# CURRICULUM VITAE

## GARY JOHN BLANCHARD


ADDRESS

Michigan State University (work)
Department of Chemistry
578 S. Shaw Lane, Room 328
East Lansing, Michigan 48824-1322
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1972 Pawnee Trail (home)
Okemos, Michigan 48864 - 2159
517 349 3673


MARITAL STATUS

Married, two children

DATE OF BIRTH

22 March, 1959, Berlin, New Hampshire, USA

EDUCATION

B.S. (Chemistry), Bates College, 1981
Ph.D. (Chemistry), University of Wisconsin - Madison, 1985
Advisor: Mary J. Wirth

AWARDS AND HONORS

Eastern Analytical Symposium Student Award, 1980
ACS Analytical Division Summer Internship, 1980
Graduated with Honors (Chemistry) Bates College, 1981
DuPont Graduate Fellowship, 1983
National Science Foundation Special Creativity Extension, 1998-2000
Gold Medal Award of the NY Section of the Society for Applied Spectroscopy, 2011
Michigan State University College of Natural Science Outstanding Faculty Award, 2017-2018
William J. Beal Outstanding Faculty Award, 2018

EDITORIAL POSITIONS

*Spectrochimica Acta A*, Editorial Board
*Open Journal of Materials Science*, Editorial Board
*Applied Spectroscopy*, Book Review Editor
*Workshop on Surface Modification for Chemical and Biochemical Sensing*, International Advisory Board

MEMBERSHIPS

American Chemical Society
Monmouth County NJ Local Section Chair – 1990
Michigan State University Local Section Chair – 2006
American Association for the Advancement of Science
Society for Applied Spectroscopy
International Society for Electrochemistry

## GAUGES OF SCHOLARSHIP

*Web of Science* (showing 237 publications)
h-index 34
Times Cited 4,482

*Scopus* (showing 195 publications)
h-index 33
Times Cited 4,337

## PROFESSIONAL EXPERIENCE

*2015 -* Co-Founder, MTBIsense LLC, Okemos, MI

*2015 -* Co-Founder, RecordWear LLC, Okemos, MI

*2011 -* Adjunct Professor, Agricultural and Biosystems Engineering, Michigan State University, East Lansing, MI

*2010 -* Associate Chair for Education, Department of Chemistry, Michigan State University, East Lansing, MI

*2002 - 2010* Associate Chair for the Graduate Program, Department of Chemistry, Michigan State University, East Lansing, MI.

*1999 - 2002* Director of Graduate Admissions, Department of Chemistry, Michigan State University, East Lansing, MI.

*1999 - 2001* Associate Director, Center for Fundamental Materials Research, Michigan State University, East Lansing, MI.

*1999 -* Professor, Department of Chemistry, Michigan State University, East Lansing, MI.

*1995 - 1999* Associate Professor, Department of Chemistry, Michigan State University, East Lansing, MI.

*1991 - 1995* Assistant Professor, Department of Chemistry, Michigan State University, East Lansing, MI.

*1985 - 1991* Member of Technical Staff, Bell Communications Research, Red Bank, NJ.

## PROFESSIONAL SERVICE

- Member, NSF SBIR Review Panels, 1995, 1996.
- Member, Findeis Award Jury, 1995, 1996.
- Organizer - Keystone Conference on Reconnecting the Academic and Industrial Analytical Communities - an NSF-sponsored GOALI Workshop, 1996
- Member, NASA Environmental Health Review Panel, 1997. Panel Chair, 1998.
- Organizer - Molecular Spectroscopy, Materials and Interfaces Program, FACSS 1997, Providence, RI.
- Member, International Organizing Committee, Optical Society of America Fall 1997 Meeting, San Diego, CA
- Member, NSF-CCLI Review Panel, 1999.
- Organizer, Symposia on Polymer Characterization and Interface Characterization, ACS Fall 1999 National Meeting.
- Member, NASA Crystal Growth Review Panel, 2001.
- Discussion Leader, Gordon Conference on Analytical Chemistry, June, 2001.
- Member, ACS Award in Chemical Instrumentation Jury, 2001, 2002.
- Member, NIH Reparative Medicine Study Section, March, 2004
- Member, Scientific Committee, International Conference on Electrode Processes, Szczyrk, Poland, September, 2004.
- International Member, SMCBS Steering Committee, 2009 – present
- Book Review Editor, Applied Spectroscopy, 2009 – present
- Program Coordinator, ISE 68$^{th}$ Annual Meeting, Providence Rhode Island, 2017.

## STUDENTS GRADUATED

4 Postdoctoral fellows
32 PhD graduates
10 MS graduates

| | | |
|---|---|---|
| *1993* | Lee DeWitt (M) | VP Business Development, Biddle Sawyer, NY, NY |
| *1995* | Ying Jiang (D) | United Nations, Beijing, China |
| | Selezion A. Hambir (D) | Research Fellow, Beckman Institute, Univ. of Illinois |
| | Sandjaja Tjahajadiputra (M) | Guidant Corporation |
| *1996* | Jeffrey P. Rasimas (D, PD) | Deceased |
| | David S. Karpovich (D) | H. H. Dow Professor, Saginaw Valley State University |
| | Patty K. McCarthy (D) | Staff Member, NIH |
| *1998* | Jennifer C. Horne (D) | Senior Scientist, Abbott Laboratories, Abbott Park, IL |
| *2000* | Wendy C. Flory (D) | Staff Scientist, Dow Chemical Company, Midland, MI |
| | Punit Kohli (D) | Professor of Chemistry, Southern Illinois University |
| *2001* | Scott N. Goldie (D) | Senior Examiner, USFDA, Gaithersburg, MD |
| | Shawn M. LcCasse (M) | Senior Scientist, Pfizer Chemical Co., Groton, CT |
| | Joseph J. Tulock (D) | Lab Manager, Emergent Biosolutions, Lansing, MI |
| *2002* | Stephen B. Bakiamoh (D, PD) | Research Scientist, Covance, Indianapolis, IN |
| | Jaycoda S. Major (D) | Product Quality Manager, Morton Salt, Bahamas |
| | John L. DelaCruz (D) | Sr. Quality Specialist, Rhodes Technologies, RI |
| | Lee Kelepouris (D) | Johnson & Johnson, New Brunswick, NJ |
| *2003* | Alexis A. Blevins (M) | PhD Candidate, MSU (PhD 2007) |
| | Maciej Mazur (PD) | Professor of Chemistry, University of Warsaw, Poland |
| *2004* | Richard M. Bell (M) | Staff Scientist, Bristol-Myers Squibb, Syracuse, NY |
| | Alayna M. Goetsch (M) | State of Texas, Austin, TX |
| *2005* | Michelle C. Rini (D) | Lecturer, Community College, Houston, TX |
| *2006* | Sarah A. Stevenson (D) | Research Analyst, CNA, Alexandria, VA |
| *2007* | Janelle D. S. Newman (D) | Midwest Research Institute |
| | Kelly M. Greenough (D) | Pendleton, OR |
| | Alexis A. Blevins (D) | Senior Scientist, BASF, Wyandotte, MI |
| | Monique M. Lapinski (D) | Lecturer, Lansing Community College, Lansing, MI |
| *2009* | Benjamin P. Oberts (D) | Fresenius Kabi Pharmaceuticals, Melrose Park, IL |
| | Monika J. Domińska (D) | T2 Biosystems, Lexington, MA. |

