Curriculum Vitae

Huajian Gao
Walter H. Annenberg Professor of Engineering
School of Engineering
Brown University
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https://www.brown.edu/research/projects/nanomechanics-engineering-biological-systems/
http://www.researcherid.com/rid/F-9360-2010
http://scholar.google.com/citations?user=RyUTIccAAAAJ&hl=en

EDUCATION

Ph.D.	Engineering Science	Harvard University	1988
M.S.	Engineering Science	Harvard University	1984
B.S.	Solid Mechanics	Xi'an Jiaotong University	1982

EXPERIENCES

7/2006-present Walter H. Annenberg Professor of Engineering
1/2006-present Professor of Engineering
9/2005-12/2005 Visiting Professor
School of Engineering
Brown University

1/2001-6/2006 Director and Professor
Max Planck Institute for Metals Research

1/2002-6/2006 Honorary Professor
Faculty of Chemistry
University of Stuttgart

9/2002-8/2004 Visiting Professor
9/2000-8/2002 Professor
1/1995-8/2000 Associate Professor
9/1988-12/1994 Assistant Professor
Department of Mechanical Engineering
Department of Materials Science and Engineering (by courtesy)
Stanford University

4/1988-8/1988 Postdoctoral Research Fellow (w/ Prof. James R. Rice)
Division of Applied Science
Harvard University

6/1985-3/1988 Research Assistant (w/ Prof. James R. Rice)
Division of Applied Science
Harvard University

8/1982-8/1983 Lecturer
Department of Engineering Mechanics
Xi'an Jiaotong University

VISITING POSITIONS

1/2017-12/2019 Institute of Advanced Study (TIAS) Faculty Fellow
Department of Mechanical Engineering
Texas A&M University

1/2016-11/2017 Distinguished Visiting Chair Professor
Department of Mechanical Engineering
Hong Kong Polytechnic University

6/2012-6/2022 Visiting Professor
Center for Advanced Mechanics and Materials
Tsinghua University

12/2011-11/2016 Visiting Professor
International Center for Applied Mechanics
Xi'an Jiaotong University

12/2014-12/2014 Visiting Professor
Soochow University

12/2011-12/2014 Kuang-piu Visiting Professor
Department of Engineering Mechanics
Zhejiang University

10/2012-11/2012 Simpson Faculty Fellow
Department of Mechanical Engineering
Northwestern University

1/2012-12/2013 Distinguished Visiting Professor
Department of Mechanical Engineering
The University of Hong Kong

7/2012-12/2012 Timoshenko Visiting Professor
Department of Mechanical Engineering
Stanford University

1/2012-6/2012 Alexander von Humboldt Visiting Professor
Department of Biophysical Chemistry
University of Heidelberg

4/2007-4/2012 VIP Visiting Professor
Institute of High Performance Computing
Agency for Science, Technology and Research of Singapore

12/2002-12/2005 Visiting Scientist
Institute of Metals Research
Chinese Academy of Sciences

8/2000-8/2005 Chang Jiang Visiting Chair Professor
Department of Engineering Mechanics
Tsinghua University

3/1998-8/1998 Alexander von Humboldt Visiting Scientist
Max Planck Institute for Metals Research

4/1996-6/1996 Visiting Professor
Department of Mechanical Engineering
Hong Kong University of Science and Technology

2/1996-4/1996 Visiting Professor
Department of Mechanical Engineering
University of Paderborn

6/1995-1/1996 Senior Visiting Scientist
Department of Applied Mathematics and Theoretical Physics
University of Cambridge

MEMBERSHIPS

Member, National Academy of Engineering

Member, German National Academy of Sciences Leopoldina

Foreign Member, Chinese Academy of Sciences

Fellow, American Society of Mechanical Engineers

Fellow, Institute of Physics, Great Britain

Life Member, American Geophysical Union

Life Member, Society of Engineering Science

Member, Materials Research Society

Member, Engineering Mechanics Institute, American Society of Civil Engineers

PROFESSIONAL SOCIETY RECOGNITIONS

Theodore von Karman Medal (highest medal of ASCE in engineering mechanics), **Engineering Mechanics Institute, American Society of Civil Engineers (ASCE),** 2017

