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Education

- **2000** Ph.D. (Distinction) Columbia University, New York, NY
Advisor: Prof. Kenneth B. Eisenthal
Thesis Title: *Second Harmonic Generation as a Surface Probe for Colloidal Particles*
- **1999** M.Phil. Columbia University, New York, NY
- **1996** M.A. Columbia University, New York, NY
- **1995** B.Sc. (First Class Honors) Chinese University of Hong Kong, Hong Kong

Professional Appointments

- 2016-2018** Director of Graduate Studies, Department of Chemistry, Yale University, New Haven, CT
2014- Professor of Chemistry, Yale University, New Haven, CT
2012-2014 Associate Professor of Chemistry, Yale University, New Haven, CT
2007-2012 Assistant Professor of Chemistry, Yale University, New Haven, CT
2014- Adjunct Professor, Chinese University of Hong Kong, Hong Kong
2010-2014 Adjunct Associate Professor, Chinese University of Hong Kong, Hong Kong
2004-2007 Postdoctoral Research Associate, Rockefeller University, New York, NY
2005-2006 Adjunct Assistant Professor, Hunter College, CUNY, New York, NY
2000-2004 Postdoctoral Fellow, UC Berkeley, CA (Mentor: Prof. Richard Mathies)
Visiting Fellow, Rockefeller University, New York, NY (Mentor: Prof. Thomas Sakmar)
1995-2000 Research Assistant, Columbia University, New York, NY (Mentor: Prof. Kenneth Eisenthal)

Professional Service

Advisory Board/Committee

- **Scientific Advisory Board Member**-Max Planck Institute, Polymer Research, Mainz, Germany, 2019-2023
- **Review Committee Member**-Canadian Institute for Advanced Research, Toronto, 2019

Editorial Service

- **Editor**-*Biophysical Journal*, 2015-
- **Editorial Broad Member (Ad Hoc)**-*Annual Reviews of Physical Chemistry*, 2015

Symposium and Conference Organizers and Advisory Committee

- **Advisor for Organizing Committee**, overseeing graduate students in organizing the Yale Biophysics and Structural Biology Symposium, West Campus, Yale University, 2017-2019.
- **Member of International Advisory Committee**, International Conference of Retinal Proteins, 2018
- **Elected Chair**: *Vibrational Spectroscopy*, Gordon Research Conference, 2016
- **Elected Vice Chair**: *Vibrational Spectroscopy*, Gordon Research Conference, Biddeford, ME, 2014
- **Session Chair**: *ACS Award in Colloid and Surface Chemistry Symposium Honoring Kenneth Eisenthal*, Division of Colloid and Surface Chemistry, 247th National Meeting of American Chemical Society, Dallas, TX, Mar 2014
- **Chair and Organizer**: Focus Session-*Protein Misfolding and Aggregation*, Division of Chemical Physics, American Physical Society, Annual Meeting, Baltimore, MD, Mar 2013
- **Session Chair**: *Liquid and Solid Interfaces*, Division of Chemical Physics, American Physical Society, Annual Meeting, Baltimore, MD, Mar 2013
- **Session Chair**: *Solvent Dynamics at Biomolecular Interfaces: Experiment and Theory*, Division of Physical Chemistry, 244th National Meeting of American Chemical Society, Philadelphia, PA, Aug 2012
- **Session Chair**: *Protein Secondary Structures*, Division of Physical Chemistry, 243rd National Meeting of American Chemical Society, San Diego, CA, Mar 2012

Grant Review

- **Grant Reviewer:** DOE, the CPIMS, Apr 2018
- **NSF Panelist:** NSF Panel, CHE-CLP, Mar 2018
- **NSF Panelist:** NSF Panel, CHE-CSDM, Feb 2016
- **Grant Reviewer:** NSF, CHE-CMI, Feb 2016
- **NSF Panelist:** NSF Panel, CHE-CLP, Mar 2015
- **Grant Reviewer:** Swiss National Science Foundation, SNSF Mobility Fellowship, Oct 2014
- **Grant Reviewer:** NSF, Career Award, Division of Molecular and Cellular Biosciences, Directorate for Biological Sciences, National Science Foundation, Sep 2014
- **NSF Panelist:** NSF Panel, CHE-Chemical Structure, Dynamics and Mechanism, Apr 2014
- **Grant Reviewer:** NSF, CHE-Chemical Measurement & Imaging, Mar 2014
- **Grant Reviewer:** DOE, Early Career Research Program, Department of Energy, Feb 2014
- **Grant Reviewer:** NSF, Career Award, Division of Molecular and Cellular Biosciences, Directorate for Biological Sciences, National Science Foundation, Oct 2013
- **Grant Reviewer:** German Research Foundation-Chemistry and Process Engineering, Jan 2013
- **NSF Panelist:** NSF Panel, CHE/MCB-Career Award, Oct 2012
- **Grant Reviewer:** NSF, MCB-Career Award, Nov 2011
- **Grant Reviewer:** NSF, The Catalyzing New International Collaboration Program, Directorate for Mathematical and Physical Sciences, National Science Foundation, Oct 2011
- **Grant Reviewer:** NSF, CHE-Career Award, Oct 2010
- **Grant Reviewer:** NSF, MCB-Career Award, Sep 2010
- **Grant Reviewer:** CUNY: Collaborative Incentive Research Grant Program: City University of New York, New York, NY, Apr 2008

Manuscript Review

- **Journals:** *ACS Central*, *ACS Chemical Biology*, *Acta Biomaterials*, *Acta Crystallography*, *Nature Chemistry*, *Biotechnology Journal*, *Analytical Chemistry*, *Nature Communications*, *Science Reports*, *Chemical Communications*, *PLOS ONE*, *Langmuir*, *Journal of The American Chemical Society*, *Proceedings of the National Academy of Sciences, USA*, *International Journal of Molecular Science*, *Biochemistry*, *Advances in Pharmacology*, *Nano Letters*, *Photochemistry and Photobiology*, *Journal of Biological Chemistry*, *BBA-Biomembrane*, *ChemBioChem*, *Chemical Physics Letters*, *Physical Chemistry Chemical Physics*, *Journal of Physical Chemistry*, *Journal of Physical Chemistry Letters*, *Journal of Chemical Physics*, *Journal of Structural Biology*, *Journal of Molecular Biology*, *Chemistry and Biology-Cell*, *Spectroscopy Letters*, *Applied Spectroscopy*, *Plasmid*, *Biophysical Journal*, *Environmental Science and Technology*, *Annual Review of Analytical Chemistry*, *Annual Review of Physical Chemistry*, *Assay and Drug Development Technologies*, *Acta Biomaterialia*, *Advances in Pharmacology*, *Polymer*, *Macromolecules*, *Biomacromolecules*, *Angewandte Chemie International Edition*, *Vision Research*, *Colloid and Surface B*, *Europhysics Letters*, *Chemical Science*

Honors and Awards

- **Early Excellent in Physical Organic Chemistry**, *Journal of Physical Organic Chemistry*, Oct 2012
- **The Greer Memorial Prize for Achievement in Research**, Yale University, Oct 2011
- **Invited Speaker**, Symposium in Honor of 100th Anniversary of Marie Curie's Nobel Prize for International Year of Chemistry, ACS Meeting, Denver, CO, Aug 2011
- **2011 Tour speaker**, Society of Applied Spectroscopy, Frederick, MD, 2011
- **NSF CAREER Award**, the National Science Foundation, 2010
- **ACS Petroleum Research Award**, Petroleum Research Fund, American Chemical Society, 2009
- **Starter Grant Award** for high-quality innovative research by beginning chemistry professors, Spectroscopy Society of Pittsburgh, 2008
- **Invited Speaker**, Gordon Research Conference: *Vibrational Spectroscopy*, Biddeford, ME, 2010
- **Individual National Research Service Award** (F32 EY014308-01), Proposal title: Structure and Dynamics of the Primary Event in Vision, National Institutes of Health, Bethesda, MD, 2003. [Note: Priority Score: 101. Not activated due to a delay of issuing I-55 (Green) Card]

- **Distinction for Doctor of Philosophy**, Columbia University, New York, NY, 2000
- **Pegram Award for excellent achievement in graduate research**, Department of Chemistry, Columbia University, New York, NY, 2000
- **Graduate Faculty Fellowship**, Columbia University, New York, NY, 1995-2000
- **Sir Edward Youde Memorial Scholarship** for outstanding academic achievement, Sir Edward Youde Memorial Fund Council, Hong Kong, 1994
- **First Prize in Chemistry Olympiad**, Hong Kong Chemical Society and UK Royal Society of Chemistry, 1993
- **First Class Honors for B.Sc.**, Chinese University of Hong Kong, Hong Kong, 1995

