Recent Advances in Experimental Mechanics” in honor of Professor D. Post, ASME Mechanics and Materials Conference, Virginia Polytechnic Institute and State University, Blacksburg, VA, June 27-30, 1999 **(Invited Contribution)**
- 117 Rosakis, A.J., Samudrala, O.  
 “Dynamic Shear-Dominated Intersonic & Supersonic Crack Growth in Bimaterials and Layered Systems,” Symposium on “Experiments in Fracture Mech.” in honor of Professor C.W. Smith, ASME Mech. VA, June 27-30, 1999 **(Invited Contribution)**
- 118 Rosakis, A.J., Samudrala, O., Coker, D.  
 “Cracks Faster than the Shear Wave Speed,” Symposium on “Stresses and Fracture in Adhesive Bonds” in honor of Professor Max Williams, ASME Mechanics and Materials Conference, Virginia Polytechnic Institute and State University, Blacksburg, VA, June 27-30, 1999 **(Invited Contribution)**
- 119 Coker, D., Rosakis, A.J., Huang, Y.Y.  
 “Subsonic and Intersonic Dynamic Crack Growth in Unidirectional Composites,” Symposium on “Shear Banding and Dynamic Failure” in honor of Professor T.W. Wright, ASME Mechanics and Materials Conference, Virginia Polytechnic Institute and State University, Blacksburg, VA, June 27-30, 1999 **(Invited Contribution)**
- 120 Guduru, P.R., Zehnder, A.T., Rosakis, A.J., Ravichandran, G.  
 “An Infrared High Speed Camera System for the Visualization and Measurement of Transient Temperature Fields Resulting During the Dynamic Deformation and Failure of Materials,” Symposium on “Shear Banding and Dynamic Failure” in honor of Professor T.W. Wright, ASME Mechanics and Materials Conference, Virginia Polytechnic Institute and State University, Blacksburg, VA, June 27-30, 1999 **(Invited Contribution)**
- 121 Huang, Y., Wang, W., Liu, C, Rosakis, A.J.  
 “Analysis of Intersonic Crack Growth in Unidirectional Fiber-Reinforced Composites,” Symposium on “Recent Developments in Anisotropic Elasticity,” ASME Mechanics and Materials Conference, Virginia Polytechnic Institute and State University, Blacksburg, VA, June 27-30, 1999 **(Invited Contribution)**
- 122 Gao, H., Huang, Y., Gumbsch, P., Rosakis, A.J.  
 “On Radiation-Free Transonic Motion of Cracks and Dislocations in Anisotropic Elastic Solids,” Symposium on “Recent Developments in Anisotropic Elasticity,” ASME Mechanics and Materials Conference, Virginia Polytechnic Institute and State University, Blacksburg, VA, June 27-30, 1999 **(Invited Contribution)**

- 123 Hodowany, J., Ravichandran, G., Rosakis, A.J., Rosakis, P.  
 “On the Partition of Plastic Work into Heat and Stored Work: A Kolsky Bar Approach,” Symposium “On Experimental Investigation of the Behavior of Materials at High Strain Rates ‘Kolsky Bar Fifty Years Later’” in memory of the late Professor H. Kolsky, ASME Mechanics and Materials Conference, Virginia Polytechnic Institute and State University, Blacksburg, VA, June 27-30, 1999 **(Invited Contribution)**
- 124 Coker, D., Rosakis, A.J., Huang, Y.Y.  
 “Subsonic and Intersonic Dynamic Crack Growth in Unidirectional Composites,” Session on “Composites for Marine Structures,” 12<sup>th</sup> International Conference on Composite Materials (ICCM12), Paris, France, July 5-9, 1999 **(Invited Contribution)**
- 125 Rosakis, A.J., Samudrala, O., Coker, D., Huang, Y.Y.  
 “Cracks Faster than the Shear Wave Speed,” Symposium on “Dynamic Fracture,” Society of Engineering Science Annual Meeting (SES99), University of Texas at Austin, Austin, TX, October 25-27, 1999 **(Invited Contribution)**
- 126 Rosakis, A.J., Samudrala, O., Huang, Y.Y.  
 “Intersonic Crack Growth Along Bimaterial Interfaces,” Symposium on “Interfacial Fracture,” honoring Professor K.L. Johnson, Society of Engineering Science Annual Meeting (SES99), University of Texas at Austin, Austin, TX, October 25-27, 1999 **(Invited Contribution)**
- 127 Rosakis, A.J., Coker, D., Yu, C., Ortiz, M.  
 “Subsonic and Intersonic Dynamic Crack Growth in Unidirectional Composites,” Symposium on “Mechanics of Composite Materials and Composite Structures,” Society of Engineering Science Annual Meeting (SES99), University of Texas at Austin, Austin, TX, October 25-27, 1999 **(Invited Contribution)**
- 128 Rosakis, A.J., Coker, D., Huang, Y.  
 “Subsonic and Intersonic Crack Growth in Composites,” Symposium on “Thick Composites for Load Bearing Structures,” ASME-IMECE '99 Winter Meeting, Nashville, TN, November 14-19, 1999 **(Invited Contribution)**
- 129 Rosakis, A.J., Samudrala, O., Coker, D.  
 “Shear Cracks Faster than the Shear Wave Speed,” Session on “Dynamic Fracturing of Rocks and Rock-Like Materials,” American Geophysical Union (AGU) 1999 Fall Meeting, San Francisco, CA, December 13-17, 1999 **(Invited Contribution)**
- 130 Rosakis, A.J.  
 “Dynamic Cracks and Faults Faster Than the Shear Wave Speed: Are We Breaking the Speed Limit,” Session on “Dynamic Deformation and Fracture,” The American Physical Society (APS) March 2000 Meeting, Minneapolis, MN, March 20-24, 2000 **(Invited Contribution)**
- 131 Samudrala, O., Huang, Y.Y., Rosakis, A.J.  
 “Analysis of Intersonic Shear Crack Growth Along a Weak Plane with a Rate Independent Cohesive Zone Model,” Session on “Dynamic Deformation and Fracture,” The American Physical Society (APS) March 2000 Meeting, Minneapolis, MN, March 20-24, 2000 **(Invited Contribution)**
- 132 Rosakis, A.J., Lee, H.  
 “Nonlinear Deformations & Reliability of Membrane, Thin Film & Line Structures,” JPL Review, JPL, Pasadena, CA, March 2000
- 133 Rosakis, A.J.  
 “Intersonic Shear Failure of Heterogeneous Materials and Composites,” 20<sup>th</sup> Southeastern Theoretical and Applied Mechanics Conference (SECTAMXX), Pine Mountain, GA, April 16-18, 2000 **(Keynote Address)**
- 134 Rosakis, A.J., Guduru, P.R., Ravichandran, G.  
 “An Infrared High Speed Camera System for the Visualization and Measurement of Transient Temperature Fields Resulting During the Dynamic Deformation and Failure of Materials,” Session on “Dynamic and High Strain Rate Phenomenon,” 20<sup>th</sup> Southeastern Theoretical & Applied Mechanics Conf.(SECTAMXX), Pine Mountain, GA, Apr.16-18, 2000 **(Invited Contribution)**
- 135 Boyd, D.A., Gallivan, M. A., Tripathi, A.B., Rosakis, A. J., Gowin, D. G., Atwater, H.A.,  
 “Real-time, In Situ Curvature Measurement During Growth of Epitaxial YBCO Films on MgO”, MRS Spring Meeting, Session 12: New Methods of Vapor Deposition II, April 24, 2000
- 136 Rosakis, A.J.  
 “High-Speed Experimental Diagnostics: Their Role in Analyzing Dynamic Failure Mechanisms in Energy Absorbing Heterogeneous Materials and Structures,” Army Research Office (ARO) Workshop on Advanced Heterogeneous Systems, UCLA, Los Angeles, CA, June 27-28, 2000 **(Invited Contribution)**
- 137 Lee, H., Rosakis, A.J., Freund, L.B., Kolawa, E.  
 “Optical Measurements of Curvatures of Film-Substrate Systems in the Nonlinear Deformations Range,” Willis Symposium, 20<sup>th</sup> International Congress of Theoretical and Applied Mechanics (ICTAM 2000), Chicago, IL, Sept. 2, 2000 **(Invited Contribution)**
- 138 Rosakis, A.J., Semenski, D.  
 “Dynamic Experimental Analysis of the Cracks in Light-Core Sandwich Material,” 3<sup>rd</sup> International Congress of Croatian Society of Mechanics, Cavtat - Dubrovnik, Croatia, September 28-30, 2000 **(Invited Contribution)**
- 139 Semenski, D., Rosakis, A.J.  
 “Dynamic Crack Initiation and Growth in Light-Core Sandwich Composite Materials,” 17<sup>th</sup> Danubia-Adria Symposium on Experimental Methods in Solid Mechanics, Prague, Czech Republic, October 11-14, 2000 **(Invited Contribution)**
- 140 Rosakis, A.J., Huang, Y.Y., Samudrala, O.  
