#### **GEORGE C. SCHATZ**

**ADDRESS**: Department of Chemistry

Northwestern University

Evanston, Illinois 60208-3113 Telephone: 847-491-5657

Fax: 847-491-7713

email: G-SCHATZ@northwestern.edu

**PERSONAL** Born, April 14, 1949 (Watertown, New York)

**DATA:** Married, three sons.

#### **EMPLOYMENT HISTORY:**

Northwestern University, Assistant Professor (1976-1980)

Associate Professor (1980-1982)

Professor of Chemistry (1982-present)

Dow Professor (1994-6)

Morrison Professor(2002-present)

Professor of Chemical and Biological Engineering (2009-present)

Professor of Applied Physics (2012-present)

#### **EDUCATION:**

Clarkson University (Potsdam, NY) B.S. in Chemistry (June, 1971)

California Institute of Technology (Pasadena, CA) Ph.D. in Chemistry (1976)

Advisor—Aron Kuppermann (deceased)

Massachusetts Institute of Technology (Cambridge, MA)

Research Associate (10/75 to 8/76) with John Ross (now retired from Stanford)

### **AWARDS, FELLOWSHIPS:**

National Science Foundation Fellowship -- Caltech, 1971-1974

Herbert Newby McCoy Award--Caltech, 1975

Northwestern Faculty Honor Roll, 1978-1979

Alfred P. Sloan Research Fellow, 1980-1982

Camille and Henry Dreyfus Teacher-Scholar, 1981-1986

Fresenius Award (of Phi Lambda Upsilon) - 1983

Japan Society for Promotion of Science Fellowship - 1986

Fellow, American Physical Society - 1987

Visiting Fellow, Joint Institute for Laboratory Astrophysics,

University of Colorado -- 1988-89

Welch Foundation Lecturer -- 1989

Max Planck Research Award -- 1993

Summer Lecturer, University of Colorado -- 1995

Fellow, AAAS - 1999

Elected to the International Academy of Quantum Molecular Sciences - 2001

Elected to the American Academy of Arts and Sciences – 2002

Elected to the National Academy of Sciences – 2005

Professeur 'invite classe exceptionnelle' – University Pierre et Marie Curie, Paris, 2007

Bourke Lecturer and Medal of the Faraday Division of the Royal Society of Chemistry – 2007

Ver Steeg Distinguished Research Fellow, Northwestern University, 2008-2013

Feynman Prize of the Foresight Institute – 2008

Fellow of the American Chemical Society – 2009

Special Issue (George C. Schatz Festschrift) of the Journal of Physical Chemistry A, Vol 113, 2009.

Peter Debye Award of the American Chemical Society – 2010

Herschbach Medal of the Conference on the Dynamics of Molecular Collisions-2011

Times Higher Education list of Top 100 Chemists of the Past Decade – 2011

Honorary Degree (Doctor Honoris Causa) University of Córdoba, Argentina – 2011

Honorary Doctorate, Clarkson University – 2012

S F Boys-A Rahman Award of the Royal Society of Chemistry – 2013

Fellow of the Royal Society of Chemistry (FRSC) – 2013

Hirschfelder Prize, University of Wisconsin – 2014

Thompson-Reuters, 2002-2012 citations: Highly Cited Researchers 2014-2016

Mulliken Medal, University of Chicago, 2014

John Stauffer Lecturer, USC, 2015

Edgar Fahs Smith Lecturer, University of Pennsylvania, 2016

Irving Langmuir Award in Chemical Physics, American Chemical Society, 2016

Condon Lecturer, University of Colorado, Boulder, 2016

Distinguished Lecturer, Materials Science and Engineering, RPI, 2016

Joe L. Franklin Memorial Lecturer, Rice University, 2017

Andreas C. Albrecht Lectureship, Cornell, 2017

Xingda Lecture, Peking University, 2017

Plenary Lecture, XXXVI Biannual Meeting of the Royal Society of Chemistry of Spain, 2017

2017 Highly Cited Researcher, Clarivate Analytics

Honorary Fellow of the Chemical Research Society of India (CRSI), 2017

Honorary Fellow of the Chinese Chemical Society, 2017

Honorary Professor, Indian Institute of Science Education and Research Kolkata, India 2018

Sackets Harbor Hall of Fame - 2018

#### **PROFESSIONAL POSITIONS:**

Consultant at Argonne National Laboratory (1978-1982)

Staff Scientist Appointee at Argonne National Laboratory (1983-86)

Consultant at Battelle Columbus Laboratories (1979-1980)

Consultant at Chemical Dynamics Corporation (1981-82)

Panel Review Member for the Department of Energy (1981)

Organizer, 16th Midwest Theoretical Chemistry Conference, Evanston, May 20-21, 1983

Organizer, Workshop on Future Directions for Supercomputer Use in Chemistry, Evanston, Oct. 15-17, 1984

Consultant at Signal UOP Corporation (1985)

Co-Organizer, Gorden Conference on Molecular Energy Transfer, 1989

Panel Review Member, AFOSR (1989)

Panel Review Member, Canadian Centre of Excellence Program (1989)

DOE Review Panel for Combustion Dynamics Facility (1989)

Panel Review Member, Sandia Combustion Research Facility (1991)

NORCUS Faculty Appointment, Pacific Northwest Lab (1991-95)

Vice Chairman, Chair-Elect, Chair Division of Chemical Physics, APS (1992-5)

Vice Chairman, Chair-Elect, Chair Subdivision of Theoretical Chemistry, Physical Division (1992-5)

AFOSR Chemical Sciences Review Panel (1992, 1995-7)

Member, Committee on Mathematical Challenges from Computational Chemistry, National Academy of Sciences, 1994

Organizer, Symposium on Electronically Nonadiabatic Dynamics, ACS Meeting, Washington, D. C., August, 1994

Organizer, 28th Midwest Theoretical Chemistry Conference, Evanston, May 11-13, 1995

Coorganizer, Bodenstein Centennial Meeting, Heidelberg, Germany, July, 1995.