Publications at Yale:

(*Corresponding Author, #Undergraduate Student, and †Equal Contribution)

A complete and updated list of publications:

http://scholar.google.com/citations?sortby=pubdate&hl=en&user=hZg5aOsAAAAJ&view_op=list_works

44. Perets, E.A.; **Yan, E.C.Y.*** "Chiral Water Superstructures around Antiparallel β -Sheets Observed by Chiral Vibrational Sum Frequency Generation Spectroscopy" *J. Phys. Chem. Lett.*, *In press*.
43. Liu, W.; Fu, L.; Wang, Z.; Sohrabpour, Z.; Li, X.; Liu, Y.; Wang, H.-F.; Yan, E. C. Y.* "Two dimensional crowding effects on protein folding at interfaces observed by chiral vibrational sum frequency generation spectroscopy" *Phys. Chem. Chem. Phys.*, 20, 22421, **2018**.
42. Culhane, K.J.; Cai, Y.; Liu, Y.; Sims, J.N.#; Wang, P.S.P.; **Yan, E.C.Y.*** "Calcium sensing ability of parathyroid hormone uncovers new mechanism for family B GPCR signaling" *Submitted to ACS Chem. Biol.*, 13, 2347, **2018**
41. Kaufman, G.; Liu, W.; Williams, D.M; Choo, Y.; Gopinadhan, M.; Samudrala, N.; Sarfati, R.; Yan, E.C.Y.; Regan, L.; Osuji, C.O.* "Flat Drops, Elastic Sheets, and Microcapsules by Interfacial Assembly of a Bacterial Biofilm Protein, BslA" *Langmuir*, 33, 13590, **2017**
40. Perets, E.A.; **Yan, E.C.Y.*** "The H₂O Helix: The Chiral Water Superstructure Surrounding DNA" *ACS Central*, 3, 683, **2017**
39. Liu, W.†; Li, S.†; Wang, Z.; **Yan, E.C.Y.***; Leblanc, R.M.* "Characterization of Surface-Active Biofilm Protein BslA in Self-Assembling Langmuir Monolayer at the Air-Water Interface" *Langmuir*, 33, 7584, **2017**
38. Szundi, I.; Funatogawa, C.; Guo, Y.; **Yan, E.C.Y.**; Kliger, D.S.* "Protein Sequence and Membrane Lipid Roles in the Activation Kinetics of Bovine and Human Rhodopsins" *Biophys. J.*, 113, 1934, **2017**
37. Guo, Y; Hendrickson, H.P.; Videla, P.E.; Chen, Y.N.; Ho, J.; Sekharan, S.; Batista, V.S.; Tully, J.C.; **Yan, E.C.Y.*** "Probing the Remarkable Thermal Kinetics of Visual Rhodopsin with E181Q and S186A Mutants" *J. Chem. Phys.*, 146, 215104, **2017**
36. Cai, Y.; Liu, Y.; Culhane, K.J.; DeVree, B.T.; Yang, Y.; Sunahara, R. K.; **Yan, E.C.Y.*** "Purification of family B G protein-coupled receptors using nanodiscs: Application to human glucagon-like peptide-1 receptor" *PLOS ONE*, 12 (6), e0179568, **2017**
35. Serebryany, E.*; Folta-Stogniew, E.; Liu, J.; **Yan, E.C.Y.*** "Homodimerization enhances both sensitivity and dynamic range of the ligand-binding domain of type 1 metabotropic glutamate receptor" *FEBS Letts*, 590, 4308, **2016**
34. Schloss, A.†; Liu, W.†; Williams, D. M.; Kaufman, G.; Hendrickson, H. P.; Rudshiteyn, B.; Fu, L.; Wang, H.; Batista, V. S.; Osuji, C.; **Yan, E.C.Y.***; Regan, L*; "Fabrication of Modularly Functionalizable Microcapsules Using Protein-Based Technologies" *ACS Biomater. Sci. Eng.*, 2, 1856, **2016**.
33. Singhal, A.; Guo, Y.; Matkovic, M.; Schertler, G.; Deupi, X.; **Yan, E.C.Y.***; Standfuss, J. "Structural role of the T94I rhodopsin mutation in congenital stationary night blindness" *EMBO reports*, 17, 1237, **2016**
32. Wang, Z.; Morales-Acosta, M.D.; Li, S.; Liu, W.; Kanai, T.; Liu, Y.; Walker, F. J.; Ahn, C. H.; Leblanc, R. M.; **Yan, E.C.Y.*** "Vibrational Sum Frequency Generation Spectroscopy Reveals Highly Ordered Structures of a Biofilm Protein at the Air/Water Interface" *Chem. Comm.* 52, 2956, **2016**
31. Fu, L.; Wang, Z.; Batista, V. S.; **Yan, E.C.Y.*** "New Insights from Sum Frequency Generation Vibrational Spectroscopy into the Interactions of Islet Amyloid Polypeptides with Lipid Membranes" *Journal of Diabetes Research*, Article ID 7293063, **2016**

30. Culhane, K. J.; Liu, Y.; Cai, Y.; **Yan, E.C.Y.*** "Transmembrane signal transduction by peptide hormones via family B G protein-coupled receptors" *Front. Pharmacol.* 6, 264, **2015**
29. Wang, Z.; Fu, L.; Ma, G.; **Yan, E.C.Y.*** "Broad-Bandwidth Chiral Sum Frequency Generation Spectroscopy for Probing the Kinetics of Proteins at Interfaces" *Langmuir*, 31, 11384, **2015**
28. Liu, Y.[†]; Cai, Y.[†]; Liu, W.; Li, X. H.; Rhoades, E.; **Yan, E.C.Y.*** "Triblock Peptide-Linker-Lipid Molecular Design Improves Potency of Peptide Ligands Targeting Family B G Protein-Coupled Receptors" *Chem. Comm.* 51, 6157, **2015**
27. Fu, L.*; Wang, Z.; Psciuk, T. B.; Xiao, D.; Batista, V. S.; **Yan, E.C.Y.*** "Characterization of Parallel β -Sheets at Interfaces by Chiral Sum Frequency Generation Spectroscopy" *J. Phys. Chem. Lett.* 6, 1310, **2015**
26. **Yan, E.C.Y.***; Wang, Z.; Fu, L. "Proteins at Interfaces Probed by Chiral Sum Frequency Generation Spectroscopy" *J. Phys. Chem. B* 119, 2769, **2015**
25. Mooney, V.[†]; Sekharan, S.[†]; Liu, J.; Guo, Y.; Batista, V.S*.; **Yan, E.C.Y.*** "Kinetics of Thermal Activation of an Ultraviolet Cone Pigment" *J. Am. Chem. Soc.*, 137, 307, **2015**
24. Guo, Y.; Sekharan, S.; Liu, J.; Batista, V.S.; Tully, J.C.; **Yan, E.C.Y.*** "Role of Unusual Temperature-Dependent Kinetics of Thermal Reactions of Rhodopsin in Vertebrate Dim-Light Vision" *Proc. Natl. Acad. Sci. U.S.A.*, 108, 26111, **2014**
23. **Yan, E.C.Y.*** Fu, L.; Wang, Z.; Liu, W "Biological Macromolecules at Interfaces Probed by Chiral Sum Frequency Generation Spectroscopy" *Chem. Rev.*, 114, 8471, **2014**
22. Fu, L.; Wang, Z.; **Yan, E.C.Y.*** "Assignment of Protein N-H Stretching Modes Observed by Chiral Sum frequency Generation Spectroscopy to Peptide Backbone" *Chirality*, 22, 306, **2014**
21. Sekharan, S.*; Mooney, M.L.; Rivalta, I.; Kazmi, M.A.; Neitz, M.; Neitz, J.; Sakmar, T.P.; **Yan, E.C.Y.***, Batista, V.B.* "Spectral Tuning of Ultraviolet Cone Pigments: An Interhelical Lock Mechanism" *J. Am. Chem. Soc.* 135, 19064, **2013**
20. Liu, W; Wang, Z; Fu, L; Leblanc, R.M.; **Yan, E.C.Y.*** "Lipid Compositions Modulate Fluidity and Stability of Bilayers: Characterization by Surface Pressure and Sum Frequency Generation Spectroscopy" *Langmuir* 29, 15022, **2013**
19. Guo, Y.; Young, K.; **Yan, E.C.Y.*** Book Chapter: "Guided Inquiry and Project-Based Learning in Biophysical Spectroscopy" *Teaching Bioanalytical Chemistry*, Edited by Harvey J. M. Hou, ACS Books, Chapter 13, p261-291, **2013**
18. Liu, M.Y. #; Liu, J; Mehrotra, D#; **Yan, E.C.Y.*** "Thermal Stability of Rhodopsin and Progression of Retinitis Pigmentosa: A Comparison of S186W and D190N Rhodopsin Mutants" *J. Biol. Chem.* 288, 17698, **2013**
17. Wang, Z.; Fu, L.; **Yan, E.C.Y.*** "C-H Stretch for Probing Self-Assembly of LK γ β into Chiral Macromolecular Structures at the Air-Water Interface by Chiral Sum Frequency Generation Spectroscopy" *Langmuir* 29, 4077, **2013**
16. Fu, L.[†]; Xiao, D.Q.[†]; Wang, Z.; Batista, V. S.*; **Yan, E.C.Y.*** "Chiral Sum Frequency Generation for In Situ Probing Proton Exchange in Antiparallel β -Sheet Peptides at Interfaces" *J. Am. Chem. Soc.* 135, 3592, **2013**
15. Mitra, N.[†]; Liu, Y.[†]; Liu, J.; Serebryany, E.; Mooney, V.; DeVree, B.T.; Sunahara, R.; **Yan, E.C.Y.*** "Calcium-Dependent Ligand Binding and G-protein Signaling of Family B GPCR Parathyroid Hormone 1 Receptor Purified in Nanodiscs" *ACS Chem. Biol.* 8, 617, **2013**
14. Mooney, V.L.; Szundi, I.; Lewis, J.W.; **Yan, E.C.Y.***; Kliger, D.S.* "Schiff base protonation changes in siberian hamster ultraviolet cone pigment photointermediates" *Biochemistry* 51, 2603, **2012**
13. You, Y.M.[†]; Bloomfield, A.[†]; Liu, J.; Fu, L.; Herzon, S.*; **Yan, E.C.Y.*** "Kinetics of Surfactant Molecules Transferring between Emulsion Particles Probed by Second Harmonic Generation Spectroscopy" *J. Am. Chem. Soc.* 134, 4264, **2012**
12. Zhu, G. A.⁴; Serebryany, E.[#]; **Yan, E.C.Y.*** "Rational Design of Supramolecular Lipid/Detergent Assemblies for Purification of G Protein-Coupled Receptors" *Encyclopedia of Supramolecular Chemistry*, **2012**
11. Xiao, D.[†]; Fu, L.[†]; Liu, J.; Batista, V.S.*; **Yan, E.C.Y.*** "Amphiphilic Adsorption of Human Islet Amyloid Polypeptide Aggregates to Lipid/Aqueous Interfaces" *J. Mol. Biol.* 421, 537, **2012**