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|---|---|---|
| *2010* | Heather A. Pillman (D) | Fujifilm USA, Greensboro, SC |
| *2011* | Margaretta M. Dimos (D) | Consumer's Power, Grand Rapids, MI |
| *2012* | Katherine L. Logan (M) | Central Michigan University, Mt. Pleasant, MI |
| *2013* | Douglas B. Gornowich (D) | Par Pharmaceuticals, Rochester, MI |
| | Krzysztof Nawara (D UW) | Polish Academy of Science, Warsaw, Poland |
| *2014* | Iwan Setiawan (D) | Indonesia Int'l Inst. for Life Sciences, Jakarta, Indonesia |
| | Christine E. Hay (D) | Texas Department of Public Safety, Garland, TX |
| | D. J. Osborn III (D) | Melbourne, Australia |
| | Fredy S. Pratama (M) | Jakarta, Indonesia |
| *2015* | Chen Qiu (D) | USFDA, St. Louis, MO |
| *2016* | Hannah E. Mize (M) | Dugway Proving Ground, UT |
| | Krystyna Kijewska (PD) | Instructor, Michigan State University |
| *2017* | Stephen M. Baumler (D) | Post-doctoral fellow, Ohio State University |
| | Barrack Stubbs (M) | Michigan State University |
| | Xiaoran Zhang (D) | Oak Ridge, TN |

## UNDERGRADUATE RESEARCH STUDENTS

| | | |
|---|---|---|
| *1992* | Grace Lin | |
| *1993* | Kristopher Kortright | |
| *1999* | Jillian Bellows | Professorial Assistant |
| *1999* | Michelle Rini | |
| *1999* | Kristin Taylor | |
| *1999* | Kristin Tennant | |
| *1999, 2000* | Mark Poggi | |
| *2006 – 2008* | John Roberts | |
| *2009 – 2012* | Genevieve White | |
| *2009 – 2011* | Stephanie Wright | |
| *2010, 2011* | Emily Steinberg | |
| *2010* | Kelly Miller | Kalamazoo College |
| *2012* | Caeli Loris | Professorial Assistant |
| *2012, 2015* | Matthew Oliver | |
| *2013* | Sean Beyer | |
| *2014* | Shealin Easton | |
| *2014* | James Martin | SROP |
| *2014 – 2017* | Andrew McHale | |
| *2014, 2015* | Mianna Webber | ARO fellowship |
| *2015* | Jacob Gallimore | Kalamazoo College |
| *2015* | Thomas Reidy | REU |
| *2016 -* | Allison Bell | Professorial Assistant |
| *2016, 2017* | Cameron Meyer | |
| *2016, 2017* | Jillian Mutchler | |
| *2017* | Stephanie Schiffert | REU |
| *2017* | Yasmine Farhat | |
| *2017* | Austin Benedict | |

## SELECTED RESEARCH INTERESTS

1. MOLECULAR DIFFUSION TO CHARACTERIZE ORDER AND HETEROGENEITY IN MONOLAYERS.
   By measuring diffusion over length scales ranging from nm to sub-mm and comparing those data to model systems, information is directly available on nonuniformities within the monolayer and the balance of interactions between molecular constituents of the adlayer and the binding of those constituents to the surface. The larger purpose of this work is to demonstrate a new class of interface where a molecular fluid is chemically bound to the support. Applications range from chemical sensing and separations to tribology using ultrathin films.

2. CHARACTERIZATION AND MODELING OF LONG RANGE ORGANIZATION IN IONIC LIQUIDS.
   We demonstrated in 2016 that ionic liquids, when placed in contact with a charged support can exhibit a compositional gradient that persists for distances in excess of 100 μm – five orders of magnitude greater than that expected from simple models (e.g. Gouy-Chapman). Controlling this charge density gradient allows for facile control over refractive index in the ionic liquid and provides a measure of control over energy storage and dissipation kinetics.

3. ELUCIDATION OF PICOSECOND SOLVATION DYNAMICS IN LIQUIDS.
   Work in this area is centered around the study of molecular motion and intermolecular vibrational energy transport in low viscosity solvents. We have developed a novel way to measure $T_1$ relaxation times for both ground state and excited state solute vibrations. Our work has shown that vibrational population relaxation is highly mode specific and depends critically on the chemical identity of its immediate environment. Solvent dependent as well as probe molecule state- and chromophore-specific changes in orientational relaxation and vibrational population relaxation behavior are used to elucidate transient interactions that collective comprise the "solvation" of the probe molecule. This work has direct implications on control of thermal conductivity from a molecular structure perspective.

4. DEVELOPMENT OF MEASUREMENT TECHNOLOGY FOR IMPACT SENSING.
   One manifestation of this work is to create physical impact sensing for use in sports applications, especially the head, where the impact sensing technology is used as a rapid on-site extension of the clinical evaluation for possible concussive injury. This technology is low cost, provides intuitive results and is appropriate for all sports (male and female). This work is being carried on with two goals; one is to gain a long-term understanding of the effects of concussive injury and the other is to create marketable technology.

5. DEVELOPMENT OF CONTROLLABLE MICRO- AND NANO-ENCAPSULATION CHEMISTRY.
   Using emulsions as support media for templated growth of the polymeric encapsulant allows for incorporation of a variety of materials within the resulting capsules. The goals of this work are to control the encapsulant chemistry to mediate break strength and dispersion properties. Applications of this chemistry range from targeted delivery when used in concert with magnetic nanoparticles to wear indication of compressible structures.

## RESEARCH FUNDING

### *Grants in Force* ($3,779,236)

1. *Dyslipidemia and Diabetic Retinopathy*, National Institutes of Health Grant 2R01EY016077-08A1, 12/01/15 – 11/30/20, $1,883,061. J. Busik is PI, Blanchard is co-PI.

2. *LXR as a novel therapeutic target in diabetic retinopathy,* National Institutes of Health Grant 5R01EY025383-02 R01, 7/1/2015 – 6/30/2020, $1,211,550. J. Busik is PI, Blanchard is co-PI.

3. *ZBOT Thermometry and Velocimetry Diagnostics Development,* National Aeronautics and Space Administration Grant NN16AD52A, 2/15/16-2/14/18, $25,000. Koochesfahani is the PI, Blanchard is a co-PI.

4. *Interdisciplinary Training Program in Revolutionary Energy Materials*, GAANN, U. S. Department of Education, 8/18/2014 – 8/17/2018, $659,625. P. Duxbury is PI, Blanchard is one of 12 co-PIs.