 “Intersonic Shear Crack Growth Along Weak Planes: Experiments and Slip Rate Weakening Cohesive Zone Models,” William Prager Medal Symposium honoring L.B. Freund, “Dynamic Failure of Materials” Session, 37<sup>th</sup> Annual Technical Meeting for the Society of Engineering Science (SES 2000), Univ. of South Carolina, Columbia, SC, October 23-25, 2000 **(Invited Contribution)**
- 141 Li, S., Liu, W.-K., Rosakis, A.J., Guduru, P.R.  
 “On the Micro-Structure of Adiabatic Shear Bands,” William Prager Medal Symposium honoring L.B. Freund, “Dynamic Failure of Materials” Session, 37<sup>th</sup> Annual Technical Meeting for the Society of Engineering Science (SES 2000), University of South Carolina, Columbia, SC, October 23-25, 2000 **(Invited Contribution)**

- 142 Lee, H., Rosakis, A.J., Freund, L.B.  
 “Full Field Optical Measurement of Curvatures in Ultra Thin Film Substrate Systems in the Range of Geometrically Nonlinear Deformations,” William Prager Medal Symposium honoring L.B. Freund, “Mechanics of Thin Films” Session, 37<sup>th</sup> Annual Technical Meeting for the Society of Engineering Science (SES 2000), University of South Carolina, Columbia, SC, October 23-25, 2000 **(Invited Contribution)**
- 143 Coker, D., Rosakis, A.J.  
 “Dynamic Crack Initiation and Unstable Crack Growth in Unidirectional Graphite-Epoxy Composite Materials,” Session on “Structural Properties of Advanced, Novel Composites,” 2000 International Mechanical Engineering Congress and Exposition of the American Society of Mechanical Engineers (ASME-IMECE 2000), Orlando, FL, Nov. 5-10, 2000 **(Invited Contribution)**
- 144 Rosakis, A.J., Ravichandran, G., Guduru, P.R., Zehnder, A.T.  
 “An Infrared High Speed Camera System for the Visualization and Measurement of Transient Temperature Fields Resulting During the Dynamic Deformation and Failure of Materials,” Session on “Recent Advances in Dynamic Behavior of Materials,” 2000 International Mechanical Engineering Congress and Exposition of the American Society of Mechanical Engineers (ASME-IMECE 2000), Orlando, FL, November 5-10, 2000 **(Invited Contribution)**
- 145 Rosakis, A.J., Coker, D., Yu, C., Ortiz, M.  
 “Subsonic and Intersonic Failure of Composites: High Speed Optical and Thermographic Measurements and Numerical Simulations,” Session on “Dynamic Failure in Composite Materials and Structures,” 2000 International Mechanical Engineering Congress and Exposition of the American Society of Mechanical Engineers (ASME-IMECE 2000), Orlando, FL, November 5-10, 2000 **(Invited Contribution)**
- 146 Xu, L., Rosakis, A.J., Yu, C., Ortiz, M.  
 “Real Time Experimental and Computational Investigation of Dynamic Failure Mode Selection in Sandwich Structures,” Session on “Mechanics of Sandwich Structures,” 2000 International Mechanical Engineering Congress and Exposition of the American Society of Mechanical Engineers (ASME-IMECE 2000), Orlando, FL, November 5-10, 2000 **(Invited Contribution)**
- 147 Rosakis, A.J., Samudrala, O  
 “Dynamic Shear-Dominated Intersonic and Supersonic Ruptures in Bimaterial Interfaces,” Session on “Dynamic Rupture of Rocks and Other Brittle Materials,” American Geophysical Union (AGU) 2000 Fall Meeting, San Francisco, CA, December 15-19, 2000 **(Invited Contribution)**
- 148 Rosakis, A.J., Ravichandran, G., Guduru, P.R.  
 “High Speed IR Observations of Transient High Temperature Vortical Microstructures in Solids During Adiabatic Shear Banding,” Materials Research Society (MRS) 2001 Spring Meeting, San Francisco, CA, April 16-20, 2001 **(Invited Contribution)**
- 149 Rosakis, A.J.  
 “Intersonic Shear Crack Growth Along Weak Paths,” 2001 Mechanics and Materials Conference, University of California, San Diego, San Diego, CA, June 27-29, 2001 **(Invited Contribution)**
- 150 Rosakis, A.J., Ravichandran, G., Guduru, P.R.  
 “High Speed, Two Dimensional, Infrared Observations of Transient Temperature Vortical Microstructures in Solids During Adiabatic Shear Banding,” 2001 Mechanics and Materials Conference, University of California, San Diego, San Diego, CA, June 27-29, 2001 **(Invited Contribution)**
- 151 Rosakis, A.J., Xu, L.R.  
 “Dynamic Fracture in Multi-Layered Materials Subjected to Low-Speed Impact,” 2001 Mechanics and Materials Conference, University of California, San Diego, San Diego, CA, June 27-29, 2001 **(Invited Contribution)**
- 152 Xu, L.R., Rosakis, A.J.  
 “Dynamic Failure Characteristics in Sandwich Structures: Basic Failure Modes Selection in Heterogeneous Three-Layer Systems,” 2001 Mechanics and Materials Conference, Univ. of California, San Diego, San Diego, CA, Jun 29, 2001 **(Invited Contribution)**
- 153 Rosakis, A.J.  
 “Subsonic and Intersonic Shear Dominated Fracture at Interfaces,” Gordon Research Conference - Materials Processes Far From Equilibrium, Meriden, NH, July 1-6, 2001 **(Invited Contribution)**
- 154 Xu, L.R., Rosakis, A.J.  
 “Sequence and Nature of Matrix Cracking and Delamination in Composite and Sandwich Structures Subjected to Low-Speed Impact,” 16<sup>th</sup> Annual Technical Conference of the American Society for Composites, Blacksburg, VA, September 9-12, 2001
- 155 Yu, C., Coker, D., Ortiz, M., Pandolfi, A., Rosakis A.J.  
 “3D Modeling of Intersonic Crack Growth in Unidirectional Composite Plates,” 2<sup>nd</sup> International Conference on Fracture and Damage Mechanics, Politecnico di Milano, Italy, September 17-21, 2001
- 156 Liu, C., Rosakis, A.J., Stout, M.G.  
 “Dynamic Fracture Toughness of a Unidirectional Graphite/Epoxy Composite,” Symposium on “Dynamic Effects in Composite Structures,” 2001 International Mechanical Engineering Congress and Exposition of the American Society of Mechanical Engineers (ASME-IMECE 2001), New York, NY, November 11-16, 2001 **(Invited Contribution)**
- 157 Needleman, A., Rosakis, A.J.  
 “Dynamic Crack Growth Along Interfaces,” 10<sup>th</sup> International Conference on Fracture (ICF-10), Honolulu, HI, December 3-7, 2001 **(Invited Contribution)**
- 158 Rosakis, A.J.  
 “Intersonic Shear Cracks and Fault Ruptures,” École Normale Supérieure, Paris, France, April 2002 **(Invited Contribution)**
- 159 Rosakis, A.J.  
 “Intersonic Decohesion of Bimaterials and Composites,” École Polytechnique, Paris, France, April 2002 **(Invited Contribution)**
- 160 Xu, L.R., Rosakis, A.J.  
 “Impact Damage Visualization of Composite/Sandwich Structures Using High-Speed Optical Diagnostics,” Session on “Structures, Structural Dynamics, and Materials,” AIAA 2002 Conference, Denver, CO, April 2002

- 161 Xu, L.R., Rosakis, A.J.  
 “Influence of Interfacial Mechanical Properties on the Impact Behaviors of Multi-Layered Materials,” Session on “Structures, Structural Dynamics, and Materials,” AIAA 2002 Conference, Denver, CO, April 2002
- 162 Xu, L.R., Rosakis, A.J.  
 “Visualization and Evaluation of Dynamic Failure Process in Layered /Composite Materials,” 2002 SEM Annual Conference on Experimental Mechanics, Milwaukee, WI, June 10-12, 2002
- 163 Xu, L.R., Samudrala, O., Rosakis, A.J.  
 “Measurements of Interfacial Mechanical Properties With the Aid of Two Optical Techniques,” 2002 SEM Annual Conference on Experimental Mechanics, Milwaukee, WI, June 10-12, 2002
- 164 Rosakis, A.J.  
 “Intersonic Shear Rupture Along Weak Planes: From Earthquake Rupture to the Rupture of Atomic Planes,” Symposium on “Material Failure at High Strain Rates,” 14<sup>th</sup> US National Congress of Applied Mechanics, Virginia Polytechnic Institute, Blacksburg, VA, June 23-28, 2002 (**Keynote Address**)
- 165 Rosakis, A.J., Ravichandran, G., Guduru, P.R.  
 “High Speed, Two-Dimensional, Infrared Observations of Transient Temperature Vortical Microstructures in Solids During Adiabatic Shear Banding,” Sym. on “Research and Education in Experimental Mechanics” honoring Professor J.W. Dally, 14<sup>th</sup> US National Congress of Applied Mechanics, Virginia Polytechnic Institute, Blacksburg, VA, Jun 23-28, 2002 (**Invited Contribution**)
- 166 Rosakis, A.J., Yu, C., Ortiz, M., Coker, D., Pandolfi, A.  