Coorganizer, Symposium on Highly Excited States in Chemistry, ACS Meeting, Orlando, Florida, August, 1996

Organizer, Dynamics of Molecular Collisions Meeting, Gull Lake, MN, July 21-25, 1997

External Committee Member, Theoretical Chemistry Professorship, Gothenburg University, December, 1996

Review Panel, Journal of Chemical Physics, University of Chicago, March 25-26, 1997

Vice Chair, Chair-Elect, Chair - Physical Division, American Chemical Society, 1997-2000

External Review Panel, Department of Chemistry, University of Minnesota, April 20-22, 1997

External Review Panel, Chemistry Division, Brookhaven National Laboratory, October 19-22, 1997

Physics Coordinating Group, Army Research Office, West Point, NY November 17-18, 1997 MURI Review Meeting (Organizer) Northwestern, May 27-28, 1998

NSF Workshop on Future Trends in Chemistry Research, Keystone, CO Sept. 18-20 (panel organizer)

ARO Physics Research Program Panel, Georgia Tech, October 14-16, 1998

MURI Review Meeting (Coorganizer) Aberdeen Proving Ground, June 10-11, 1999

LBL Review of Chemical Dynamics, Feb. 23, 2000

MURI Review Meeting (Organizer) Northwestern, June 1-2, 2000

Panel Review Member, Sandia Combustion Research Facility (2001)

MURI Review Meeting (Organizer) Northwestern, Dec. 12, 2001

External review committee, Institute for Atomic and Molecular Science, Academia Sinica, Taiwan, August 28-29 (2003)

Panel Review Member, CSAFE University of Utah, Oct. 7-8, 2003

Panel Review Member, Brookhaven National Laboratory, Oct. 20-22, 2003

Panel for Selection of Editor of Nano Letters, American Chemical Society, 2004

Visiting Scientist, Argonne National Laboratory (1986-2004)

Advisory Board, Institute for Atomic and Molecular Sciences, Taiwan, 2004-2012

LBL Review of Chemical Dynamics, 2006

National Research Council Postdoctoral Associate Selection Committee 2006-10

External Advisory Board, Center for Nanoscale Materials, Argonne National Laboratory 2007-2012

External Advisory Board, National Center for Design of Biomimetic Nanoconductors, University of Illinois, 2007-2008

Advisory Board, Northwestern Nanoscience and Engineering Research Center, 2005-2010

Advisory Board, Northwestern Materials Research Center, 2006-present

Advisory Board, Network for Computational Nanotechnology, 2006-8

Panel Review Member, Sandia National Laboratory, 2008

Jury Member, Institute Universitaire de France, 2008

Panel Review Member, NSF, 2009

External Advisory Committee, Dept of Chemistry, University of Kansas, 2009

National Research Council, Panel on Armor and Armaments, 2009-2012

Steering Committee of the EPSRC Programme Grant centered in Oxford and Bristol, UK, 2009-2013

Expert Advisor for the BiopSys: Network for Bioplasmonic Systems at the University of Toronto, 2010-2013

Advisory Board, CaSTL Center, Irvine, 2010-2014

Class membership committee, National Academy of Science, 2010-11

External Advisory Committee, School of Chemistry and Biochemistry, Georgia Institute of Technology, 2012

2013 Scientific and Academic Advisory Committee Reviewers for Nanoscience at the Weizmann Institute, Israel

2013 External Advisory Committee, University of Texas, EFRC EFRC on "Understanding Charge Separation and Transfer at Interfaces in Energy Materials" (EFRC:CST)

WTEC (World Technologies and Services) Advisory Committee for Nanomodular Materials and Systems by Design (NMSD), 2015

NAS Army Panel on Ballistics Science and Engineering, National Research Council, 2015-16

DOE Council on Chemical and Biochemical Sciences, 2015-8

ACS on Campus, Mumbai, Bangalore, Hyderabad India 2016

ACS on Campus, Argonne National Lab, Northwestern University, 2016

ACS on Campus, Hyderabad India 2017

2017 Beckman Institute Research Theme Review Committee for Molecular and Electronic Nanostructures, UIUC, Oct. 18-20, 2017 (committee chair)

Review of School of Chemistry and Biochemistry, Georgia Institute of Technology, Atlanta GA, Feb.6-8, 2018 (committee chair)

External Opponent, PhD thesis of Heikki Rekola, Aalto University, Finland May 25, 2018

#### **EDITORIAL POSITIONS:**

Editorial Board, Journal of Chemical Physics (1990-92)

Specialist Editor, Computer Physics Communications (1991-2008)

Advisory Board, Journal of Physical Chemistry (1992-93)

Editor-in-Chief, Journal of Physical Chemistry (2005-present)

Senior Editor, Journal of Physical Chemistry (1993-2004)

Editorial Board, Chemical Physics Letters (1994-2008)

Editorial Board, Theoretica Chimica Acta, Theoretical Chemistry Accounts (1995-2008)

Editorial Board, Annual Reviews of Physical Chemistry (2002-5)