### *Prior Support* ($5,149,070)

1. *Sustainable Chemistry and Chemical Processes*, NSF-REU, Grant 1358842, 9/1/2014 – 8/31/2017, $270,000. Swain and LaDuca are PIs, Blanchard is one of 12 co-PIs.

2. *Purchase of a Raman and Photoluminescence Imaging System for Characterization of Advanced Electrochemical and Electronic Materials*, U. S. Army Research Office, Grant 65086-CH-RIP, 7/1/2014-6/30/2016, $135,000. Swain is P, Blanchard is one of four co-PIs.
3. *Vibrational Energy Dissipation in Fluid Systems and the Influence of Molecular Scale Organization,* ACS Petroleum Research Fund, Grant 52692-ND6, 1/1/13 – 8/31/15, $100,000.
4. *Structure and Dynamics of Chemically Bound Fluid Interfaces,* Michigan State University, OVPRGS, 11/14/13 – 6/30/15, $48,000.
5. *Synthesis of a Controllably-Assembled Highly Permeable Material*, Powdermet, Inc., 8/15/13 – 1/31/14, $39,910.
6. *Construction of a High Speed Fluorescence Lifetime and Anisotropy Imaging System,* PI: John L. McCracken, co-PIs G. J. Blanchard, R. Y. Ofoli, G. M. Swain, D. P. Weliky, National Science Foundation CRIF Program, Grant 1048548, 12/15/10 – 12/14/13, $311,381.
7. *Organization, Dynamics and Translocation at Fluid Interfaces*, National Science Foundation Grant CHE-0808677, 8/1/08 – 7/31/12, $125,000 per year.
8. *International Collaboration in Chemistry: Microphase Photo-Electrochemistry: Light-Driven Liquid-Liquid Ion Transfer Processes and Two-Phase Micro-Photovoltaic Systems*, (Collaboration with Frank Marken, University of Bath UK) National Science Foundation Grant CHE 0822422, 8/1/08 – 7/31/12, $75,000 per year.

9. *IDBR: Development of a Spectroscopic Instrument for the Study of Vibrational Relaxation and Local Motion in Biomolecular Systems*. PI: G. J. Blanchard, co-PIs: R. Y. Ofoli, W. F. Beck, National Science Foundation IDBR Program, Grant 1062419, 7/1/11 – 6/30/12, $275,094.

10. *Understanding Molecular Interactions within Chemically Selective Layered Polymer Assemblies,* U. S. Department of Energy Grant DEFG0299ER15001, 9/1/07 – 8/31/08, $130,000.

11. *Controlling organization and dynamics in fluid interfaces*, National Science Foundation Grant CHE-0445492, 8/1/05 – 7/31/08, $120,000 per year.

12. *SBIR Phase II. Novel Fluoropolymer Material, National Science Foundation,* 1/1/05 – 12/31/06, $499,997 total to Nomadics, Inc. Blanchard's MSU sub-contract $110,000.

13. *Characterizing and Controlling Reactive Group Density and Distribution at Mono- and Multilayer Interfaces*, National Science Foundation Grant CHE-0090864, 3/1/01 – 2/29/05, $108,000 per year with $40,000 equipment support in the first year and a $26,410 supplement in support of international collaboration.

14. *SuMo SERS: A Novel, High Reliability CBW Agent Detection System Using Surface-Modified Gold Nanoparticles as a SERS Substrate,* Sub-contract through Nomadics, Inc. on AFOSR STTR Grant F033-0304, $35,000, 9/1/03 – 6/1/04.

15. *Studies of Molecular Films at Electrode and Optical Interfaces*, NATO Cooperative Linkage Grant for Support of International Collaborations, $5,400, 7/1/01 – 8/30/04.

16. *NSF-NATO Post-Doctoral Research Fellowship,* National Science Foundation Grant DGE-0209459, Support of Dr. Maciej Mazur, 1/1/03 – 12/31/03, $37,200.

17. *Controlling Mass Transport Phenomena at Layered Interfaces*, U. S. Department of Energy Grant DEFG0299ER15001, 9/1/99 - 8/31/02, $100,000 per year with $20,000 equipment support in the first year.

18. *GAANN Program Grant for Graduate Education in Polymers and Composites*, U. S. Department of Education, joint with K. Jayaraman, G. L. Baker, L. T. Drzal, T. J. Pinnavaia, A. B. Scranton, M. C. Hawley, R. Narayan, M. L. Bruening and M. G. Kanatzidis. $100,880 per year for 3 years.

19. *Designing Oriented, Layered Materials. Applications to Defect Characterization and* $\chi^{(2)}$ *Nonlinear Optics,* The Petroleum Research Fund, $30,000 per year, 9/1/99 - 8/31/01.

20. *Probing Defect Sites, Molecular Motion and Excitation Transport in Layered Molecular Assemblies*, National Science Foundation Grant CHE 95-08763, 8/1/95 - 3/1/98, $80,000 per year. $29,984 Supplement awarded 12/10/96. Two Year Special Creativity Extension Awarded 1/1/98. $130,000 support in FY 1998 and $100,000 in FY 1999.

21. *Reconnecting the Academic and Industrial Analytical Communities: A Summer Workshop on Identifying Common Ground,* National Science Foundation GOALI Initiative, Grant CHE 96-30118, joint with D. B. Chase (DuPont) and L. D. Rothman (Dow). $60,000, 3 years.

22. *A Suite of Undergraduate Laboratories Focused on Surface and Interface Science*, National Science Foundation ILI Program, Grant DUE 98-50822, joint with S. R. Crouch, M. L. Bruening and S. J. Garrett. $64,054, 2 years.

23. *Center for Photopolymerizations and their Application in Composites Processing. An I/UCRC Planning Grant*, National Science Foundation, joint with A. B. Scranton. $10,000, 6/1/98 - 5/30/99.

24. *Fluorescent Probes of Aqueous Sugar Solution Structure*, National Science Foundation Grant CTS 94-07563, 8/16/94 - 8/15/97, joint with K. A. Berglund, $82,500 per year.

25. *Ultrafast Spectroscopic Studies of the Organization and Dynamical Properties of Organic-Modified Interfaces*, National Science Foundation Grant CHE 92-11237, 7/1/92 - 6/30/95, $68,000 per year. $10,000 Supplement awarded 12/93.

26. *Equipment Proposal for a Rapid Scanning, High Sensitivity FTIR Spectrometer*, National Science Foundation Grant CTS 94-12354, 8/1/94 - 6/30/95, joint with A. B. Scranton, $19,550.

27. *Computer Aided Chemistry Research*, Autodesk, Inc., 1/1/93 - 12/31/93, $3,500.

28. *Request for Laser Beam Diagnostic Equipment*, joint with C. L. Foiles, Spiricon, Inc., 3/1/94, $2,000.

29. *Mechanisms of Energy Storage and Migration in a Polymeric System*, Michigan State University All University Research Initiation Grant, 1/1/93 - 12/31/93, $8,947.

