

Tony F. Chan

Professor

Education

Ph.D., Stanford University, 1978

M.S., Aeronautics (Honors), Caltech, 1973

B.S., Engineering (Honors), Caltech, 1973

Research Interests

My research is in area of image processing and computer vision, multi-level techniques for VLSI physical design, and computational techniques for brain mapping.

Employment

Professor, UCLA, Computer Science and BioEngineering (0% joint appt.), 2007 - present

Assistant Director, Mathematics and Physical Sciences, NSF, 2006

Dean, UCLA, Division of Physical Sciences, 2001-2006

Director, UCLA, Inst. for Pure and Applied Mathematics, 2000-2001

Visiting Professor, Math Dept., The Nat'l Univ. of Singapore (Dec), 1999

Visiting Professor, Mathematics, The Chinese University of Hong Kong (Oct.-Dec.), 1994

Visiting Professor, Computer Science, The Chinese University of Hong Kong (Aug.), 1993

Visiting Scientist, CERFACS, Toulouse, France (June-Aug.), 1992

Visiting Professor, USSR Academy of Science, Moscow, 1988

Professor, UCLA Department of Mathematics, 1986-present

Visiting Faculty, Univ. of Hong Kong, Ctr of Comp. St. and Appl.(Oct.-Dec), 1985

Associate Professor, Computer Science, Yale University, 1983-1986

Assistant Professor, Computer Science, Yale University, 1979-1983

Research Fellow, Caltech, 1978-1979

Visiting Professor, National Tsing Hua Univ. Hsinch, Taiwan, 12/89

Lecturer, CERFACS, Toulouse, France, 11/90

Visiting Scientist, RIACS, NASA, Ames, 1/86-8/86

Visiting Scientist, INRIA, Le Chesnay, France, 1/83-5/83

Consulting Activities

Consultant: "Numbers" NBC television pilot, Los Angeles, CA, Spring, 2004

Consultant: Math Soft, Seattle, 1997-99

Consultant: Xerox Palo Alto Research Center, 1996-98

Consultant: ICASE, NASA Langley, 1995-97

Consultant: Research Inst. for Advanced Computer Science, NASA Ames, 1986-98

Consultant: SRI International, Menlo Park, 1986-92

Grants

Source	Purpose	Date(s)
University and Gift Support	Unrestricted Research Support	Indefinite
NSF DMS-0610079	New Models and fast Optimization Algorithms for Variational Image Processing	2006-09
ONR	Fast Logic and Shape Based Segmentation for Tracking, Disocclusion and Illusor..	2006-08
NIH U5 RR021813	Center for Computational Biology (CCB)	2005-10
NSF CCF-0528583	MSPA-MCS: Scalable Optimization Algorithms for VLSI Circuit Physical Design	2005-08
Techfinity, Inc. (U.S. DOD)	Target Scene Resolution and Calibration Using Innovation Region Based Active...	2005-06
NSF	ITR Closing the Gap in VLSI Physical Design	2004-08
NIH P20MH65166	Computational Biology from Genotype to Phenotype	2004-05
TechFinity, Inc. (US DOD)	Target Scene Resolution and Calibration Using Innovation Region Based Active...	2004
ONR-N004-03-1-0888	Variational PDE Models and Algor. for Image Processing and Computer Vision	2003-05
ONR-N0014-02-1-0015	Nonlinear PDE Models and Methods for Image Proc.	2001-02
NSF INT-0072863	US-France Prog.; Multires.& Multiscale Algor...	2000-05
NSF DMS-9973341	Var. PDE Models & Computa. Methods in Image Proc.	2000-05
NSF DMS 9983726	UCLA Math Dept 1999 VIGRE Proposal	2000-05
NSF CISE ACI-0072112	Scalable Multilevel Algor. in Comp. Sciences	2000-04
NSF-DMS-9810282	Inst. for Pure and Applied Mathematics	1999-05
NSF-CCR-9901153	Nonlinear Programming Based Algorithms for ...	1999-01
Semiconductor	Nonlinear Prog. Large Scale Circuit Placement ...	1999-00
Chevron Research	Multigrid Methods for Oil REservoir Simulation	1998-99
Intel Corporation	Optimization Methods for VLSI Placement	1998-99
Sandia Labs	UCLA/Sandia Multilevel Problem Solver Proposal	1998-00
NASA AMES	Scalable Num. Alg. on Non-Heterogeneous...	1998-00
LLNL	Parallel Multigrid Meth. in Unstructured Grids...	1997-98
NSF INT-9602089	US/Spain Prog: Total Variation Meth. in Image Proc	1997-00
NSF-ASC-9720257	Parallel Multilevel PDE Solvers on Unstr. Grids	1997-00
ONR N00014-96-1-0277	Scalar and Vector Diffusion Models and Computations in Image Analysis	1996-02
NSF DMS 9626755	Comp. Math. Issues in Nonlinear Diff. Models...	1996-00
ARO-Tenn. Subcontract	Scalable Parallel Numerical Library	1995-99
NSF INT95-06184	US/Bulgaria Program	1995-97
NSF-INT 9220287	US/Bulgaria Research Program	1993-95
ARO-Tenn. Subcontract	Scalable Parallel Numerical Library	1993-95
NSF DMS 9225092	Household Sympos. XII on Num. Alg.	1993-94
ONR/DARPA-Co PI	Complex High Reynolds Number Flow	1992-97
NSF-ASC-9201266	Parallel Multiscale Iterative Meth.	1992-96
ARO DAAL03-91-G-0150	Massively Parallel Iterative Meth.	1991-94
NSF-PI	Parallel Iterative Methods	1991-92
ONR-PI	Electro-Magnetic Scattering Probl.	1990-93
NSF-PI	Parallel Multilevel Elliptic Pre.	1990-93

AFOSR-PI	Additive Turbulent Decomposition	1989-92
NASA-PI	Parallel Iterative Methods	1989-90
ARO-PI	Num. Meth. for Sparse Eigenvalue	1989-90
Dept. of Energy - PI	Num. Meth. for Nonlinear Systems	1987-92
NSF-PI	Matrix Algorithms in Signal Proc.	1987-90
NSF-Co PI	Cognitive Sci. Purchase of CM-2	1987-88
ONR-URI	Complex High Reynolds Number Flows	1986-91