 “Experimental and Numerical Investigation of Shear-Dominated Intersonic Crack Growth and Friction in Unidirectional Composites,” Symposium on “Recent Advances in Experimental Mechanics” honoring Professor I.M. Daniel, 14<sup>th</sup> US National Congress of Applied Mechanics, Virginia Polytechnic Institute, Blacksburg, VA, June 23-28, 2002 (**Invited Contribution**)
- 167 Rosakis, A.J., Huang, Y., Xu, L.R.  
 “Dynamic Fracture in Multi-Layered Materials Subjected to Low-Speed Impact,” Symposium on “Topics in Mechanics of Materials” honoring Professor W.G. Knauss, 14<sup>th</sup> US National Congress of Applied Mechanics, Virginia Polytechnic Institute, Blacksburg, VA, June 23-28, 2002 (**Invited Contribution**),
- 168 Vardoulakis, I., Exadaktylos, G., Kourkoulis, S., Stravropoulou, M., Rosakis, A.J.  
 “Mechanical Behavior of Dionysos-Pentelikon Marble,” 3<sup>rd</sup> Euroconference on the Mathematical Foundations of Geomechanics, Horton, Greece, July 2002
- 169 Rosakis, A.J.  
 “Intersonic Ruptures and the Story of the Square Root of Two Times the S-Wave Speed,” Workshop on Friction, Fracture, and Earthquake Physics, Keck Symposium, Kavli Institute for Theoretical Physics, University of California, Santa Barbara, July 18-19, 2002 (**Invited Contribution**)
- 170 Rosakis, A.J.  
 “Laboratory Observations of Intersonic Fault Rupture,” 22<sup>nd</sup> Course of the International School of Geophysics, ERMES – Earthquake Mechanics, Earth Structure, and Related Problems Conference, Ettore Majorana Foundation and Centre for Scientific Culture, Erice, Trapani, Sicily, August 1-8, 2002 (**Invited Contribution**)
- 171 Rosakis, A.J.  
 “Intersonic Decohesion Along Weak Planes: Experiments and Theory,” 14<sup>th</sup> European Conference on Fracture (ECF14), Fracture Mechanics Beyond 2000, Cracow, Poland, September 8-13, 2002 (**Keynote Address**)
- 172 Yu, C., Ortiz, M., A.J. Rosakis  
 “3-D Modelling of Impact Failure in Sandwich Structures,” 3<sup>rd</sup> ESIS TC4 Conf., Les Diablerets, Switzerland, Sept. 13-15, 2002
- 173 Rosakis, A.J.  
 “Intersonic Ruptures and the Story of the Square Root of Two Times the S-Wave Speed,” Symposium on Dynamic Failure and Thin Film Mechanics honoring Professor L.B. Freund of Brown University on the occasion of his 60<sup>th</sup> Birthday, California Institute of Technology, Pasadena, CA, January 16-18, 2003
- 174 Xu, L.R., Rosakis, A.J.  
 “Impact-Induced Failure Events in Heterogeneous Layered Materials,” Symposium on Dynamic Failure, Society for Experimental Mechanics (SEM) 2003 Conference, Charlotte, NC, June 2-4, 2003 (**Invited Contribution**)
- 175 Rosakis, A.J., Huang, Y.Y.  
 “Intersonic Ruptures and the Story of the Square Root of Two Times the S-Wave Speed,” Symposium on Recent Advances in Dynamic Failure and Fracture Studies – Dynamic Interfacial Fracture, Society for Experimental Mechanics (SEM) 2003 Conference, Charlotte, NC, June 2-4, 2003 (**Invited Contribution**)
- 176 Xia, K., Rosakis, A.J., Kanamori, H.  
 “Laboratory Studies of Earthquake Fault Rupture,” Symposium on Impact Behavior of Engineering Materials II, Society for Experimental Mechanics (SEM) 2003 Conference and Exposition, Charlotte, NC, June 2-4, 2003 (**Invited Contribution**)
- 177 Rosakis, A.J., Coker, D., Yu, C., Ortiz, M.  
 “Experimental and Numerical Investigation of Shear-Dominated Intersonic Crack Growth and Friction in Unidirectional Composites,” Symposium on Dynamic Failure and Fracture of Interfaces, Interphases, and Layered Media I, Society for Experimental Mechanics (SEM) 2003 Conference, Charlotte, NC, June 2-4, 2003 (**Invited Contribution**)
- 178 Rousseau, C.-E., Rosakis, A.J.  
 “Effect of Fault Bends on the Growth of Dynamic Shear Ruptures,” Symposium on Dynamic Failure and Fracture of Interfaces, Interphases, and Layered Media I, Society for Experimental Mechanics (SEM) 2003 Conference, Charlotte, NC, June 2-4, 2003 (**Invited Contribution**)
- 179 Xu, L.R., Huang, Y.Y., Rosakis, A.J.  
 “Dynamic Failure Mode Transitions at Weak Interfaces in Homogeneous Materials,” Sym. on Dynamic Failure & Fracture of Interfaces, Interphases, & Layered Media II, Soc.for Experimental Mech. Conf., Charlotte, NC, Jun 4, 2003 (**Invited Contribution**)



- 180 Coker, D, Rosakis, A.J., Needleman, A.  
 “Dynamic Crack Growth Along a Polymer Composite-Homalite Interface,” Symposium on Dynamic Failure and Fracture of Interfaces, Interphases, and Layered Media II, Society for Experimental Mechanics (SEM) 2003 Conference, Charlotte, NC, June 2-4, 2003 **(Invited Contribution)**
- 181 Xu, L.R., Rosakis, A.J.  
 “Real-Time Failure Visualization of Composite/Sandwich Structures Subjected to Low-Speed Impact,” Symposium on International Conference on Composite Materials (ICCM-14), San Diego, CA, July 14-18, 2003
- 182 Rosakis, A.J., Rousseau, C.-E.  
 “Influence of Fault Bends and Forks on the Growth of Dynamic Shear Ruptures,” Ringberg Workshop on Dynamic Fracture, Munich, Germany, July 13-17, 2003 **(Invited Contribution)**
- 183 Needleman, A., Coker, D., Rosakis, A.J.  
 “Fast Crack Growth Along Interfaces,” International Symposium on the Recent Developments in the Modeling of Rupture in Solids, FOZ do IGUAÇU, Brazil, August 4-7, 2003
- 184 Rosakis, A.J.  
 “Supershear Fault Ruptures and the Story of the Square Root of Two Times the S-Wave Speed,” Seismology Seminar, Department of Earth and Space Sciences, UCLA, Los Angeles, CA, October 8, 2003 **(Invited Contribution)**
- 185 Rosakis, A.J.  
 “Intersonic Fault Ruptures and the Story of the Square Root of Two Times the S-Wave Speed,” Bell Memorial Lecture in Continuum Mechanics, The Johns Hopkins University, Baltimore, MD, November 6, 2003 **(Honor Lecture)**
- 186 Rosakis, A.J.  
 “Laboratory Earthquakes: Real Time Observations of the Sub-Rayleigh to Supershear Transition in Frictional Interfaces,” 2003 International Mechanical Engineering Congress and Exposition of the American Society of Mechanical Engineers (ASME-IMECE 2003), Washington, DC, November 5-21, 2003
- 187 Xu, L.R., Rosakis, A.J.  
 “Dynamic Response and Failure in Heterogeneous Layered Materials with Initial Defects,” 2003 International Mechanical Engineering Congress and Exposition of the American Society of Mechanical Engineers (ASME-IMECE 2003), Washington, DC November 15-21, 2003
- 188 Xu, L.R., Huang, Y.Y., Rosakis, A.J.  
 “Observations and Predictions of Dynamic Crack Deflection and Penetration at Micro-Scale Interfaces,” 2003 International Mechanical Engineering Congress and Exposition of the American Society of Mechanical Engineers (ASME-IMECE 2003), Washington, DC, November 15-21, 2003 **(Invited Contribution)**
- 189 Rosakis, A.J., Kanamori, H., Xia, K  
 “Laboratory Earthquakes: Real Time Observations of the Sub-Rayleigh to Supershear Transition in Frictional Interfaces,” American Geophysical Union (AGU) 2003 Fall Meeting, San Francisco, CA, December 8-12, 2003
- 190 Rosakis, A. J.  
 “Laboratory Earthquakes: Part I: Frictional Earthquake Rupture, Part II: Effects of Fault Bends on the Growth of Dynamic Shear Rupture,” Univ. of Southern California, Earthquake Physics Seminar, Los Angeles, CA, April 20, 2004 **(Invited Contribution)**
- 191 Chalivendra, V. B., Hong, S., Rosakis, A.J.  
 “Interactions of Dynamic cracks with Inclined Interfaces”, ASCI Research Review, California Institute of Technology, CA May 12-1, 2004
- 192 Rosakis, A. J.  
 “Laboratory Earthquakes: (1) The Sub-Rayleigh to intersonic transition (2) The influence of fault bends on rupture growth”, Distinguished Speaker Seminar, Univ. of California at Riverside, Bourns College of Engineering, May 19, 2004 **(Honor Lecture)**
- 193 Rosakis, A. J., Xia, K., Kanamori, H.  