Nadai Medal (highest medal of ASME in engineering materials), **American Society of Mechanical Engineers (ASME)**, 2015

William Prager Medal (highest medal of SES), **Society of Engineering Science (SES),** 2015

Rodney Hill Prize in Solid Mechanics (highest international award in mechanics; only one awardee every four years), **International Union of Theoretical and Applied Mechanics**, 2012

Alexander von Humboldt Research Award (highest German award for international scientists), **Germany**, 2012

Charles Russ Richards Memorial Award (highest joint award of Pi Tau Sigma and ASME), **Pi Tau Sigma (National Mechanical Engineering Honor Society) and ASME**, 2011

Guggenheim Fellowship (for exceptional scholarship or creativity; only 1-2 awards in engineering per year), **John Simon Guggenheim Memorial Foundation,** 1995

RESEARCH INTERESTS

Solid Mechanics, nanomechanics, biomechanics

Mechanics of thin films and hierarchically structured materials

Mechanics of nanostructured and nanotwinned materials

Mechanics of biological and bio-inspired materials

Mechanics of cell-nanomaterials interactions

Mechanics of energy storage materials

Mechanics of cell adhesion

Mechanics of amorphous alloys

PUBLICATIONS & IMPACT

Publication: >**400** papers in refereed journals, including Nature and Nature family journals, Science, PNAS, Physical Review Letters, Nano Letters, and Proceedings of the Royal Society, as well as important journals in my field (e.g., JMPS, IJSS, JAM).

H-index: 88 Google Scholar, 76 ISI Web of Science (Researcher ID F-9360-2010)

Total number of citations: >32K (Google Scholar), >22K (ISI Web of Science)

ISI Highly Cited Researcher, Institute for Scientific Information (ISI), 2014, 2015 (http://hcr.stateofinnovation.thomsonreuters.com/)

EDITORSHIPS

Editor-in-Chief, Journal of the Mechanics and Physics of Solids (co-editor 2006-2015), 2006-present

Special Invited Editor, PNAS (Proceedings of the National Academy of Sciences of USA)**,** 2014

Editor, International Journal of Applied Mechanics, 2009-present

Regional Editor, **International Journal of Fracture,** 2004-present

Editorial Board, National Science Review (a topmost journal in China aimed at reviewing cutting-edge developments across science and technology in China and around the world under the auspices of the Chinese Academy of Sciences), 2013-present

Advisory Board, **Computational Materials Science and Engineering**, 2012-present

Advisory Board, **Acta Mechanica Sinica**, 2011-present

Editorial Board, **Acta Metallurgica Sinica**, 2003-present

Editorial Board, Acta Mechanica, 2014- present

Editorial Board, **Modeling and Simulation in Materials Science and Engineering**, 1998-

Editorial Board, **Molecular & Cellular Biomechanics, Editorial Board**, 2004-present

Editorial Board, **Journal of Computational & Theoretical Nanoscience**, 2004-present

Editorial Board, **Journal of Nanoengineering and Nanosystems**, 2004-present

Editorial Board, International Journal of Solids and Structures, 2005-2011

Editor-in-Chief, Acta Mechanica Sinica, 2001-2011

Board of Associate Editors, Cellular and Molecular Bioengineering, Biomedical Engineering Society, 2008-2013

Chief Editor, Continuum Mechanics and Thermodynamics, 2004-2006

Associate Editor, **Journal of Applied Mechanics**, 2000-2006

Associate Editor, **Communications in Computational Physics**, 2006-2007

Acting Editor-in-Chief, International Journal of Solids and Structures, 1997

HONORS AND AWARDS

Theodore von Karman Medal (highest medal of ASCE in engineering mechanics), **Engineering Mechanics Institute, American Society of Civil Engineers (ASCE),** 2017

Elected Member of the German National Academy of Sciences Leopoldina, 2017

Faculty Fellow, Hagler Institute of Advanced Study (TIAS) at Texas A&M University, 2017

Southwest Mechanics Lecture Series (invited lecture tour of universities in the Southwestern region of USA), 2017