Editorial Board, Accounts of Chemical Research (2005-8)

Editorial Board, Advances in Chemical Physics, 2008-18 International Advisory Board, Bulletin of the Korean Chemical Society, 2009-15

#### **RESEARCH SUPPORT:**

Petroleum Research Fund-ACS (1977-1980)

"Studies of the Dynamics of Reactions Between Small Molecules Using Classical Stochastic Collision Theory," total amount - \$9,000

Research Corporation (1977-1978)

"Theoretical Studies of the Reactions Between Small Molecules Using Stochastic Reduction Collision Dynamics," total amount - \$6,000

National Resource for Computation in Chemistry (1978-1979)

"Classical Trajectory Studies of State to State Energy Transfer in Triatomic Molecules," total amount - \$2,000

National Science Foundation (1979-1981)

"Theoretical Studies of Chemical Reactions and Collisional Energy Transfer Between Small Molecules," total amount - \$120,000

National Resource for Computation in Chemistry (1979-1980)

"Classical Trajectory Studies of State to State Collisional Energy Transfer and Chemical Reactions Involving Triatomic Molecules," - total amount - \$6,000

Office of Naval Research (1979-82)

"The Development of Laser Analytical Methods for the Characterization of Solid Liquid and Solid/High Pressure Gas Interfaces" (joint with J. W. Chung, P. C. Stair, R. P. Van Duyne and E. Weitz), \$1,256,671

Alfred P. Sloan Foundation Fellowship (1980-1982), total amount \$20,000

National Science Foundation (1982-1985)

"Theoretical Studies of Small Molecule Chemical Dynamics", total amount \$197,707 supplement in 1984, and a \$60,000 supercomputer grant in 1984

Camille and Henry Dreyfus Teacher-Scholar Award (1981-1986), total amount \$40,000

Air Force Office of Scientific Research (1983-84)

"Microstructural Fabrication and Characterization by Surface Enhanced Optical Processes", \$187,986

National Science Foundation (1984-5)

"Workshop on Future Directions for Supercomputer Use in Chemistry," total amount \$39,375

National Science Foundation (1985-88)

"Theoretical Studies of State to State Chemistry," total amount - \$240,000 plus a \$45,000 supercomputer

grant in 1985, \$50,000 in 1986, \$150,000 in 1987

National Science Foundation (1985-88)

"Ultrahigh Vacuum Surface Optical Spectroscopy" (joint with R. P. Van Duyne), total amount - \$257,000

National Science Foundation (1988-91)

"Theoretical Studies of State-to-State Chemistry," total amount \$248,700

National Science Foundation (1988-91)

"Ultrahigh Vacuum Surface Optical Spectroscopy," (joint with R. P. Van Duyne) total amount \$293,500

NASA Ames (1990-91)

"HN2 Potential Energy Surface and Unimolecular Reaction Dynamics," \$19,833

NSF (1991-95)

"Theoretical Studies of State to State Chemistry," \$478,000 plus \$56,700 supplement for equipment, and

\$10,725 for Eastern European collaboration

PRF (1991-93)

"Theoretical Studies of Photodissociation on Surfaces," \$40,000

Materials Research Center (1991), Northwestern University, \$3600 Seed Funding for Diamond Film Thrust Group

NASA Ames (1992-95)

"Theoretical Studies of Rate Coefficients for Gas Phase Reactions," \$46,145 (1992-93); \$64,283 (1993-94), \$65,003 (1994-95)

PRF(1995-7)

"Theoretical Studies of Surface Enhanced Spectroscopy", \$50,000

NSF (1996-8)

ATheoretical Studies of State to State Chemistry@, \$370,000

AFOSR (1996-7)

ADynamics of Molecular Collisions Conference@, \$10,000

ARO (1997-2002) (G. Schatz, PI, joint with 8 people)

ACenter for Advanced Cluster-derived Materials@, \$5,000,000 My share: \$150K/yr

Alumnae of Northwestern University (1997)

ADynamics of Molecular Collisions Conference@ \$2,000

# NSF(1998-2000) (Joint with Chad Mirkin)

ADNA Directed Formation of Inorganic Nanostructures@,\$500,000

#### NSF(1999-2002)

ATheoretical Studies of State of State Chemistry@, \$414,962

Annual budget: \$130/yr

#### AFOSR (2000-2005) (Chad Mirkin PI, joint with 8 people)

ASurface-Templated Bio-Inspired Synthesis and Fabrication of Functional Materials@, \$5,000,000 My share: \$90K/yr

# MRSEC/NSF (2000-2010)

Thrust Group: Nanostructured Materials for Chemical and Biological Sensing \$22,000,000 My share: \$69K/year

# AFOSR (2001-2006) (Steve Sibener PI, joint with 7 people)

AMaterials Chemistry in the Space Environment) \$3,000,000

My share: \$110 K/yr

#### DURINT/DARPA (2001-2007) (Chad Mirkin PI, joint with 7 people)

AUltrasensitive and selective chip-based DNA detection) \$3,000,000

My share: \$73K/yr

#### NSEC (2001-2011) NSF Nanotechnology Science and Engineering Research Center

Chad Mirkin, PI \$22,000,000

My share: \$80K/yr

#### NSF (2002-5)

ATheoretical Studies of State to State Chemistry@, \$367,000

#### AFOSR (2002-7) (Richard Van Duyne, PI, joint with 9 people)

AMultidimensional Surface Enhanced Sensing and Spectroscopy@\$3,000,000

My share: 100K/yr

# NASA (2002-7) (Rod Ruoff, PI, joint with 5 people at NU; primary location is Princeton)

ABioinspired Design and Processing of Multifunctional Nanocomposites@

My share: 100K/yr

#### NSF(2002-12) (GCS is NU PI, primary location is at Purdue, Mark Lundstrom is PI)

ANetwork for Computational Nanotechnology@ \$12,000,000

My share: \$60K/yr

DOE (2003-8) (GCS is PI)