 “Laboratory Earthquakes: The Sub-Rayleigh to Intersonic Transition, SIAM Conference on Mathematical Aspects of Materials Science, Los Angeles, CA May 23-26, 2004 **(Invited Lecture)**
- 194 Lykotrafitis, G., Rosakis, A.J.  
 “Dynamic Rupture of Frictionally Held Incoherent Interfaces under Dynamic Shear Loading”, 2004 SEM X International Congress and Exposition on Experimental and Applied Mechanics, Costa Mesa, CA June 7-10, 2004 **(Invited Contribution)**
- 195 Park, T-S, Brown, M.A., Rosakis, A. J., Ustundag, E., Tamura, N  
 “Validating CGS Interferometry-based Stress Measurements:A Comparison with X-ray Microdiffraction” 2004 SEM X International Congress and Exposition on Experimental and Applied Mechanics, The 1<sup>st</sup> International Symposium on Optical Methodologies and Metrologies for Microelectronics and Photonics, Costa Mesa, CA, June 7-10, 2004 **(Invited Contribution)**
- 196 Xia, K., Rosakis, A. J., Kanamori, H.,  
 “Spontaneous rupturing along a frictional interface between similar and dissimilar materials”, 2004 SEM X International Congress and Exposition on Experimental and Applied Mechanics, Costa Mesa, CA, June 7-10, 2004
- 197 Rosakis, A. J., Park, T-S., Suresh, S.,  
 “CGS Interferometry as a Full-Field, Real-Time, and In-Situ Wafer Inspection and Reliability Tool”, 2004 SEM X Int'l Congress and Exposition on Experimental and Applied Mechanics, Costa Mesa, CA June 7-10, 2004 **(Invited Contribution)**
- 198 Chalivendra, V. B., Rosakis, A. J., Arias, I., Ortiz, M  
 “Dynamic Photoelastic Validation of Large Scale Fracture and Fragmentation Simulations”, 2004 SEM X International Congress and Exposition on Experimental and Applied Mechanics, Costa Mesa, CA, June 7-10, 2004
- 199 Rosakis, A.J.  
 “Intersonic Fault Ruptures and the Story of the Square Root of Two Times the S-Wave Speed,” 7<sup>th</sup> National Congress on Mechanics-Hellenic Society for Theoretical & Applied Mechanics (HSTAM), Chania, Greece Jun 26, 2004 **(Keynote Address)**

- 200 Rosakis, A.J.  
 “Dynamic Shear Fracture of Interfaces and Laboratory Earthquakes”, Boeing Distinguished Researcher & Scholar Seminar (B-DRASS), Huntington Beach, CA, September 9, 2004 **(Invited Contribution)**
- 201 Cox, B. N., Andrews, M., Massabo, R., Rosakis, A., Sridhar, N. and Yang, Q. D  
 “Shear Lag And Beam Theories For Structures” Structural Integrity and Fracture International Conference (SIF’04), Brisbane, Australia, September 26-29 2004
- 202 Rosakis, A. J., Park, T-S., Suresh, S.  
 “Explicit Expression for Stress in Multi-level Line Structures and in Connecting Vertical Vias”, 2nd International Conference on Multiscale Materials Modeling, University of California, Los Angeles, CA, October 11-15, 2004 **(Invited Contribution)**
- 203 Lykotrafitis, G., Rosakis, A. J.  
 “Sliding of Frictionally Held Incoherent Interfaces under Dynamic Shear Loading”, Mechanics Symposia at the 2004 ASME/STLE International Joint Tribology Conference, Hilton Long Beach, Long Beach, CA, October 24-27, 2004 **(Invited Contribution)**
- 204 Xia, K., Rosakis, A.J., Kanamori, H.  
 “Spontaneous rupturing along a frictional interface”, Special Symposia on Contact Mechanics, Symposia at the 2004 ASME/STLE International Joint Tribology Conference, Hilton Long Beach, Long Beach, CA, October 24-27, 2004 **(Invited Contribution)**
- 205 Rosakis, A. J.  
 “The World through Shockwaves: Earthquakes in the Laboratory Demonstrating the Supershear Rupture Phenomenon and the Explosion at the Parthenon”, President’s Circle Dinner, Hall of Associates, Calif. Inst. of Tech., Pasadena, CA, Nov. 8, 2004
- 206 Brown, M.A., Park, T-S., Üstündag, E., Rosakis, A. J., Tamura, N.  
 “Validating CGS Interferometry -based Stress Measurements: A Comparison with X-ray Microdiffraction”, 2004 ASME International Mechanical Engineering Congress and RD&D Expo, Anaheim, CA, November 13-19, 2004
- 207 Rosakis, A. J. Brown, M. A., Park, T.- S., Üstündag, E., and Huang, Y.Y.  
 “Using CGS interferometry to measure stresses in discontinuous film/substrate systems: A comparison with, x-ray microdiffraction and theory, W.G. Knauss Symposium, California Institute of Technology, Pasadena, CA, November 16, 2004 **(Invited Contribution)**
- 208 Rosakis, A. J., Park, T-S., Suresh, S.  
 “Explicit Expression for Stress in Multi-level Line Structures and in Connecting Vertical Vias”, 2004 ASME International Mechanical Engineering Congress and RD&D Expo, Anaheim, CA, November 13-19, 2004
- 209 Park, T-S., Rosakis, A. J., Suresh, S.,  
 “Curvature and Thermal Stress in Multi-level Metal Interconnect Structures”, 2004 ASME International Mechanical Engineering Congress and RD&D Expo, Anaheim, CA, November 13-19, 2004
- 210 Rosakis, A.J., Kanamori, H., Xia, K. and Rice, J.R.  
 “Laboratory Earthquakes In Bimaterial Systems: On The Directionality of The Parkfield Earthquakes” American Geophysical Union (AGU) Fall Meeting 2004, San Francisco, CA, December 13-17, 2004
- 211 Chalivendra, V. B., Hong, S., Rosakis, A.J., Arias, I., Knap, J., Ortiz, M.  
 “Interaction of dynamic cracks with inclined interfaces”, Proceedings of International Conference on Fracture (ICF11), Turin, Italy March 20-25, 2005
- 212 Arias, I., Knap, J., Chalivendra, V.B., Hong, S., Ortiz, M., Rosakis, A.J.  
 “Validation of Massively parallel simulations of dynamic fracture and fragmentation of brittle materials”, Proceeding of International Conference on Fracture (ICF11), Turin, Italy, March 20-25, 2005
- 213 Xia, K., Chalivendra, V.B., Rosakis, A.J.  
 “Experimental studies of mixed mode spontaneous fractures expanding along inclined planes”, Proceedings of International Conference on Fracture (ICF11), Turin, Italy, March 20-25, 2005
- 214 Rosakis, A. J.  
 “Laboratory Earthquakes”, Proceedings of International Conference on Fracture, Turin, Italy, March 20-25, 2005 **(Plenary Lecture)**
- 215 Lykotrafitis, G., Rosakis, A.J.  
 “Rupture of frictionally held incoherent interfaces under dynamic shear loading”, 11<sup>th</sup> International Conference on Fracture, Turin, Italy Jun 2005
- 216 Coker, D., Lykotrafitis, G., Needleman, A., Rosakis, A. J.  
 “Crack-like and pulse-like dynamic frictional sliding”, 11<sup>th</sup> International Conference on Fracture, Turin, Italy, June 2005
- 217 “Dynamic Fiber Sliding along Debonded, Frictional Interfaces”, for possible submission to The Proceedings of the Royal Society, April 22, 2005 Superieure, Paris, France, June 29, 2005 **(Invited Contribution)**
- 218 Rosakis, A. J.  
 “Laboratory Earthquakes”, Murray Medal Lecture, Proceedings of 2005 SEM Annual Conference and Exposition on Experimental & Applied Mechanics, Portland June 7- 9, 2005
- 219 Chalivendra, V. B., Hong, S., Rosakis, A.J.,Knap, J.,Ortiz,M.  
 “Experimental Validation of Dynamic Fragmentation Simulations”, Proceedings of 2005 SEM Annual Conference & Exposition on Experimental & Applied Mechanics, Portland June 7- 9, 2005
- 220 Hong, S., Chalivendra, V. B., Rosakis, A.J., Knap, J., Ortiz, M.  
 “Experimental measurement of mixed-mode cohesive zone laws of adhesive bonds”, 2005 SEM Annual Conference & Exposition on Experimental & Applied Mechanics, Portland, OR, June 7- 9, 2005
- 221 Xia, K., Chalivendra, V.B., Rosakis, A.J.  
 “Spontaneous Fractures in Similar and Dissimilar Materials”, 2005 SEM Annual Conference & Exposition on Experimental & Applied Mechanics, Portland, OR, June 7- 9, 2005
- 222 Lykotrafitis, G., Rosakis, A. J.  
 “Identifying dynamic ruptures modes in frictional interfaces”, SEM Annual Conference and Exposition on Experimental and Applied Mechanics, Portland, OR June 2005

- 223 Rosakis, A. J.  
 “Laboratory Earthquakes”, Lecture Series, Department of Terre-Atmosphere-Ocean, École Normale, France, July 2005
- 224 Rosakis, A. J.  
 “Dynamic Earthquake Ruptures Meeting Fault Kinks or Forks”, Lecture Series, Institute de Physique du Globe, Paris, France July 2005 (**Invited Contribution**)
- 225 Rosakis, A. J.  
