STEVEN MARK ANLAGE
Center for Nanophysics and Advanced Materials
Physics Department
and Faculty Affiliate of the Department of Electrical and Computer Engineering
and Member of the Maryland NanoCenter
University of Maryland
College Park, Maryland 20742-4111 USA
anlage@ umd.edu
http://anlage.umd.edu
Office +1 301 405 7321, FAX +1 301 405 3779

EDUCATION

Ph.D., Applied Physics June, 1988
California Institute of Technology (Caltech), Pasadena
Thesis Title: Icosahedral Order in Metastable Metallic Alloys
Advisor: Professor William L. Johnson

M.S., Applied Physics June, 1984
Caltech, Pasadena

B.S., Physics (Magna Cum Laude) May, 1982
Rensselaer Polytechnic Institute (RPI), Troy, NY
Thesis Title: Theory of Electron Mobility in Semiconductors
Advisor: Professor Stephen J. Nettel
Minor: Philosophy of Science and Logic

RESEARCH AND TEACHING EXPERIENCE

Interim Director July, 2007 to June, 2009
Center for Nanophysics and Advanced Materials
Physics Department, University of Maryland

Full Professor July, 2002 to present
Center for Superconductivity Research
Physics Department, University of Maryland

Associate Professor July, 1997 to June, 2002
Center for Superconductivity Research
Physics Department, University of Maryland

Assistant Professor Oct 1990 to June, 1997
Center for Superconductivity Research
Physics Department, University of Maryland

Postdoctoral Research Associate Nov 1987 to Sept 1990
Geballe-Beasley-Kapitulnik Superconductivity Group
Applied Physics, Stanford University (Mac Beasley, supervisor)

Graduate Research Fellow Oct 1983 to Nov 1987
Disordered Metals Group, Applied Physics, Caltech (W. L. Johnson, supervisor)

Collaborating Scientist, Los Alamos National Laboratory (LANL), NM
Center for Materials Science, May and Oct 1986
Semiconductor Exploratory Research and Development Group (E-11), Aug. 1985

Teaching Assistant 1982-3, 1987
Applied Physics, Caltech

Summer Research Intern 1980, 81, 82
General Telephone and Electronics Laboratories (GTEL), Waltham, MA

OTHER APPOINTMENTS

Visiting Professor Oct 2011 to March 2012
Center for Functional Nanostructures
Karlsruhe Institute of Technology
Karlsruhe, Germany

Research Professor May 2008 to May 2010
National Security Institute
Naval Postgraduate School
Monterey, California

Affiliate Professor 2005 to present
Electrical and Computer Engineering Department
University of Maryland

AWARDS AND FELLOWSHIPS

2016 Invention of the Year Award, University of Maryland (2017)
University of Maryland Distinguished Scholar-Teacher (2016)
Outstanding Mentor, College of Computer, Mathematical and Physical Science, University of Maryland (2008)
2007 Invention of the Year Finalist, University of Maryland (2008)
National Security Science and Engineering Faculty Fellowship Finalist (2008)
NSF New Young Investigator Award, Maryland (1992-1998)
NATO Advanced Study Institute Fellowship, Stanford (1989)
Hewlett Packard Research Instrumentation Grant, Stanford (1989)
IBM Graduate Research Fellowship, Caltech (1986-87)
Eastman Kodak Graduate Research Fellowship, Caltech (1983-86)
G. H. Carragan Prize for outstanding scholarship in Physics, RPI (1982)
ΣΠΣ Physics Honor Society (1982)
NSF Undergraduate Research Grant, RPI (1980)

PATENTS

US Patent #5,900,618, "Near-Field Scanning Microwave Microscope Having a Transmission Line With An Open End," issued May 4, 1999.

US Patent # 6,366,096, "Apparatus and Method for Measuring of Absolute Values of Penetration Depth and Surface Resistance of Metals and Superconductors," issued 2 April, 2002.

US Patent # 6,376,836, "Disentangling Sample Topography and Physical Properties in Scanning Near-Field Microwave Microscopy," issued 23 April, 2002.

US Patent #6,809,533, "Quantitative imaging of dielectric permittivity and tunability," issued October 26, 2004.

US Patent # 8,624,605, "Apparatus and method to distinguish nominally identical objects through wave fingerprints," issued 6 January 2014.

US Patent # 9,424,665, "System and method for signals transmission in complex scattering environments using interaction of the waves with a nonlinear object," issued 23 August, 2016.

PATENT APPLICATIONS

Provisional US Patent Application, "Quantitative Imaging of Dielectric Permittivity and Tunability," September 10, 1999.

US Patent Application, "Disentangling Sample Topography and Physical Properties in Scanning Near-Field Microwave Microscopy," December 29, 1999.

International Patent Application, "Quantitative Imaging of Dielectric Permittivity and Tunability," April 5, 2000.

US Patent Application, "Apparatus and Method for Measuring of Absolute Values of Penetration Depth and Surface Resistance of Metals and Superconductors," August 4, 2000.