30. *Fundamental Studies on Structure-Property Relationships in Electrically Conductive Polymers and their Oligomers*, Michigan State University Center for Fundamental Materials Research, joint with M. G. Kanatzidis and E. LeGoff. I 6/1/92 - 5/31/94, $80,000 total.

31. *Using Morphology to Tune $\chi^{(3)}$ in Conjugated Polymers*, Michigan State University Center for Fundamental Materials Research, joint with G. L. Baker. 6/1/92 - 5/31/95, $72,250 total.

32. *In-Situ Cure Monitoring for Composites Processing Using Fiber Optic Fluorescence Sensors*, Michigan State University Center for Fundamental Materials Research and Composite Materials and Structures Center, joint with A. B. Scranton. 6/1/93 - 7/31/96, $56,850 total.

33. *Synthesis and Characterization of Tunable 2D Arrays of NLO Chromophores*, Michigan State University Center for Fundamental Materials Research, joint with G. L. Baker. 7/1/96 - 6/30/97. $34,500.

34. *Fundamental Investigations of Charge-Transfer Photoinduced Polymerizations: Mechanisms and Monitoring Degree of Cure*, Michigan State University Center for Fundamental Materials Research, joint with A. B. Scranton. 7/1/96 - 6/30/98. $49,000 total.

35. *Center for Photopolymerizations and their Application in Composites Processing*, Michigan State University Composite Materials and Structures Center, joint with A. B. Scranton. 7/1/97 - 6/30/98. $3,000.

36. *Controlling Second Order Optical Nonlinearities in Directionally Layered Materials,* Michigan State University Center for Fundamental Materials Research. 7/1/97 – 6/30/99. $26,000 total.

37. *Formation and Investigation of Thin Films Based on Self-Assembled Polydiacetylenes,* Michigan State University Center for Fundamental Materials Research. Joint with S. J. Garrett and G. L. Baker. 7/1/97 – 6/30/99. $52,000 total.

38. *Characterization and Computer Modeling for the Optimization of Chemically Amplified Resists,* Michigan State University Composite Materials and Structures Center, joint with Alec B. Scranton. 7/1/97 - 6/30/99. $69,900 total. Supported through the Michigan State University Center for Fundamental Materials Research 7/1/99 - 6/30/00, $13,000.

39. *Exploring New Ultrathin Polymer Films as Sensor Materials*, joint with M. L. Bruening, Michigan State University Center for Fundamental Materials Research, 7/1/99 - 6/30/00, $13,000.

# PUBLICATIONS

## UNIVERSITY OF WISCONSIN (PH.D. DISSERTATION)

1. G. J. Blanchard and M. J. Wirth, "A Critical Comparison of Molecular Reorientation in the Ground and Excited Electronic States: Cresyl Violet in Methanol", *J. Chem. Phys.*, **82**, 39-44 (1985).

2. G. J. Blanchard and M. J. Wirth, "Transform Limited Behavior from the Synchronously Pumped CW Dye Laser", *Opt. Commun.*, **53**, 394-400 (1985).

3. M. J. Wirth and G. J. Blanchard, "Picosecond Spectroscopy in Analytical Chemistry", in *Analytical Applications of Lasers*, E. H. Piepmeier (Ed.), J. Wiley, (1986), 477-492.

4. G. J. Blanchard and M. J. Wirth, "Measurement of Small Absorbances by Picosecond Pump-Probe Spectrometry", *Anal. Chem.*, **58**, 532-535 (1986).

5. G. J. Blanchard and M. J. Wirth, "Anomalous Temperature Dependent Reorientation of Cresyl Violet in 1-Dodecanol", *J. Phys. Chem.*, **90**, 2521-2525 (1986).

## BELL COMMUNICATIONS RESEARCH

6. G. J. Blanchard, "Picosecond Spectroscopic Measurement of a Solvent Dependent Change of Rotational Diffusion Rotor Shape", *J. Chem. Phys.*, **87**, 6802-6808 (1987).

7. G. J. Blanchard and C. A. Cihal, "Orientational Relaxation Dynamics of Oxazine 118 and Resorufin in the Butanols. Valence and State Dependent Solvation Effects", *J. Phys. Chem.*, **92**, 5950-5954 (1988).

8. G. J. Blanchard, "A Study of the State Dependent Reorientation Dynamics of Oxazine 725 in Primary *n*-Aliphatic Alcohols", *J. Phys. Chem.*, **92**, 6303-6307 (1988).

9. G. J. Blanchard, J. P. Heritage, G. L. Baker and S. Etemad, "The Picosecond Spectroscopy of a Polydiacetylene in the Small Signal Limit: Detection and Characterization of a New Long-Lived State", *Chem. Phys. Lett.*, **158**, 329-333 (1989).

10. G. J. Blanchard, "Applications of Picosecond Spectroscopy to Analytical Chemistry", *Trends in Analytical Chemistry*, **8**, 29-34 (1989). Invited.

11. G. J. Blanchard, J. P. Heritage, A. C. Von Lehmen, M. K. Kelly, G. L. Baker and S. Etemad, "Excitonic and Phonon-Mediated Optical Stark Effects in a Conjugated Polymer", *Phys. Rev. Lett.*, **63**, 887-890 (1989).

12. G. J. Blanchard, "An MNDO Calculational Study of Selected Oxazine, Thiazine and Oxazone Dyes", *Chem. Phys.*, **138**, 365-375 (1989).

13. G. J. Blanchard, "The State Dependent Reorientation of Methylene Blue: The Role of Dipolar Solvent-Solute Interactions", *J. Phys. Chem.*, **93**, 4315-4319 (1989).

14. G. J. Blanchard, "Detection of a Transient Solvent-Solute Complex Using Time-Resolved Pump-Probe Spectroscopy", *Anal. Chem.*, **61**, 2394-2398 (1989).

15. J. P. Heritage, S. Etemad and G. J. Blanchard, "Excitonic and Phonon-Mediated Optical Stark Effect in a Conjugated Polymer", *Optics News*, **15**, 13-14 (1989).

16. M. J. Nowak, G. J. Blanchard, G. L. Baker, S. Etemad and Z. G. Soos, "Inter-Chain Dynamics and Side Group Modulation of Excitons in a Polydiacetylene", *Phys. Rev. B*, **41**, 7933-7936 (1990).

17. G. J. Blanchard and J. P. Heritage, "Franck-Condon Enhancement of $\chi^{(3)}$ in a Conjugated Polymer Under Double Resonance Conditions", *J. Chem. Phys.*, **93**, 4377-4382 (1990).

18. G. J. Blanchard, J. P. Heritage, G. L. Baker and S. Etemad, "Picosecond Studies of PTS: Evidence for a New Metastable State", in *Nonlinear Optics and Ultrafast Phenomena*, ed. by R. R. Alfano and L. Rothberg, Nova Publishing, New York, 1990, 109-113.

19. M. J. Nowak, G. J. Blanchard, G. L. Baker, S. Etemad and Z. G. Soos, "Low Temperature Picosecond Spectroscopy of the Polydiacetylene PTS in the Small Signal Limit", *Proc. SPIE*, **1147**, 256 (1990).