AComputational Nanophotonics: Modeling Optical Interactions and Transport in Tailored Nanosystem Architectures@ 170,000/yr

NSF (2003-6) (Horatio Espinosa is PI, joint with 5 people)

@Science and Technology of Ultrananocrystalline Diamond Films For Multifunctional MEMS/NEMS Devices@

My share: 30K/yr

NASA (2003-4) (Mel Ulmer is PI, joint with GCS)
ASelf Assembly of Optical Structures in Space@ \$64,000

Asen Assembly of Optical Structures in Space \$04,000

DARPA (2002-5) (Mike Wasielewski is PI, joint with GCS, CAM)

"Design, Self-Assembly, and Characterization of Controllable Gradient Index Optics" \$599,525(my share: 80K/year)

DARPA (2005-7) (GCS is PI)

"Computational Electrodynamics Studies of Advanced Lens Structures" \$45,000 + \$95,000

AFOSR (DTRA) (2006-8) (R. P. Van Duyne is PI)

"New directions in surface enhanced Raman spectroscopy for chemical and biological sensing"

\$180,000

NSF-CHE (2006-9) (GCS is PI) CHE-0843832

"Theory and Computation for Templated Self Assembly in Soft Matter" \$120K per year

NSF-CHE Collaborative Research Program (2006-11) (F. Lewis is PI) CHE-0628130

"DNA Photonics"

\$85K per year

AFOSR (2007-10) (G. Schatz is PI) FA9550-07-1-0095

"Theoretical Studies of Ion-molecule and Ion-surface collisions" \$120K per year

DARPA (2008-11) (R. P. Van Duyne is the PI) FA9550-08-1-0221

"Ultrahigh performance nanoantennas for surface enhanced Raman spectroscopy" \$266,000 (first year)

NSF-CMMI (2009-12) (Dean Ho is the PI) CMMI-0856492

"Integrative Modeling/Simulation and Experimental Validation of Therapeutic Nanodiamond Materials" \$1,131,220 (3 years, 4 PIs)

ARO MURI (9/09-8/14) (Horacio Espinosa is PI) #W911NF-09-1-0541

"Multiscale design and manufacturing of hybrid DWNT-polymer fibers"

\$85K/yr

- DOE-NERC (9/09-6/14) (Bartosz Grzybowski is PI) DE-SC0000989 Center for integrated training in far-from-equilibrium and adaptive materials \$200K/yr
- DOE-ANSER (9/09-6/18) (Mike Wasielewski is PI) DE-SC0001059 Argonne-Northwestern Solar Energy Research Center \$130K/yr
- NSF-CCI (9/09-6/14) Steven Sibener is PI CHE-0943639 Center for energetic non-equilibrium chemistry at interfaces \$75K/yr
- DOE-SISGR (9/09-8/15) Mark Hersam is PI DE-SC0001785 Single molelcule chemical imaging at femtosecond time scales \$70K/yr
- NIH/NCI-PSOC (9/09-8/14) Jon Widom in PI 1U54CA143869-01 Physical sciences and oncology center \$100K/yr
- DOE-BES (6/10-5/19) DE-SC0004752 DE-FG02-10ER16153 Surface plasmon enhanced chemistry \$570K/3 yrs
- NSF DMR- 1006380 (6/10-5/13) Teri Odom is the PI Broadband, Quasi-Crystalline, and Low-Symmetry Plasmonics \$125K/yr
- NSF CHE- 1041812 (9/10-8/13) Richard Van Duyne is PI Surface-enhanced Raman Spectroscopy for Art Research, with Theory and Education \$90K/yr
- AFOSR FA9550-10-1-0205 (5/10-5/13)
  Theoretical studies of gas-surface and gas-phase dynamical processes 140K/yr
- AFOSR MURI FA9550-11-1-0275 (9/15/11-9/14/14) Chad Mirkin in PI Bioprogrammable One-, Two-, and Three Dimensional Materials 140K/yr
- DARPA-DLT N66001-1165-5536O (10/1/11-9/30/13) Richard Van Duyne is PI Dialysis-like Therapeutics ~120K/yr

#### CEMRI DMR-1121262 (9/15/11-8/31/17) Monica Olvera is PI

Northwestern Materials Research Center \$65K/yr

NSF CHE-1147335 Theory and Computation for Self-Assembly in Soft Matter (6/12-5/15) \$432,318

#### ONR N00014-13-1-0172 (1/13-12/15) Teri Odom is PI

Dynamically textured polymer surfaces ~120K/yr

NSF DMR-1306514 (9/1/13-8/31/19)

Plasmon-exciton energy transfer in metal nanocavities \$479,865 (80K/yr)

## DOE-BES (6/13-5/19) DE-FG02-10ER16153

Surface plasmon enhanced chemistry ~\\$140K/yr

Center for Bioinspired Energy Science (CBES) (8/1/14-7/31/18)DE-SC0000989 \$12,000,000 \$200K/yr

AFOSR FA9550-14-1-0053 (3/1/14-2/28/17) subcontract from Princeton Fundamental studies of reactive processes at plasma-surface interfaces \$750K/3yrs, 250K/yr