Provisional US Patent Application, "Magnetic Permeability Imaging with a Scanning Near-Field Microwave Microscope," August 16, 2000.

Provisional US Patent Application, "Imaging of Domains in Ferroelectric Crystals," October 5, 2000.

Provisional US Patent Application, "High Resolution Scanning Near-Field Microwave Microscopy," February 15, 2001.

Application for a provisional patent (60/463593) on 4/17/2003 for our disclosure, "Tunable Metamaterials".

Provisional Patent Application 60/471,696, entitled "Height Modulated Imaging in Near Field Microscopy," submitted 19 May, 2003 to the US Patent and Trademark Office.

Invention disclosure to the Office of Technology Commercialization, PS-2006-06, "Method to Generate Chaotic Electrical Signals at GHz Frequencies."

Invention disclosure to the Office of Technology Commercialization, PS-2007-006, "Wave Fingerprint of Complicated Enclosures."

Provisional Patent Application 60/885,265, entitled "Wave Fingerprint of Complicated Enclosures," submitted 8 February, 2007 to the US Patent and Trademark Office.

Provisional Patent Application 60/968,659, entitled "Chaotic Time-Reversal Sensor", submitted 29 August, 2007 to the US Patent and Trademark Office

Patent Application entitled "Apparatus and Method to Distinguish Nominally Identical Objects Through Wave Fingerprints," submitted to the US Patent and Trademark Office on Feb. 15, 2008.

Provisional Patent Application submitted to USPTO on 2 October, 2008, entitled "Exponential Amplification Chaotic Time Reversal Sensor (EACTRS)" by Steven Anlage, Thomas Antonsen and Biniyam Taddese, 61/102,065.

Invention Disclosure entitled “Sensing Small Changes in a Wave Chaotic Scattering System,” submitted to OTC on 28 June, 2010.

Invention Disclosure entitled “Communications by Means of Nonlinear Time-Reversal,” submitted to OTC on 22 December, 2011.

US Patent application submitted 7 Jan., 2014, titled "System and method for signals transmission in complex scattering environments using interaction of the waves with a nonlinear object."

Provisional Application Filed: April 25, 2016, “Method of Delivering Power to a Moving Target Wirelessly via Electromagnetic Time Reversal” (PS-2016-011). US Patent Application No.: 62/327,346.

Provisional Application Filed: April 25, 2016, “Selective Collapse of Nonlinear Time Reversed Electromagnetic Waves” (PS-2016-012). Application No.: 62/327,349.

PROFESSIONAL AFFILIATIONS

American Physical Society
Materials Research Society
Institute of Electrical and Electronics Engineers
Directed Energy Professional Society
Optical Society of America

PROFESSIONAL ACTIVITIES

Associate Editor, IEEE Transactions on Applied Superconductivity 2017 – present
Editorial Board, Reviews in Physics 2015 - present

Referee for Science, Nature journals, Physical Review Letters, Physical Review B, Applied Physics Letters, Journal of Applied Physics, IEEE Transactions on Applied Superconductivity, Review of Scientific Instruments, Physica C, European Journal of Physics

Referee for Proposals from NSF, DOD, DOE, CRDF, US-Israel Binational Science Foundation, Canadian Foundation for Innovation, EPSRC, EU, and other foreign funding agencies

Member of the International Organizing Committees of the High Temperature Superconductors in High Frequency Fields Symposium, Quantum Metamaterials Conferences, etc.

APS March Meeting Abstract sorting 1993, 1997, 2001-2008, 2011-2012, 2015-2016

Team Leader for Superconductivity (Category 5) abstract sorting for the 2004 March Meeting of the American Physical Society

Organized a session on Materials Challenges for Applications of HTSC, 1996 Spring Materials Research Society Meeting

Co-chair of the Electronics Program Committee for the 2000 Applied Superconductivity Conference.

Organized and ran a Short Course entitled "Superconducting Electronics" at the 2000 Applied Superconductivity Conference.

Delivered a Short Course on Superconducting Electronics at the 2010, 2012 and 2014 Applied Superconductivity Conferences.

Member of the Electronics Program Committee for the 2002 Applied Superconductivity Conference.

Session chair for APS March Meetings, Materials Research Society Meetings, Applied Superconductivity Conferences, etc.

SELECTED INVITED TALKS SINCE 2007

Invited Talk, 8th International Workshop on Quantum Chaos and Localisation Phenomena, Institute of Physics, Polish Academy of Sciences, Warsaw, Poland, 21 May, 2017.

Invited talk, Fundamentals of Quantum Materials Workshop, Greenbelt, MD, USA, 15 January, 2017.

Invited talk. Physics of Quantum Electronics, Snowbird, Utah, 13 January, 2017.

University of Maryland Distinguished Scholar Teacher Lecture, Physics Department, University of Maryland, 29 November, 2016.

Physics Colloquium, Missouri University of Science and Technology, Rolla, MO, 27 October, 2016.