20. M. J. Nowak, G. J. Blanchard, G. L. Baker, S. Etemad and Z. G. Soos, "Slow Relaxations in PDA-4BCMU: From Crystals to Films", in *Conjugated Polymeric Materials: Opportunities in Electronics, Opto-Electronics and Molecular Electronics*, ed. by J. L. Bredas and R. R. Chance, NATO ASI Series E, vol. 182, Kluwer Academic Publishers, Dordrecht, 1990, 421-427.

21. G. J. Blanchard and J. P. Heritage, "Picosecond Stimulated Raman Measurement of Enhanced Optical Nonlinearities in a Conjugated Polymer" in *Ultrafast Phenomena VII*, Ed. by C. B. Harris, E. P. Ippen, G. A. Mourou and A. H. Zewail, Springer Verlag Publishers, Berlin, FRG, (1990), 130-132.

22. G. J. Blanchard and J. P. Heritage, "Perturbation of the Nonlinear Optical Response of a Conjugated Polymer by an Adsorbate Induced Electronic State", *Chem. Phys. Lett.*, **177**, 287-292 (1991).

23. G. J. Blanchard, "Counter-ion Dependent Reorientation Dynamics of an Oxazine in Polar Protic and Aprotic Solvents", *J. Phys. Chem.*, **95**, 5293-5299 (1991).

24. G. J. Blanchard, "Time-Resolved Measurement of the Stimulated Emission Stokes Shift in LDS750: Evidence for Inhomogeneous Relaxation Kinetics", *J. Chem. Phys.*, **95**, 6317-6325 (1991).

25. S. A. Hambir, T. Yang, G. J. Blanchard and G. L. Baker, "Excitation Migration in the Polydiacetylene DCHD", *Chem. Phys. Lett.*, **201**, 521-527 (1993).

26. S. A. Hambir, Y. Jiang and G. J. Blanchard "Ultrafast Stimulated Emission Spectroscopy of Perylene in Dilute Solution: Measurement of Ground State Vibrational Population Relaxation", *J. Chem. Phys.*, **98**, 6075-6082 (1993).

27. Y. Jiang, S. A. Hambir and G. J. Blanchard, "Synchronous Pumping of Two Dye Lasers Using a Single UV Excitation Source", *Opt. Commun.*, **99**, 216-220 (1993).

28. P. K. McCarthy and G. J. Blanchard, "An AM1 Study of the Electronic Structure of Coumarins", *J. Phys. Chem.*, **97**, 12505-12509 (1993).

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51. D. S. Karpovich and G. J. Blanchard, “Reorientation Dynamics Studies of Fluorophores in Self-Assembled Monolayers”, The FACSS XXII Meeting, October, 1995.

52. J. P. Rasimas, G. J. Blanchard and K. A. Berglund, “Measuring Self-Assembly from Solution Using a Molecular Lock-and-Key Approach”, The 47th Pittsburgh Conference and Exposition, March, 1996.

53. P. K. McCarthy and G. J. Blanchard, “A Molecular Approach to Understanding Thermal Conductivity: Ultrafast Vibrational Energy Transfer”, The 47th Pittsburgh Conference and Exposition, March, 1996.

54. J. C. Horne and G. J. Blanchard, "Understanding the Fluorescence Dynamics of Metal-Phosphonate Monolayers and Multilayers", The 47th Pittsburgh Conference and Exposition, March, 1996.

55. H. M. Schessler, D. S. Karpovich and G. J. Blanchard, "Entropic and Enthalpic Contributions to Alkanethiolate Monolayer Self-Assembly", The 47th Pittsburgh Conference and Exposition, March, 1996.

56. W. C. Flory and G. J. Blanchard, "Watching energy Relax Within a Molecule. Are Transient Spectral Shifts Related to Solvent Relaxation?", The 47th Pittsburgh Conference and Exposition, March, 1996.

57. W. C. Flory and G. J. Blanchard, "A Novel Approach to Measuring Defect Density in Monolayer and Multilayer Films Using Nonlinear Optical Properties", The American Chemical National Meeting, April, 1997.

58. J. C. Horne and G. J. Blanchard, "Using Zirconium Phosphonate Multilayer Assemblies to Examine Photonic Energy Transport", The American Chemical National Meeting, April, 1997.

59. S. N. Goldie and G. J. Blanchard, "Rotational Diffusion Dynamics of Perylene and 1-Methylperylene in *n*-Alcohols", The American Chemical National Meeting, April, 1997.

60. J. J. Tulock II and G. J. Blanchard, "Understanding Crystallization in Carboxylic Acid Systems Using Tailor-Made Impurities", The American Chemical National Meeting, April, 1997.

61. J. C. Horne and G. J. Blanchard, "Energy Migration and Molecular Motion in Metal Phosphonate Multilayer Assemblies", The Gordon Research Conference on Organic Thin Films, Salve Regina, RI, July, 1997.

62. J. C. Horne and G. J. Blanchard, "Intermolecular and Intramolecular Excitation Transport in Metal Phosphonate Multilayer Assemblies", The FACSS XXIV Meeting, October, 1997.

63. W. C. Flory-Stary and G. J. Blanchard, "Nonlinear Optical Characterization of Defects in Multilayer Interfacial Assemblies", The FACSS XXIV Meeting, October, 1997.

64. P. Kohli, A. B. Scranton and G. J. Blanchard, "Understanding Photopolymerization of Bismaleimides and Divinylethers: A New Class of Charge-Transfer Polymerization", The FACSS XXIV Meeting, October, 1997.

65. S. N. Goldie and G. J. Blanchard, "Watching energy Migrate in Solution", The 49$^{th}$ Pittsburgh Conference and Exposition, March, 1998.

66. J. C. Horne and G. J. Blanchard, "Controlling Photonic Energy Transport in Multilayer Assemblies", The 49$^{th}$ Pittsburgh Conference and Exposition, March, 1998.

67. J. J. Tulock II and G. J. Blanchard, "Using 'Lock and Key' Probes to Understand Crystallization", The 49th Pittsburgh Conference and Exposition, March, 1998.

68. W. C. Flory and G. J. Blanchard, "A Quantitative Approach to Measuring Defect Density in Self-Assembled Multilayers", The 49th Pittsburgh Conference and Exposition, March, 1998.

69. W. C. Flory and G. J. Blanchard, "Using Surface Second Harmonic Generation to Understand and Characterize Defect Density in Layered Assemblies", ACS 31st Central Regional Meeting, Cleveland, OH, May, 1998.

70. P. Kohli, A. B. Scranton and G. J. Blanchard, "Photocopolymerization of Maleimides and Vinyl Ethers. Applications to Layered Materials and Interfaces", I/UCRC Planning Meeting, Estes Park, CO, November, 1998.

71. W. C. Flory and G. J. Blanchard, "Characterizing Defects in Self-Assembled Multilayer Films Using Nonlinear Optical Techniques", ACS National Meeting, Anaheim, CA, March, 1999.