Wang Ren Lecture on Mechanics, Department of Mechanics and Engineering Science**, Peking University**, 2016

Fran and Eric Gebhardt Distinguished Lecture, Daniel Guggenheim School of Aerospace Engineering**, Georgia Institute of Technology**, 2016

Rockwell Distinguished Lecture, University of Houston, 2016

Fowler Distinguished Lecture, **Texas A&M University**, 2016

CU-Boulder Aerospace Engineering Distinguished Lecture Series, Department of Aerospace Engineering Sciences, **University of Colorado Boulder**, 2016

C.C. Mei Distinguished Speaker Seminar (DSS) Series, Department of Civil and Environmental Engineering, **Massachusetts Institute of Technology**, 2016

Distinguished Visiting Chair Professor Scheme (DCPS), Department of Mechanical Engineering, **Hong Kong Polytechnic University**, 2016-2017

Elected Foreign Member of the Chinese Academy of Sciences, 2015

Distinguished Lecture Series, Department of Mechanical Engineering, **Boston University**, 2015

Nadai Medal (for distinguished contributions and outstanding achievements which broaden the field of materials engineering), **American Society of Mechanical Engineers**, 2015

William Prager Medal (for outstanding research contributions in theoretical solid mechanics), **Society of Engineering Science,** 2015

James F. Bell Memorial Lecture in Continuum Mechanics, Johns Hopkins University, 2015

Martin & Lucinda Glicksman Seminar Series, Mechanical & Aerospace Engineering Department, Florida Institute of Technology, 2015

ISI Highly Cited Researcher, Institute for Scientific Information (ISI), 2015

Winston Chen Distinguished Lecture, School of Engineering and Applied Sciences, Harvard University, 2014

Yunchuan Aisinjioro-Soo Distinguished Lecture, Department of Mechanical Science and Engineering, University of Illinois at Urbana-Champaign, 2014

Inaugural Distinguished Lecturer, Department of Mechanical and Industrial Engineering, **Northeastern University**, 2014

The 33rd Master Forum Lecturer, Shanghai Jiaotong University, 2014

Honorary Professorship, Shanghai Jiaotong University, 2013

Founding co-Director, Center for Advanced Mechanics and Materials, **Tsinghua University**, 2013

Van C. Mow Distinguished Lecture in Applied Mechanics, Department of Mechanical, Aerospace and Nuclear Engineering, **Rensselaer Polytechnic Institute**, 2013.

Lee Hsun Lecture, Institute of Metals Research, **Chinese Academy of Sciences**, 2012

Inaugural Simpson Faculty Fellow, Department of Mechanical Engineering **Northwestern University**, 2012

Distinguished Visiting Scholars Scheme (DVSS), Department of Mechanical Engineering, **University of Hong Kong**, 2012-2013

Timoshenko Distinguished Visitor, Mechanics and Computation Group, Department of Mechanical Engineering, **Stanford University**, 2012

Engineering Distinguished Lecture, **University of Hong Kong**, 2012

Institute of Advanced Study Distinguished Lecture, Hong Kong University of Science and Technology, 2012

Elected Member of the National Academy of Engineering, 2012

Rodney Hill Prize in Solid Mechanics (awarded to a single individual every 4 years in recognition of outstanding research in the field of solid mechanics), **International Union of Theoretical and Applied Mechanics**, 2012

Founding Deputy Director, International Center for Applied Mechanics, **Xi'an Jiaotong University**, 2012

Alexander von Humboldt Research Award (in recognition of a researcher's entire achievements to date to academics whose fundamental discoveries, new theories, or insights have had a significant impact on their own discipline), **Germany**, 2012

Honorary Professorship, Shanghai University, 2011

ASME Charles Russ Richards Memorial Award (in recognition of outstanding achievements in mechanical engineering for twenty years or more following graduation), **American Society of Mechanical Engineers**, 2011

Stanford S. and Beverley P. Penner Distinguished Lecture in the Mechanical & Aerospace Engineering, University of California, San Diego, 2011