NSF CHE-1414466 (09/01/14 – 08/31/19) subcontract from UC Irvine The Center for Chemistry at the Space-Time Limit (CaSTL) 20M total budget 195K/yr

Department of Energy (08/01/14 - 07/31/20) DE-AC02-06CH11357

Understanding Roles of Ultrafast and Coherent Electronic and Atomic Motions in Photochemical Reactions

729K/3years 82K/yr, then 107K/yr after that

NSF CHE-1465045 (6/15-5/18)

Structures and excited state dynamics of self-assembled photonic structures \$433,304

Air Force Research Laboratory, C-ABN (Center for Advanced Bioprogrammable Nanomaterials) Center of Excellence (6/15-)

\$191,496 (first year)

\$191,496 (second year)

\$191,496 (third year)

AFOSR MURI: Electrochemical Imaging & Mechanistic Studies on the Nanoscale (1/16-1/19) \$599,726 (total)

ICEP (Institute for Catalysis in Energy Processes) 9/16-8/18 DOE DE-FG02-03ER15457 \$90,000 (two years)

#### **DEPARTMENTAL COMMITTEES:**

Graduate Admissions Committee, 1977-1986 (Chairman, 1980-1986), 1997-2004, 2006-present

Graduate Affairs Committee, 1976-1977, 1983-1986 (Chairman, 1983-1986), 1997-8,2001-4, 2010-2012

Computer Committee, 1977-present

Chairman, Physical-Analytical Division, 1983-84, 1989-1992

Planning Committee, Chair 1992-1995 Vision Committee 2004-6

Facilities Committee, 1994-5

General Chemistry Program, Chair 2001-4, Undergraduate Program Committee 2004-present

Space Committee: Chair 2006-7, 2011-2014, 2017-8

#### **ADVISING:**

Freshman Advisor, 1977-1981, 1991; Upperclassmen 1995-present

#### **COURSES TAUGHT:**

General Chemistry A72-172 (Winter, 1999,2000, 2001,2009),

171 (Fall 2001-17)

Physical Chemistry C40-1 1980 (Spring), 1984 (Fall)

C40-2 1977 (Spring)

C40-3 1978 (Spring), 1980 (Fall), 1987 (Spring) 342-2 2004 (winter)

C48 1984 (Fall)

C61-1 1980 (Winter), 1982 (Winter)

342-2 2004-10 (Winter)

Junior Tutorial C85 1990 (Spring), 1991 (Spring), 1992 (Spring)

Ouantum Chemistry D42-1 1977, 1978 (Fall), 1985-87 (Fall), 1989 (Fall), 1990 (Fall),

1991 (Fall), 1992 (Fall), 1995(Fall), 1996(Fall), 1997 (Fall)

D42-2 1977-1984 (Winter), 1988 (Winter), 1989 (Spring),

1990 (Winter), 1992 (Winter), 1993 (Winter), 1995 (Winter)

1996 (Winter), 1997 (Winter), 1998 (Winter), 1999 (Winter)

442-2 2011-18

Advanced Topics D45-445 1978 (Fall), 1980 (Fall), 2000 (Spring)

D46 1988 (Spring), 1991 (Spring)

448 2001 (Spring), 2002(Spring), 2003 (Spring)

Seminar Courses D61 1977 (Fall), 1981 (Spring), 1984 (Winter), 1986 (Fall), 1989 (Fall), 1993 (Winter), 1996 (Spring), 1998 (Fall), Winter(2009), Winter(2010)

### **UNDERGRADUATE RESEARCH C99 STUDENTS:**

Cassandra Vaughn	1977 B.S.(1977)	presently at IBM
Robert Altkorn	1978 B.S.(1979)	presently at Northwestern Technical Staff
Gregg Wells	1980-1981 B.S.(1981)	Asst Prof, Texas A&M Medical School
Kim A. White	1982-1983 B.S.(1983)	Exxon
Jay Badenhoop	1985-1987 B.S. (1987)	Faculty, Potomac State College, WVU
Bill Bender	1987-1988 B.S.(1988)	presently at ZS Associates

Jeff Dyck	1990	Carnegie-Mellon University (grad student)
Scott Florance	1991-2	
Sapan Shah	1991	
Morfia Komotos	1992-4	DePaul Law School
Stephanie Halstead	1994	
Joe McMahon	1994	
Chris Maierle	1995	Grad School, Berkeley
Mike Mesleh	1995-6	Grad School, Penn
Anatasios Papaioannou	1996	Grad School (physics) at Wisconsin
Brent Fischer	1998	Grad School, MIT
Ken Kumayama	1999	Medical School
Will Grande	2000	Medical School
Julianne Kuk	2003-4	Grad School, Northwestern
Nicolas Janel	2003	Ecole Superieur d=Optique, Orsay, France
Norman Mangeret	2004	Ecole Superieur d=Optique, Orsay, France
Elodie Tartas	2004	Ecole Superieur d=Optique, Orsay, France
Greg Cvetanovic	2004	
Anne-Sophie Louis	2005	Ecole Superieur d=Optique, Orsay, France
Eduard Moreaux	2005	Ecole Superieur d=Optique, Orsay, France
Jack Flinterman	2005	Leole Superiour a-Optique, Otsay, Flance
Gene Rayford	2005	Southern Illinois University
Joshua Banks	2005	University of Chicago
Brian Radak	2006-8	Northwestern University
Ben Faber	2007	Caltech
Tyler Takashita	2007	University of Northern Colorado
Brett Margolis	2008	Northwestern University
Elizabeth Brezinski	2008-9	Northwestern University
Wasut Pornpatcharapong		Northwestern University
Yamei Liu	2009-2010	Northwestern University
Jason Hucheson	2009-2013	Northwestern University
Jenna Franck	2011-2012	Northwestern University
Victoria Vaccarezza	2013-5	Northwestern University
John Coukos	2013-5	Northwestern University
Samson Fong	2013-5	Northwestern University
Colin Egan	2014-5	Northwestern University
Brandon Ko	2015-6	Northwestern University
Leighton Zhao	2017-8	Northwestern University
Joshua Kim	2017-8	Northwestern University
Kyle Rocha	2017	UCSC
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GRADUATE STUDEN		Db D (1092) LIOD
Mark Moser 197	77-1981	Ph.D.(1982) UOP