72. K. G. Severin, G. J. Blanchard and M. L. Bruening, "A Suite of Undergraduate Laboratories Focused on Surface and Interface Science", ACS National Meeting, New Orleans, LA, August, 1999.

73. J. L. Jessop, S. N. Goldie, A. B. Scranton and G. J. Blanchard, "Transport Phenomena in Electronic Materials Processing", AIChE Annual Meeting, Dallas, TX, November, 1999.

74. J. L. DelaCruz and G. J. Blanchard, "Solvent and substituent effects on the isomerization of azobenzene", ACS National Meeting, San Francisco, CA, March, 2000.

75. S. N. Goldie and G. J. Blanchard, "Looking for organization in solutions of carbonyl containing solvents", ACS National Meeting, San Francisco, CA, March, 2000.

76. L. Kelepouris and G. J. Blanchard, "Probing Crystallization using a Lock-and-Key Approach", ACS National Meeting, San Francisco, CA, March, 2000.

77. S. B. Bakiamoh and G. J. Blanchard, "Probing Defect Densities and Optical Nonlinearities in Asymmetric Layered Interfaces", ACS National Meeting, San Francisco, CA, March, 2000.

78. P. Kohli and G. J. Blanchard, "Applying Polymer Chemistry to Interfaces: Layer-by-Layer and Statistical Growth of Covalently Bound Multilayers", ACS National Meeting, San Francisco, CA, March, 2000.

79. J. L. P. Jessop, S. N. Goldie, A. B. Scranton, G. J. Blanchard, B. Rangarajan, U. Okoroanyanwu, L. Capodieci, R. Subramanian, M. Templeton and A. Kozlowski, "Spectroscopic Characterization of Acid Mobility in 248 nm and 193 nm Chemically Amplified Resists", ACS National Meeting, San Francisco, CA, March, 2000.

80. S. N. Goldie and G. J. Blanchard, “Looking for Dynamics and Organization in Solutions of Carbonyl-Containing Solvents”, ACS National Meeting, Washington, DC, August, 2000.

81. K. G. Severin, M. L. Bruening and G. J. Blanchard, “A suite of undergraduate laboratories focused on surface and interface science”, ACS National Meeting, Washington, DC, August, 2000.

82. J. J. Tulock and G. J. Blanchard, “Characterization of Complexation Between Metal Ions and Organic Chromophores”, ACS National Meeting, Washington, DC, August, 2000.

83. S. M. Mehrens and G. J. Blanchard, “Synthesis of Covalent Multilayers for Use in Studying Energy Transfer”, Anachem Meeting, Detroit, Michigan, November, 2000.

84. J. L. DelaCruz and G. J. Blanchard, “Induced orientational anisotropy dynamics and inverse Raman spectroscopy of Rhodamine 640”, ACS National Meeting, San Diego, CA, April, 2001.

85. J. S. Major and G. J. Blanchard, “Application of Covalently-Bound Polymer Multilayers for Efficient Metal Ion Sorption”, ACS National Meeting, San Diego, CA, April, 2001.

86. S. B. Bakiamoh and G. J. Blanchard, “Surface second harmonic generation study of layer order in self-assembled multilayers”, ACS National Meeting, San Diego, CA, April, 2001.

87. L. Kelepouris and G. J. Blanchard, “Interrogating interactions of 7-azatrptophan with micelles”, ACS National Meeting, San Diego, CA, April, 2001.

88. J. J. Tulock and G. J. Blanchard, “Investigating Hydrolytic Polymerization of Zirconium Using the Fluorescent Probe 1-Pyrenecarboxylic Acid”, ACS National Meeting, San Diego, CA, April, 2001.

89. J. S. Major, P. Kohli and G. J. Blanchard, “Layered Polymer Interfaces for Selective Sorption”, US Department of Energy Contractors Meeting, San Diego, CA, April, 2001.

90. J. L. Dela Cruz and G. J. Blanchard, “Understanding Local Organization and its Effects on the Rotational Dynamics of Rhodamines in Polar Protic and Aprotic Solvents”, ACS National Meeting, Chicago, IL, August, 2001.

91. J. S. Major and G. J. Blanchard, “Adsorption Studies of Vapor Phase Adsorbate Molecules onto Polymer-Modified Interfaces in the Context of the BET Model”, ACS National Meeting, Chicago, IL, August, 2001.

92. S. B. Bakiamoh and G. J. Blanchard, “Understanding Interface Growth Using Surface Second Harmonic Generation”, ACS National Meeting, Chicago, IL, August, 2001.

93. L. Kelepouris and G. J. Blanchard, “Interactions of Azatryptophan with Aqueous Micelles”, ACS National Meeting, Chicago, IL, August, 2001.

94. J. S. Major and G. J. Blanchard, "Controlling Polymer Cross-Linking to Create Novel Layered Interfaces," 2002 Pittsburgh Conference and Exposition, New Orleans, LA, March, 2002.

95. S. B. Bakiamoh and G. J. Blanchard, "Characterizing Metal Phosphonate Surface Coverage using Surface Second Harmonic Generation," 2002 Pittsburgh Conference and Exposition, New Orleans, LA, March, 2002.

96. J. L. Dela Cruz and G. J. Blanchard, "Understanding structural freedom and its effects on the rotational dynamics of rhodamines in polar solvents", ACS National Meeting, Orlando, FL, April, 2002.

97. M. C. Rini and G. J. Blanchard, "Investigating the surface distribution of $\chi^{(2)}$ nonlinear optical chromophores via surface second harmonic microscopy", ACS National Meeting, Boston, MA, August, 2002.

98. A. A. Blevins and G. J. Blanchard, "Synthesis and characterization of isomerizable adlayer constituents", ACS National Meeting, Boston, MA, August, 2002.

99. C. A. Munson, L. Kelepouris, G. J. Blanchard and F. V. Bright, "The Behavior of Biomolecules within the Water Pool of Reverse Micelles Between +30 and -100°C", Pittsburgh Conference, Orlando, FL, March, 2003.

100. A. A. Blevins and G. J. Blanchard, "Characterization and Spectroscopy of Isomerizable Adlayer Constituents", ACS National Meeting, New Orleans, LA, March, 2003.

101. R. M. Bell and G. J. Blanchard, "Synthesis and characterization of polymer monolayers using imbedded chromophores", ACS National Meeting, New Orleans, LA, March, 2003.

102. M. C. Rini and G. J. Blanchard, "Using surface second harmonic microscopy to understand spatial distribution of single molecular layers", ACS National Meeting, New Orleans, LA, March, 2003.

103. Pawel Krysinski and G. J. Blanchard, "Spectroscopic and Electrochemical Characterization of Interfacial Biomimetic Assemblies", XVII$^{th}$ International Symposium on Bioelectrochemistry and Bioenergetics, Florence, Italy, June 23, 2003.

104. Maciej Mazur and G. J. Blanchard, "Transformations of Surface Bound Pyrene and Anthracene", SURPHARE Workshop on Interfaces, operated by the Polish Academy of Sciences, November 13-16, 2003, Bialowieza, Poland.

