

Biographical Sketch George C. Schatz

Education and Training:

Clarkson University	Chemistry	B.S., 1971
California Institute of Technology	Chemistry	Ph.D., 1976
Massachusetts Institute of Technology	Chemistry	Postdoctoral Fellow, 1975-76

Research and Professional Experience:

2009-present	Professor of Chemical and Biological Engineering, Northwestern University
2002-present	Morrison Professor of Chemistry, Northwestern University
1982-present	Professor, Department of Chemistry, Northwestern University
1980-1982	Associate Professor, Department of Chemistry, Northwestern University
1976-1980	Assistant Professor, Department of Chemistry, Northwestern University

Publications Most Closely Related to the Proposed Project (out of 750 total):

1. Aruda, K. O., Tagliacruzchi, M., Sweeney, C. M., Hannah, D. C., Schatz, G. C., Weiss, E. A. "Identification of Parameters through which Surface Chemistry Determines the Lifetimes of Hot Electrons in Small Au Nanoparticles" *PNAS* **2013**, 110, 4212-17, S4212
DOI:10.1073/pnas.1222327110
2. Franco, I., Ratner, M. A., Schatz, G. C. "Single-molecule Pulling: Phenomenology and Interpretation" *Nano and Cell Mechanics: Fundamentals and Frontiers*, First Edition, Ed. Espinosa, H. D., Bao, G., Wiley, New York, **2013**, pp369-388 ISBN: 978-1-1184-6039-9
DOI:10.1002/9781118482568.ch14
3. Lee, O.-S., Cho, V., Schatz, G. C. "Modeling the Self-assembly of Peptide Amphiphiles into Fibers Using Coarse-grained Molecular Dynamics" *Nano Lett.* **2012**, 12, 4907-4913.
DOI:10.1021/nl302487m
4. McCullagh, M., Franco, I., Ratner, M. A., Schatz, G. C. "Defects in DNA: Lessons from Molecular Motor Design" *J. Phys. Chem. Lett.* **2012**, 3, 689-93. DOI: 10.1021/jz201649k
5. Tagliacruzchi, M., Blaber, M. G., Schatz, G. C., Weiss, E. A., Szleifer, I. "The Optical Properties of Responsive Hybrid Au@polymer Nanoparticles" *ACS Nano* **2012**, 6, 8397-8406. DOI: 10.1021/nn303221y
6. Young, K. L., Jones, M. R., Zhan, J., MacFarlane, R. J., Esquivel-Sirvent, R., Nap, R. J., Wu, J. S., Schatz, G. C. Lee, B., Mirkin, C. A. "Assembly of Reconfigurable One-dimensional Colloidal Superlattices Due to a Synergy of Fundamental Nanoscale Forces" *PNAS* **2012**, 109, 2240-2245. DOI: 10.1073/pnas.1119301109
7. Franco, I.; George, C. B.; Solomon, G. C.; Schatz, G. C.; Ratner, M. A. "Mechanically Activated Molecular Switch through Single-Molecule Pulling" *J Am Chem Soc* **2011**, 133 (7), 2242-2249. DOI: 10.1021/ja1095396
8. Macfarlane, R. J.; Lee, B.; Jones, M. R.; Harris, N.; Schatz, G. C.; Mirkin, C. A. "Nanoparticle Superlattice Engineering with DNA" *Science* **2011**, 334 (6053), 204-208. DOI: 10.1126/science.1210493

- Lee, O. S., Stupp, S. I., Schatz, G. C. "Atomistic Molecular Dynamics Simulations of Peptide Amphiphile Self-assembly into Cylindrical Nanofibers" *J. Am. Chem. Soc.* **2011**, 113, 3677-3683. Doi: 10.1021/mp1002398
- Ciszek, J. W.; Huang, L.; Tsonchev, S.; Wang, Y. H.; Shull, K. R.; Ratner, M. A.; Schatz, G. C.; Mirkin, C. A. "Assembly of Nanorods into Designer Superstructures: The Role of Templating, Capillary Forces, Adhesion, and Polymer Hydration" *ACS Nano* **2010**, 4 (1), 259-266. DOI: 10.1021/nn901383d

Synergistic Activities

- Editor-in-Chief, *Journal of Physical Chemistry* (2005-) [Previously Senior Editor (1993-2004)]
- Coauthor of two textbooks: **Quantum Mechanics in Chemistry**, G. C. Schatz and M. A. Ratner, Prentice Hall, 1993; **Introduction to Quantum Mechanics in Chemistry**, M. A. Ratner and G. C. Schatz, Prentice Hall, 2001
- Member of American Academy of Arts and Sciences (2002), National Academy of Sciences (2005)
- Publicly available software developed by the Schatz group:
www.chem.northwestern.edu/~schatz and at www.nanohub.org
- General Chemistry Teacher and Coordinator, Northwestern University (last 15 years)

Identification of Potential Conflicts of Interest or Bias in Selection of Reviewers:

Collaborators and Co-Editors over the Past 48 months: J. Autschbach (Buffalo), R. Bachelot (Troyes France), A. Barnard (CSIRO), A. Burin (Tulane), D. Fleming (UBC) B. Garrett (PNNL), S. Gray (Argonne), B. Guiton (Kentucky), N. Kotov (Michigan), G. Lendvay (Hungary), J. Martin (Weizmann), M. Mavrikakis (Wisconsin), T. Minton (Montana State), S. Mukherjee (Cornell), M. Natan (Cabot), D. Nesbitt (Colorado), Peterson (Washington State), R. Schaller (Argonne National Laboratory), S. Sibener (University of Chicago), L. Siebbeles (Delft), S. Smith (ORNL), D. Truhlar (Minnesota), Y. Wang (Maryland), W. Wei (Florida)

Graduate and Postdoctoral Advisors: Graduate Advisor: Aron Kuppermann (Caltech, deceased)
Postdoctoral Advisor: John Ross (Stanford, retired)

Graduate Students – Advisees over the Past 5 years: Jing Zhao (University of Connecticut), Jeffrey McMahon (UIUC), Martin McCullagh (University of Chicago), Stacey Standridge (AAAS Fellow), Logan Ausman (industry), Nick Valley (Oregon)

Postdoctoral Associates – Advisees over the Past 5 years: Shuzhou Li (Singapore), Nick Winter (Rosary Coll), David Masiello (Washington), Tatiana Prytkova (Chapman), Macris Lodriguito (Argonne), Scott Yockel (N. Texas), Ana Gonzalez (Puebla), Ignacio Franco (Rochester), Hanning Chen (GWU), Nadine Harris (Cambridge), Tomekia Simeon, Jonathan Mullin (Wright-Patt), Xiao Zhu (U. Texas)

Advisory Committees:

1. External Advisory Committee, Department of Chemistry, University of Kansas, 2009
2. National Research Council, Panel on Armor and Armaments, 2009-2012
3. Advisory Board, Institute for Atomic and Molecular Sciences, Taiwan, 2004-2013
4. National Research Council Postdoctoral Associate Selection Committee 2006-12
5. Steering Committee of the EPSRC Programme Grant centered in Oxford and Bristol, UK, 2009-2012
6. Expert Advisor for the BiopSys: Network for Bioplasmonic Systems at the University of Toronto, 2010-2013
7. Advisory Board, Chemistry at the Space Time Limit (CaSTL) Center, Irvine, 2010-present
8. Class membership committee, National Academy of Science, 2010-11
9. External Advisory Committee, School of Chemistry and Biochemistry, Georgia Institute of Technology, 2012
10. 2013 Scientific and Academic Advisory Committee Reviewers for Nanoscience, Weizmann Institute of Science