 “Laboratory Earthquakes: Directionality and Supershear”, Kavli Institute for Theoretical Physics, Conference on Friction, Fracture and Earthquake Physics, Santa Barbara, CA, November 3, 2005 (**Invited Contribution**)
- 226 Rosakis, A.J., Lykotrafitis, G., Ravichandran, G.  
 “Identifying Self-healing Pulses and Crack-like Ruptures in Experiments” American Geophysical Union (AGU) Fall Meeting 2005, San Francisco, CA, December 5-9, 2005
- 227 Lu, X., Lapusta, N., Rosakis, A.J.  
 “Testing friction laws by comparing simulation results with experiments of spontaneous dynamic rupture”, American Geophysical Union (AGU05) Fall Meeting 2005, San Francisco, CA, December 2005
- 228 Rosakis, A. J.  
 “Laboratory Earthquakes”, National University of Singapore, Civil Engineering Department, Singapore, January 16, 2006
- 229 Rosakis, A. J.  
 “Laboratory Earthquakes”, 2<sup>nd</sup> MRS-S Conference on Advanced Materials, Symposium on Physics and Mechanics of Advanced Materials, Prof. C.F. Shih Symposium, Singapore, January 17, 2006 (**Co-Chair**)
- 230 Rosakis, A. J.  
 “Generating Crustal Earthquakes in the Laboratory”, Inaugural Distinguished Scholar Lecture, Mechanical and Aerospace Engineering, Arizona State University, AZ (**Invited Lecture**) February 2006
- 231 Rosakis, A. J.  
 “How Can Experimental Mechanics Contribute to Seismology?”, National Institute of Science and Caltech Seismology Laboratory, The Hiroo Kanamori Celebration Symposium, Pasadena, CA, February 23, 2006 (**Invited Contribution**)
- 232 Xia, K.W., Carl-Ernst Rousseau, A.J. Rosakis  
 “Experimental investigations of spontaneous bimaterial interfacial fractures”, 2006 SEM Annual Conference and Exposition, St. Louis, Missouri, June 4-7, 2006
- 233 Chalivendra, V.B., Rosakis, A.J., Hong, S.  
 “Deflection and Penetration Behavior of Propagating Mode-I Cracks towards Weak Inclined Interfaces, 2006 SEM Annual Conference and Exposition, St. Louis, Missouri, June 4-7, 2006
- 234 Lu, X., Lapusta, N., Rosakis, A.J.  
 “Testing friction laws by modeling experiments of spontaneous dynamic rupture”, 7th World Congress on Computational Mechanics (WCCM06), Los Angeles, CA July 16-22, 2006
- 235 Lu, X., Lapusta, N., Rosakis, A.J.  
 “Experimental study of different modes of spontaneous dynamic rupture on homogeneous interfaces”, Southern California Earthquake Center 2006 Annual Meeting (SCEC06), Palm Springs, CA, September 2006
- 236 Rosakis, A. J.  
 “On-line Monitoring of Film Stress in Product Wafers through CGS Interferometry”, Symposium Honoring Professor Subra Suresh, the Acta Gold Medalist, held during the MRS 2006 Fall Meeting, Boston, MA, November 2006 (**Keynote Speaker**)
- 237 Rosakis, A. J.  
 “Laboratory Earthquakes”, Lecture Mechanical Engineering Department, Columbia University School of Engineering and Applied Science, New York, NY Nov 2006
- 238 Rosakis, A.J., Lu, X., Lapusta, N.  
 “Laboratory Observations of Crack-Like and Pulse-Like Ruptures”, EOS Trans. AGU, 87 (52), S52B-07, American Geophysical Union 2006 Fall Meeting, San Francisco, CA, December 2006
- 239 Lu, X., Lapusta, N., Rosakis, A.J.  
 “Constraining friction laws by experimental observations and numerical simulations of various rupture modes”, EOS Trans. AGU, 87 (52), S33C-04. American Geophysical Union Fall Meeting 2006, San Francisco, CA, December 2006
- 240 Biegel, R.L., Sammis, C.G., Rosakis, A. J.  
 The Effect of Off-Fault Damage on Earthquake Rupture Velocity: An Experimental Study, Eos Trans. AGU, 87(52), Fall Meeting Suppl. Abstract S33A-0229, 2006
- 241 Biegel, R.L., Sammis, C.G., Rosakis, A. J.  
 The Effect of Off-Fault Damage on Earthquake Rupture Velocity: An Experimental Study, SCEC Annual Mtg., Proceedings and Abstracts, Vol. 16, page 77, 2006
- 242 Rosakis, A. J.  
 “GALCIT’s New Involvement in Space”, Transforming Space Conference, the California Space Authority, Education and Workforce Panel, Los Angeles, CA, December 2006
- 243 Rosakis, A. J.  
 “Laboratory Earthquakes”, Distinguished Lecture, Mechanical Engineering Department Distinguished Lecture at Stony Brook University, Stony Brook, New York, January 2007 (**Honor Lecture**)
- 244 Rosakis, A. J.  
 “Identifying Self-healing Sliding Modes and Crack-like Rupture Modes in Dynamically Loaded Interfaces” 2007 Stewardship Science Academic alliances (SSAA) Program Symposium, National Nuclear Security Administration (NNSA), Carnegie Institution, Washington DC, February 5-7, 2007

- 245 Rosakis, A. J.  
 “Laboratory Earthquakes: Modes, Directionality, and Super Shear”, USGS Earthquake Hazards Team Seminar Series, U.S. Geological Survey, Menlo Park, CA, March 2007
- 246 Rosakis, A. J.  
 “Earthquake Rupture Modes as Revealed in the Laboratory”, The George R. Irwin Centennial Conference, University of Maryland College Park, MD, March 2007
- 247 Rosakis, A. J.  
 “Laboratory Earthquakes - Modes, Directionality and Super shear”, The Schaller Lecture, Department of Mechanical Science and Engineering, Univ. of Illinois at Urbana-Champaign, Urbana, IL, May 2007 (**Honor Lecture**)
- 248 Rosakis, A. J.  
 “Laboratory Earthquakes: Modes, Directionality, and Super Shear”, School of Earth Sciences, Department of Geophysics, Stanford University, San Jose, CA, May 2007
- 249 Rosakis, A. J.  
 “Laboratory Earthquakes: Modes, Directionality, and Super Shear”, McMat 2007, ASME Applied Mechanics and Materials Conference, University of Texas at Austin, June 2007 (**Plenary Contribution**)
- 250 Mello, M., Rosakis, A.J.  
 “Extension Of The Coherent Gradient Sensor (CGS) To The Combined Measurement Of In-Plane And Out-Of-Plane Displacement Field Gradients”, Society of Experimental Mechanics Meeting 2007, Springfield, MA, June 2007
- 251 Rosakis, A. J., Lu, X., Lapusta, N.  
 “Pulse and Crack-Like Ruptures in Experiments Mimicking Crustal Earthquakes” The Hellenic Society for Theoretical and Applied Mechanics, 8<sup>th</sup> HSTAM International Congress on Mechanics, Univ. of Patras, PATRAS – Greece, July 2007 (**Plenary Lecture**)
- 252 Lu, X., Lapusta, N., Rosakis, A.J.  
 “Pulse-like and Crack-like ruptures in experiments mimicking crustal earthquakes”, Southern California Earthquake Center Annual Meeting (SCEC07), Palm Springs, CA, 2007
- 253 Lu, X., Lapusta, N., Rosakis, A.J.  
 “Laboratory experiments and theoretical studies of rupture modes and supershear transition”, American Geophysical Union Fall Meeting (AGU07) 2007, San Francisco, CA, December 2007
- 254 Lu, X., Lapusta, N., Rosakis, A.J.  
 “Laboratory observations of crack-like and pulse-like ruptures”, ASME International Mechanical Engineering Congress & Exposition, 2007 (IMECE07), Seattle, Washington, 2007
- 255 Rosakis, A. J.  
 “GALCIT’s Structural Transformation: Re-Engaging JPL in Research and Teaching” Anne Rothenberg Seminar, March 2008
- 256 Rosakis, A.J.  
 “Intersonic Earthquakes: What laboratory earthquakes can teach us about real ones.” Oxford University Astor Museum Lecture Theatre, Oxford, May 2008 (**Honor Lecture**)
- 257 Rosakis, A.J.  
 “CGS Interferometry as a Full-Field Wafer Inspection and Film Stress Measurement Tool: Measurements in the Presence of Film thickness and Stress Discontinuities” Oxford University Department of Engineering, May 2008 (**Invited Contribution**)
- 258 Biegel, R., Bhat, H., Sammis, C., Rosakis, A.  
 “Rupture Directionality and Super-shear: Elastic Mismatch or Damage Induced Retardation?” SCEC Fault Zones Workshop, Oxnard, CA, June 2008
- 259 Lamberson, L., Rosakis, A., Adams, M.A.  
 “Dynamic Behavior Track Shock and High Pressure Response”, 2008 SEM XI International Congress & Exposition on Experimental and Applied Mechanics Experimental Mechanics Applied to Damage: Detection, Analysis and Mitigation, Orlando, Florida Jun 2008
- 260 Lamberson, L. Rosakis, A.J., Adams, M.  