10. Fu, L.; Wang, Z.; **Yan, E.C.Y.*** "Chiral Vibrational Structures of Proteins at Interfaces Probe by Sum Frequency Generation Spectroscopy" Invited Submission, Special Issue: *Applications of Circular Dichroism*, *Int. J. Mol. Sci.* 12, 9404, **2011**
9. Serebryany, E.[#]; Zhu, G.F.[#]; Fu, L.; Liu, J.; **Yan, E.C.Y.*** "Artificial Membrane-like Environments for *In Vitro* Studies of Purified G-protein Coupled Receptors" Invited Review, *BBA-Biomembrane* 1818, 225, **2011**
8. Liu, J.; Liu, M.[#]; Fu, L.; **Yan, E.C.Y.*** "Chemical Kinetic Analysis of Thermal Decay of Rhodopsin Reveals Unusual Energetics of Thermal Isomerization and Hydrolysis of Schiff Base" *J. Biol. Chem.* 286, 38408, **2011**
7. Liu, J.; Liu, M.Y.[#]; Mooney, V.; Bhagat, A.; Nguyen, J; **Yan, E.C.Y.*** "Thermal Properties of Rhodopsin: Insight into Molecular Mechanism of Dim-Light Vision" *J. Biol. Chem.* 286, 27622, **2011**
6. Fu, L.; Liu, J.; **Yan, E.C.Y.*** "Chiral Sum Frequency Generation Spectroscopy for Characterizing Protein Secondary Structures at Interfaces" *J. Am. Chem. Soc.* 133, 8094, **2011**
5. Wu, W. T.; Mitra, N.; **Yan, E.C.Y.;** Zhou, S.Q.* "Integration of Optical Glucose Sensing and Self-Regulated Insulin Release into a Single Hybrid Nanogel Particle" *ACS Nano* 4, 4831, **2010**
4. Durrell, A.; Gray, H.; Hazari, N.*; Incarvito, C.; Liu, J.; **Yan, E.C.Y.** "Tris (hydroxypropyl) phosphine Oxide: A Chiral Three-Dimensional Material with Non-linear Optical Properties" *Cryst. Growth Des.* 10, 1482, **2010**
3. Fu, L.; Ma, G.; **Yan, E.C.Y.*** "*In Situ* Misfolding of Human Islet Amyloid Polypeptide at Interfaces Probed by Sum Frequency Generation Spectroscopy" *J. Am. Chem. Soc.* 132, 5405, **2010**
2. Liu, J; Liu, M.Y.[#]; Nguyen, J.B., Bhagat A., Mooney, V; **Yan, E.C.Y.*** "Thermal Decay of Rhodopsin: Role of Hydrogen Bonds in Thermal Isomerization of 11-*cis* Retinal in the Binding Site and Hydrolysis of Protonated Schiff Base" *J. Am. Chem. Soc.* 131, 8750, **2009**
1. Ma, G.; Liu, J; Fu, L.; **Yan, E.C.Y.*** "Probing Water and Biomolecules at the Air/Water Interface with a Broad-Bandwidth Vibrational Sum Frequency Generation Spectrometer from 3800 to 900 Wavenumber" *Appl. Spectro.* 63, 528, **2009**

Publications Prior to Yale:

21. "6-*s-cis* Conformation and Polar Binding Pocket of the Retinal Chromophore in the Photoactivated State of Rhodopsin" Ahuja, S; Eilers, M.; Hirshfeld, A.; **Yan, E.C.Y.;** Ziliox, M.; Sakmar, T.P.; Sheves, M.; Smith, S.O. *J. Am. Chem. Soc.* 131, 15160, **2009**
20. Ahuja, S; Hornak, V.; **Yan, E.C.Y.;** Syrett, N.; Goncalves, J.; Hirshfeld, A.; Ziliox, M.; Sakmar, T.P.; Sheves, M.; Reeves, P.J.; Smith, S.O.; Eilers, M. "Helix Movement is Coupled to Displacement of Extracellular Loop 2 in Rhodopsin Activation" *Nat. Struct. Mol. Biol.* 16, 168, **2009**
19. Ye, S.; Köhrer, C.; Huber, T.; Kazmi, M.; **Yan, E.C.Y.;** Sachdev, P.; Bhagat, A.[#]; RajBhandary, U.L.; Sakmar, T.P. "Site-specific Incorporation of Keto Amino Acids Into Functional G Protein-Coupled Receptors Using Unnatural Amino Acid Mutagenesis" *J. Biol. Chem.* 283, 1525, **2008**
18. **Yan, E.C.Y.*;** Lewis, J.W.; Szundi, I; Epps, J.; Bhagat, A.; Kliger, D.S. "Photointermediates of the Rhodopsin S186A Mutant as a Probe of the Hydrogen Bond Network in the Chromophore Pocket and Counterion Switch" *J. Phy. Chem. C.* 111, 8843, **2007**
17. Vogel, R.; Siebert, F; **Yan, E.C.Y.;** Sakmar, T.P.; Hirshfeld, A.; Sheves, M. "Modulating Rhodopsin Receptor Activation by Altering the pK_a of the Retinal Schiff Base" *J. Am. Chem. Soc.* 128, 10503, **2006**
16. Ludeke, S; Beck, M.; **Yan, E.C.Y.;** Sakmar, T.P.; Siebert, F.; Vogel, R. "The Role of Glu181 in the Photoactivation of Rhodopsin." *J. Mol. Biol.* 353, 245, **2005**
15. **Yan, E.C.Y.;** Gamin, Z.[#]; Kazmi, M.A.; Chang, B.S.W.; Sakmar, T. P.; Mathies, R. A. "Resonance Raman Analysis of the Mechanism of Energy Storage and Chromophore Distortion in the Primary Visual Photoproduct" *Biochemistry* 43, 10867, **2004**
14. **Yan, E.C.Y.;** Kazmi, M.A.; Gamin, Z.[#]; Hou, J. M.; Pan, D.; Chang, B.S.W.; Sakmar, T. P.; Mathies, R. A. "Counterion Switch in the Photoactivation of G Protein-Coupled Receptor Rhodopsin" *Proc. Natl. Acad. Sci. U.S.A.* 100, 9262, **2003**