105. A. A. Blevins and G. J. Blanchard, "Isomerization Dynamics and Mechanism(s) of Azobenzenes: Implications for Optical Information Storage," The Pittsburgh Conference, Chicago, IL, March, 2004.

106. C. A. Regan and G. J. Blanchard, "Design and Characterization of Layered Polymer Materials for Chemical Sensing," The Pittsburgh Conference, Chicago, IL, March, 2004.

107. S. A. Stevenson and G. J. Blanchard, "Spectroscopic Examination of the Electrical Double Layer at Micellar Interfaces," The Pittsburgh Conference, Chicago, IL, March, 2004.

108. J. D. Secl and G. J. Blanchard, "Thiol Surface Modification of Gold Nanoparticles," The Pittsburgh Conference, Chicago, IL, March, 2004.

109. R. M. Bell and G. J. Blanchard, "Characterization of Polymer Monolayer Morphology using Pyrene Excimer Fluorescence," The Pittsburgh Conference, Chicago, IL, March, 2004.

110. A. M. Goetsch and G. J. Blanchard, "Designing Molecular Triggers to Control Crystallization from Solution," The Pittsburgh Conference, Chicago, IL, March, 2004.

111. J. D. Secl and G. J. Blanchard, "Thiol Surface Modification of Gold Nanoparticles", Central Regional Meeting of the American Chemical Society, Indianapolis, IN, June, 2004.

112. S. S. Vaidya, L. Parthsarathy, G.J. Blanchard and R.Y. Ofoli, "Quantitation of interfacial concentrations of biomacromolecules at the liquid-liquid interface", AIChE Annual Meeting, Austin, TX, November, 2004.

113. J. D. Secl and G. J. Blanchard, "Amine mediated reduction of Au(III) to gold nanoparticles", ACS Fall 2005 National Meeting, Washington DC, August, 2005.

114. J. D. S. Newman and G. J. Blanchard, "Amine mediated reduction of Au(III) to gold nanoparticles", Anachem 2005 Meeting, Detroit, MI, November, 2005.

115. S. A. Stevenson and G. J. Blanchard, "Spectroscopic investigation of micellar and vesicular interfaces", ACS Spring 2006 National Meeting, Orlando, FL, March, 2006.

116. Angelines Castro Forero, Aaron J. Greiner, Monique Koan, Gary J. Blanchard, R. Mark Worden, and Robert Y. Ofoli, "A Comparative Study of the Fundamental Properties of Liposomes Made by Sonication and by Extrusion.", NSTI Nanotechnology Conference and Trade Show, Santa Clara, California, May, 2007.

117. Mikhail Goldin, Gary Blanchard, Alexander Volkov, Mikhail Filippov, Vladimir Kolesnikov and Mark Goldin, "Activated Carbon Open Circuit Potential Shifts in Aqueous Solutions", 212$^{th}$ Electrochemical Society Meeting, Washington, DC, September, 2007.

118. Mark M. Goldin, G.J. Blanchard, A. K. Evseev, V.A. Kolesnikov, Yu. S. Goldfarb, A.G. Volkov and Mikhail M. Goldin, "Redox Potential Measurement in Aqueous Solutions and Biological Media", 212$^{th}$ Electrochemical Society Meeting, Washington, DC, September, 2007.

119. Liping Ding Yu Fang, Monika Dominska and G. J. Blanchard, "Understanding the Role of Cholesterol and Pyrene in Surface-Bound Biomimetic Lipid Bilayer Structures", 57$^{th}$ ISE Annual Meeting, Banff, Alberta, Canada, September 10, 2007.

120. Monika Dominska, Pawel Krysinski and G. J. Blanchard, "Characterizing Biomimetic Interfacial Structures Containing Pyrene," SMCBS 2007 meeting, Wlodowice, Poland, November, 2007.

121. M. M. Goldin, V. A. Kolesnikov, M. S. Khubutiya, A. G. Volkov, G. J. Blanchard, A. K. Evseev and M. M. Goldin, "Electrochemical Properties and Biological Activity of Carbon Materials Modified with Polypyrrole", 59th Annual Meeting of the International Society of Electrochemistry, Seville, Spain, September, 2008.

122. Monika Dominska, P. Krysinski and G. J. Blanchard, "Organization at Biomimetic Interfaces," Summer School II, Application of multilayers in chemical and biochemical sensors, Polish Academy of Sciences, Olsztyn, Poland, September 19, 2008.

123. Monika Dominska, Pawel Krysinski and G. J. Blanchard, "Probing Interfacial Organization in Artificial Lipid Membranes Using Tethered Pyrene," 60th Pittsburgh Conference and Exposition, Chicago, IL, March 9, 2009.

124. Benjamin P. Oberts and G. J. Blanchard, "Measuring the Spontaneous Translocation of Phospholipids in a Supported Bilayer Structure," 60th Pittsburgh Conference and Exposition, Chicago, IL, March 10, 2009.

125. Janelle D. S. Newman, G. J. Blanchard and William A. MacCrehan, "Interactions of gold nanoparticles and their precursors with aniline monomers," 238th ACS National Meeting, Washington, DC, August 16-20, 2009.

126. Andrew Collins, Xiaohang Zhang, Laurie M. Peter, Jonathon J. Scragg, G. J. Blanchard and Frank Marken, "Triple Phase Boundary Photo-Voltammetry: Resolving Rhodamine B Reactivity in 4-(3-Phenylpropyl)-Pyridine Microdroplets," 4th Workshop on Surface Modification for Chemical and Biochemical Sensing, Krakow, Poland, November 6-11, 2009.

127. Heather A. Pillman and G. J. Blanchard, "Effects of Ethanol on the Phase Behavior of Phospholipid Vesicles", Midwestern Universities Analytical Chemistry Conference, East Lansing, MI, December 4, 2009.

128. Margaretta M. Dimos and G. J. Blanchard, "Evaluating the Role of Pt and Pd Catalyst Morphology on Electro-Catalytic Methanol and Ethanol Oxidation", Midwestern Universities Analytical Chemistry Conference, East Lansing, MI, December 4, 2009.

129. Douglas Gornowich and G. J. Blanchard, "Nanoporous Solids used as Flow-through Catalytic Reactors", Midwestern Universities Analytical Chemistry Conference, East Lansing, MI, December 4, 2009.

130. Iwan Setiawan and G. J. Blanchard, "Reorientation Dynamics of Rhodamine-Tagged Phospholipid in solution and in vesicle. Local heating and Associated Phenomena", Midwestern Universities Analytical Chemistry Conference, East Lansing, MI, December 4, 2009.

131. Christine E. Hay and G. J. Blanchard, "Solvent-Dependent Changes in Molecular Reorientation Dynamics: The Role of Solvent-Solvent Interactions", Midwestern Universities Analytical Chemistry Conference, East Lansing, MI, December 4, 2009.