Invited talk, Metamaterials 2016, Chania, Greece, 20 September, 2016. Talk given by collaborator George Tsironis.

Invited talk, Dynamics Days Central Asia, Astana, Kazakhstan, 2 September, 2016.

Invited talk, EUROEM 2016, Imperial College, London, UK, 11 July, 2016.

Invited talk, Quantum Metamaterials & Quantum Technology Conference, Spetses, Greece, 22 June, 2016.

Invited talks (2), International Conference on High Temperature Superconductors in High Frequency Fields, Tiburon, CA, 19, 20 May, 2016.

Invited talk, E-COST IC1407 (ACCREDIT) Meeting, "Advanced wave modelling and measurement techniques for stochastic fields," University of Nottingham, UK, 5 April, 2016.

Physics Colloquium, CUNY / Queens College, New York, NY, 28 March, 2016.

Invited talk, Directed Energy Symposium, Albuquerque, NM, 8 March, 2016.

Invited talk, Applied Dynamics Seminar, IREAP, University of Maryland, 3 March, 2016.

Invited talk, Physics of Quantum Electronics, Snowbird, Utah, 4 January, 2016.

Invited talk, SPIE Optics + Photonics 2015 Conference, San Diego, CA, 9 August, 2015.

Condensed Matter Seminar, Physics Department, Seoul National University, Seoul, South Korea, 7 August, 2015.

Invited talks (2), 1st Asia Electromagnetics Conference, Jeju, South Korea, 3 August, 2015.

Invited talk, Workshop on Quantum Metamaterials, Spetses, Greece, 3 June, 2015.

Invited talk, 7th Workshop on Quantum Chaos and Localisation Phenomena, Institute of Physics, Polish Academy of Sciences, Warsaw, Poland, 30 May, 2015.

Invited talk, URSI AT-RASC Meeting, Gran Canaria, Spain, 21 May, 2015.

Invited talk, Physics Department Seminar, Nazarbayev University, Astana, Kazakhstan, 8 May, 2015.

Physics Colloquium, Nazarbayev University, Astana, Kazakhstan, 6 May, 2015.

Invited talk, Department of Energy / MSE Physical Behavior of Materials PI's Meeting, Gaithersburg, MD, 31 March, 2015.

Invited talk, The 5th International Conference on Nanophotonics and Metamaterials, Seefeld, Austria, 7 January, 2015.

Invited talk, The 9th International Symposium on Intrinsic Josephson Effects and THz Plasma Oscillations in High-Tc Superconductors, Kyoto, Japan, 1 December, 2014.

Physics Colloquium, University of Crete, Heraklion, Crete, Greece, 16 October, 2014

Invited talks (2), Crete Center for Quantum Complexity and Nanotechnology Seminar, Physics Department, University of Crete, Heraklion, Greece, 14 October, 2014.

Invited talk, Echoes in Complex Systems, Max Planck Institute for the Physics of Complex Systems, Dresden, Germany, 22 September, 2014.
Invited talk, Electromagnetics Seminar Series, University of Waterloo, Waterloo Canada, 17 September, 2014
Invited talk, The Eighth International Congress on Advanced Electromagnetic Materials in Microwaves and Optics, Copenhagen, Denmark, 28 August, 2014.
Invited talk, International Conference on Electromagnetics in Advanced Applications, Aruba, 7 August, 2014.
Invited talks (3), International Workshop on High Temperature Superconductors in High Frequency Fields, Fréjus, France, 10 June, 2014.
Invited talk, NanoCore Research Institute, Physics Department, National University of Singapore, Singapore, 23 May, 2014
Invited talk at the 5th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Nanyang Technological University, Singapore, 21 May, 2014
Invited talk, Electromagnetic Effects Research Laboratory, EEE Department, Nanyang Technological University, Singapore, 20 May, 2014
Invited talk, Laboratory for Physical Sciences Seminar, College Park, MD, 23 April, 2014.
Invited talk, UK EPSRC Metamaterials Retreat, Chamonix, France, 20 March, 2014.
Invited talk, NASA/Goddard Space Flight Center Scientific Colloquium, Greenbelt, MD, 10 January, 2014.
Invited talk, 2014 Physics of Quantum Electronics Conference, Snowbird, Utah, 8 January, 2014.
Invited talk, 2013 Fall Materials Research Society Meeting, Boston, MA, 2 December, 2013.
Invited talk, Zepler Institute International Lecture, Optoelectronics Research Centre, University of Southampton, UK, 25 November, 2013.
Invited talk, Theoretical Physics Colloquium, Institute for Theoretical Physics, Technical University of Dresden, Germany, 21 November, 2013
Invited talk, 7th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics, Bordeaux, France, 17 September, 2013.
Invited talk, SPIE Optics and Photonics Conference, San Diego, CA, 28 August, 2013.
Invited talk, SPIE Optics and Photonics Conference, San Diego, CA, 27 August, 2013.
Invited talk, 6th Workshop on Quantum Chaos and Localisation Phenomena, Warsaw, Poland, 25 May, 2013.
Invited talk, High Energy Physics Seminar, University of Maryland, 27 March, 2013.
Invited talk, International Conference, Max Planck Institute for the Physics of Complex Systems, Dresden, Germany, 22 October, 2012.
Invited talk at Innovations in Wave Modeling, University of Nottingham, United Kingdom, 4 September, 2012.
Invited talk, Institute for Solid State Physics, Chernogolovka, Russia, 21 August, 2012.
Invited talk, Moscow University of Science and Technology, Moscow, Russia, 17 August, 2012.
Invited lecture at the Summer School Propagation D'ondes En Milieux Complexes, at the Institut d'Etudes Scientifiques de Cargèse, in Corsica France, 14 August, 2012.
Invited lecture at the Summer School Propagation D'ondes En Milieux Complexes, at the Institut d'Etudes Scientifiques de Cargèse, in Corsica France, 13 August, 2012.
Invited talk, 7th Superconducting Radio Frequency Materials Workshop, Thomas Jefferson National Accelerator Facility, Newport News, VA, 17 July, 2012.