13. **Yan, E.C.Y.**; Kazmi, M.A.; De, S; Chang, S.W.; Seibert, C.; Marin, E.P.; Mathies, R.A.; Sakmar, T.P. "Function of Extracellular Loop 2 in Bovine Rhodopsin: Glutamic Acid 181 Modulates Stability and Wavelength Maximal Absorption of Metarhodopsin II" *Biochemistry* 41, 3620, **2002**
12. Shang, X.; Liu, Y.; **Yan, E.**; Eienthal, K.B. "Effect of Counterions on Molecular Transport across Liposome Bilayer: Probed by Second Harmonic Generation" *J. Phys. Chem. B.* 105, 12816, **2001**
11. **Yan, E.C.Y.**; Liu, Y.; Eienthal, K.B. "In-situ Studies of Molecular Transfer between Colloidal Surfaces by Second Harmonic Generation" *J. Phys. Chem. B.* 105, 8531, **2001**
10. Liu, Y.; **Yan, E.C.Y.**; Zhou, X. L.; Eienthal, K.B. "Surface Potential of Charged Liposomes Determined by Second Harmonic Generation" *Langmuir* 17, 2063, **2001**
9. Liu, Y.; **Yan, E.C.Y.**; Eienthal, K.B. "Effect of Bilayer Surface charge Density on Molecular Adsorption and Transport across Liposome Bilayers" *Biophys. J.* 80, 1004, **2001**
8. **Yan, E.C.Y.**; Eienthal, K.B. "Effects of Cholesterol on Molecular Transport of Organic Cations across Liposome Bilayers Probed by Second Harmonic Generation" *Biophys. J.* 79, 898, **2000**
7. **Yan, E.C.Y.**; Eienthal, K.B. "Rotational Dynamics of Anisotropic Particles Studied by Second Harmonic Generation" *J. Phys. Chem. B.* 104, 6686, **2000**
6. **Yan, E.C.Y.**; Eienthal, K.B. "Probing the Interface of Microscopic Clay Particles in Aqueous Solution by Second Harmonic Generation" *J. Phys. Chem. B.* 103, 6056, **1999**
5. **Yan, E.C.Y.**; Liu, Y.; Eienthal, K.B. "New Method for Determination of Surface Potential of Microscopic Particles by Second Harmonic Generation" *J. Phys. Chem. B* 102, 6331, **1998**
4. Wang, H.; Borguet, E.; **Yan, E.C.Y.**; Zhang, D.; Gutow, J.; Eienthal, K.B. "Molecules at Liquid and Solid Surfaces" *Langmuir* 14, 1472, **1998**
3. Wang, H.; **Yan, E.C.Y.**; Liu, Y.; Eienthal, K.B. "Energetics and Population of Molecules at Microscopic Liquid and Solid Surfaces" *J. Phys. Chem.* 102, 4446, **1998**
2. Wang, H.; **Yan, E.C.Y.**; Borguet, E.; Eienthal, K.B. "Second Harmonic Generation from the Surface of Centrosymmetric Particles in Bulk Solution" *Chem. Phys. Letts.* 259, 15, **1996**
1. Wu, C.; **Yan, C.Y.**# "Studies of the Swelling and Drying Kinetics of Thin Gel Films by In-Situ Interferometry" *Macromolecules* 27, 4516, **1994**

Lectures and Conference Talks (July 2007-present):

1. "Chiral Sum Frequency Generation Spectroscopy for Characterization of Proteins at Interfaces" 257th National Meeting of American Chemical Society, Division of Physical Chemistry, San Diego, CA, Aug **2019**
2. "Chiral Sum Frequency Generation Spectroscopy for Protein Characterization at Interfaces" Plenary Lecture, the 74th International Symposium on Molecular Spectroscopy, University of Illinois, Urbana-Champaign, IL, Jun **2019**
3. "Chiral Sum Frequency Generation Spectroscopy for Protein Characterization at Interfaces" Distinguished Lecture, the Swiss Federal Institutes of Technology (EPFL), Lausanne, Switzerland, Oct **2018**
4. "Chiral Sum Frequency Generation Spectroscopy for Characterization of Proteins at Interfaces" 256th National Meeting of American Chemical Society, Division of Physical Chemistry, Boston, MA, Aug **2018**
5. "Studies of Proteins using Sum Frequency Generation Spectroscopy" Workshop on Nonlinear Optics at Interfaces, Telluride Science Research Center, Telluride, CO, Jun **2018**
6. "Functional Studies and Drug Targeting of Family B G Protein-Coupled Receptors" NIDA Neuroproteomics Center, Yale School of Medicine, Yale University, New Haven, CT, Apr **2018**
7. "Chiral Sum Frequency Generation Spectroscopy for Characterization of Proteins at Interfaces" 255th National Meeting of American Chemical Society, Division of Physical Chemistry, New Orleans, LA, Mar **2018**
8. "Chiral Sum Frequency Generation Spectroscopy for Characterization of Proteins at Interfaces" Planetary Talk, The 6th, Asian Spectroscopy Conference, Taiwan, Sep **2017**
9. "Proteins at Interfaces Probed by Chiral Sum Frequency Generation Spectroscopy" Workshop on Nonlinear Optics at Interfaces, Telluride Science Research Center, Telluride, CO, Jun **2016**

10. "Proteins at Interfaces Probed by Chiral Sum Frequency Generation Spectroscopy" Workshop on Protein and Peptide Interactions in Cellular Environments, Telluride Science Research Center, Telluride, CO, Jun **2016**
11. "Proteins at Interfaces Probed by Chiral Sum Frequency Generation Spectroscopy", Department of Chemistry, The Hong Kong University of Science and Technology, May **2016**
12. "Rhodopsin, Light Detector at Its Very Best" Symposium of Molecular Machines of Life: Simulation Meets Experiment, Institute for Advanced Study, The Hong Kong University of Science and Technology, May **2016**
13. "Proteins at Interfaces Probed by Chiral Sum Frequency Generation Spectroscopy" Yale Institute for Nanoscience and Quantum Engineering, Yale University, New Haven, CT, Apr **2016**
14. "Role of Rhodopsin's Unusual Kinetics of Thermal Reactions in Dim-Light Vision" West Virginia University, Morgantown, West Virginia, Mar **2016**
15. "Proteins at Interfaces Probed by Chiral Sum Frequency Generation Spectroscopy" Symposium of Sum Frequency Generation (SFG) Vibrational Spectroscopic Studies on Proteins and Peptides at Interfaces, Pittcon, Atlanta, GA, Mar **2016**
16. "Chiral Sum Frequency Generation Spectroscopy for Characterization of Proteins at Interfaces" 63rd Pacific Conference on Spectroscopy and Dynamics, Pacific Grove, CA, Jan **2016**
17. "Role of Rhodopsin's Unusual Kinetics of Thermal Reactions in Dim-Light Vision" Pacificchem, Honolulu, HI, Dec **2015**
18. "Protein structures and folding at interfaces probed by chiral sum frequency generation vibrational spectroscopy" Pacificchem, Honolulu, HI, Dec **2015**
19. "Chiral Sum Frequency Generation Spectroscopy for Characterizing Protein Secondary Structures at Interfaces" Student-Invited Seminar, University of Minnesota, Minneapolis, MN, Dec **2015**
20. "Protein Secondary Structures at Interfaces Probed by Chiral Sum Frequency Generation Spectroscopy" Drexel University, Philadelphia, PA, Nov **2015**
21. "Purification and Drug Targeting of Family B G Protein-Coupled Receptors" Sophia University, Tokyo, Japan, Oct **2015**
22. "Chiral Sum Frequency Generation Spectroscopy for Characterizing Protein Secondary Structures at Interfaces" First International Symposium of Institute for Catalysis—Global Collaboration in Catalysis Science toward Sustainable Society, Hokkaido University, Sapporo, Japan, Oct **2015**
23. "Probing Protein Conformational Changes at Interfaces Using Chiral Sum Frequency Generation" SciX2015 conference, Providence, RI, Sep **2015**
24. "Characterization of Biomolecular Interactions at Interfaces by Chiral Sum Frequency Generation Spectroscopy" Penn State University, University Park, PA, Apr **2015**
25. "Roles of Thermal Stability of G Protein-Coupled Receptor Rhodopsin in Dim-light Vision and Vision Disorders" Department of Biochemistry and Molecular Biophysics, School of Medicine, Student Invited Seminar, University of Pennsylvania, Philadelphia, PA, Feb **2015**
26. "Thermal Stability of Rhodopsin" 16th International Conference on Retinal Proteins, Nagahama, Japan, Oct **2014**
27. "Characterization of Biomolecular Interactions at Interfaces by Chiral Sum Frequency Generation Spectroscopy" Telluride Science Research Center Workshop: Electronic and Magnetic Properties of Chiral Structures and their Assemblies, Telluride, CO, July **2014**
28. "Characterization of Biomolecular Interactions at Interfaces by Chiral Sum Frequency Generation Spectroscopy" Telluride Science Research Center Workshop: Nonlinear Optics and Interfaces, Telluride, CO, Jun **2014**
29. "Characterization of Biomolecular Interactions at Interfaces by Chiral Sum Frequency Generation Spectroscopy" Telluride Science Research Center Workshop: Protein and Peptide Interactions in Cellular Environments, Telluride, CO, Jun **2014**