Mark Moser	19//-1981	Pn.D.(1982)	UUP
Thomas Mulloney	1977-1980	M.S. (1980)	
Henry Elgersma	1978-1981	M.S. (1980)	
Dean DeCrease	1979-1981	M.S. (1981)	Dir. Tech. Services, Weyerhauser Co.
Lynn Geiger	1981-1984	Ph.D.(1984)	Northern Colorado Univ., faculty

Mitch Colton	1983-1985	Ph.D.(1985) Cerac Chemicals Co.
Ellen Zeman	1983-1987	Ph.D.(1987) Journal Editor, Univ. of Vermont
Joseph Khoury	1984-1985	M.S. (1984)
Lester Gibson	1984-1986	Ph.D.(1986) Center for Naval Analysis
Michael FitzCharles	1985-1987	M.S. (1986)
Peggy Bruehl	1986-1990	Ph.D.(1990) UCAR (Boulder, CO)
Hiroyasu Koizumi	1987-1991	Ph.D.(1991) Asso. Prof., Tsukuba Univ.
Kathy Kudla	1988-1993	Ph.D. (1993) Searle
Michelle Brown	1989-1990	M.S. (1990)
Wen-hui Yang	1990-1995	Ph.D. (1995) Planck Engineering
Renee Guadagnini	1991-1998	Ph. D. (1998) Center for Naval Analysis
Andrew Pipino	1991-1995	Ph.D. (1995) NIST (staff), Tanner Research
Kimberly Bradley	1993-1998	Ph.D. (1998) Forensics Lab, State of Illinois
Traci Jensen	1994-1999	Ph.D. (1999) Omega Optical
Lance Kelly	1997-2002	Ph.D. (2002) Five stones research (Huntsville AL)
Guosheng Wu	1997-2002	Ph. D. (2002) Concurrent/Vitae Pharmaceuticals
Jiang-tien Li	1997-2001	M. S. (2002) Concurrent vitae Filarmaceuticals
Newt Miller	1998-2000	M. S. (2000) M. S. (2001)
Hai Long	2000-2006	Ph. D. (2006) NREL staff
Linlin Zhao	2000-2006	Ph. D. (2006) NREL Staff Ph. D. (2006) lecturer Penn State
Les Kismartoni	2001-2000	M.S. (2002)
Wenfang Hu	2002-2007	Ph. D. (2007) Central Florida postdoc
Leif Sherry	2002-2007	Ph. D. (2007) Center for Naval Analysis (deceased)
Jing Zhao	2003-2008	Ph. D. (2008) faculty U. Conn.
Joshua Middendorf	2004-2006	MS. (2006)
Stacey Standridge	2005-2010	Ph. D. (2010) AAAS Fellow
Martin McCullagh	2005-2010	Ph. D. (2010) faculty Colorado State
I - CC M - M - 1	2005 2010	NIH Fellowship 2012
Jeffrey McMahon	2005-2010	Ph. D. (2010) faculty Washington State
Logan Ausman Jennifer Roden	2006-2010	Ph. D. (2010) IDA MS (2008) Chicago Bublic Schools
	2006-2008	MS (2008) Chicago Public Schools
Ari Atkinson	2007-2009	MS (2009)
Nicholas Valley	2007-2012	Ph. D. (2012) PD Oregon, fac. Calif. Northstate U
Vince Cho	2008-2016	Ph. D. (2016)
Eric Smoll	2009-2013	Montana St.
Patrick Shively	2009-2011	NOTE 11 1' 2012 5 DD D 1 1
Dan Hannah	2010-2015	NSF Fellowship 2012-5, PD Berkeley
		GRC Young Investigator award (2014)
T' 1 N/ 1'	2010 2017	Insight Data Science (Boston)
Lindsey Madison	2010-2015	NSF Fellowship 2012-5, PD UWashington
Natalie Gruenke	2010-2015	NSF Fellowship, PD Berkeley, Exponent, Inc.
Daniel Park	2010-2015	Protiviti
Michael Ross	2011-2016	NDSEG Fellowship 2012-5, PD Berkeley
Lam-Kiu Fong	2012-2018	NSF Fellowship 2013-6, PD UCSF
Adam Ashwell	2012-2017	IDA
Michael McAnally	2012-2017	NSF Fellowship 2014-7, IDA