 “Hypervelocity Impact In-Situ Damage Evolution”, SEM International Congress & Exposition, Orlando, FL, June 2008
- 261 Lapusta, N., Lu, X., Rosakis, A.J.  
 “Pulse-like and crack-like shear ruptures in earthquake models and laboratory experiments”, First American Academy of Mechanics Conference (First AAM08), New Orleans, LA, 2008
- 262 Rosakis, A.J., Lu, X., Lapusta, N.  
 “Pulse-like and Crack-like Rupture Modes in Laboratory Earthquakes”, ASME International Mechanical Engineering Congress and Exposition (IMECE08), Boston, MA, November 2008
- 263 Lu, X., Lapusta, N., Rosakis, A.J.  
 “Laboratory experiments and theoretical studies of rupture modes and supershear transition”, 22<sup>nd</sup> International Congress of Theoretical and Applied Mechanics (ICTAM2008), SM08 Geophysics and Geomechanics session, University of Adelaide, Adelaide, Australia, August 2008
- 264 Lu, X., Lapusta, N., Rosakis, A.J.  
 “Analysis of supershear transition regimes in rupture experiments: The effect of nucleation conditions and friction parameters”, So. Cal Earthquake Ctr. Annual Meeting (SCEC08), at the Hilton Palm Springs Resort in Palm Springs, CA, September 6-11, 2008
- 265 Lu, X., Lapusta, N., Rosakis, A.J.  
 “Effect of prestress and nucleation procedure on rupture modes in laboratory earthquakes”, Southern California Earthquake Center Annual Meeting (SCEC08), at the Hilton Palm Springs Resort in Palm Springs, CA, September 6-11, 2008
- 266 Lamberson, L., Rosakis, A.J., Adams, M.  
 “Hypervelocity Impact: Damage Mechanics and Material Response”, Society of Engineering Science 45th Annual Technical Meeting, Urbana-Champaign, IL, October 2008

- 267 Xiao, L., Lapusta, N., Rosakis, A.  
 “Analysis of Supershear Transition Regimes in Rupture Experiments: Effect of Nucleation Conditions and Friction Parameters”,  
 2008 American Geophysical Union Fall Meeting (*AGU08*), San Francisco, CA, December 2008
- 268 Griffin, A., Rosakis, A., Pollard, D., Ko, C.  
 “Tensile cracks: a new link between geological observations of faults and seismological models of earthquake dynamics”, American  
 Geophysical Union Fall Meeting, San Francisco, CA, December 2008
- 269 Bhat, H. Sammis, C., Rosakis, A.  
 “Numerical Model for the Effect of Off-Fault Damage on Dynamic Rupture”, 2008 American Geophysical Union Fall Meeting, San  
 Francisco, CA, December 2008
- 270 Rosakis, A.  
 “Intersonic Earthquakes: What laboratory earthquakes can teach us about real ones.”, Theoretical & Applied Mechanics (TAM)  
 Colloquium, Northwestern University, Civil and Environmental Departments, Chicago IL, January 2009 (**Invited Lecture**)
- 271 Rosakis, A., Sammis, C., Bhat, H., Biegel, R.  
 “Rupture Directionality and Super-shear: Elastic Mismatch or Damage Induced Retardation?” IUTAM Symposium: Dynamic  
 Fracture and Fragmentation, Austin, TX, March 2009 (**Invited Lecture**)
- 272 Rosakis, A., Sammis, C., Bhat, H., Biegel, R.  
 “Rupture Directionality and Super-shear: Elastic Mismatch or Damage Induced Retardation?”, SAA 2009 Seismological Society of  
 America, Special Session – Supershear Earthquake Rupture Speeds, Monterey, CA, April 2009 (**Invited Contribution**)
- 273 Mello, M., Bhat, H.S., Rosakis, A.J., Kanamori, H.,  
 “Experimental Investigation of Radiated Ground Motion Due to Supershear Earthquake Ruptures”, SAA 2009 Seismological  
 Society of America, Special Session – Supershear Earthquake Rupture Speeds, Monterey, CA, April 2009 (**Invited Contribution**)
- 274 Rosakis, A., Sammis, C., Bhat, H., Biegel, R.  
 “Rupture Directionality and Super-shear: Elastic Mismatch or Damage Induced Retardation?”, 2009 SEM Annual Conference and  
 Exposition on Experimental and Applied Mechanics, Albuquerque, New Mexico, June 1-3, 2009 (**Invited Contribution**)
- 275 Lamberson, L., Eliasson, V., Rosakis, A.J.  
 “Mechanics of Hypervelocity Impact Induced Damage”, SEM International Congress & Exposition, Albuquerque, NM, June 2009.
- 276 Rosakis, A.J., Mello, M., Bhat, H.S., Kanamori, H.  
 “Experimental Investigation of Radiated Ground Motion Due to Supershear Earthquake Ruptures”, 2009 ASME International  
 Mechanical Engineering Congress and Exposition, 2009 (IMECE09), Lake Buena Vista, Florida, 2009
- 277 Lamberson, L., Rosakis, A.J.,  
 “Optical Investigations of Hypervelocity Impact Damage”, American Society of Mechanical Engineers International Congress &  
 Exposition, Orlando, FL, November 2009. (*1<sup>st</sup> place - student paper*)
- 278 Eliasson, V., Rosakis, A.J., Dimotakis, P.E.,  
 “Shock focusing in water and material effects”, ONR Solid Mechanics Review, University of Maryland, 2009
- 279 Rosakis, A.J., Feng, X., Huang, Y., Ngo, D.  
 “CGS Interferometry Applied to the Study of Curvature and Film Stress Evolution in the Presence of Severe Non-uniformities of  
 film thickness and Misfit Strain - Part I and Part II”, ASME International Mechanical Engineering Congress and Exposition,  
 (IMECE09), Lake Buena Vista, Florida, 2009
- 280 Eliasson, V., Henshaw, W.D., Rosakis, A.J., Dimotakis, P.E.  
 “Fluid-structure interaction of converging shocks in water”, APS Meeting, Minneapolis, Nov. 2009
- 281 Ngo, D, Huang Y., Rosakis, A.J., Griffith, W.A., Pollard, D.D.  
 “Off-fault tensile cracks: A link between geological fault observations, experiments and earthquake rupture models”, 2009 American  
 Geophysical Union Fall Meeting, San Francisco, CA, 2009
- 282 Sammis, C.G., Bhat, H.S., Rosakis, A. J.  
 “A Micromechanical Model for the Generation of Off-Fault Damage by Earthquake Ruptures”, 2009 American Geophysical Union  
 Fall Meeting, San Francisco, CA, 2009
- 283 Mello, M., Bhat, H.S., Kanamori, H., Rosakis, A. J.  
 “Experimental Investigation of Radiated Ground Motion Due to Supershear Earthquake Ruptures”, 2009 American Geophysical  
 Union Fall Meeting, San Francisco, CA, 2009
- 284 Rosakis, A. J.  
 “Intersonic versus Sub Rayleigh Earthquakes: Unique Signatures of Radiated Ground Motion, International Conference on New  
 Developments in Elasticity: The Legacy of Robert Hooke” Mathematical Institute, University of Oxford, United Kingdom, January  
 2010 (**Invited Lecture**)
- 285 Rosakis, A. J.  
 “Intersonic Earthquakes : What Laboratory Earthquakes Teach us About Real Ones” Earnest C. Watson Lecture Series, California  
 Institute of Technology, Beckman Auditorium, Pasadena, CA, February 2010 (**Honor Lecture**)
- 286 Rosakis, A. J.  
 “Intersonic Earthquakes : What Laboratory Earthquakes Teach us About Real Ones” Joint Seminar, MAE Mechanical and Materials  
 Engineering and Scripps Institution of Oceanography, University of California, San Diego, CA, March 2010 (**Invited Lecture**)
- 287 Rosakis, A. J.  
 “Intersonic Earthquakes : What Laboratory Earthquakes Teach us About Real Ones” 2010 Japan Society of Mechanical  
 Engineers/Materials and Mechanics Division Symposium for Young Researchers, California Institute of Technology, Pasadena, CA,  
 March 2010 (**Invited Lecture**)
- 288 J. Mihaly, L. Lamberson, M. Adams, et al  
 “A Low-Cost, Small Bore, Light-Gas Gun Facility”, 11th Hypervelocity Impact Symposium, Freiburg, Germany, April 2010

- 289 Lamberson, L., Rosakis, A.J.  
 “Hypervelocity Impact Damage of Brittle Polymers”, École Polytechnique, Solid Mechanics Laboratory (LMS), Palaiseu, France, April 2010 (**Invited Talk**)
- 290 Lamberson, L., Eliasson, V., Rosakis, A.J.  
 “In-situ Optical Investigations of Hypervelocity Impact Induced Dynamic Fracture”, Society of Experimental Mechanics (SEM) International Congress & Exposition, Indianapolis, IN, June 2010
- 291 Bhat, H. S., Rosakis, A. J., Sammis, C.G.  