30. "Probing Orientation of Proteins at Interfaces by Chiral Vibrational Sum Frequency Generation Spectroscopy" Symposium: New Developments in Surface Spectroscopy and Microscopy The 97th Canadian Society for Chemistry Symposium, Vancouver BC, Canada, Jun, **2014**
31. "Chiral sum frequency generation spectroscopy for characterization of biomolecular interaction at interfaces" 247th National Meeting of American Chemical Society, ACS Award in Colloid and Surface Chemistry Symposium Honoring Kenneth Eisenhal, Dallas, TX, Mar **2014**
32. "Characterization of Biomolecular Interactions at Interfaces by Chiral Sum Frequency Generation Spectroscopy" University Miami, Miami, FL, Feb **2014**
33. "Chiral Sum Frequency Generation for Characterization of Protein Secondary Structures at Interfaces" The 60th Annual AVS International Symposium and Exhibition, Long Beach, CA, Oct **2013**
34. "An Unusual Arrhenius Pre-factor of 10^{70} s^{-1} in the Thermal Reactions of Bovine Rhodopsin" Gordon Research Conference: Protein, Holderness, MA, Jun **2013**
35. "Chiral Sum Frequency Generation for Characterization of Protein Secondary Structures at Interfaces" The 14th International Conference on Chiroptical Spectroscopy, Vanderbilt University, Nashville, TN, Jun, **2013**
36. "Chiral Sum Frequency Generation for Characterization of Protein Secondary Structures at Interfaces" Structural Characterization of Biomolecules on Surfaces, The 96th Canadian Society for Chemistry symposium, Quebec City, Canada, May, **2013**
37. "Aggregation of Amyloid Proteins at Lipid/Water Interfaces Probed by Chiral Sum Frequency Generation Spectroscopy" University of Colorado, Boulder, CO, Apr **2013**
38. "Aggregation of Amyloid Proteins at Lipid/Water Interfaces Probed by Chiral Sum Frequency Generation Spectroscopy" University of Texas, Austin, TX, Apr **2013**
39. "Aggregation of Amyloid Proteins at Lipid/Water Interfaces Probed by Chiral Sum Frequency Generation Spectroscopy" 245th National Meeting of American Chemical Society, Division of Physical Chemistry, New Orleans, LA, Apr **2013**
40. "Chiral sum frequency generation spectroscopy probes vibrational structures of protein backbone with zero water background" Princeton University, Princeton, NJ, Apr **2013**
41. "Chiral sum frequency generation spectroscopy probes vibrational structures of protein backbone with zero water background" Chemistry Department Colloquium, University of Chicago, Chicago, IL, Mar **2013**
42. "Early-Stage Aggregation of Amyloid Proteins on Membrane Surfaces Probed by Chiral Sum Frequency Generation Spectroscopy" University of California, Los Angeles, CA, Mar **2013**
43. "Early-Stage Aggregation of Amyloid Proteins on Membrane Surfaces Probed by Chiral Sum Frequency Generation Spectroscopy" University of Michigan, Ann Arbor, MI, Feb **2013**
44. "Characterization of protein secondary structures at interfaces using chiral sum frequency generation spectroscopy" National Taiwan University, Taipei, Taiwan, Dec **2012**
45. "Characterization of protein secondary structures at interfaces using chiral sum frequency generation spectroscopy" National Tsing Hua University, Taipei, Taiwan, Dec **2012**
46. "Characterization of protein secondary structures at interfaces using chiral sum frequency generation spectroscopy" Academia Sinica, Taipei, Taiwan, Dec **2012**
47. "Nanodiscs Purification of a Family B G Protein-Coupled Receptor—Parathyroid Hormone 1 Receptor" 2nd Biophysics and Structural Biology Symposium, Yale University, New Haven, CT, Nov **2012**
48. "Thermal Stability of Rhodopsin" 15th International Conference on Retinal Proteins, Ascona, Switzerland, Oct **2012**
49. "Chiral sum frequency generation spectroscopy for probing the hydrogen/deuterium exchange in proteins at interfaces" 244th National Meeting of American Chemical Society, COLL Division, Philadelphia, PA, Aug **2012**
50. "Chiral sum frequency generation spectroscopy probes protein vibrational structures with zero water background" 244th National Meeting of American Chemical Society, Division of Analytical Chemistry, Philadelphia, PA, Aug **2012**

51. "Thermal stability of rhodopsin is key to vertebrate dim-light vision" *The 244th National Meeting of American Chemical Society*, Physical Chemistry Division, Philadelphia, PA, Aug **2012**
52. "Characterization of protein secondary structures at interfaces using chiral sum frequency generation spectroscopy" *244th National Meeting of American Chemical Society*, Physical Chemistry Division, Philadelphia, PA, Aug **2012**
53. "Chiral Sum Frequency Generation Spectroscopy for Characterization of Protein Structures and Dynamics at Interfaces" *Gordon Research Conference: Vibrational Spectroscopy*, Biddeford, ME, Aug **2012**
54. "Characterization of protein structures at interfaces using chiral sum frequency generation spectroscopy" *Telluride Science Research Center Workshop: Nonlinear Optics and Interfaces*, Telluride, CO, Jun **2012**
55. "Characterization of protein secondary structures at interfaces using sum frequency generation spectroscopy" *243rd ACS National Meeting*, Physical Chemistry Division, San Diego, CA, Mar **2012**
56. "Chiral vibrational sum frequency generation spectroscopy allows real-time and in situ characterization of protein secondary structures at interfaces" *243rd ACS National Meeting*, San Diego, CA, Mar **2012**
57. "Chiral sum frequency generation spectroscopy: a probe for protein secondary structures and proton exchange at interfaces" *243rd ACS National Meeting*, San Diego, CA, Mar **2012**
58. "Characterization of protein secondary structures at interfaces using sum frequency generation spectroscopy" *243rd ACS National Meeting*, San Diego, CA, Mar **2012**
59. "Characterization of protein secondary structures at interfaces using sum frequency generation spectroscopy" *Western Connecticut State University*, Danbury, CT, Mar **2012**
60. "Rhodopsin, a Light Detector at Its Very Best!" *Chinese University of Hong Kong*, Hong Kong, Jan **2012**
61. "Chiral sum frequency generation spectroscopy for characterizing protein secondary structures at interfaces" *Peking University*, Beijing, China, Dec **2011**
62. "Chiral sum frequency generation spectroscopy for characterizing protein secondary structures at interfaces" *Hong Kong University of Science and Technology*, Hong Kong, Dec **2011**
63. "Chiral sum frequency generation spectroscopy for characterizing protein secondary structures at interfaces" Symposium in Honor of 100th Anniversary of Marie Curie's Nobel Prize for International Year of Chemistry, *242nd ACS National Meeting*, Denver, CO, Aug **2011**
64. "Chiral sum frequency generation spectroscopy for characterizing protein secondary structures at interfaces." *242nd ACS National Meeting*, Denver, CO, Aug **2011**
65. "Chiral Sum Frequency Generation Spectroscopy for Identification of Protein Secondary Structures at Interfaces" *Temple University*, Philadelphia, PA, Apr **2011**
66. "Chiral Sum Frequency Generation Spectroscopy for Identification of Protein Secondary Structures at Interfaces" *University of Pennsylvania*, Philadelphia, PA, Apr **2011**
67. "Chiral Sum Frequency Generation Spectroscopy for Identification of Protein Secondary Structures at Interfaces" *Brigham Young University*, Provo, UT, Apr **2011**
68. "Misfolding of Amyloid Proteins at Interfaces Probed by Chiral Sum Frequency Generation Spectroscopy" *Pacific Northwest National Laboratory*, Richland, WA, Mar **2011**
69. "Probing Protein Secondary Structures at Interfaces by Chiral Sum Frequency Generation Spectroscopy" *Trinity University*, San Antonio, TX, Mar **2011**
70. "Molecular Mechanism for Dim-Light Detection by G Protein-Coupled Receptor Rhodopsin." *241st ACS National Meeting*, Anaheim, CA, March **2011**
71. "Second-order chiral vibrational markers allow identification of protein secondary structures at interfaces." *241st ACS National Meeting*, Anaheim, CA, March **2011**
72. "Probing kinetics of detergent molecules transferring between emulsion particles using second harmonic generation spectroscopy." *241st ACS National Meeting, Anaheim*, CA, March **2011**
73. "Amyloidogenesis detected by chiral sum frequency generation spectroscopy." *241st ACS National Meeting*, Anaheim, CA, March **2011**
74. "Purification of G-Protein Coupled Receptor Using Nanodiscs" *Keystone Symposia on Molecular and Cellular Biology, Transmembrane Signaling by GPCRs and Channels*, Taos, NM, Jan **2011**