Honors

Description	Date(s)
Elected AAAS Fellow (Oct)	2007
So. Cal. Chinese American Faculty Association Achievement Award	2007
News Coverage (on dept webpage): Joint work with Prof. Jason Cong of Computer Science Dept. on groundbreaking techniques for the design of very large integrated circuits featured in Forbes online, Yahoo! Finance	2007
SIAM Board of Trustees, 2nd consecutive term	2006-present
ISPD Placement Benchmark Competition, 2nd place (w/K. Sze et al)	2006
ISPD Best Paper Award (w/J. Cong et al)	2005
Recipient of 2003 IEEE Signal Processing Society's Best Paper Award	2004
Among the top 232 highly-cited mathematics researchers per ISI HighlyCited.com	2003,2004
Invited Essayist: 1 of 2 in mathematics, The Carnegie Foundation Initiative on the Doctoral Program, Fall	2002
Distinguished Visitor, United College, Chinese University of Hong Kong (Nov.)	2002
Chair, Search Committee for NSF Director of Division of Mathematical Sciences	2002
Plenary speaker, joint mathematics meeting, San Diego (Jan)	2002
Plenary speaker, Int'l Congress of Chinese Mathematicians, Taipei (Dec.)	2001
Faculty/Staff Partnership Award 2000, presented at the 3rd Annual Staff Assembly Reception (June)	2000
Plenary speaker: European Multigrid, Gent (Sept)	1999
Plenary speaker: Dundee Conferences on Numerical Analysis, UK (Jun)	1999
Plenary speaker: GAMM Conf. on Multigrid, Bonn, Germany (Oct)	1998
Principal Lecturer: Von Karman Institute, Brussels, Belgium (Mar)	1997
Plenary speaker: SIAM Conf. on Sparse Matrices, Cour d'Alene, Idaho, (Oct.)	1996
Professor, Dutch Summer School on Numerical Analysis, Zeist, (Sept.)	1995
Member of Committee, Householder Symposium	1993-present
Invited plenary lecture: "Parallel iterative algorithms for elliptic problems", Sixth SIAM Conference on Parallel Processing for Scientific Computing (Mar. 22-24)	1993
SIAM Council	1992-94

Professor, Ecole d'ete, Analyse Numerique, Le Breau, France (June)	1991
Plenary speaker: SIAM National Meeting, San Diego. (July)	1989

Ph.D. Graduates

Name	Year Ph.D. Granted	Institutional Affiliation
Nang Sze	2006	Magna Design Automation, Santa Clara
Andy Yip	2006	National University of Singapore
Fred Park	2006	University of Michigan, Ann Arbor
Mark Moelich	2004	Aerospace Co. Manhatten Beach
Wei Zhu	2004	Courant Institute
Bing Song	2003	University of Maryland
Sung-Ha Kang	2002	University of Kentucky
David Huckaby	2002	Texas Christian University
Berta Sandberg	2002	Tech Infinity
Jamylle Carter	2001	Inst. Appl. Math., MN
H.M. Zhou	2000	Georgia Tech
CK Wong	1999	American Investment Corp.
Susie Go	1998	Hewlett-Packard, Palo Alto
Peter Blomgren	1998	Stanford Univ., Math Dept, San Diego Stat
Wing Lok Wan	1998	Stanford Univ., U. Waterloo, Canada
Ilya Sharapov	1997	Sun Microcomputers, Mt. View, CA
David Strong	1997	UCLA, Math Dept, Pepperdine Univ
Manchung Yeung	1997	UC Irvine, Math Dept U. Wyoming
Theodore Szeto	1994	Azusa Pacific College
Jian Ping Shao	1993	McDonald Douglas Co., Long Beach
Jennifer Chang	1992	CalTech, Pasadena
Wai-kin Tsui	1990	Baptist College, Hong Kong (last known)
Charles Tong	1990	LLNL, Livermore, CA
June Donato	1990	Oak Ridge National Laboratory
Bruce Chaderjian	1989	Cal. State Univ. Long Beach
Ray Tuminaro	1989	Sandia Lab. Albuquerque, New Mexico
Thomas Kerkoven	1985	Comp. Sci. Dept., Univ. of Illinois

Ph.D. Candidates

Name	Year Advanced
Kangyu Ni	2007
Mingqiang Zhu	2007
Ilhwan Jo	2007
Ernie Esser	2007
Ronald Lok Ming Lui	2006

Tim Lee (BioEngineering)

Other Teaching Activities

Postdoctoral Supervisor for Jackie Shen, Joseph Shinnerl, Manchung Yeung, Luminita Vese, Feng Wang, Elias Jonsson, 1997-2000

Image Processing and Computer Vision Participating Seminar (Math 296), 2001-04

Introduced a graduate course on Parallel and Vector Numerical Algorithms

Introduced computer program MATLAB into applied mathematics research group and in undergraduate teaching (Math 141A and 270).

Directed an internship of a student from Beverly Hills High School, 1986-87.

Received grant w/ Prof. Anderson from OID for computing equipment to improve undergraduate teaching.

Initiated use of live computer demonstration in class in 270A, (Fall 93).

Bought display panel, worked with computing staff to connect classroom with Ethernet etc.(1993-94)

Postdoctoral Supervisor for Jay C.C. Kuo (1987-90), Beth Ong (1989-92), Tarek Mathew (1989-92), Patrick Ciarlet, Jr. (1993-94)

Postdoctoral Supervisor for Jun Zou (1993-95), Pep Mulet (1995-96), Victor Eijkhout (1995-), Ludmil Zikitanov (1995)

UC Academic Senate Committees

Description	Period of Service
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Other Committees

Description	Period of Service
Panelist, PAC 10+2 Deans Meeting, University of Hawaii, Honolulu	2004
UC Letters and Science Provost and Deans Meeting, Co-organizer, Science Deans Submitting, UCSD, San Diego	2004
UCLA Bioscience Imitative Advisory Committee	2003-2004
Chair, Vice Chancellor-Health Sciences 5 Year Administrative Review Committee, UCLA	2003-2004
Research Investment Committee, UCLA	2003-2004
Chancellor's Competitiveness Task Force, UCLA	2003-04
Chair, Graduate Student Support ActionGroup, Chancellor's Competitiveness Task Force, UCLA	2003-04
Panelist, Homeland Security and Compliance, AAU Private Deans Meeting, University of Southern California, Catalina Conference Center, Catalina, CA	2003
Panelist, Facilities and Administrative Rate Indirect Cost Recovery Distribution at UCLA, Chancellor's Leadership Retreat	2003
Member of Search Committee, Dean of School of Engineering, UCLA	2002-2003
Panelist, Graduate Education in the Science, PAC 10+2 Deans Meeting, University of Oregon, Eugene	2002

