

# Curriculum Vitae

Huajian Gao  
Walter H. Annenberg Professor of Engineering  
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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=RyUTlccAAAAJ&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

**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 Aisinjiro-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 Electrical 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 Laboratories**, 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 Laboratories, 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. DOI: 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
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