Invited talk, Tenth International Symposium on Photonic and Electromagnetic Crystal Structures, Santa Fe, NM, 8 June, 2012.
Invited talk, SPIE Europe, Brussels, Belgium, 18 April, 2012.
Invited talk, Fifth International Workshop on Electromagnetic Metamaterials, Albuquerque, NM, 26 March, 2012.
Invited talks (2), Fifth International Congress on Advanced Electromagnetic Materials in Microwaves and Optics, Barcelona, Spain, 11 October, 2011.
Invited talk, Seventh International Conference on Vortex Matter in Nanostructured Superconductors, Rhodes, Greece, 15 September, 2011.
Invited talk, 5th Workshop on Quantum Chaos and Localisation Phenomena, Institute of Physics, Polish Academy of Sciences, Warsaw, Poland, 21 May, 2011.
Physics Colloquium, University of Florida, 7 April, 2011.
Physics Colloquium, Georgetown University, Washington, DC, 19 October, 2010.
Electromagnetics Seminar, University of Waterloo, Ontario, Canada, 23 September, 2010.
Invited talk, Fourth International Congress on Advanced Electromagnetic Materials in Microwaves and Optics, Karlsruhe, Germany, 14 September, 2010.
Invited presentation to the JASON summer study on 'Optical Metamaterials,' La Jolla, CA, 28 June, 2010.
Plenary Talk, Experimental Chaos and Complexity Conference, Lille, France, 1 June, 2010.
Invited Talk, 40th Colloquium on the Physics of Quantum Electronics, Snowbird, Utah, 4 January, 2010.
Invited seminar, NSU Center for Materials Research Seminar, Norfolk State University, Norfolk, VA, 12 November, 2009.
Applied Dynamics Seminar, University of Maryland, College Park, MD, 29 October, 2009.
Plenary Talk, Superconducting RF 2009 (SRF 2009), Berlin, Germany, 22 September, 2009.
Keynote (Invited) Talk, SPIE Conference, San Diego, 2 August, 2009.
Invited Seminar, Sensors Directorate, Wright-Patterson AFB, Dayton, OH, 8 July, 2009.
Invited talk, 2009 Workshop on Quantum Chaos and Localisation Phenomena, Institute of Physics, Polish Academy of Sciences, Warsaw, Poland, 24 May, 2009.
Invited Talk, 2009 Dynamics Days International Conference on Chaos and Nonlinear Dynamics, San Diego, CA, January 11, 2009.
Breakthrough (Invited) Talk, Nano-Meta 2009, Seefeld, Austria, January 5, 2009.
Gathering on the Physics of Billiard Systems, Centro Internacional de Ciencias, Cuernavaca, Mexico, 20 August, 2008.
Physics Colloquium, Instituto de Ciencias Físicas Universidad Nacional Autónoma de México Cuernavaca, Morelos, México, 19 August, 2008.
Invited Talk, Conference on Precision Electromagnetic Measurements, Broomfield, CO, 12 June, 2008.
Physics Colloquium, Drexel University, Philadelphia, PA, May 22, 2008.
Progress in Electromagnetics Research, Hangzhou, China, 26 March, 2008.
American Physical Society March Meeting, Denver, CO, 8 March, 2007.