Breakout Group Leader, Next Steps: Evolutionary, Chancellor's Leadership, September	2002
Univ. of California Management Inst., Leadership training, Berkeley (July)	2002
Panelist, Faculty Quality: Recruitment/Retention/Diversity, Chancellor's Leadership Retreat	2001
Affiliated faculty, California Nano-Systems Institute, UCLA/UCSB	2000-present
UCLA Inf. Technology Policy Board	2000-2001
UCLA Computer Science Task Force	2000-01
Department Chair, Priorities (C), Staff Search (C), Computing, Graduate Studies, Undergraduate Studies	1999-00
Department Chair, Priorities (C), Staff Search (C), Computing, Graduate Studies, Undergraduate Studies	1998-99
Department Chair, Priorities (C), Staff Search (C), Computing, Graduate Studies, Undergraduate Studies	1997-98
Graduate Vice Chair, Graduate Studies (C), Graduate Admissions and Support (C), Graduate Advisors (C), Teaching, TA Training, FPEC	1996-97
Applied Math., Graduate Admissions, Graduate Studies, Graduate Advisors, PIC	1995-96
Applied Math., Graduate Admissions, Graduate Studies, Graduate Advisors	1994-95
Applied Math Colloquium), Applied Math., Graduate Admissions	1993-94
On Leave	1992-93
Applied Math.(C), Applied Math. Colloquium(C), Graduate Advisors, Graduate Admissions	1991-92
Computing, Applied Math., PIC, Graduate Advisors, Graduate Admissions	1990-91
Computing (C), PIC, Graduate Advisors, Applied Mathematics	1989-90
Computing(Co-C), Applied Math., PIC, Graduate Advisors	1988-90
Computing, Applied Math., Graduate Admissions, Graduate Advisors	1987-88
Computing(C), PIC	1986-87

Professional Service

Description	Date(s)
AAAS Annual Meeting Sessions: organized one on Number3rs, St Louis in 2006 (close to 300 in attendance) and one on "Blockbuster Science"	2007
Member of Science Advisory Board, Hausdorff Math Center, Bonn	2006-present
Chair of Jury, Hang Lung Math Award, Hong Kong. A contest given to high school students for best math research. Other jurists include John Coates and Gil Strang (Dec)	2006
Co-organizer of Minisymposium, SIAM Conf. Imaging Sciences, Minneapolis (May)	2006
Scientific Committee, Applied Inverse Problems III, Cirencester, UK (June)	2005
Program Committee, Scale Space 2005, Hofgeismar, Germany (Apr 6-10)	2005
Program Chair, 3rd IEEE Workshop on Variational, Geometric and Level Set Methods in Computer vision, held in conjunction with the 10th Intn'l Conf. In Computer Vision, Beijing (Oct)	2005

Member, US National Committee on Mathematics, Nat'l Academy of Sciences, Part of US delegation to the IMU congress in Santiago de Compostella, Spain, August 2006	2004-present
External Advisory Board, Toyota Technological Institute, Univ. of Chicago	2004-06
External Examiner, Math. Dept., Chinese University of Hong Kong	2004-06
Committee Chair, Steenbouch Chair Professorship Competition Selection, Univ. of Wisconsin-Madison, June 3, 2004	2004
Member:Computation Directorate Advisory Committee, Lawrence Livermore National Laboratory, Livermore, CA, April 14-16	2004
Member, NSF MPS Workshop, Arlington, VA, April 21, 2004	2004
Board of Trustees: SIAM	2003-present
Panelist: Applied Math Educational Research and Impact on Academic Industrial Careers of PhD Students, 3rd Southern California Applied Mathematics Symposium (SoCams), UCI, Irvine, CA, May 3, 2003	2003
Member, Computation Directorate Advisory Committee, Lawrence Livermore National Laboratory, Livermore, CA March 31-April 2	2003
Member, DOE ASCI Review Panel, California Institute of Technology, Pasadena, CA October 28-29	2003
Member, NSF Vertical Integration of Research and Education (VIGRE) in the Mathematical Sciences Panel, NSF, Arlington, VA, November 18-19	2003
External Reviewer, Dept. of Math., Univ. of Colorado at Denver, (Mar 19-20)	2002
Organizing Committee, First SIAM Conf. on Imaging Science, Boston (Mar 4-6)	2002
Organizing Committee, Latsis Symposium on Iterative Solvers for Large Linear Systems, ETH, Zurich, (Feb. 18-21)	2002
Member, Dept. of Energy Review team, the ASCI Alliance Prog. at Stanford Univ. Center for Integrated Turbulence Simulations (CITS), (Oct. 24-25)	2002
External Reviewer, Computation Directorate, Lawrence Livermore Nat'l Lab	2001-02
Scientific Program Committee: Numerical and Computational Challenges in Science and Engineering, Fields Inst.	2001-02
Program Committee, IEEE Workshop on "Scale-Space and Morphology in Computer Vision", Vancouver (July 7-8)	2001
Program Committee, Preconditioning 2001, Tahoe City (Apr. 29-May 1)	2001
NSF Div. Math. Sci. Comm. of Visitors	2001
Co-Chair (with J. Xu), Scientific Committee, Int'l Symposium on Computational and applied PDEs, Zhang Jiajie Hunan, China (July 1-5)	2001
AMS Editorial Board Committee (Nov.)	2000-2005
SIAM Fellows Program Committee (Nov.)	2000-2005
SIAM Committee on Science Policy	2000-2005
Co-Chair (with Richard Tapia), SIAM National Meeting, Puerto Rico (July)	2000
Co-organizer (with Tim Barth of NASA Ames and Robert Haims of MIT), Yosemite Workshop on Multiscale & Multi-resolution Methods, Yosemite (Fall)	2000
Panelist, NSF Div. Math. Sci. Workshop on "Opportunities for the Mathematical Sciences", June 26-27)	2000
Moderator, Panel on Computer Vision, Board on Math Sci. Workshop on "Interface Between the Mathematical Sciences and Computer Sciences", Nat'l Acad. Sci., DC. (Apr. 28-29)	2000