 “An Experimental and Theoretical Study of Asymmetric Earthquake Rupture Propagation Caused by Off-Fault Fracture Damage”, Annual Meeting of the Southern California Earthquake Center (SCEC), Palms Springs, CA., September 2010
- 292 Mello, M., Bhat, H. S., Rosakis, A. J., Kanamori, H.  
 “Identifying the unique ground motion signatures of supershear earthquakes: Theory and experiments”. Annual Meeting of the Southern California Earthquake Center (SCEC), Palms Springs, CA., September 2010
- 293 Sammis, C. G., Bhat, H. S., Rosakis, A. J.  
 “Micromechanical Damage Mechanics at High Loading Rates”, Monitoring Research Review, Orlando, FL., September 2010
- 294 Sammis, C.G., Rosakis, A. J.  
 “Off-Fault Tensile Cracks: A Link between Geological Fault observations, Lab Experiments and Dynamic Rupture Models”, GSA Abstracts with programs Vol. 42, No. 5, Session No. 173 Titled “Where Does Earthquake Physics Meet Earthquake Geology?”, 2010 GSA Denver Annual Meeting, Denver, CO, October 2010
- 295 Sammis, C.G., Rosakis, A. J.  
 “An Experimental Study of the Effects of Fault Zone Structure on Earthquake Ruptures”, GSA Abstracts with programs Vol. 42, No. 5, Session No. 173 Titled “Where Does Earthquake Physics Meet Earthquake Geology?”, 2010 GSA Denver Annual Meeting, Denver, CO, October 2010
- 296 Rosakis, A. J.  
 “Where have all the Rocket Scientists Gone?”, 2010 National Summit on the National Academy of Engineering (NAE) Grand Challenges, USC Viterbi School of Engineering, Los Angeles, CA., October 2010 (**Invited Talk**)
- 297 Rosakis, A. J.  
 “Intersonic Earthquakes: What Laboratory Earthquakes Teach Us About Real Ones”, The Robert Henry Thurston Lecture, 2010 ASME International Mechanical Engineering Congress and Exposition, Vancouver Convention & Exposition Centre, Vancouver, British Columbia, November 2010 (**Honor Lecture**)
- 298 Bhat, H.S., Sammis, C.G., Rosakis, A.J.  
 “An Experimental and Theoretical Study of Asymmetric Earthquake Rupture Propagation Caused by Off-Fault Fracture Damage”, *Eos Trans.* 2010 American Geophysical Union Fall Meeting (AGU), Suppl.: pp. Abstract T33B-2241, San Francisco, CA, December 2010
- 299 Mello, M., Bhat, H., Krishnan, S., Rosakis, A.J., Kanamori, H.  
 “Response of Building Structures to Scaled Laboratory Earthquake Ruptures”, *Eos Trans.* 2010 American Geophysical Union Fall Meeting (AGU), Suppl.: pp. Abstract S43A-2049, San Francisco, CA, December 2010
- 300 Gabuchian, V., Rosakis, A.J., Lapusta, N., Oglesby, D.  
 “Experimental Investigation of Thrust Faults in Homalite”, 2010 American Geophysical Union Fall Meeting, San Francisco, CA, December 2010
- 301 Oglesby, D., Lapusta, N., Gabuchian, V., Rosakis, A. J.  
 “Numerical models of Thrust Earthquakes on Homalite Faults”, 2010 American Geophysical Union Fall Meeting, San Francisco, CA, December 2010
- 302 Bhat, H.S., Sammis, C.G., Mello, Michael, Rosakis, A.J.  
 “Laboratory Earthquakes: new Insights into Earthquake Source Processes”, Institut de Physique du Globe, Paris, France, 2011
- 303 Rosakis, A.J., Mello, M. Bhat, H.S., Swaminathan, K., Kanamori, H.  
 “Identifying the unique ground motion signatures of Supershear vs. Sub-Rayleigh earthquakes: Theory, experiments and Seismic risk”, Symposium on Mechanics in Geophysical and Materials Science, In honor of Professor James R. Rice, California Institute of Technology, January 2011 (**Invited Lecture**)
- 304 Mello, M., Rosakis, A.J., Bhat, H.S., Kanamori, H.  
 “Identifying the unique ground motion signatures of Supershear vs. Sub-Rayleigh earthquakes: Theory and Experiments”, 2<sup>nd</sup> Annual James K. Knowles Lecture and Caltech Solid Mechanics Symposium, California Institute of Technology, January 2011 (**Invited Lecture**)
- 305 Rosakis, A.J.  
 “Identifying the unique ground motion signatures of Supershear Earthquakes: The One-Two Punch Effect on High-Rise Buildings”, The Mindlin Lecture, Department of Civil Engineering and Engineering Mechanics, Columbia University, N.Y., March 2011, (**Honor Lecture**)
- 306 Mello, M, Bhat, H.S, Rosakis, A.J., Kanamori, H.  
 “Identifying the unique ground motion signatures of Supershear vs. Sub-Rayleigh earthquakes: Theory, experiments and Seismic risk”, Visiting Seminar, Department of Civil Engineering, Indian Institute of Science, Bangalore, India, March 2011
- 307 Rosakis, A.J.  
 “Identifying the unique ground motion signatures of Supershear Earthquakes: The One-Two Punch Effect on High-Rise Buildings”, The Royal Astronomical Society, Earthquake Mechanics and Supershear Rupture Speeds, London, England, May 2011 (**Invited Lecture**)

- 308 Rosakis, A.J., Mello, M., Bhat, H.S., Krishnan, S., Kanamori, H.  
 “Identifying the unique ground motion signatures of Supershear vs. Sub-Rayleigh Earthquakes: Theory, Experiments and Seismic Risk”, Symposium in honor of Professor L. B. Freund, “Future Directions in Mechanics Research”, Brown University, Providence, RI, June 2011 (**Invited Lecture**)
- 309 Rosakis, A. J.  
 “Identifying the unique ground motion signatures of Supershear Earthquakes: The One-Two Punch Effect on High-Rise Buildings”, 48<sup>th</sup> Annual Technical Meeting of the Society of Engineering Science (SES), A.C. Eringen Medal, Northwestern University, October 2011(**Honor Lecture**)
- 310 Bhat, H.S., Rosakis, A.J., Sammis, C. G.  
 “The Micromechanics Of Brittle Failure At Very High Loading Rates”, 48<sup>th</sup> Annual Technical Meeting of the Society of Engineering Science (SES), A.C. Eringen Medal, Northwestern University, October 2011
- 311 Griffith, W. A., Rosakis, A. J., Prakash, V.  
 The Character and Evolution of Fracture Systems in Crystalline Rocks, “Secondary fracture arrays and coseismic friction along faults in crystalline rocks”, American Geophysical Union, Fall Meeting 2011, San Francisco, CA, December 2011
- 312 Mello, M., Rosakis, A. J., Bhat, H. S., Bjornsson, A.B., Krishnan, S., Kanamori, H.  
 Toward Seismic Rupture Models with Constraints from Experimental and Seismological Observations, “Identifying the unique ground motion signatures of super-shear earthquakes: The one-two punch effect on high-rise buildings”, American Geophysical Union, Fall Meeting 2011, San Francisco, CA, December 2011
- 313 Mihaly J. M., Adams M. A., and Rosakis, A. J.  
 “High-Speed Imaging of Hypervelocity Impact Phenomena Using Laser Side-Lighting”, 62nd Annual Meeting of the Aeroballistic Range Association, Putin Bay, Ohio, 2011
- 314 Alexeenko, A., Kulakhmetov, M., Weaver, A., Slipchenko, M., Mihaly, J., Adams, M., Rosakis, A.J.,  
 "Feasibility of Non-Equilibrium Hypersonic Flow Measurements in Small Particle Hypervelocity Impact Range", AIAA Paper 2012-0596, Proceedings of 50th AIAA Aerospace Sciences Meeting, Nashville, TN, January 9-12, 2012
- 315 Rosakis, A. J.  
 “Identifying the unique ground motion signatures of super-shear earthquakes: The one-two punch effect on high-rise buildings”, University of California Davis – College of Engineering, College Distinguished Lecture, Davis, CA, Jan. 2012 (**Invited Lecture**)
- 316 Rubino V., Lapusta N., Rosakis A.J.  
 “The feasibility of dynamic full-field earthquake from space: a laboratory study”, 3<sup>rd</sup> Annual James K. Knowles Lecture and Caltech Solid Mechanics Symposium, at the California Institute of Technology, Pasadena, CA, 2013. (**Invited Lecture**)
- 317 Rosakis, A. J.  
 “Engineering in the Fight Against Mega-Earthquakes: Super-shear Earthquake Ruptures Flattening our Buildings”, ARCS Foundation (Achievement Rewards for College Scientists) ARCS Scholar Recognition Lecture , California Club, January 2012 (**Invited Lecture**)
- Rosakis, A. J.  
 “Identifying the unique ground motion signatures of super-shear earthquakes: The one-two punch effect on high-rise buildings”, UCLA Distinguished Lecture Series in Structural Engineering and Mechanics , February 2012 (**Invited Lecture**)
- 318 Rubino V., Lapusta N., Rosakis A.J.  
 “Full-field earthquake measurements with the digital image correlation method”, Seismological Society of America, SSA Annual Meeting 17-19 April 2012, San Diego, CA
- 319 Rosakis, A. J.  