Y.C. Fung Lecture, California Institute of Technology, 2011

Honorary Professorship, Xi'an Jiaotong University, 2009

William Mong Distinguished Lectures, University of Hong Kong, 2009

ASME Robert Henry Thurston Lecture Award (awarded to an outstanding leader in pure or applied science or engineering with the honor of presenting to the Society a lecture that encourages stimulating thinking on a subject of broad technical interest to engineers), **American Society of Mechanical Engineers**, 2009

Distinguished Scholars and Artists Advisor (Reader of Guggenheim Fellowship applications in Engineering), **John S. Guggenheim Foundation, 2008-2011**

The Visiting Investigator Programme (VIP) Award (a prestigious award aimed to strengthen interdisciplinary research in Singapore by tapping on world renowned

experts as Visiting Investigators to develop capabilities and groom local talents in key strategic areas; only one award in the mechanics of materials area), **A*STAR** (Agency for Science, Technology and Research)**, Singapore**, 2007-2012

The Jerzy Nowinski Lecture, **University of Delaware**, 2007

Distinguished Scholar Lecture, **Arizona State University**, 2007

Co-Editor-in-Chief of Journal of Mechanics and Physics of Solids (the flagship journal of my field), 2006

Midwestern Mechanics Lecture Series (invited lecture tour of 10 universities in the Midwestern region of USA), 2005-2006

Science Prize of the Donors' Association for German Science (Wissenschaftspreis des Stifterverbands für die Deutsche Wissenschaft), **Max Planck Society**, **Germany**, 2005

Board of Directors, **Society of Engineering Science**, 2004-2012

Young Investigator Award (awarded to a single individual per year), **Society of Engineering Science**, 2005

Elected to Fellow of Institute of Physics (Great Britain), 2004

ASME Melville Medal (the highest ASME honor for the best original paper which has been published in the ASME Transactions during the two calendar years immediately preceding the year of award), **American Society of Mechanical Engineers**, 2004

Elected to Fellow of American Society of Mechanical Engineers, 2003

Oversea Director, **Shenyang Center for Interfacial Materials, Chinese Academy of Sciences**, 2003-2005

Scientific Member (a prestigious title reserved to the 200+ scientific directors in the Max Planck Society), **Max Planck Society**, 2001-2006

Outstanding Oversea Young Investigator Award, **National Science Foundation of China**, 2000

Chang Jiang Chair Visiting Professor at Tsinghua University, **Chinese Ministry of Education**, 2000-2005

Young Investigator Award (renamed in 2008 as the Thomas J.R. Hughes Young Investigators Award - special achievement award for young investigators in Applied

Mechanics under the age of 40), Applied Mechanics Division, **American Society of Mechanical Engineers**, 1999

Alexander von Humboldt Research Fellowship for Experienced Researchers, **Germany**, 1997

Alcoa Science Award, **Alcoa Inc,** 1996

Guggenheim Fellowship (awarded to those "who have demonstrated exceptional capacity for productive scholarship or exceptional creative ability in the arts", only 1-2 awards in engineering per year), **John Simon Guggenheim Memorial Foundation,** 1995

NSF Young Investigator Award, **National Science Foundation**, 1993-1998

IBM Faculty Development Award, **IBM Inc**, 1992-1993

Schlumberger Research Fellowship, **Schlumberger Inc,** 1988

Harvard Graduate Fellowship, **Harvard University,** 1984

''SAN HAO XUE SHENG'' medals, **Xi'an Jiaotong University,** 1979-1982

SOCIETY LEADERSHIP/COMMITTEE MEMBERSHIPS

Engineering Executive Committee (representing the Solid Mechanics Faculty Group on all matters related to teaching, research and administration in the School of Engineering), **Brown University**, 2008-2012, 2013-2014, 2015-present

Advisory Committee co-Chair, **Tsien Elite Class Program, Tsinghua University**, 2016-present

Academic Research Fund (AcRF) Tier 2 Expert Panel for the Physics and Engineering Discipline Cluster, Singapore Ministry of Education, 2017-2019

Advisory Committee, **the State Key Laboratory of Structural Analysis for Industrial Equipment, Dalian University of Technology**, 2015-present

Academic Committee Chair, Department of Instrument Science and Engineering, School of Electronical Information and Electric Engineering, Shanghai Jiaotong University, 2014-2017.