Weijia Wang	2012-2018	Lam Research
Danqing Wang	2013-present	
Matthew Kelley	2014-present	NDSEG Fellowship 2015-8
Mohamad Kodaimati	2014-present	
Claire Miller	2014-2016	M.S. 2017
Aysenur Iscen	2014-present	
Marc Bourgeois	2015-present	
Gyeongwon (Kevin) K	lang 2015-present	
Laurel Jones	2016-present	
Muwen Yang	2016-present	
Yue Wu	2016-present	
Rohit Raghavendra Murthy 2016-2018		M. S. 2018 Wilbraham and Monson Academy
Jun Guan	2016-present	
Chelsea Mueller	2017-present	
Cindi Zheng	2017-present	
Jiang-Wei Li	2018-2018	
Yeojun Jeong	2018-present	

# POSTDOCTORAL STUDENTS:

TOSTDOCTORM	DI ODENIS.	
Frederick W. King	1977-1978	Faculty (Professor) University of Wisconsin, Eau Claire
Charles Gallucci	1980-1981	Ohio Dominican College (Asst. Prof.)
Uri Laor	1980-1981	Nuclear Research Center, Beer Sheva, Israel
Prabhat K.K. Pande	y 1980-1983	AT&T Bell Laboratories
Wayne A. Kraus	1982-1983	Singer
Charles W. Eaker	1983-1984	University of Dallas
Ronald Duchovic	1984-1985	Indiana Univ, Purdue Univ. Ft. Wayne
Grigory Natanson	1985-1988	Computer Science Corp.
Joseph Golab	1986-1988	Amoco
Hua Guo	1988-1990	Faculty (Prof.) University of New Mexico
George Lendvay	1989-1991	Group Leader, Hungarian Academy of Science
Neil Snider	1991-1992	Senior Research Associate, Northwestern
Mark Thachuk	1991-1993	University of British Columbia (faculty)
Patrick McCabe	1992-1993	Oxford University (programming)
Marc ter Horst	1993-1996	University of North Carolina (staff)
Kathy Kudla	1993-1995	Searle
Toshiyuki Takayana	igi 1995-1996	Japan Atomic Energy Commission
Toshimasa Ishida	1996-1997	Shizuoka University
Lisa Pederson	1997-1998	Holland
Anne Lazarides	1997-2000	Duke University (faculty)
Karen Drukker	1998-2000	University of Chicago (staff)
Mark Hoffmann	1999-2000	University of North Dakota
Matt Lakin	2000-2002	EPA scientist
Joonkyung Jang	2000-2003	Pusan University in Korea (faculty)
Eduardo Coronado	2001-2001	University of Cordoba, Argentina
Encai Hao	2001-2004	Nanofilm, Inc.
Biswajit Maiti	2001-2005	Banaras Hindu University (faculty)

Stefan Tsonchev	2001-2005	Northeastern Illinois (faculty)
Diego Troya	2002-2004	Virginia Tech (faculty)
Steven Mielke	2002-2008	University of Minnesota (deceased)
Shengli Zou	2003-2006	U. of Central Florida (faculty)
Lipeng Sun	2003-2006	North Carolina State (postdoc)
Kevin Shuford	2003-2006	Drexel University (faculty)
Hyonseok Hwang	2003-2007	Kangwon National University (faculty)
Gilbert(Shih-hui)Cha		National Cheng Kung University, Taiwan (faculty)
Seol Ryu	2003-2006	Chosun University, Seoul, Korea (faculty)
Sung Yong Park	2004-2006	University of Rochester, Statistics Dept (postdoc)
Zenong Ding	2003-2004	Compsyc
Maodu Chen	2003-2005	Dalian University (faculty)
Jeff Paci	2004-2007	research faculty, Univ of Victoria
Anatoliy Pinchuk	2004-2008	Colorado Springs (faculty)
Lasse Jensen	2004-2007	Penn State University (faculty)
Alexander Kudlay	2004-2006	business school, Berkeley
Sonya Garaschuk	2005-2006	University of South Carolina (faculty)
James Sullivan	2004-2005	Virginia Commonwealth (faculty)
Younjoon Jung	2005-2006	Seoul National University, Korea (faculty)
Christine Aikens	2005-2007	Kansas State (faculty)
Dongwook Kim	2005-2007	Kyonggi University, Suwon, Korea (faculty)
Jon Camden	2005-2008	Notre Dame (faculty)
Shuzhou Li	2006-2010	Nanyang Technical Univ, Singapore (faculty)
Nicolas Winter	2006-2009	Rosary College (faculty)
Stefano Tonzani	2006-2008	ACS(editor)
David Masiello	2006-2009	Univ. of Washington (faculty)
Tatiana Prytkova	2007-2010	Chapman University; Now at Cloud Pharmaceuticals
Maricris Lodriguito	2007-2011	U Mass Dartmouth (faculty)
Scott Yockel	2007-2010	Harvard University High Performance Computing
Ignacio Franco	2008-2011	Fritz Haber Institute, Berlin (staff) Fac. Rochester 2013
Ana Gonzalez	2008-2010	Univ. Puebla, Mexico (faculty)
One-Sun Lee	2008-2014	Qatar Research Institute
Anne-Isabelle Henry	2008-2013	Northwestern University (research faculty)
Hanning Chen	2008-2012	George Washington University (faculty)
Nadine Harris	2009-2011	Cambridge University/Nokia/Mentor Graphics
Jonathan Mullin	2009-2011	Army Research Lab
Tomekia Simeon	2009-2014	Dillard University (faculty)
Xiao Zhu	2010-2011	Purdue (research computing)
Marty Blaber	2010-2013	Seagate
Marcin Ziolkowski	2010-2013	Clemson University
Biswajit Saha	2010-2013	PD IACS Kolkata
Mausumi Ray	2010-2013	India
Ilyas Yildirim	2010-2014	Florida Atlantic Univ (faculty)
Wenchun Gan	2010-2011	• • • • • • • • • • • • • • • • • • • •
Xiaohu Li	2010-2013	Combustion Research Facility
Lakshmi Sankaran	2010-2012	·