Chair, Local Organizing Committee, AMS Symposium on Mathematical Challenges of the 21st Century, UCLA (Aug)	2000
AMS Committee on Committees	1999-02
NSF Division of Math & Physical Sci. Advisory Committee	1999-02
Board of Trustees and Principal Investigator, Institute for Pure and Applied Mathematics, UCLA	1999-01
NSF VIGRE review panel	1999
Advisory Committee, NSF Div. Math and Physical Science	1999
Moderator, Panel on "The future of applied linear algebra: identifying research trends for the 21st century", Plemmons Conference, Wake Forest Univ., Winston-Salem, NC (Jan 8-9)	1999
Member, Computation External Advisory Committee, LLNL, Livermore, CA (Apr 2-3)	1998
Scientific Committee Member, 11th Int'l Conf. on Domain Decomposition Methods, Univ. of Greenwich, UK (July 20-24)	1998
Scientific Committee, Int'l Congress of Chinese Mathematicians, Beijing (Dec)	1998
Organizer, minisymposium on "Nonlinear PDE Methods and Models in Image Processing", SIAM Nat'l Meeting, Stanford, CA (July 14-18)	1997
Organizer, minisymposium on "DD/MG Algorithms in unstructured grid applications", SIAM Nat'l Meeting, Stanford, CA (July 14-18)	1997
Scientific Committee: 9th Int'l Conf. on Domain Decomposition Methods, Ullensvang, Norway (Jun)	1996
Scientific Committee: Int'l Linear Algebra Year, CERFACS, France	1995-96
Scientific Committee: 8th Int'l Conf. on Domain Decomposition Methods, Beijing, PRC (May)	1995
NSF Panel on Sci. Scomp. Research Environment in Math. Sci. (SCREMS), (Apr)	1995
Co-organizer, Winter School on Iterative Methods in Scientific Computing, Chinese Univ. of Hong Kong, (Dec)	1995
NSF Panel on Sci. Comp. Research Environment in Math. Sci. (SCREMS) (Apr)	1995
Working group member, Workshop on Petaflop Computing, Pasadena (Feb)	1995
External Examiner, Program in Computing Mathematics, City University of Hong Kong	1994
External Examiner, Program in Master of Science in Scientific Computing, Hong Kong Baptist College	1994
Organizer of Symposium on Linear Algebraic Issues in Signal and Image Processing, SPIE Meeting, San Diego (Jun)	1994
Scientific Committee: 3rd Int'l Conf. on Advances in Numer. Meths. and Applic. Sofia, Bulgaria (Aug)	1994
Householder Symposium Committee	1993-present
Member: SIAM Committee on Human Rights	1993-95
External examiner: Program in M.Sc. in Scientific Computing Hong Kong Baptist University	1993-94
Conference Organizer: Householders Symposium on Linear Algebra, Lake Arrowhead, CA	1993
Scientific Committee: 7th Int'l Conf. on Domain Decomposition, Penn State Univ. (Nov)	1993
Member: Council of the Society of Industrial and Applied Mathematics	1992-94

Conference Organizer: 5th Int'l Conference on Domain Decomposition, Norfolk, VA (May)	1991
Program Committee: IMACS Int'l Symposium on Iterative Methods in Linear Algebra, Brussels, Belgium (Apr)	1991
Co-organizer: Int'l Conference on Scientific Computation, Hangzhou, China (Aug)	1991
Program Committee: Supercomputing 91, San Antonio, TX (Nov)	1991
Conference Chair: Magnus Hestenes Memorial Symposium, UCLA (Nov)	1991
Conference Organizer and Speaker: 4th Int'l Conference on Domain Decomposition Methods, Moscow, USSR (May)	1990
Conference Organizer: Numerical Analysis Day, Stanford Univ., CA (Nov)	1990
Conference Organizer: 4th Conference on Hypercube Concurrent Computers and Applications, Monterey, CA (March)	1989
Program Committee: SIAM Conference on Domain Decomposition Methods, Houston, TX (March)	1989
Member: Science Council for Applied Mathematics and Computer Science, University Space Research Assoc.	1988-92
Scientific/Organizing Committee, Series of Int'l Conference on Domain Decomposition Methods	1988-2001
Session Chairman: "Numerical Methods II", 3rd Conference on Hypercube Concurrent Computers and Applications, Pasadena, CA (Jan)	1988
Organizing Committee and Local Organization Chairman: 2nd Int'l Conference on Domain Decomposition Methods for Partial Differential Equations, UCLA (Jan)	1987
Session Chairman: ACM Conference on the History of Scientific and Numeric Computing, Princeton, NJ (May)	1987
Co-organizer: Symposium "Numerical Analysis at Stanford: Remembrance of Things Past", Stanford University (Mar)	1987
Board of Directors: ACM Special Interest Group on Numerical Mathematics (SIGNUM)	1985-88

Editorial Activities

Description	Title	Date(s)
Special issue on Imaging (w/R. Chan, Z. Shen) Applied Computational Harmonic Analysis	Co-editor	2007-08
Co-wrote successful proposal to establish the new SIAM J. Imaging Sciences	Editorial Board	2007
Numerische Mathematik, (w/F. Bressi and M. Griebel)	Editor-in-Chief	2002-present
Asian J. Math.	Editorial Board	1997-present
Electronic Trans. Numerical Analysis	Editorial Board	1995-2003
Journal of Computational Math.	Editorial Board	1993-2005
Numerical Algorithms	Editorial Board	1992-2003
Numerical Linear Algebra with Applications	Editorial Board	1991-2004
SIAM Review	Editorial Board	1989-1998
Cambridge International Series on Parallel Computation, Cambridge University Press	Editorial Board	1988-1997

Series on Algorithms and Architectures for Scientific Computing, Manchester University Press	Associate Editor	1988-1997
SIAM J. of Scientific Computing	Editorial Board	1987-2000
ACM Trans. Math. Software	Editorial Board	1987-1990
NSF, Dept. of Energy, Dept. of Defense Research Agencies	Referee	