GRADUATED STUDENTS

Alp Findikoglu, Ph.D. 1994 (T. Venkatesan principal advisor), Staff, Los Alamos National Lab
Jian Mao, Ph.D. 1995, Member of the Technical Staff, PRC, Inc. McLean, VA
Michael S. Pambianchi, Ph.D. 1995; MBA, 2000, Harvard Business School, now at Dow-Corning

Paul So, Ph.D. 1995 (E. Ott principal advisor), Professor of Physics, George Mason University
James C. Booth, Ph.D., 1996, Staff Member, NIST, Boulder, CO
Alberto Pique, Ph.D. Materials Science 1996 (R. Ramesh principal advisor), NRL, Wash., DC
Lucia Mercaldo, Ph.D. Physics, 1998 (Salerno), Staff, Solar Energy Institute, Naples Italy
David E. Steinhauer, Ph.D. Physics, 2000, Scientist, Tripath Medical Imaging, Seattle
Ashfaq Thanawalla, Ph.D. Physics, 2000 (jointly advised with F. Wellstood)
Claudio Cardoso, Ph.D. Physics, 2001 (University of Campinas, Brazil) Post-Doc in Campinas
Doug Strachan, Ph.D. Physics, 2002 (jointly advised with C. Lobb) Post-Doc Univ. of Penn.
Sheng-Chiang Lee, Ph.D. Physics, 2004. Professor of Physics, Mercer University
Atif Imtiaz, Ph.D. Physics, 2005. NRC Post-Doc, NIST/Boulder
Sameer Hemmady, Ph.D. 2006 (ECE). SAIC
Dragos Mircea, Ph.D. 2007 (ECE). Hitachi Global Storage.
Michael Ricci, Ph.D. Physics 2007, Systems Engineering Group, Inc.
Hua Xu, Ph.D. Physics, 2007, NIST Gaithersburg
James Hart (jointly advised with Ott, Antonsen), Ph.D. Physics, 2009, MIT Lincoln Labs
Enrique Cobas (joint with Fuhrer), Ph.D. Materials Science, 2010, Naval Research Laboratory
Biniyam T. Taddese, Ph.D. Electrical and Computer Engineering, 2012, Intel
Jen-Hao Yeh, Ph.D. Electrical and Computer Engineering, 2013, Laboratory for Physical Sciences
Tamin Tai, Ph.D. Electrical and Computer Engineering, 2013, Oak Ridge National Laboratory
Melissa Trepanier, Ph.D. Physics, 2015, New Hampshire
Daimeng Zhang, Ph.D. Electrical and Computer Engineering, 2016, Virginia
Bo Xiao, Ph.D. Electrical Engineering, 2017, Google

Marc Sheffler, M.S. Physics, 1998, Post-Doc at the University of Stuttgart
Wensheng Hu, M.S. ECE, 1999, Engineer, Hughes Network Systems
J. David Kokales, M.S. Physics, 1999, Member of the Technical Staff, Illinois Superconductor
C. P. (Gus) Vlahacos, M.S. Physics, 1999 (co-advised with F. Wellstood), NSA, LPS
Hans Georg Breunig, M. S. Physics, 2000, Post-Doc, University of Marburg, Germany
Senta Karotke, Diplom. in Physics, 2001, Grad. Student, University of Basle, Switzerland
Jesse Bridgewater, M.S. Physics, 2002. Graduate student at UCLA
Renato Mariz de Moraes, M.S.E.E. 2002 (ECE). Graduate student at UC Santa Cruz
Sameer Hemmady, M.S.E.E. 2004 (ECE). Univ. of New Mexico and Techflow Scientific, Albuquerque
Nathan Orloff, M.S. Physics, 2007, Member of the Technical Staff, NIST Gaithersburg

John Abrahams, B.S. Physics, 2012
Elliott Bradshaw, B.S. Physics, 2007
Vassili Demergis, B.S. Physics, 2006, Graduate student, University of Texas, Austin
Marc Pollak, B.S. Physics, 2004, Graduate Student, University of Maryland
Nathan Orloff, B.S. Physics, 2004, Graduate Student, University of Maryland
Jonah Kanner, B.S. Physics, 2003, Graduate student, University of Maryland
Greg Ruchti, B.S. Physics, 2003, Graduate Student, Johns Hopkins University
Paul Petersan, B.S. Physics, 1998, Graduate Student, Physics Department, University of Texas
Sudeep Dutta, B.S. Physics, 1998, Graduate Student, Physics Department, UMD
Ali Gokirmak, B.S. Physics, 1998, Graduate Student, EE Department, Cornell University

Tony DeMarco, B. S. Physics, 1995, Graduate Student, EE Department, University of Maryland
Abi Davis, B. S. Physics, 1993, Engineer, Superconductor Technology Inc, Santa Barbara, CA
National Science Foundation Research Experiences for Undergraduate Students
Roger Bock, summer , 1996
Sudeep Dutta, University of Maryland, summer, 1997
Nadia Fomin, Georgetown University, summer, 1998
Eric Wang, UC Berkeley, summer, 2001
Thomas Hartman, Princeton, Summer, 2002