Montacer Dridi	2010-2014	IFREMER, Brittany, France
Al'ona Furmanchuk	2012-2015	PD Northwestern
Korosh Torabi	2012-2014	Wayne State (faculty)
Yang Yang	2012-2014	China Huaneng Group (electric power company)
Fredy Aquino	2012-2013	Johns Hopkins (pd)
Yong Zhou	2012-2014	Anhui University (faculty)
Sameer Patwardhan	2012-2017	India
Tao Yu	2012-2014	Tennessee Tech (faculty)
Britain Willingham	2013-2013	Schlumberger
Craig Tainter	2013-2016	Vanderbilt University (lecturer)
Craig Chapman	2013-2017	Univ. New Hampshire (faculty)
Nicolas Large	2014-2016	UT San Antonio (faculty)
Kelsey Stocker	2014-2016	Suffolk University (faculty)
Adam Gagorik	2014-2017	Continental Corp, Detroit
Andrew Sirjoosingh	2014-2017	National Defence (Canada)
Eric Lai	2014-2018	Incyte Inc.
Jeffrey McMahon	2014-2015	Washington State (faculty)
Clotilde Lethiec	2014-2016	U Chicago research adm
Yu Zhang	2015-2017	LANL postdoc
Wendu Ding	2015-present	
Martin Mosquera	2015-present	
Rebecca Gieseking	2015-2018	Brandeis (faculty)
Dhara Trivedi	2015-present	
Wei Lin	2015-present	
Chad Heaps	2016-2018	Afton Chemical
Liang-Yan Hsu	2016-2017	IAMS (faculty)
Micaela Matta	2017-present	
Kobra Nasiri	2017-present	
Charles Cherqui	2017-present	

# **VISITORS:**

Howard Mayne (1992)		University of New Hampshire
Gabriel Balint-Kurti (	1996)	Bristol University
Carlo Petrongolo(199	8)	University of Siena, Italy
George Lendvay (199	9, 2000-12)	Hungarian Academy of Science
Rob van Harrevelt (20	000)	University of Leiden
Diego Troya (1999, 2	000,2001)	University of La Rioja, Spain
Fabrizio Santoro (200	00)	University of Siena, Italy
Ronald Pascual (2000	)-2002)	Philippines
Jan (Gershom) Martin	n (2007-8)	Weizmann Institute, Israel
Joonkyun Jang (2009-	-2010)	Pusan, S. Korea
Per-Olaf Astrand (200	09-2010)	Trondheim, Norway
Cecilia Noguez	2010-2011	UNAM, Mexico City, Mexico
Raul Esquivel Sirvent	2010-2011	UNAM, Mexico City, Mexico
Kok-Hwa Lim	2011-2012	NTU, Singapore

Rong Huang 2012-4 Xiamen, China

Xiaoming Liu 2015-6 Tsing-hua University Igor Tsukerman 2017 University of Akron

#### **General Chemistry Super TA's:**

Margaret Welk 2000-1

Geoff Hutchinson 2001-2

Catherine Schmidt 2003

Michael Irwin 2004-5

Mario Apodaca 2006-7

Cecelia Gondek 2008

Felix Amoankona-Diawuo 2008-9

Dan Fowler 2010-1

Lam-kiu Fong 2012-3

Kacper Skakuh 2014-5

Rohit Raghavendra Murthy 2016-7

Haley Palm 2017

#### **UNIVERSITY AND COLLEGE COMMITTEES:**

University Grants Committee, 1979-1982

Edunet Committee, 1979-1981

University Appeals Committee, 1980-1983

Computer Advisory Committee, 1980-1983

Computer Policy Advisory Committee, 1983-1984

Ph.D. Examining Committees - 4-6 per year

Northwestern University Network Task Force, 1985-1986

Joint Committee on the Programs in Computer Studies and computing in the Arts and Sciences, 1986

Program Review Committee for Math Department, 1986-87, 1995

Graduate School Fellowship Committee, 1986-89

Curricular Policies Committee, 1989-92

General Faculty Committee, 1991-1994

- (1) Subcommittee on Benefits, 1991-1994, Chair 1993-94
- (2) Committee on Committees, 1991-1994, Chair 1992-93

Coordinating Council on Instructional Computing, 1993-4

High Performance Computing Committee, 1996

Research Policy Committee of GFC 1995-9

Environmental Science Program CAS, 1995-2000

Search Committee, Vice-President for Research, April-July, 1997

WCAS Committee on Senior Appointments, 2000-2003

Undergraduate Research Grants Committee 2003-2007

Machine and Electronics Shop Advisory Committee 2005-2006

University Academic Dishonesty Committee 2007

Quest allocations committee 2010-2016

Member, Materials Committee of the MRSEC 2005-2016

Member, Honorary Degree Committee, 2015-7

Member, Executive Committee of the Center of Bioinspired Energy Science (CBES) 2014-present

Member, DOE Council on Chemical Sciences, Geosciences and Biosciences 2015-2017

Member, Executive Committee of the C-ABN Air Force Center 2015-present

Member, Advisory Board, Center for interdisciplinary exploration and research in astrophysics (Ciera) 2010-present

Member, Allocations Committee for Quest 2005-2016

Chair, Program Review Council 2015-2017