Selected Invited Lectures

Description	Date(s)
Plenary speaker: Microsoft Computing in the 21st Century Symposium, Nanjing (Oct)	2007
Keynote speaker, Australian Math Society Annual Meeting, Melbourne (Sept)	2007
Co-organizer, BIRS Workshop on Applied and Computational Harmonic Analysis (Sept)	2007
Panelist, "The Future of Numerical Analysis", ICIAM, Zurich (Aug)	2007
DOE SciDAC Conference Keynote Lecture, Boston (June)	2007
Plenary speaker, Korean SIAM Annual Meeting, Korea (May)	2007
Plenary speaker, Stanford 50 - GHG 70 Symposium, Stanford (Mar)	2007
Plenary speaker, Matematica e Cultura 2007, Venezia (Mar)	2007
Rees Distinguished Lecturer, Univ. of Delaware (Sept)	2006
Plenary speaker, Conf. On Applied Harmonic Analysis, Beijing (June)	2006
Plenary speaker, Int'l Conf. On Scientific Computing, Taipei (June)	2006
Plenary speaker, Conf. On Scientific Computing, Banff (May)	2006
Plenary speaker, Conf. On Biology and Mechanics: Applications of Math. And Computation (in Honor of Fred Wan's 70th Birthday), UC Irvine (May)	2006
Invited participant, IMA Workshop on Shape Space (Apr)	2006
Speaker/participant, BIRS Workshop on Medical Imaging (Mar)	2006
Invited speaker, "Mathematical Aspects of Image Processing and computer Vision 2005", Hokkaido, Japan (Nov)	2005
Plenary speaker, Wouchoten conference, Dutch and Flemish Numerical Analysis Annual Conference (Oct)	2005
Plenary speaker, Int'l Conf. on super-Resolution Image Processing: Analysis, algorithms and Applications (SRI2005), Hong Kong (Aug)	2005
Plenary speaker and conference co-organizer, "PDE-Based Image Processing and Related Inverse Problems", Oslo, Norway (Aug)	2005
Plenary speaker, Asian Math Conference, Singapore (July)	2005
Plenary speaker, "Int'l Conf. On Multiscale Modeling and Scientific Computing", in honor of Professor Bjorn Engquist on occasion of his 60th birthday, Beijing (Jun)	2005

Plenary speaker, "Int'l conf. On Scientific Computing (ICSC05), Nanjing, China (Jun)	2005
Plenary speaker, Int'l conf. Appl. Harmonic Analysis, Hangzhou, China (May)	2005
Keynote speaker, SIAM Stanford Student Chapter Meeting (May)	2005
Plenary speaker, Conference on Iterative Methods in Scientific Computing, Toronto (May)	2005
Distinguished Lecture, Hong Kong Baptist University (Apr)	2005
Invited speaker, Conf. On Image Processing and Computer Vision, Mathematical Research Center of Zhejiang University, Hangzhou, China (Dec)	2004
Invited 45 min speaker, and member of Scientific Committee, Int'l Congress of Chinese Mathematicians, Hong Kong (Dec)	2004
Invited speaker, "Astronomical Data Analysis Software and Systems" (ADASS), Pasadena, CA (Oct)	2004
Invited speaker/participant, BIRS Workshop on Mathematical Image Analysis and Processing, Banff (Oct)	2004
Plenary speaker, Int'l Conf. On PDE and Numerical Analysis, Jinan, China (Aug)	2004
Invited plenary speaker, 4th European Congress on Computational Methods in Applied Sciences and Engineering, Jyvaskyla, Finland (July)	2004
Invited Plenary Speaker: "Multilevel Optimization for Circuit Placement," New Frontiers in Computational Mathematics Workshop, University of Manchester, Manchester, Great Britan, January 10-11	2004
Invited Plenary Speaker: "Variational Models and Algorithms for Imaging Processing," Mathematical Imaging and Analysis Workshop, University of Florida, Gainesville, FL, January 24-27	2004
Invited Plenary Speaker: "Multiscale Optimization Methods and Applications Workshop, University of Florida, Gainesville, FL, February 26-28	2004
Invited Plenary Speaker: "Geometry, PDE's, CFD and Image Processing, Dd60 Scientific Festival: Science, Vision, and Reality, on the occasion of Peter Deuflhard's 60th Birthday, Zuse Institute Berlin, Berlin, Germany, May 7-8	2004
Invited Plenary Speaker: "Variational PDE Techniques in Wavelet Transforms and Image Processing," 2nd International Conference on Computational Harmonic Analysis Vanderbilt University, Nashville, TN, May 24-30	2004
Invited Plenary Speaker: International Conference on Frontiers of Applied Mathematics, Morningside Center of Mathematics, Beijing, China, June 14-17	2004
Invited Speaker: First Annual Center for Applied Mathematics Colloquium, University of Florida, Gainesville, FL, January 23	2004
Invited Speaker: Applied Mathematics Colloquium on PDE-based Imaging, Columbia University, New York, NY, March 9	2004
Invited Speaker: Math Department, Georgia Institute of Technology, Atlanta, GA, April 5	2004
Invited Speaker: Computer Science Department, Emory University, Atlanta, GA, April 6	2004