FORMER POSTDOCTORAL RESEARCHERS

Lie Chen, Institute of Physics, Chinese Academy of Sciences, Beijing
Johan Feenstra, Member of the Technical Staff, Philips Research Laboratories, Eindhoven, The Netherlands
Dong-Ho Wu, Staff Scientist, Naval Research Laboratory, Washington, DC
Andrew Schwartz, Manager, EPSCAN Program, Neocera, Inc., Beltsville, MD
Vladimir V. Talanov, Member of the Technical Staff, Neocera, Inc., Beltsville, MD
Lucia V. Mercaldo, Staff Scientist, Solar Energy Research Institute, Naples, Italy
Alexander Tselev, Post-Doctoral Researcher, Georgetown University
Atif Imtiaz, NRC Post-Doc NIST/Boulder
Laura Adams, post-doc, Harvard University
David Tobias (post-doc, joint with Fuhrer), APS Congressional Fellow
Cihan Kurter, Prof. of Physics, Missouri University of Science and Technology
Matthew Frazier, Virginia
Behnood Ghamsari, Post-Doc, University of Ottawa

CURRENT STUDENTS AND POST-DOCS

Seokjin Bae
Ziyuan Fu
Shukai Ma
Bakhrom Oripov
Min Zhou

STUDENT'S AWARDS

Daimeng Zhang is chosen for the Engineering School Future Faculty Program, Jan., 2014

Jen-Hao Yeh is chosen for the Engineering School Future Faculty Program, Jan., 2011

Biniyam Taddese won first place in the Focusing Research on Entrepreneurial Empowerment Poster Session on 5 December, 2008, sponsored by Black Graduate Student Association and Black Engineers Society. This became a news item on the ECE web site: http://www.ece.umd.edu/news/news_story.php?id=3581

Sameer Hemmady won the 2006 Group on Statistical and Nonlinear Physics Best Student Speaker Award at the 2006 American Physical Society March Meeting.

Two of my undergraduate research students (Nathan Orloff and Marc Pollak) won the Monroe Martin Prize at graduation in May, 2004.

My undergraduate research student, Paul Petersan, won the J. Robert Dorfman Prize for Outstanding Undergraduate Research in CMPS for 1998.

My undergraduate research student, Ali Gokirmak, won the Robert Ma Scholarship for Foreign Students in 1997

Tony DeMarco won a Senior Summer Scholarship for work in my lab (1995)

COURSES TAUGHT

Spring 1992
- Physics 161, General Physics: Mechanics and Particle Dynamics, 150 students
- Physics 838C, Superconductivity Seminar, ~20 students

Fall, 1992
- Physics 262, General Physics: Vibrations, Waves, Heat, Electricity and Magnetism, 150 students
- Physics 838C, Superconductivity Seminar, ~20 students

Spring 1993
- Physics 161, General Physics: Mechanics and Particle Dynamics, 150 students
- Physics 838C, Superconductivity Seminar, ~20 students

Fall, 1993
- Physics 262, General Physics: Vibrations, Waves, Heat, Electricity and Magnetism, 150 students
- Physics 838C, Superconductivity Seminar, ~20 students

Spring 1994
- Physics 161, General Physics: Mechanics and Particle Dynamics, 86 student
- Physics 838C, Superconductivity Seminar, ~20 students

Fall 1994
- Physics 262, General Physics: Vibrations, Waves, Heat, Electricity and Magnetism, 125 students
- Physics 838C, Superconductivity Seminar, ~20 students

Spring 1995
- Physics 422, Quantum Physics II, 20 students
- Physics 838C, Superconductivity Seminar, ~20 students

Fall 1995
- Physics 421, Quantum Physics I, 20 students
- Physics 838C, Superconductivity Seminar, ~20 students

Spring 1996
- Physics 422, Quantum Physics II, 15 students
- Physics 499A, Individual Problems with Lab, 1 student
- Physics 798, Special Problems in Advanced Physics, 1 student
- Physics 838C, Superconductivity Seminar, ~25 students
- Physics 899, Doctoral Dissertation Research, 1 student

Fall 1996
- Physics 421, Quantum Physics I, 15 students
- Physics 798, Special Problems in Advanced Physics, 1 student
- Physics 838C, Superconductivity Seminar, ~25 students
- Physics 899, Doctoral Dissertation Research, 1 student

Spring 1997
- Sabbatical
- Physics 899, Ph.D. thesis research, 1 student

Fall 1997
- Sabbatical
- Physics 499A, Individual Problems with Lab, 1 student
- Physics 899, Ph.D. thesis research, 1 student

Spring 1998

Physics 121, Fundamentals of Physics I, 84 students
Physics 499A, Individual Problems with Lab, 1 student
Physics 799, Masters Thesis Research, 1 student
Physics 838C, Superconductivity Seminar, ~25 students
Physics 899, Ph.D. thesis research, 1 student

Fall 1998

Buyout from Teaching
Physics 799, Masters Thesis Research, 3 students
Physics 838C, Superconductivity Seminar, ~25 students
Physics 899, Ph.D. thesis research, 1 student

Spring 1999

Physics 121, Fundamentals of Physics I, 76 students
Physics 799, Masters Thesis Research, 1 student
Physics 838C, Superconductivity Seminar, ~20 students
Physics 899, Ph.D. thesis research, 2 students

Fall 1999

Physics 122, Fundamentals of Physics II, 57 students
Physics 799, Masters Thesis Research, 2 students
Physics 838C, Superconductivity Seminar, ~20 students
Physics 899, Ph.D. thesis research, 2 students