Rodney Hill Prize Committee, International Union of Theoretical and Applied Mechanics, 2014-2015

US Representative to IUTAM General Assembly, **International Union of Theoretical and Applied Mechanics**, 2014

Journal of Applied Mechanics Paper Award Committee, Chair, 2014

Community and Program Committee, School of Engineering, **Brown University,** 2014-2017

Faculty Grievance Committee, Brown University, 2014-2017

International Advisory Committee, Suzhou Institute of Nano-Tech and Nanobionics (SINANO), **Chinese Academy of Sciences**, 2013-2017

Founding co-Director, Center for Advanced Mechanics and Materials, **Tsinghua University**, 2012-present

University Resources Committee (responsible for recommending the annual operating and capital budget of the whole university to the President)**, Brown University,** 2013-2016

Mechanical Engineering Peer Committee (Member 2013, Vice Chair 2014, Chair 2015), **National Academy of Engineering**, 2013-2015

Selection Committee on Eshelby Mechanics Award for Young Faculty, (Member 2013-present, Chair 2015), 2013-present.

DOE/BES Review Committee, **Materials Science Program, Sandia National Laboratorie**s, 2013

IUTAM Congress Committee, **International Union of Theoretical and Applied Mechanics**, 2012-2020

Director of Materials Research Science and Engineering Center (MRSEC), **Brown University**, 2012-2014

Founding Deputy Director, International Center for Applied Mechanics, **Xi'an Jiaotong University**, 2012-present

German Excellence Initiative Evaluation Committee, University of Freiburg, 2012

Applied Mechanics Division Executive Committee, American Society of Mechanical Engineers (Program Chair 2013, Vice Chair 2014, Chair 2015, Past Chair 2016-2020), 2010-2020

Solid Mechanics Faculty Search Committees (Chair 2010 & 2016)**, Brown University,** 2008-2017

DOE/NNSA PSAAP Review Committee, Center for Prediction of Reliability, Integrity and Survivability of Microsystems (PRISM), **Purdue University**, 2009

US National Committee on Theoretical and Applied Mechanics, 2008-present

Advisor of Guggenheim Fellowships in Engineering, **John S. Guggenheim Foundation**, 2008-2012

IUTAM Solids Symposium Committee, **International Union of Theoretical and Applied Mechanics**, (Member 2008-2016, Chair 2016-), 2008-

Committee on Diversity and Hiring, **Brown University**, 2007-2008

University Re-accreditation Steering Committee (preparing the re-accreditation of Brown University with the New England Association of Schools and Colleges), **Brown University**, 2007-2009

Board of Directors (Member 2004-2009**, Vice President** 2010**, President** 2011**, Past President** 2012**), Society of Engineering Science,** 2004-2012

DOE/BES Review Committee, **Materials Science Program, Sandia National Laboratorie**s, 2006

Senior Advisory Board, **Garching Supercomputer Center, Max Planck Society**, 2001-2006

International Scientific Advisory Board, **Shenyang National Laboratory for Materials Science (SYNL), Chinese Academy of Sciences**, 2002-2014

Scientific Advisory Board, **Failure Mechanics Laboratory, Tsinghua University**, Beijing, 2002-2012

International Scientific Advisory Board, **Laboratory for Nonlinear Mechanics, Institute of Mechanics, Chinese Academy of Sciences**, 2001-2011

Scientific Advisory Board, Department of Mechanical Engineering, University of Wyoming, 2001-2005

DOE/BES Review Committee, **Materials Science Program, Sandia National Laboratories**, 2003

DOE/BES Review Committee, **Materials Science Program, Los Alamos National Laboratories**, 2001

LIST OF PAST PHD AND POSTDOCTORAL ADVISEE

Former PhD Advisee (current position and affiliation)

(1) Tanmay Bhandakkar (Assistant Professor, IIT Bombay, India)

(2) Markus Buehler (Professor and Head, Department of Civil and Environmental Engineering, Massachusetts Institute of Technology, USA)