- Invited Speaker: Applied Math Colloquium, California Institute of Technology, Pasadena, CA, March 3 2003
- Invited Speaker: Computer Science Department, University of Toronto, Toronto, Canada, May 1 2003
- Invited Speaker: ONR PI meeting and 2nd Imaging Processing Meeting-Digital Technology Center, University of Minnesota, Minneapolis, MN, May 7-9 2003
- Invited Speaker: USC Math Department CID Workshop, University of Southern California, Los Angeles, CA May 24 2003
- Invited Speaker: Mini-symposium, ICIAM2003, Sydney, Australia, July 7-11 2003
- Invited speaker: Workshop on optimization in simulation based models, IMA, Univ. of Minnesota (Jan 9-16) 2003
- Invited lecture: Conf. on "Applied Inverse Problems; Theoretical and Computational Aspects", UCLA Lake Arrowhead Conf. Center (May 18-23) 2003
- Invited lecture: Workshop on "Image Processing and Comp. Methods", Univ. of Kentucky (Mar 21-23) 2003
- Invited lecture: "Variational PDE Techniques in Wavelet transforms and Image Compression", Workshop on "Mathematical Challenges in Scientific and Eng. Computation", The Issac Newton Inst. for Math. Sciences, Cambridge, UK (Jan 20-24) 2003
- Invited Plenary Speaker: "Variational PDE Techniques in Wavelet Transforms and Image Compression," Newton Institute Workshop: Mathematical Challenges in Scientific and Engineering Computation, Univ. Cambridge, Cambridge, England, January 20-24 2003
- Invited Plenary Speaker: "A Fast Algorithm for Variational Level Set Image Segmentation," Image Processing and Computational Methods Workshop, University of Kentucky, Lexington, KY, March 21-22, 2003 2003
- Invited Plenary Speaker: "A Fast Algorithm for Variational Level Set Image Segmentation," SONAD 2003, McMaster University, Hamilton, Canada, May 2 2003
- Invited Plenary Speaker: "AIP II Conference, Arrowhead Conference Center, Arrowhead, CA May 18-20 2003
- Invited Plenary Speaker: "Phase Velocity Analysis Multgrid Methods for Hyperbolic Problems," Schnelle Loser Fur Partielle Differentialgleichungen, Mathematisches Forschungsinstitut Oberwolfach, Oberwolfach, Germany, June 1-7 2003
- Invited Plenary Speaker: Geometric and Total Variation Regularization in Inverse Problems, BIRS Workshop on Regularization in Statistics, Banff, Canada, September 6-11 2003
- Invited Plenary Speaker: Inverse Problems Workshop Series I: Emerging Applications of Inverse Problems, Techniques to Imaging Science, IPAM, UCLA, October 20-21 2003
- Invited Plenary Speaker: "Tutorial on Wavelets and PDE-based Image Processing," National University of Singapore Tutorials, Institute for Mathematical Sciences, National University of Singapore, Singapore, December 10-12. Joint with Jackie Shen, U. Minn. 2003
- Invited Plenary Speaker: "Logic operators for Active Contours on Multi-channel Images," International Conference on Numerical Sciences, National University of Singapore, Singapore, December 15-19 2003

- Invited Lecture to High School students, Enrichment program for young mathematical talents, Inst. of Math. Sci., Chinese Univ. of Hong Kong, "A Career in Math" (Nov.9) 2002
- Distinguished Lecturer, United College, Chinese Univ., of Hong Kong, "Geometry, PDE, Fluid Dynamics and Image Processing", (Nov5) 2002
- Distinguished Lecturer, United College, Chinese Univ. of Hong Kong, "What's math got to do with it? Mathematics at the frontier of science and technology", (Nov. 7) 2002
- Plenary Lecture "TV-norm regularization and Level-set methods for the recovery of discontinuous coefficient in elliptic inverse problems", SFB Conf on Comp. Methods in Inverse Prob., Strobl, Austria (Aug 25-31) 2002
- Invited Lecture: "Variational level set techniques for mining objects in images", Workshop on mathematical challenges in scientific data mining, IPAM, UCLA (Jan14-18) 2002
- Invited Speaker: IPAM RIPS Distinguished Lecture Series, IPAM, UCLA, August 2 2002
- Invited Plenary Speaker: "Logic operators for active contours and multi-channel images", Foundations of Computation Mathematics Conference, University of Minnesota, Minnesota, Minneapolis, MN, August 12-13 2002
- Invited Plenary Speaker: "Geometry, PDEs, Fluid Dynamics and Image Processing" and "What's Math Got to Do With It?", Distinguished Visiting Scholar, United College, Chinese University of Hong Kong, November 4-10 2002
- Invited Plenary Speaker: "PDE and Wavelet Techniques for Image Compression, " Image Analysis and Understanding Data from Scientific Experiment Workshop, Los Alamos National Laboratory, Los Alamos, NM, December 2-6 2002
- Invited Plenary Speaker: "PDE and Wavelet Techniques for Image Compression," International Conference on Scientific Computing and Partial Differential Equations/OsherFest, Hong Kong Baptist University, Hong Kong, December 12-15 2002
- Invited speaker: Int'l conf. on scientific computing and PDE's (in honor of Stan Osher's 60th Birthday), "Wavelets and PDE Techniques for Image Compression", Baptist Univ., Hong Kong (Dec 12-15) 2002
- Plenary lecture: "Variational PDE models and algorithms for image processing", Int'l Congress of Chinese mathematicians, Taipei, (Dec 17-2) 2001
- Invited lecture: "A level set algorithm for minimizing the Mumford-Shah functional in image processing", IEEE workshop in variation level set methods in computer vision, in conjunction with the 8th Int'l conf. in computer vision, Vancouver, Canada, (July 13) 2001
- Featured presentation, "Physical sciences in the California nanosystems institute", presented to Donald Tsang, Chief secretary of admin., Hong Kong, SAR, during his visit to UCLA (Sept. 7) 2001
- Plenary lecture, " Image inpainting", Int'l symposium on computational and applied PDEs, Zhangjiajie, Hunan, China (July 1-7) 2001
- Plenary lecture, " Image inpainting", Applied inverse problems, Montecatini Terme, Italy (June 18-22) 2001
- Invited lecture, "Fast solution of nonlinear PDEs arising from image processing", Oberwolfach, Germany (May 27 - June 1) 2001