Spring 2000

Physics 121, Fundamentals of Physics I, 77 students
Physics 799, Masters Thesis Research, 1 student
Physics 838C, Superconductivity Seminar, ~20 students
Physics 899, Ph.D. thesis research, 2 students

Fall 2000

Physics 122, Fundamentals of Physics II, 81 students
Physics 838C, Superconductivity Seminar, ~20 students
Physics 899, Ph.D. thesis research, 2 students

Spring 2001

Physics 798S, Introduction to Superconductivity, 11 students
Physics 838C, Superconductivity Seminar, ~20 students
Physics 899, Ph.D. thesis research, 2 students

Fall 2001

Physics 402, Quantum Physics II, 11 students
Physics 838C, Superconductivity Seminar, ~20 students
Physics 899, Ph.D. thesis research, 2 students

Spring 2002

Physics 411, Intermediate Electricity and Magnetism, ~ 35 students
Physics 838C, Superconductivity Seminar, ~20 students
Physics 899, Ph.D. thesis research, 2 students

Fall 2002

Physics 375, Optics Laboratory, 11 students
Physics 389, Undergraduate Research, 1 student
Physics 499A, Individual Problem with Laboratory, 1 student
Physics 798, Special Problem in Advanced Physics, 1 student
Physics 838C, Superconductivity Seminar, ~20 students
Physics 899, Ph.D. thesis research, 2 students

Spring 2003

Physics 411, Intermediate Electricity and Magnetism, ~ 40 students
Physics 389, Undergraduate Thesis Research, 2 students
Physics 499A, Individual Problem with Laboratory, 1 student

Physics 838C, Superconductivity Seminar, ~25 students
Physics 899, Ph.D. thesis research, 2 students

Fall 2003
Physics 375, Optics Laboratory, 12 students
Physics 499A, Individual Problem with Laboratory, 2 students
Physics 838C, Superconductivity Seminar, 30 students
Physics 899, Ph.D. thesis research, 2 students

Spring 2004
Physics 499A, Special Problems in Physics, 2 students
Physics 798S, Superconductivity, 12 students + 5 audits
Physics 838C, Superconductivity Seminar, 25 students
Physics 899, Doctoral Dissertation Research, 3 students

Fall 2004
SABBATICAL
Physics 838C, Superconductivity Seminar, 26 students
Physics 899, Doctoral Dissertation Research, 1 student
ENEE 899, Doctoral Dissertation Research, 1 student

Spring 2005
SABBATICAL
Physics 899, Doctoral Dissertation Research, 2 students
ENEE 899, Doctoral Dissertation Research, 1 student

Summer 2005
Physics 899, Doctoral Dissertation Research, 1 student

Fall 2005
Physics 375, Experimental Physics III, 13 students
Physics 499A, Special Problems in Advanced Physics, 1 student
Physics 838C, Superconductivity Seminar, 3 students
Physics 798, Special Problems in Advanced Physics, 1 student
Physics 899, Doctoral Dissertation Research, 1 student
ENEE 898, Pre-Candidacy Research, 1 student

Spring 2006
Physics 407, Physics Undergraduate Research, 1 student
ENEE 699, Independent Study, 1 student
Physics 798S, Superconductivity, 14 students + 5 audits
Physics 838C, Superconductivity Seminar, 25 students
Physics 898, Pre-Candidacy Research, 1 student
Physics 899, Doctoral Dissertation Research, 1 student
ENEE 899, Doctoral Dissertation Research, 1 student

Summer 2006
ENEE 699, Independent Study, 1 student

Fall 2006
Physics 375, Experimental Physics III, 18 students
Physics 838C, Superconductivity Seminar, 53 students
Physics 899, Doctoral Dissertation Research, 1 student
ENEE 899, Doctoral Dissertation Research, 2 students

Spring 2007
Physics 402, Quantum Mechanics II, 54 students

Fall 2007
Physics 838C, Superconductivity Seminar, 30 students
Physics 899, Doctoral Dissertation Research, 1 student

Spring 2008
Physics 402, Quantum Mechanics II, 44 students

Fall 2008
Spring 2009
Physics 402, Quantum Mechanics II, 51 students
Fall 2009
Physics 375, Experimental Physics III, 16 students
Spring 2010
Physics 404, Statistical Physics, 42 students
Fall 2010
Physics 375, Experimental Physics III, 19 students
Spring 2011
Physics 404, Statistical Physics, 51 students
Fall 2011
Sabbatical
Spring 2012
Sabbatical
Fall 2012
Phys 798I, Superconductivity
Spring 2013
Phys 410, Classical Mechanics
Fall 2013
Phys 410, Classical Mechanics
GEMS 296, Team Project Seminar I
Spring 2014
Phys 275, Classical Mechanics Laboratory
GEMS 297, Team Project Seminar II
Fall 2014
Phys 410, Classical Mechanics
Spring 2015
Physics 276 Experimental Physics II: Electricity and Magnetism
Fall 2015
Phys 410, Classical Mechanics
Spring 2016
Physics 798S Superconductivity
Fall 2016
Phys 402, Quantum Mechanics II
Spring 2017
Phys 371, Modern Physics
Fall 2017
Phys 402, Quantum Mechanics II

Other Teaching:
Given review lectures on Quantum Mechanics for students preparing for the Physics GRE.