(3) Cheng-Hsin Chiu (Senior Lecturer, National University of Singapore, Singapore)

(4) Chandler Fulton (Morgan Stanley Inc, New York, USA)

(5) Hamed Haftbaradaran (Assistant Professor, Department of Civil Engineering, Faculty of Engineering, University of Isfahan, Iran)

(6) Patrick A. Klein (Franklin Templeton Investments, California, USA)

(7) Kristina Langer (Aerospace Systems Directorate, Air Force Research Laboratory, Wright-Patterson Air Force Base, USA)

(8) Jin Lee (President, LS Silicon Valley, California, USA)

(9) Xiaoyan Li (Associate Professor, Tsinghua University, China)

(10) Thao D. Nguyen (Associate Professor, Department of Mechanical Engineering, Johns Hopkins University, USA)

(11) Cengiz S. Ozkan, (Professor, University of California at Riverside, USA)

(12) Jin Qian (Professor, Zhejiang University, China)

(13) Wendong Shi (Professor, Renmin University of China, China)

(14) Xinghua Shi (Professor, National Center for Nanoscience and Technology, Chinese Academy of Sciences, China)

(15) Haimin Yao (Associate Professor, Hong Kong Polytechnic University, Hong Kong, China)

(16) Xin Yi (Assistant Professor, Peking University, China)

(17) Lin Zhang (Synopsys Inc, California, USA)

(18) Teng Zhang (Assistant Professor, Syracuse University, USA)

(19) Jonathan A. Zimmerman (Principal Member of Technical Staff, Sandia National Laboratories, USA)

Former Postdoctoral advisee (current position and affiliation)

(20) Bin Chen (Professor, Zhejiang University, China)

(21) Shaohua Chen (Professor, Institute of Mechanics, Chinese Academy of Sciences, China)

(22) Yuan Cheng (Institute of High Performance Computing, Singapore)

(23) Audrey C. Chng (Institute of High Performance Computing, Singapore)

(24) Daxiang Cui (Professor and Head, Department of Instrument Science and Engineering, Shanghai Jiaotong University, China)

(25) Rumi De (Assistant Professor, IISERT Kolkata, India)

(26) Xu Guo (Professor and Head, Department of Engineering Mechanics, Dalian University of Technology, China)

(27) Chung-Souk Han (Associate Professor, Department of Mechanical Engineering, University of Wyoming, USA)

(28) Alexander Hartmaier (Professor and Director, Interdisciplinary Centre for Advanced Materials Simulation, Ruhr-Universität Bochum, Germany)

(29) Baohua Ji (Professor and Head, Department of Mechanics, Beijing Institute of Technology, China)

(30) Zhaohui Jin (Professor, School of Materials Science and Engineering, Shanghai Jiaotong University, China)

(31) Haneesh Kesari (Assistant Professor, School of Engineering, Brown University, USA)

(32) Ranjith Kunnath (Professor, VIT University, Tamil Nadu, India)

(33) Bin Liu (Professor and Associate Dean, School of Aerospace and Aeronautical Engineering, Tsinghua University, China)

(34) Thomas Michelitsch (Senior Researcher, Institut Jean le Rond d'Alembert, Université Pierre et Marie Curie, France)

(35) Murali Palla (Assistant Professor, BITS Pilani, India)

(36) Hui Pan (Assistant Professor, University of Macau, Macau, China)

(37) Ill Ryu (Assistant Professor, University of Texas at Dallas, USA)

(38) Anna Vainchtein (Professor, Department of Mathematics, University of Pittsburgh, USA)

(39) Jizeng Wang (Professor, College of Civil Engineering and Mechanics, Lanzhou University, China)

(40) Xiang Wang (Chinese Aerospace Science and Technology Corporation, China)

(41) Xuyue Wang (Professor, Shenzhen Graduate School, Harbin Institute of Technology, China)

(42) Yujie Wei (Professor, Institute of Mechanics, Chinese Academy of Sciences, China)

(43) Hongyan Yuan (Assistant Professor, University of Rhode Island, USA)

(44) Zuoqi Zhang (Professor, Wuhan University, China)