 “Engineering in the Fight Against Mega-Earthquakes”, Caltech Alumni Association, Ruben H. Fleet Science Center, San Diego, CA., May 2012 (**Invited Lecture**)
- 320 Rosakis, A. J.  
 “Identifying the unique ground motion signatures of super-shear earthquakes: The one-two punch effect on high-rise buildings”, Institut de Physique du Globe de Paris (IPGP) , Tectonique et mécanique de la lithosphère Sismologie Bureau IPGP Amphitheater, June 2012 (**Invited Lecture**)
- 321 Siriki, H., Lapusta, N., Rosakis, A.J., Krishnan, S., Bhat, H.S., Lu, X.  
 “A Recursive Division Stochastic Source Algorithm with Insights from Laboratory Earthquakes for Strike-Slip Earthquakes”, 15<sup>th</sup> World Conference on Earthquake Engineering (15 WCEE), Lisbon, Portugal, September 2012
- 322 Mihaly, J. M., Rosakis, A.J., Adams, M.A., Tandy, J.D.  
 “Imaging Ejecta and Debris Cloud Behavior Using Laser Side-Lighting”, Procedia Engineering, Proceedings of The 12th in the Hypervelocity Impact Symposium series, HVIS 2012 Baltimore, Maryland from September 2012
- 323 B. Li, L. Perotti, M. Adams, J. Mihaly, A.J. Rosakis, M. Stalzer, M. Ortiz;  
 “Large Scale Optimal Transportation Meshfree (OTM) Simulations of Hypervelocity Impact”, The 12th in the Hypervelocity Impact Symposium series, HVIS 2012, Baltimore, Maryland from September 2012
- 324 Rubino, V., Lapusta N., Rosakis, A.J.,  
 ” Laboratory Earthquakes: Measuring surface displacement with high-speed digital image correlation”, 2012 SCEC Annual Meeting, Palm Springs, CA, September 2012
- 325 Rosakis, A. J.  
 “Identifying the unique ground motion signatures of super-shear earthquakes: The one-two punch effect on high-rise buildings”, ETH, Zurich, Switzerland , Geophysics Colloquium in the Department of Earth Sciences, December 2012 (**Invited Lecture**)
- 326 Rubino V., Lapusta N., Rosakis A.J.  
 “Laboratory earthquake measurements with the high-speed digital image correlation method and applications to supershear transition”, American Geophysical Union, AGU Fall Meeting, San Francisco, CA, December 2012

- 328 Lamberson, L., Rosakis, A. J.  
 “Modified Charters Model for Single Wall Perforation”, *Procedia Engineering*, Proceedings of The 12th in the Hypervelocity Impact Symposium series, HVIS 2012 Baltimore, Maryland from September 2012
- 329 Li, B., Perotti, L., Adams, M., Mihaly, J., Rosakis, A. J., Stalzer, M., Ortiz, M.,  
 “Large scale Optimal Transportation Meshfree (OTM) Simulations of Hypervelocity Impact”, *Procedia Engineering*, Proceedings of The 12th in the Hypervelocity Impact Symposium series, HVIS 2012 Baltimore, Maryland from September 2012
- 330 Gabuchian, V., Rosakis, A.J., Lapusta, N.  
 "Interaction of Sub-Rayleigh and Super-shear Ruptures with a Free Surface: Experimental Study with Applications to Thrust Fault Rupture Dynamics" 4<sup>th</sup> Annual James K. Knowles Lecture and Caltech Solid Mechanics Symposium, at the California Institute of Technology, Pasadena, CA, 2013. **(Invited Lecture)**
- 331 Rosakis, A. J.  
 “Identifying the unique ground motion signatures of super-shear earthquakes: The one-two punch effect on high-rise buildings”, The Nowinski Lecture, Univ. of Delaware, Newark, Delaware, Dept. of Mechanical Engineering, April 2013 **(Honor Lecture)**
- 332 Rubino, V, Lapusta, N., Rosakis, A.J.  
 Laboratory earthquake measurements with the high-speed digital image correlation method, SEM 2013 Annual Conference & Exposition on Experimental and Applied Mechanics, Lombard, IL, June 2013.
- 333 Rosakis, A. J., Mello, M., Bhat, H., Kanamori, H.  
 “Analogue Earthquakes: Reproducing the 2002, Mw7.9, Denali supershear earthquake in the laboratory”, Knowledge for the Future, Joint Assembly Gothenburg, IAHS-IAPSO-IASPEI, Gothenburg, Sweden, July 2013
- 334 Bhat, H.S., Rosakis, A.J.; Sammis, C.G.  
 “A constitutive model accounting for dynamic fracture damage during earthquakes”, Knowledge for the Future, Joint Assembly Gothenburg, IAHS-IAPSO-IASPEI, Gothenburg, Sweden, July 2013 **(Invited Lecture)**
- 335 Mihaly, J.M., Sammis, C.G., Rosakis, A.J., Bhat, H.S.  
 P- and S-wave Generation by Rock Fracture: Numerical Models and Laboratory Experiments, AFRL TIM Meeting, Albuquerque, NM, September 2013
- 336 Rubino, V, Lapusta, N., Rosakis A.J.,  
 Can supershear earthquakes occur under low overall levels of shear prestress?, 2013 SCEC Annual Meeting, Palm Springs, CA, September 2013
- 337 Rubino, V, A.J. Rosakis and N. Lapusta, Towards high-speed digital image correlation measurements of dynamic ruptures along frictional interfaces, 21<sup>st</sup> DYMAT Technical Meeting – High speed imaging for dynamic testing of materials and structures, London, UK, November 2013.
- 338 Rosakis, A. J., Mello, M., Bhat, H., Kanamori, H.  
 “Analogue Earthquakes: Reproducing the 2002, Mw7.9, Denali supershear earthquake in the laboratory”, ASME 2013 International Mechanical Engineering Congress and Exposition (IMECE), Drucker Medalist Symposium, San Diego, CA, November 2013 **(Invited Lecture)**
- 339 Mihaly J.M., Rosakis A.J., Sammis C.G., Bhat H.S.  
 An Experimental and Theoretical Study of Fracture Patterns and Particle Motion Generated by Underground Explosions, AGU Fall Meeting, San Francisco, CA, December 2013
- 340 Rubino, V., Lapusta, N., Rosakis, A. J.  
 Imaging Earthquakes from Space: A laboratory study, 5<sup>th</sup> Annual James K. Knowles Lecture and Caltech Solid Mechanics Symposium California Institute of Technology, Pasadena, CA, January 2014 **(Invited Lecture)**
- 341 Gabuchian, V., Rosakis, A. J., Lapusta, N.  
 “Earthquakes may open faults, 6<sup>th</sup> Annual James K. Knowles Lecture and Caltech Solid Mechanics Symposium California Institute of Technology, Pasadena, CA, February 2015. **(Invited Lecture)**
- 342 Rubino, V., Rosakis, A.J., Lapusta, N.  
 Imaging supershear laboratory earthquakes with ultra-high-speed DIC, SSA 2015 Annual Meeting, Pasadena, CA, April 2015
- 343 Rubino, V., Rosakis, A.J., Lapusta, N.  
 Ultra-high-speed DIC applied to intersonic laboratory earthquakes, SEM 2015 Annual Conference, Costa Mesa, CA, June 2015
- 344 Rubino, V., Rosakis, A.J., Lapusta, N.  
 Dynamic imaging of strain and stress evolution in laboratory earthquakes with the ultra-high-speed digital image correlation technique, American Geophysical Union (AGU) Fall Meeting, San Francisco, CA, December 2015
- 345 Gori, M., Rubino, V., Rosakis, A. J., Lapusta, N.,  
 Laboratory Earthquakes Induced by Fluid Injection, 7<sup>th</sup> Annual James K. Knowles Lecture and Caltech Solid Mechanics Symposium California Institute of Technology, Pasadena, CA, February 2016. **(Invited Lecture)**
- 346 Rubino, V, Rosakis A.J., Lapusta N.,  
 Dynamic friction measurements using ultra-high-speed digital image correlation in laboratory earthquake ruptures, International Digital Image Correlation Society (iDICs) 2016 Conference and Workshop, SEM Fall Conference, Philadelphia, PA, November 7-10, 2016
- 347 Rosakis A.J., Lapusta N., Rubino, V.,  
 Dynamic Imaging of Spontaneously Evolving Friction in Laboratory Earthquakes, American Geophysical Union, Annual (AGU) Fall Meeting, San Francisco, CA, December 2016 **(Invited Lecture)**
- 348 Gori, M., Rubino, V., Rosakis, A.J., Lapusta, N.  
 Laboratory Earthquakes Nucleated by Fluid Injection, AGU, Annual Fall Mtg., San Francisco, CA, Dec 2016
- 349 Rosakis, A. J., Lapusta, N, Rubino, V.  
 Using Sub-Rayleigh and Super-shear Laboratory Earthquake Ruptures to reveal the structure of Dynamic Friction, 14<sup>th</sup> International Conference on Fracture (ICF-14), Distinguished Lecture, Rhodes, Greece, June 18-23, 2017 **(Invited Lecture)**