75. "Probing Protein Secondary Structures at Interfaces by Chiral Sum Frequency Generation Spectroscopy" Department of Chemistry, Chinese University of Hong Kong, Hong Kong, Jan **2011**
76. "Biophysical Studies of G Protein-Coupled Receptors: New Strategies for Purification and Labeling" Department of Chemistry, Chinese University of Hong Kong, Hong Kong, Jan **2011**
77. "Probing Protein Secondary Structures at Interfaces by Chiral Sum Frequency Generation Spectroscopy" Department of Chemistry, University of Southern California, Los Angeles, CA, Nov **2010**
78. "Probing Protein Secondary Structures at Interfaces by Chiral Sum Frequency Generation Spectroscopy" Department of Chemistry, University of California, Irvine, CA, Nov **2010**
79. "Probing Protein Secondary Structures at Interfaces by Chiral Sum Frequency Generation Spectroscopy" Department of Chemistry, Tulane University, New Orleans, LA, Nov **2010**
80. "Probing Protein Secondary Structures at Interfaces by Chiral Sum Frequency Generation Spectroscopy" Department of Chemistry, Xavier University of Louisiana, New Orleans, LA, Nov **2010**
81. "Kinetics of Amyloid Formation Probed by Chiral Sum Frequency Generation Spectroscopy" Department of Chemistry, Clark University, Worcester, MA, Oct **2010**
82. "Probing the Misfolding of Amyloid Proteins at Interfaces by Sum Frequency Generation Spectroscopy" Department of Chemistry, Tufts University, Medford, MA, Oct **2010**
83. "Protein Structures at Interfaces Probed by Chiral Sum Frequency Generation Spectroscopy" Faculty Lunch, Department of Chemistry, Yale University, New Haven, CT, Sep **2010**
84. "Application of Chiral Vibrational Sum Frequency Generation Spectroscopy to Protein Folding at Interfaces" Gordon Research Conference: Vibrational Spectroscopy, Biddeford, ME, Aug **2010**
85. "Probing Protein Folding at Interfaces by Sum Frequency Generation" Telluride Science Research Center Workshop: Nonlinear Optics and Interfaces, Telluride, CO, Jun **2010**
86. "Application of sum frequency generation to probe kinetics of protein folding at interfaces." 239th ACS National Meeting, San Francisco, CA, March **2010**
87. "Biomolecular interactions at interfaces probed by sum frequency generation spectroscopy." 239th ACS National Meeting, San Francisco, CA, March **2010**
88. "Biomolecular Interactions at Interfaces Probed by Sum Frequency Generation Spectroscopy" NSF Physical Organic Chemistry Workshop, Austin, TX, Jan **2010**
89. "Rhodopsin, a Biological Light Detector at Its Very Best!" College of Staten Island, City University of New York, New York, NY, Dec **2009**
90. "Rhodopsin, a Biological Light Detector at Its Very Best!" Arizona State University, Tempe, AZ, Dec **2009**
91. "Rhodopsin, a Biological Light Detector at Its Very Best!" Hunter College, City University of New York, New York, NY, Nov **2009**
92. "Characterization of G Protein-Coupled Receptors Using Biophysical Spectroscopy" (Invited participant and poster presentation) The National Academies Keck Futures Initiative Conference on Synthetic Biology, Irvine, CA, Nov **2009**
93. "Probing Signal Transduction of G protein-Coupled Receptors" The US-China Workshop for Early Career Chemical Scientists, the U.S. National Science Foundation and the Chinese National Natural Science Foundation, Beijing, China PR, Oct. **2009**
94. "Probing Folding of Intrinsically Disordered Proteins at Interfaces by Sum Frequency Generation" Telluride Science Research Center Workshop: Vibrational Dynamics, Telluride, CO, Jul **2009**
95. "Thermal Decay of Rhodopsin: Role of Hydrogen Bonds in Thermal Isomerization of 11-cis Retinal in the Binding Site and Hydrolysis of Protonated Schiff Base" FASEB Summer Research Conference, Biology and Chemistry of Vision. Snowmass Village, CO, Jun **2009**
96. "Thermal Properties of G Protein-Coupled Receptor Rhodopsin" Sackler Discussion Group, Department of Molecular Biophysics and Biochemistry, Yale University, New Haven, CT, Mar **2009**
97. "Photoactivation Mechanism of G Protein-Coupled Receptor Rhodopsin" Department of Chemistry, University of Connecticut, Storrs, CT, Dec **2008**

98. "Photoactivation Mechanism of G Protein-Coupled Receptor Rhodopsin" Department of Chemistry, Colby College, Waterville, ME, Nov **2008**
99. "Rhodopsin-A Light Detector at Its Very Best!" Faculty Lunch Meeting, Department of Chemistry, Yale University, New Haven, CT, Nov **2008**
100. "Photoactivation Mechanism of G Protein-Coupled Receptor Rhodopsin" Department of Chemistry, State University of New York, Buffalo, NY, Oct **2008**
101. "Photoactivation Mechanism of G Protein-Coupled Receptor Rhodopsin" Department of Biochemistry, University of Western Ontario, London, Ontario, Canada, Oct **2008**
102. "Photoactivation Mechanism of G Protein-Coupled Receptor Rhodopsin" Department of Chemical Physics, University of Science and Technology, Hefei, China, Aug **2008**
103. "Photoactivation Mechanism of G Protein-Coupled Receptor Rhodopsin" Department of Chemistry, Fudan University, Shanghai, China, Aug **2008**
104. "Interactions of Amyloid Protein with Biomembranes: Ion Permeability and Protein Structures" Telluride Science Research Workshop: Nonlinear Optics at Interfaces, Telluride, CO, Jun **2008**
105. "Photoactivation Mechanism of G Protein-Coupled Receptor Rhodopsin" Department of Chemistry, City College, City University of New York, New York, NY, Apr **2008**
106. "Photoactivation Mechanism of G Protein-Coupled Receptor Rhodopsin" Department of Chemistry and Biochemistry, Seton Hall University, South Orange, NJ, Apr **2008**
107. "Photoactivation Mechanism of G Protein-Coupled Receptor Rhodopsin" Department of Chemistry, University of Massachusetts, Dartmouth, MA, Oct **2007**

Service to the Chemistry Department

2007-2008

- Building Committee/Department Sub-Committee
- Graduate Admission Committee

2008-2009

- Building Committee/Department Sub-Committee
- Graduate Admission Committee
- Seminar Committee: Coordinator of Biophysical Seminar

2009-2010

- Graduate Admission Committee
- Building Committee
- Visiting Day Committee
- Junior Faculty Search Committee
- Instrument Committee
- Seminar Committee

2011-2012

- Graduate Admission Committee
- Building Committee

2013-2014

- Graduate Admission Committee
- Senior Faculty Search Committee
- Junior Faculty Search Committee

2014-2015

- Graduate Admission Committee

2015-2016

- Graduate Admission Committee
- Diversity Committee (Chair)
- Junior Faculty Mentoring Committee

2016-2017

- Director of Graduate Studies
- Member of Curriculum Committee

- Junior Faculty Mentoring Committee
- Member of Seminar Committee

2017-2018 (2017 Fall on leave)

- Director of Graduate Studies
- Member of Curriculum Committee
- Member of Seminar Committee (Biophysical Chemistry)
- Visiting Day Committee

2018-2019

- Chair, Graduate Admission Committee
- Member of Junior Faculty Search Committee
- Member of Seminar Committee (Biophysical Chemistry)

Service to Yale University

- Member of Executive Committee, Yale College, 2018-
- Member of Committee, Judges for the 2019 Graduate Porter and Field prize competitions, 2019
- Member of the Advisory Board for the Undergraduate Beckman Scholars Program, Deans Office, Yale College, 2008-present
- Member of Selection Committee for Undergraduate Beckman Scholars, 2008-2016
- Scholar Award Committee, 2014-
- Faculty Review Committee, 2015-2016

Affiliation at Yale University

- Yale Diabetes Endocrinology Research Center, Yale School of Medicine, 2011-present
- The NIH Chemical Biology Graduate Training Program, 2008-present
- The NIH Biophysics Graduate Training Program, 2008-present
- The Raymond and Beverly Sackler Institute for Biological, Physical and Engineering Sciences, 2010-present
- The Biochemistry, Biophysics, and Structural Biology Program, 2011-present