Comment on Student Ratings of Teaching:

I taught Physics 121 and 122 during the Spring and Fall semesters of 2000. My teaching evaluations for these classes have been among the best in the department in the past 5 years. For example, my numbers for questions 1 and 2 on the student course evaluation for my Fall 2000 Phys 122 are significantly higher than any other professor who taught 121 or 122 in 1999. My numbers were 3.43 and 3.63, while those of the others ranged from 2.68 to 3.22 for question 1, and 2.74 to 3.46 for question 2.

I also received **PERFECT teaching evaluations** for my graduate course Phys 798S Superconductivity during the Spring 2006 semester. There were 11 students enrolled, 6 submitted evaluations, and ALL students gave an evaluation of "A" (4.0) in ALL categories.

SERVICE

University Service for the past 10 years

Chair, Graduate Qualifier Committee (2009-2011)
Executive Committee of Physics Council (2009-2011)
Interim Director, Center for Nanophysics and Advanced Materials (2007-2009)
Condensed Matter and Nano Faculty Search Committee (2006-2008, 2012-13)
Faculty Promotion Committees (2011, 2013)
CNAM Graduate Fellowship Committee (2008-2009)
Physics Council (2008-2011)
CSR Review Committee (2006)
Graduate Admissions Committee (2006, 2015, 2016)
Physics Salary Advisory Committee (2006-2007)
Faculty Candidate Teaching Interview Committee (2004-2007)
Committee on Appointments, Promotion and Tenure (2000-2004, 2010-2011, 2012-2014)
Priorities Committee (2001-2002, 2006)
Laboratory Committee (2002-2004, 2006-2011)
Incoming Graduate Student Advisor (2006)
Chairman of the Physics Undergraduate Honors Committee (1999-present)
Gemstone Discussant (2006)
Gemstone Advisor (2013-2016)
MRSEC Executive Committee (2002-2004)
Promotion Committee for Drew Baden (2003)
Committee to select NSF/REU students (1997-2002, 2004)
Extended Graduate Qualifier Committee (~1992-2004)
Physics Salary Advisory Committee (1999-2000)
Advised Incoming Physics Graduate Students (1995-1999, 2002)
Faculty Search Committee, (1996-1997)
Organized the Condensed Matter / Superconductivity Seminar Series (1993-1997)
Physics Internal Review Committee (1992-1993), Chair of the sub-committee on Research
Physics Council (1992-1995)
Physics Internal Review Committee (2004), Chair of the sub-committee on Infrastructure (2004)
Executive Committee of Physics Council (1992-1993)
Physics Curriculum Review Committee for the Engineering Sequence (1992)
Dean's Peer Initiative Review Committee (1994)

Served on numerous M.S. and Ph.D. thesis exam committees

Outside Service for the past 10 years

APS Committee on Meetings (2012-2014)

Sorted abstracts for the March Meeting of the American Physical Society (1994, 2001-2008, 2011-2012)

Selected Leader for Category 5 (Superconductivity) abstract sorting for the 2004 March Meeting of the American Physical Society

Served on the Electronics Program Committee of the 2002 Applied Superconductivity Conference.

Served as co-chair of the Electronics Program Committee for the 2000 Applied Superconductivity Conference

Organized a 1-day Short Course on "Superconducting Electronics" at the 2000 Applied Superconductivity Conference. It was sold out (50 students).

Member of the Electronics Program Committee for the 2002 Applied Superconductivity Conference

Co-organized a session on "Materials Challenges for Applications of HTSC" at the Spring 1996 Materials Research Society Meeting

Technical Program Committee Member for MSMW 98, MSMW 00, MSMW 02 and MSMW 04 conferences in Kharkov, Ukraine (MSMW = Physics and Engineering of Millimeter and Submillimeter Waves)

Council for Engineering Education Post-Doc Review Committee (1992)

External reviewer for Ph.D., University of British Columbia (2002)

External reviewer for Ph.D., James Cook University, Australia (2000)

Administered Caltech Undergraduate Transfer Exam (1995)

Supervised high school student Doug Woodbury in "Physics Mentorship" project (1995)

Chaired many sessions at many conferences

Referee papers (PRL, PRB, RSI, APL, JAP, etc.)

Referee funding proposals (NSF, EPSRC, Italian CNR)

Extensive Outreach participation through the MRSEC:

- Physics is Phun pre-shows
- Maryland Day demonstrations
- REU lectures, supervised 4 REU students
- Science writing with Northwestern High School students
- MRSEC "warm line" with Kettering Middle School