(45) Ramsharan Rangarajan (Assistant Professor, Indian Institute of Science, Bangalore, India)

LIST OF PUBLICATIONS OF HUAJIAN GAO

A. Archive Journals

1) **H.J. Gao** and J.R. Rice, "Shear Stress Intensity Factors for a Planar Crack With Slightly Curved Front," 1986, *Journal of Applied Mechanics,* Vol. **53**, pp. 774-778. DOI: 10.1115/1.3171857

2) **H.J. Gao** and J.R. Rice, "Somewhat Circular Tensile Cracks," 1987, *International Journal of Fracture,* Vol. **33**, pp. 155-174. DOI: 10.1007/BF00013168

3) **H.J. Gao** and J.R. Rice, "Nearly Circular Connections of Elastic Half Spaces," 1987, *Journal of Applied Mechanics,* Vol. **54**, pp. 627-634. DOI:10.1115/1.3173080

4) **H.J. Gao**, "Nearly Circular Shear Mode Cracks," 1988, *International Journal of Solids and Structures,* Vol. **24**, pp. 177-193. DOI: 10.1016/0020-7683(88)90028-5

5) **H.J. Gao**, "Weight Functions for External Circular Cracks," 1989, *International Journal of Solids and Structures,* Vol. **25**, pp. 107-127. DOI: 10.1016/0020-7683(89)90002-4

6) **H.J. Gao**, "Application of 3-D Weight Functions - I. Formulations of Problems of Crack Interaction with Transformation Strains and Dislocations," 1989, *Journal of the Mechanics and Physics of Solids,* Vol. **37**, pp. 133-153. DOI: 10.1016/0022-5096(89)90007-0

7) **H.J. Gao** and J.R. Rice, "Application of 3-D Weight Functions - II. The Stress Field and Energy of Three Dimensional Shear Dislocation Loops at a Crack Tip," 1989, *Journal of the Mechanics and Physics of Solids,* Vol. **37**, pp. 155-174. DOI: 10.1016/0022-5096(89)90008-2

8) **H.J. Gao**, "Linear Perturbation Analysis of a Shear Loaded Asperity," 1989, *Journal of Geophysical Research,* Vol. **94,** pp. 10259-10265. DOI: 10.1029/JB094iB08p10259

9) **H.J. Gao** and J.R. Rice, "A First Order Perturbation Analysis on Crack Trapping By Arrays of Obstacles," 1989, *Journal of Applied Mechanics,* Vol. **56,** pp. 828-836. DOI: 10.1115/1.3176178

10) **H.J. Gao**, "Mismatched Elastic Connections," 1990, *International Journal of Fracture,* Vol. **45**, pp. 131-143. DOI: 10.1007/BF00037171

11) **H.J. Gao**, "On Mismatch Problems for Plane and Elliptical Connections," 1990, *Engineering Fracture Mechanics,* Vol. **36**, pp. 39-48. DOI: 10.1016/0013-7944(90)90094-W

12) **H.J. Gao**, "Fracture Analysis of Nonhomogeneous Materials via a Moduli-Perturbation Method," 1991, *International Journal of Solids and Structures,* Vol. **27,** pp. 1663-1682. DOI: 10.1016/0020-7683(91)90068-Q

13) **H.J. Gao**, "Crack Interaction with 3D Dislocation Loops," 1991, *Journal of the Mechanics and Physics of Solids,* Vol. **39,** pp. 157-172. DOI: 10.1016/0022-5096(91)90001-5

14) **H.J. Gao**, "Stress Concentration at Slightly Undulating Surfaces," 1991, *Journal of the Mechanics and Physics of Solids,* Vol. **39,** pp. 443-458. DOI: 10.1016/0022-5096(91)90035-M

15) **H.J. Gao**, "A Boundary Perturbation Analysis for Elastic Inclusion and Interfaces," 1991, *International Journal of Solids and Structures,* **28,** pp. 703-726. DOI: 10.1016/0020-7683(91)90151-5

16) **H.J. Gao**, "Stress Analysis of Smooth Polygon Holes via a Boundary Perturbation Method," 1991, *Journal of Applied Mechanics,* Vol. **58,** pp. 851-853. DOI: 10.1115/1.2897276