Outreach

- Speaker, "Chemistry of Food and Cooking" National Teacher Institute Seminars, for professional developments for high school teachers from different states, Yale University, Jul 2017.
- Invited Speaker, *Science Saturday*, Outreach to High School Students and the General Public in the Greater New Haven Area, Yale University, 2017.
- Host and Speaker for Lab Visit, *the Yale University Science Pathways Program*, Open House at the Chemistry Department, Nov 2014
- Volunteer, Pathway to Science Orientation, Yale University, New Haven, Oct 2013
- Host and Speaker for Lab Visit, *Annual High School Open House at the Chemistry Department*, Students from Ms. Porter's Schools, May 2012
- Host and Speaker for Lab Visit, *the Yale University Science Pathways Program*, Open House at the Chemistry Department, May 2012
- Host and Speaker for Lab Visit, *the Yale University Science Pathways Program*, Open House at the Chemistry Department, May 2011
- Host for Lab Visit, *Annual High School Open House at the Chemistry Department*, Students from West Haven High Schools, May 2010
- Host for Lab Visit, *Annual High School Open House at the Chemistry Department*, Students from Miss Porter's School and the Woodhall School, May 2009
- Speaker and Host for Lab Visit. *Annual High School Open House at the Chemistry Department* Students from Hamden High School, "Chemistry of Vision", Yale University, Nov 2008
- Speaker for the *Biotechnology Workshop for high-school biology teachers in Connecticut*, "Molecular Mechanism of Vision", Yale University, Jul 2008
- Judge for Poster and Oral Presentations, National Conference of Society for Advancement of Chicanos and Native Americans in Science, Kansas City, MO, Oct 2007

- Student Recruiter, National Conference of Society for Advancement of Chicanos and Native Americans in Science, Kansas City, MO, Oct 2007

Citizenship

- Participant, Academic Leadership Workshop, the Cottrell Scholars Collaborative (CSC) Academic Leadership Team (ALT), Mar 2018
- Participant, National Diversity Equity Workshop, Open Chemistry Collaborative in Diversity Equity, Washington DC, Apr 2017
- Organizer and Host, the Power Hour: an open forum for addressing the challenges women face in science and supporting the professional growth of women in research communities, Gordon Research Conference-Vibrational Spectroscopy, 2016.
- Speaker, Monthly Meeting, Undergraduate Women in Science at Yale (UWISAY), Yale University, Dec 2014
- Panelist, "The Challenges Faced by International Women in the Workplace and Strategies to Overcome These Challenges", Co-organized by Office of International Students and Scholars (OISS) and Women in Science at Yale (WISAY), Yale University, New Haven, Oct 2014
- Panelist, "Preparing for Publication", Co-organized by Graduate Writing Center at Yale and Women in Science at Yale, Yale University, New Haven, Oct 2012
- Graduate Student Recruiter: Interviewed Seniors at Xavier University of Louisiana, New Orleans, LA, Nov 2010
- Speaker, Monthly Dinner, Undergraduate Women in Science at Yale, Yale University, Apr 2010
- Graduate Student Recruiter: Interviewed seniors at University of Science and Technology, Hefei, China PR, Aug 2008
- Speaker for the Exchange Program, Yale University-New Asian College at the Chinese University of Hong Kong: *Globalization and Biomedical Research*, The Yale-China Association, Yale University, New Haven, CT, Feb 2008
- Panelist for Career Workshop: *New Junior Faculty Members Spill the Beans*, GSAS and The Postdoctoral Office, Yale University, New Haven, CT, Jun 2009
- Panelist for Career Workshop: *Academic Job Search-Identifying Opportunity and Preparing a Successful Application*, Yale University, New Haven, CT, Oct 2007
- Panelist for Career Workshop: *Preparing Future Faculty Colloquium*, Graduate School of Art and Science, Columbia University, New York, NY, Mar 2007

Education Activities:

Teaching

Hunter College, City University of New York, New York, NY

- **2005 Fall** *Biophysical Chemistry*
Fraction of Course: 1
Enrollment: Undergraduate 38

Yale University, New Haven, CT

- **2007 Fall** *Physical Chemistry with Applications in Biological Sciences* (CHEM 328)
Fraction of Course: 1
Enrollment: Undergraduate 12
- **2008 Spring** *Perspectives on Science: Discussion Section* (SCIE 198)
Fraction of Course: 1
Enrollment: Undergraduate 15
- **2008 Fall** *Physical Chemistry with Applications in Biological Sciences* (CHEM 328)
Fraction of Course: 1
Enrollment: Undergraduate 22 and Graduate 2
- **2008 Fall** *Chemical Biology* (CHEM 421/521)
Fraction of Course: 1 Lecture
Enrollment: Undergraduate 22 and Graduate 2

- **2009 Spring** *Biophysical Chemistry* (CHEM 558)
Fraction of Course: 1
Enrollment: Undergraduate 1 and Graduate 14
- **2009 Spring** *Responsible Conduct of Research* (MBB 676)
Fraction of Course: 1/7
Enrollment: Graduate 40
- **2009 Fall** *Physical Chemistry with Applications in Biological Sciences* (CHEM 328)
Fraction of Course: 1
Enrollment: Undergraduate 39 and Graduate 1
- **2010 Spring** *Biophysical Spectroscopy* (CHEM558)
Fraction of Course: 1
Enrollment: Graduate 3
- **2010 Spring** *Responsible Conduct of Research* (MBB 676)
Fraction of Course: 1/7
Enrollment: Graduate 45
- **2011 Fall** *Physical Chemistry with Applications in Biological Sciences* (CHEM 328)
Fraction of Course: 1
Enrollment: Undergraduate 38 and Graduate 1
- **2012 Spring** *Biophysics: Biophysical Spectroscopy* (CHEM 558)
Fraction of Course: 1
Enrollment: Graduate 4
- **2013 Fall** *Physical Chemistry with Applications in Biological Sciences* (CHEM 328)
Fraction of Course: 1
Enrollment: Undergraduate 31 and Graduate 2
- **2014 Spring** *Biophysics: Biophysical Spectroscopy* (CHEM 558)
Fraction of Course: 1
Enrollment: Graduate 6
- **2014 Spring** *Perspectives on Science and Engineering* (SCIE 199)
Fraction of Course: 1 Lecture
- **2014 Fall** *Physical Chemistry with Applications in Biological Sciences* (CHEM 328)
Fraction of Course: 1
Enrollment: Undergraduate 25 and Graduate 5
- **2014 Fall** *Perspectives on Science and Engineering* (SCIE 198)
Fraction of Course: 1 Lecture
- **2015 Spring** *Biophysics: Biophysical Spectroscopy* (CHEM 558)
Fraction of Course: 1
Enrollment: Undergraduate 1 and Graduate 5
- **2015 Fall** *Biophysics: Biophysical Spectroscopy* (CHEM 558)
Fraction of Course: 1
Enrollment: Graduate 2 and Audit 1
- **2016 Spring** *Chemistry of Food and Cooking* (CHEM 104)
Fraction of Course: 1
Enrollment: Undergraduate 25
- **2016 Fall** *Chemistry of Food and Cooking* (CHEM 104)
Fraction of Course: 1
Enrollment: Undergraduate 24
- **2017 Spring** *Biophysics I* (CHEM 559)
Fraction of Course: 0.5

Enrollment: Graduate 6 and Audit 1

- **2017 Fall: on leave**
- **2018 Spring *Biophysics I* (CHEM 559)**
Fraction of Course: 1.0
Enrollment: Graduate 8
- **2018 Fall *Biophysics I* (CHEM 559)**
Fraction of Course: 0.5
Enrollment: Graduate 5
- **2019 Spring *Chemistry of Food and Cooking* (CHEM 104)**
Fraction of Course: 1
Enrollment: Undergraduate: 62