- Keynote lecture, "What has math got to do with it: Math at the frontier of science and technology", Regents scholar society meeting, IPAM, UCLA (Jan 17) 2001
- Invited lecture, "Active contours and Mumford-Shah segmentation based on level set", Workshop on mathematics in image processing, Univ. of Hong Kong (Dec 13-17) 2000
- Keynote lecture: "What's math got to do with it: mathematics at the frontier of science and technology", UCLA Parents weekend (Nov 17) 2000
- Invited lecture, "A level set framework for active contours and Mumford-Shah segmentation", IMA workshop on image processing and low level vision (Oct 16-20) 2000
- Invited lecture, "A unified variational model for image restoration and inpainting", School on mathematical problems in image processing, Int'l center for theoretical physics (Sept 18-22) 2000
- Invited lecture, "ENO-Wavelets and image inpainting", ONR workshop on image processing: Theory, analysis and applications, IPAM, UCLA (Sept 6-8) 2000
- Invited talk: International Conference on Scientific Computing, in honor of Feng Kang's 80th birthday, Beijing (Aug 29-31) 2000
- Invited talk: 7th SIAM Conference on Applied Linear Algebra, North Carolina State University (Oct 23-26) 2000
- Speaker in Distinguished Lecture Series, "Nonlinear PDE methods in image processing", Univ. of British Columbia Seminar Series, Vancouver, BC, Canada (Mar 4) 1999
- Invited Lecture, "Multilevel algebraic elliptic solvers on unstructured grids", HPCN Europe 1999, Univ. van Amersterdam, Amsterdam, The Netherlands (Apr 12-14) 1999
- Invited Lecture, "Mathematics & Entertainment", Entertech Workshop, Carlsbad, CA (Apr 25-27) 1999
- Invited Lecture, Oberwolfach, Germany (May 30-Jun 5) 1999
- Invited Lecture, "Agglomeration & Energy Minimizing Algebraic Multigrid", Scalable Linear Solvers Workshop, Livermore, CA (June 23-25) 1999
- Invited Plenary Lecture, "Variational PDE Models & Methods for Image Processing", 18th Biennial Conf. on Numerical Analysis, Univ. of Dundee, Scotland (Jun 29-Jul 2) 1999
- Invited Minisymposium Lecture, "Reduced Mumford-Shah models for image segmentation", The 4th Int'l Congress on Industrial & Applied Math (ICIAM), Edinburgh, Scotland (Jul 5-9) 1999
- Invited Plenary Lecture, "Detection of strong coupling in algebraic multigrid solvers", 6th European Multigrid Conf., Univ. Gent, Belgium (Sept 27-30) 1999
- Contributed Talk, "Adaptive ENO-Wavelets transform for discontinuous functions", 12th Int'l conf. on Domain Decomposition Methods, Chiba Univ., Japan (Oct 25-29) 1999
- Invited Talk, "Adaptive ENO-Wavelets for discontinuous functions with applications to image compression", MSRI, Mathematics in Imaging Workshop (Nov 1-5) 1999
- Invited talk: "Active contours without edges for vector-valued images", Scale Space 99, Corfu, Greece (Sept) 1999

- Keynote Speaker, "Nonlinear PDE models in image processing", CSE Annual Research Symposium, Univ. of IL, Urbana-Champaign (Apr 17) 1998
- Invited Plenary Lecture, "Nonlinear PDE methods in image processing", Int'l Congress on Numerical Methods for Partial Differential Equations, Marrakech, Morocco (Sept 14-18) 1998
- Honoree, Queen's & King's Joint Alumni Association, presented after-dinner talk: "Mathematics & You in the Next Century", Monterey Park, CA (Oct 31) 1998
- Invited Plenary Lecture, "An energy-minimizing approach to robust multigrid methods", 10th Annual Int'l GAMM-Workshop on Multigrid Methods, Bonn, Germany (Oct 5-8) 1998
- Invited Lecture, "Multilevel elliptic solvers on unstructured grids", ASCI Tri Lab Meeting on Linear Solvers, Albuquerque, NM (Oct 13-14) 1998
- Invited Plenary Lecture, "'The View' from UCLA", 13th Annual Mathematical Sciences Department Chairs' Colloquium, National Research Council, Washington, DC (Nov 13-14) 1998
- Invited Plenary Lecture, "Numerical linear algebra and optimization issues arising from total variation image restoration", Int'l Workshop on "Numerical Linear Algebra and Optimization", Curitiba, Brazil (Jan 15-18) 1997
- Invited Lecture, "Multigrid preconditioners for total variation image deblurring", Workshop on Scientific Computing '97 (WSC9-HK), Hong Kong (Mar 10-12) 1997
- Invited Lecture, "ML(k)BiCGSTAB: A BiCGSTAB variant based on multiple lanczos starting vectors", Oberwolfach, Germany (Apr. 13-19) 1997
- Invited Lecture, "Algebraic nonoverlapping domain decomposition methods for compressible fluid flow problems in unstructured meshes", IMA Workshop on "Parallel Solution of PDE" (Jun 9-13) 1997
- Invited Minisymposium Lecture, "Augmented Lagrangian & total variation methods for recovery of discontinuous coefficients from elliptic equations", with X.C. Tai, SIAM Nat'l Meeting, Stanford, CA (July 14-18) 1997
- Invited Minisymposium Lecture, "Total variation and beyond: PDEs in image processing", with P. Blomgren, SIAM Nat'l Meeting, Stanford, CA (July 14-18) 1997
- Invited Minisymposium Lecture, "Extensions to total variation denoising", SPIE Meeting, San Diego, CA (July 28-Aug 1) 1997
- Invited Plenary Lecture, "Multilevel elliptic algorithms on unstructured grids", 10th Domain Decomposition Conference, Boulder, CO (Aug 10-4) 1997
- Invited Lecture (special session on PDEs and geometry-driven diffusion), "Total variation image restoration: numerical methods and extensions", Int'l Conf. on Image Processing, Santa Barbara, CA (Oct. 26-29) 1997
- Invited Minisymposium Lecture, "A modular solver for constrained regularization problems in image restoration", with P. Blomgren, SIAM Conf. on Linear Algebra, Snowbird, UT (Oct 29-Nov1) 1997
- Invited Minisymposium Lecture, "Multilevel domain decomposition for unstructured meshes", with S. Go, SIAM Conf. on Linear Algebra, Snowbird, UT (Oct 29-Nov1) 1997
- Invited Plenary Lecture: AMLI'96, Katholic University, Nijmegen, Netherlands (June) 1996
- Invited Plenary Lecture: Workshop on Sci. Comp, KTH, Stockholm (June) 1996