17) **H.J. Gao**, "Weight Function Analysis of Interface Cracks: Mismatch Versus Oscillation," 1991, *Journal of Applied Mechanics,* Vol. **58,** pp. 931-938. DOI: 10.1115/1.2897710

18) **H.J. Gao**, J. R. Rice and Jin Lee, "Penetration of a Quasi-Static Slipping Crack into a Seismogenic Zone of Heterogeneous Fracture Resistance," 1991, *Journal of Geophysical Research,* Vol. **96,** pp. 21535-21548. DOI: 10.1029/91JB02261

19) **H.J. Gao** and C.H. Chiu, "Slightly Curved or Kinked Cracks in Anisotropic Elastic Solids," 1992, *International Journal of Solids and Structures,* Vol. **29,** pp. 947-972. DOE: 10.1016/0020-7683(92)90068-5

20) **H.J. Gao**, M. Abbudi and D. M. Barnett, "Interfacial Crack-Tip Fields in Anisotropic Elastic Solids," 1992, *Journal of the Mechanics and Physics of Solids*, Vol. **40,** pp. 393-416. DOI: 10.1016/S0022-5096(05)80018-3

21) **H.J. Gao** and G. Herrmann, "On Estimates of Stress Intensity Factors for Cracked Beams and Pipes," 1992, *Engineering Fracture Mechanics,* Vol. **41,** pp. 695-706. DOI: 10.1016/0013-7944(92)90154-7

22) **H.J. Gao**, "Diffusion or Imperfection Modified Long Range Interaction Between a Line Dislocation and a Spherical Inclusion," 1992, *International Journal of Engineering Science,* Vol. **30,** pp. 1061-1071. DOI: 10.1016/0020-7225(92)90030-K

23) **H.J. Gao**, "Three Dimensional Slightly Non-Planar Cracks," 1992, *Journal of Applied Mechanics,* Vol. **59,** pp. 335-343. DOI: 10.1115/1.2899525

24) **H.J. Gao**, "A Closed Interface Crack in Anisotropic Bimaterials," 1992, *International Journal of Fracture,* Vol. **55,** pp. R33-R39. DOI: 10.1007/BF00017279

25) **H.J. Gao**, C.H. Chiu and J. Lee, "Elastic Contact Versus Indentation Modeling of Multi-Layered Materials," 1992, *International Journal of Solids and Structures,* Vol. **29,** pp. 2471-2492. DOI: 10.1016/0020-7683(92)90004-D

26) **H.J. Gao**, "Stress Analysis of Holes in Anisotropic Elastic Solids: Conformal Mapping and Boundary Perturbation," 1992, *Quarterly Journal of Mechanics and Applied Mathematics,* Vol. **45,** pp. 149-168. DOI: 10.1093/qjmam/45.2.149

27) **H.J. Gao**, "Weight Function Method for Interfacial Cracks in Anisotropic Bimaterials," 1992, *International Journal of Fracture,* Vol. **56,** pp. 139-158. DOI: 10.1007/BF00015597

28) **H.J. Gao**, "Variation of Elastic T-Stresses along Slightly Wavy 3-D Crack Fronts," 1992, *International Journal of Fracture,* Vol. **58**, pp. 241-257. DOI: 10.1007/BF00015618

29) **H.J. Gao**, "Surface Roughening and Branching Instabilities in Dynamic Fracture," 1993, *Journal of the Mechanics and Physics of Solids,* Vol. **41,** pp. 457-486. DOI: 10.1016/0022-5096(93)90044-G

30) W. H. Mueller, G. Herrmann and **H.J. Gao**, "Elementary Strength Theory of Cracked Beams," 1993, *Theoretical and Applied Fracture Mechanics,* Vol. **18**, pp. 163-177. DOI: 10.1016/0167-8442(93)90042-A

31) W. H. Mueller, G. Herrmann and **H.J. Gao**, "A Note On Curved, Cracked Beams," 1993, *International Journal of Solids and Structures,* Vol. **30,** pp. 1527-1532. DOI: 10.1016/0020-7683(93)90076-J

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