Undergraduate Senior Theses

- Xiao Bai (**Yale'08**, MCDB)
Thesis Title: *Site-specific Incorporation of p-Methoxyphenylalanine into Functional G Protein-Coupled Receptors*
- Tian Ho (**Yale'09**, CHEM)
Thesis Title: *Synthesis and Site-Specific Incorporation of Deuterium-Labeled p-Methoxyphenylalanine into Recombinant Proteins with Mammalian Expression Systems*
- Ha Bui (**Yale'10**, CHEM)
Thesis Title: *Thermal Stability of Dim-Light Photoreceptor Rhodopsin*
- Alex Zhu (**Yale'11**, CHEM)
Thesis Title: *Thermal Stability of Cone versus Rod Photoreceptors*
- Monica Yun Liu (MS&BS, **Yale'11**, MCDB)
Thesis Title: *Thermal Stability of Rhodopsin: Insight into Pathogenic Mechanism of Retinitis Pigmentosa*
- Eugene Serebryany (**Yale'11**, MBB)
Thesis Title: *Activation Mechanism of Metabotropic Glutamate Receptor Type I*
- Jennifer Wei (**Yale'13**, CHEM)-Joint Student with Batista Lab
Thesis Title: *Homology Model of Family GPCR Parathyroid Hormone 1 Receptor*
- Jeremiah Sims (**Yale'17**, CHEM)
Thesis Title: *Triblock Peptides Targeting Family B G-Protein Coupled Receptors*
- Morgan (Ella) Belina (**Yale'18**, CHEM)
Thesis Title: *Developing Methods of Flow Cytometry for Ligand Binding Assays Applied to Family B G-Protein Coupled Receptors*
- Allyson Ho (**Yale'18**, CHEM)
Thesis Title: *Mutagenesis Studies of Family B GPCR Parathyroid Hormone 1 Receptor*

Doctoral Theses

- Li Fu (CHEM'13)
Thesis Title: *Characterization of Biomolecules at Interfaces Using Sum Frequency Generation Spectroscopy*
Date: Aug 2013
- Victoria Mooney (CHEM'13)-Joint student with Zilm Group
Thesis Title: *Spectroscopic Characterization of Protein Photoreceptors*
Date: Dec 2013
- Ying Guo (CHEM'15)
Thesis Title: *Molecular Mechanism of Dim-light Vision: Thermal Stability of Visual Pigments*
Date: Jun 2015
- Zhuguang Wang (CHEM'15)
Thesis Title: *Protein Structures and Kinetics at Interfaces Probed by Sum Frequency Generation Spectroscopy*
Date: Jul 2015

- Yuting Liu (CHEM'15)
Thesis Title: *Purification, Mechanistic Study and Drug Design of Parathyroid Hormone 1 Receptor, a Family B G Protein-Coupled Receptor*
Date: Sep 2015
- Wei Liu (CHEM'17)
Thesis Title: *Biomolecules at the Interfaces Studied by Surface Chemistry and Sum Frequency Generation Spectroscopy*
Date: July 2017
- Yingying Cai (CHEM'17)
Thesis Title: *Purification and Ligand-Binding Mechanistic Study of Family B G Protein-Coupled Receptor: Guiding the Rational Design of Peptide-Based Therapeutics*
Date: July 2017
- Kelly Culhane (MB&B'19)
Thesis Title: *Investigating the mechanisms of Parathyroid Hormone 1 Receptor structure and function*
Date: July 2019

Awards Obtained by Mentees

- Li Fu—Yale Graduate '13, Chemistry Department (CHEM)
 - The William Wiley Postdoctoral Fellowship, Pacific Northwest National Laboratory, Richland, WA, 2013
 - The Langmuir Student Award, The ACS Colloids and Surfaces Division for excellence in graduate research in the field of colloids and surface chemistry.
 - The Langmuir Presentation Award, The 86th ACS Colloids and Surface Symposium, John Hopkins University, Baltimore, MD, 2012
- Monica Yun Liu—Yale '11, Molecular, Cellular and Developmental Biology (MCDB)
 - Boell Prize for Excellence in Senior Research, Department of MCDB, Yale University, 2011
 - The Student Research Achievement Award in Molecular Biophysics, the 55th Annual Biophysical Meeting, Baltimore, MD, 2011
- Eugene Serebryany—Yale'11, Molecular Biophysics and Biochemistry (MBB)
 - The Paul Sigler Memorial Prize for graduating MBB major demonstrating excellence in scholarship and research, Department of MBB, Yale University, 2011
 - Poster Presentation Award, Raymond and Beverly Sackler Institute for Biological, Physical and Engineering Sciences, Summer Research Symposium, Yale University, New Haven, CT, 2010
- Alex Zhu—Yale'11, Chemistry (CHEM)
 - The Postbaccalaureate Intramural Research Award, the National Institutes of Health, 2011
- Carolina Salguero —Hunter College, City University of New York'11, Biochemistry
 - Poster Presentation Award at Science, Technology & Diversity for a Sustainable Future - SACNAS Annual Conference, Anaheim, September 2010

Ph.D. External Examiner

- The Rockefeller University, New York, NY, Mar 2017
- Indian Institute of Technology, Madras, India, Nov 2012

Research Mentees:

Postdoctoral Fellows

- Dr. Zahra Sohrabpour (17 Ph.D. U. Minnesota, MN) 2017-2018
- Dr. Xiaojun Cai (11 Ph.D. U. Houston, TX) 2014-2015
- Dr. Supratim Guha Ray (05 Ph.D. Weizmann Inst. of Sci., Israel) 2010-2012; Current position: Postdoctoral Fellow, Northwestern University, Evanston, IL
- Dr. YuMeng You (09 Ph.D., Nanyang Tech. U., Singapore) 2010-2011; Current position: Postdoctoral Fellow, Columbia University, New York, NY
- Dr. Nivedita Mitra (05 Ph.D., IIS, Bangalore, India) 2009-2011; Current position: Research Scientist, Siemens, Bangalore, India.

- Dr. Gang Ma (99 Ph.D., Peking U.) 2008-2010; Current position: Professor, Hebei University, Baoding, China PR
- Dr. Jian Liu (07 Ph.D., Columbia U.) 2007-2011; Current position: Postdoctoral Fellow, Boston University, Boston, MA

Graduate Students

- Daniel Konstantinovsky (MB&B'23) Joint student with Hammes-Schiffer Group
- Zachery Taitz (CHEM'22)
- Ethan Perets (CHEM'21)
- Ya-Na (Anna) Chen (CHEM'19) Joint student with Ganim Group
- Kelly Culhane (MBB'18)
- Yingying Cai (CHEM'17)
- Wei Liu (CHEM'17)
- Yuting Liu (CHEM'15)
- Zhuguang Wang (CHEM'15)
- Ying Guo (CHEM'15)
- Li Fu (CHEM'13)
- Victoria Mooney (CHEM'13) Joint student with Zilm Group
- Denitza Balyozova (M.S. CHEM'09)

International Visiting Students

- Jiantao Chen, Ph.D Student (Southern China University of Technology) 2018-
- Anne Szklarz, Undergraduate Student (Ecole Nationale Supérieure de Chimie de Lille, Lille, France) 2013
- Pedro A. Baldera Aguayo, Undergraduate Student (Universidad Nacional de Ingenieria, Lima, Peru' 13) 2013
- Meike Mischo, Master Student (Bochum University, Germany) 2011

Undergraduate Students

- Justin Cheong (Yale'21) 2017-
- Morgan (Ella) Belina (Yale'18, CHEM) 2017-2018
- Allyson Ho (Yale'18, CHEM) 2017-2018
- Jeremiah Sims (Yale'17, CHEM) 2015-2017
- Gustavo Sanchez (Yale'16, MBB) 2014-2015
- Jennifer Wei (Yale'14, CHEM) 2012-2013
- Devi Mehrotra (Yale'14) 2010-2013
- Carolina Salguero (Hunter College'11, Biochemistry) 2010-2011
- Alex Zhu (Yale'11, CHEM) 2009-2011
- Ha Bui (Yale'10, CHEM) 2009-2010
- Tian Ho (Yale'09) 2008-09
- Monica Yun Liu (MS&BS, Yale'11, MCDB) 2008-2011
- Eugene Serebryany (Yale'11, MBB) 2008-2011
- Xiao Bai (Yale' 08) 2008-2009
- Eric Li (Yale'12, CHEM) Summer 2010
- Qi Wen Li (Syracuse'11) Mark and Pearle Clements Scholar, Summer 2009
- Alicia Bowen (Old Westbury U' 09) SURF at Yale, Summer 2008
- Carolyn Brotherton (Yale' 10) Joint student with Scott Miller, Summer 2008
- Khadija Khan (Yale' 10, Biomedical Engineering) Spring 2008

Research Assistants

- Tapan Kanai (Utkal University, Orissa, India) 2013-2014
- Aditi Bhagat (Hunter College'07, CUNY, New York, NY) 2007-2008

High School Students

- Jahdese Lewis (Engineering & Science University Magnet School, New Haven, CT) Summer 2015

- Devin Shang (Lexington High School, Lexington, MA) Summer 2015
- Sneha Shaha (Choate Rosemary Hall, Wallingford, CT) Summer 2012, 2013
- Titiana Fountain (Academy of New Haven, New Haven, CT) Summer 2010
- Aaron Green (Choate Rosemary Hall High School, Wallingford, CT) Summer 2008