Invited Plenary Lecture: Workshop on Iter. Meth., CERFACS, France (June)	1996
Plenary Lecture (45 min.), "Iterative Methods for Total Variation Image Processing", joint paper by Chan, Golub, Mulet, lecture presented by Mulet at the Householder Symposium (Jun 17-21)	1996
Invited Lecture, "Total variation Image Restoration", RIACS, NASA Ames, Code I/RIACS Workshop on "Basic Research Opportunities in Information Technology for NASA Applications" (July 29-30)	1996
Invited Lecture and Main Organizer, ONR/UCLA Image Processing Workshop, UCLA (Sept 4-6)	1996
Invited Lecture "Multilevel Algorithms for Elliptic Problems on Unstructured Grids", Workshop on Parallel Unstructured Grid Computations, Argonne National Lab (Sept 9-11)	1996
Winter School on Iter. Meth. and Applications, Hong Kong, with R. Chan and G. Golub (Dec)	1995
Invited plenary lecture: Winter School on Iter. Meth. and Applications, Hong Kong (Dec)	1995
Invited Plenary Lecture: Workshop on Iter. Meth. for Large Scale Nonlinear Problems, Logan, Utah (Sept.)	1995
Invited Plenary Lecture: IMACS Symp. on Iter. Meth., Blaevograd, Bulgaria (June)	1995
Invited Plenary Lecture: Conference on Sci. Comp., Hong Kong (May)	1995
Invited Plenary Lecture: 8th Int'l Conf. on Domain Decomposition, Beijing. (May)	1995
Invited Lecture: ICASE short course on Parallel Numer. Alg. (May)	1994
Invited Lecture: PCG'94, Keio Univ., Japan. (March)	1994
Invited Plenary Lecture, 3rd Int'l Conf. on Advances in Numer. Meths. and Applic., Sofia, Bulgaria (Aug)	1994
Invited Lecture: Sparse Days at St. Gions, France. (July)	1994
Invited Lecture: Oberwolfach, Germany. (April)	1994
Colloquium: "The Composite Step Family of Nonsymmetric Conjugate Gradient Methods", Mississippi State Univ. (Oct.)	1994
Invited Lecturer: Int'l Workshop on Parallel and Supercomputing, Hsinchu, Taiwan	1993
Invited Lecturer: IMACS Conference, Bangalore, India	1992
Invited Lecturer: Int'l Conference on Linear Algebra, Shanghai, China	1992
Invited Lecture (1 hr), Le Breau Summer School, France	1992
Invited Lecture: Workshop on Iter. Meth. for Sparse and Structured Problems, IMA, Univ. of Minnesota	1992
Conference Organizer & Speaker: 6th Int'l Conf. on Domain Decomposition, Lake Como, Italy.	1992
Invited Lecturer: Workshop on Recent Development in Numer. Meth. for Fluid Dynamics, Asilomar, CA. (Feb.)	1992

Invited Lecturer: ONR Workshop on Domain Specific Meth. for Massively Parallel Computational Sciences. (May)	1992
Invited Lecturer: Int'l Conference on Computational Engineering Science, Hong Kong	1992
Invited Talk: Dept. of Energy Conference on Nonlinear Science, Los Alamos. (May)	1991
Invited Talk: Workshop on Parallel Computing, STU, Sweden. (April)	1991
Invited Talk: Oberwolfach, Germany. (April)	1991
Invited Talk: Parallel Circus, UCSB. (March)	1991
Professor and Main Lecturer, Summer school on Numerical Analysis, Le Breau, France	1991
Invited Lecturer: Minisymposium, SIAM Conf. Appl. Linear Algebra, Minnesota. (Sept.)	1991
Invited Lecturer: Mini-conference on Domain Decomposition, Univ. of Kentucky. (Nov.)	1991
Invited Lecturer: Workshop on Parallel Processing, Albuquerque, NM. (Nov.)	1991
Invited Talk: Conference on Scientific Computing, Univ. of Hong Kong. (Dec.)	1990
Invited Talk: SIAM Conference on Linear Algebra and Signal Processing, Minisymposium, San Francisco. (Nov.)	1990
Lecture, Short Course on CFD: Theory and Application in Computer Codes, CERFACS. Toulouse, France. (Nov.)	1990
Invited Talk: Fourth Institute for Super Computing Research Workshop, Hakone, Japan. (Aug.)	1990
Invited Talk: Householder Conference, Tylosand, Sweden. (June)	1990
Invited Talk: ACM Int'l Conference on Supercomputing, Amsterdam. (June)	1990
Invited Talk: Oberwolfach, Germany. (April)	1990
Invited Talk: Workshop on Parallel Computing on the Connection Machine, UCLA. (April)	1990
Invited Talk: Copper Mountain Conference on Iterative Methods. (April)	1990
Invited Talk: Parallel Circus, Stanford Univ. (March)	1990
Two week lecture course at the National Tsing Hua Univ. Taiwan. (Dec.)	1989
Invited Talk: Workshop on Advances in Scientific Computing, Espoo, Finland. (Aug.)	1989
Invited Talk: Workshop on Numerical Linear Algebra, Trondheim, Norway. (June)	1989
Invited Talk: SIAM Conference on Sparse Matrices, Gleneden Beach, Oregon. (May)	1989
Invited Talk: MAA-SIAM Joint Meeting: Domain Decomposition Methods for PDE's, CalState Fullerton. (March)	1989
Plenary Speaker at SIAM National Meeting: Domain Decomposition Algorithms, San Diego. (July)	1989

Invited Speaker: Joint NSF/IBM Almaden Research Center Workshop on Opportunities and Constraints of Parallel Computing, San Jose. (Dec.)	1988
Invited Speaker: Workshop on Practical Iterative Methods for Very Large-Scale Computations, Univ. of Minnesota. (Oct.)	1988
AMS-SIAM Summer Seminar: "Computational Solution of Nonlinear System of Equation", Colorado State Univ. (July)(Unable to attend)	1988
Invited Speaker: Symposium on Trends in High Performance Computing in Science and Engineering, Linkoping Univ. Sweden.	1988
Invited Speaker: 2nd Int'l Conference on Vector and Parallel Computing Issues in Applied Research and Development, Tromso, Norway. (June)	1988
Invited Speaker: Conference on Supercomputer Applications of Sparse Matrix Algorithms, Santa Cruz. (March)	1988
Invited Talk: "Numerical Linear Algebra and Parallel Computation," Oberwolfach. (March)	1988
Invited Speaker: 2nd Int'l Symposium on Domain Decomposition Methods, UCLA. (Jan.)	1988
Invited Speaker: Symposium on Parallel Computations and Their Impact on Mechanics, Amer. Soc. Mech. Engineers, Boston, Mass. (Dec.)	1987
Invited Speaker: Conference on Computational Fluid Dynamics, Amer. Phys. Soc., Eugene, Oregon. (Nov.)(Unable to Attend)	1987
Invited Speaker: ASU Computational Math. Research Conference, Arizona State Univ. (Nov.)	1987
Invited Speaker: 1st Int'l Conference on Industrial And Applied Math. Paris, France. (June)	1987
Invited Speaker: IMACS Conference with D. Resasco, Lehigh Univ. (June)	1987
Invited Speaker: 3rd Copper Mountain Conference on Multigrid Methods, Co. (April)	1987
Invited Speaker: Workshop for Fast Fourier Transforms for Vector and Parallel Computers, Cornell Univ. (March)	1987
Invited Speaker: 1st Int'l Symposium on Domain Decomposition Methods for PDEs, Paris, France. (Jan.)	1987