132. Michelle M. Packard, G. J. Blanchard and and Evangelyn A. Alocilja, "Novel Rapid DNA-Based Bacterial Identification Using Amplification-Free On-Chip Fluorescent Resonance Energy Transfer with In-Situ Hybridization (FRET-ISH)," One-Day International Symposium in Honor of Professor Theodor Förster, Charlottesville, VA, March 10, 2011.

133. Kelly K. Miller and G. J. Blanchard, "Effects of a tethered chromophore on the dynamics of phosphocholine lipid vesicle systems," ACS National Meeting, Anaheim, CA, March 28, 2011.

134. Krzysztof Nawara, Pawel Krysinski and G. J. Blanchard, "Photoreactivity of doxorubicin – catalytic formation of $H_2O_2$," ICHF2 meeting, Warsaw, Poland, March, 2013.

135. Chen Qiu and G. J. Blanchard, "Phospholipid Vesicle Stability and Temporal Variations in Acyl Chain Organization," Pittcon 2013, Philadelphia, PA, March 17-21, 2013.

136. Krzysztof Nawara, Pawel Krysinski and G. J. Blanchard, "Anthracycline mediated photocatalytic formation of hydrogen peroxide," 7th World Congress on Oxidation Catalysis, Saint Louis, Missouri June 8-12, 2013.

137. Krzysztof Nawara, Pawel Krysinski and G. J. Blanchard, "Interactions of molecules in nanoreactors. How do size and shape of the container affect molecular energy distribution? - a molecular dynamics study," 7th World Congress on Oxidation Catalysis, Saint Louis, Missouri June 8-12, 2013.

138. Dorota Nieciecka, G, J. Blanchard and Pawel Krysinski, "Anthracycline interactions with biomimetic membranes," From MPD to KNOW, First Scientific Conference of PhD Students, Rawa Mazowiecka, Poland, September 27-29, 2013.

139. Dorota Nieciecka, Agata Krolikowska, G. J. Blanchard and Pawel Krysinski, "Interactions of Docorubicin with Organized Interfacial Assemblies," SMCBS 2013 meeting, Lochow, Poland, November 8-12, 2013.

140. Kristopher Kirmess, G. J. Blanchard and Gary R. Kinsel, "Relation of Excited State Lifetimes and Ion Yields for Common MALDI Matrices," 62$^{nd}$ ASMS Conference on Mass Spectrometry and Allied Topics, June 15 - 19, 2014.

141. Richard Knochenmuss, Kristopher M. Kirmess, Gary J. Blanchard and Gary R. Kinsel, "Possible Triplet Ionization Mechanisms in the UV MALDI Matrix 2,4,6 trihydroxyacetophenone," 20$^{th}$ International Mass Spectrometry Conference, Geneva, Switzerland, August 24-29, 2014.

142. Kristopher Kirmess, G. J. Blanchard and Gary R. Kinsel, "Correlation of Matrix Excited State Dynamics with Morphology and MALDI Performance," 63$^{rd}$ ASMS Conference on Mass Spectrometry and Allied Topics, May 31 – June 4, 2015.

143. Cameron Meyer, Julia V. Busik and G. J. Blanchard, "Using Molecular Diffusion as a Diagnostic of Disease State," Mid-SURE Symposium, East Lansing, MI, July 22, 2015.

144. Thomas Reidy, Stephen Baumler and G. J. Blanchard, "Investigation of Molecular Assemblies," Mid-SURE Symposium, East Lansing, MI, July 22, 2015.

145. Mianna Webber, G. M. Swain and G. J. Blanchard, "Fluorescence Decay Profiles of Probe Molecules in Room Temperature Ionic Liquids," Mid-SURE Symposium, East Lansing, MI, July 22, 2015.

146. Stephen M. Baumler, Thomas Reidy and G. J. Blanchard, "Effect of Induced Heterogeneity on the Fluidity and Structural Morphology of Alkylphosphonic Acid Langmuir Blodgett Films," Gordon Research Conference on Dynamics at Surfaces, August 9-14, 2015, Salve Regina University, RI.

147. Xiaoran Zhang and G. J. Blanchard, "Crack-Free Three Dimensionally Ordered Macroporous (3DOM) Structure in Microfluidic Reactor," Pittcon 2016, March 6-10, 2016, Atlanta, GA.

148. Chen Qiu and G. J. Blanchard, "Ultrafast Spectroscopic Studies of Molecular Interactions and Vibrational Energy Relaxation Dynamics in Binary Solvents," Pittcon 2016, March 6-10, 2016, Atlanta, GA.

149. Stephen M. Baumler, Thomas Reidy and G. J. Blanchard, "Using Diffusional Motion to Gauge Fluidity and Interfacial Adhesion Strength of Supported Octadecylphosphonic Acid (ODPA) Monolayers," Pittcon 2016, March 6-10, 2016, Atlanta, GA.

150. Ke Ma, Romana Jarosova, Greg M. Swain and G. J. Blanchard, "Charge-Induced Long Range Order in a Room Temperature Ionic Liquid," Pittcon 2017, March 5-9, 2017, Chicago, IL.

151. Chao Huang, Kiera Fisher, Sandra Hammer, Qi Wang, Svetlana Navitskaya, G. J. Blanchard and J. V. Busik, "Immunoglobulin laden exosomes induce complement activation and inflammation in retinal endothelial cells in diabetes," ARVO 2017 Annual meeting, Baltimore, MD, May 7-11, 2017.

152. Aleksandra Joniec, Grzegorz Cichowicz, M. Cyranski, M. Grden, Marek Pekala, G. J. Blanchard and Pawel Krysinski, "Synthesis nad properties of luminescent Tb-doped nanoferrites for anti-cancer therapies," 68$^{th}$ ISE Annual Meeting, Providence, RI, August 29, 2017.

153. Dorota Nieciecka, Krystyna Kijewska, Agata Krolikowska, G. J. Blanchard and Pawel Krysinski, "Interaction of nanoparticles with biomembranes," 68$^{th}$ ISE Annual Meeting, Providence, RI, September 1, 2017.

154. Paulina Głowala, Krystyna Kijewska, G. J. Blanchard and Maciej Mazur, "PLGA microspheres modified with gold-198 radioisotope – polymer carriers of the anticancer drug doxorubicin," 68$^{th}$ ISE Annual Meeting, Providence, RI, September 1, 2017.

155. Shahram Pouya, Manooch Koochesfahani and G. J. Blanchard, "Molecular based diagnostics development for thermometry/velocimetry for the ZBOT experiment," 33rd Annual Meeting of the American Society for Gravitational and Space Research, Seattle, WA, October 25-28, 2017.

## INVITED TALKS

1. *Analytical and Quantitative Applications of Picosecond Spectroscopy*, University of Delaware, Department of Chemistry, March, 1986.

2. *Transient Structure in the Liquid Phase and its Effect on Molecular Motion*, the University of Tennessee, Department of Chemistry, January, 1988.

3. *Picosecond Pump-Probe Fluorescence Spectroscopy: Applications to Ultrafast Solvation Dynamics* The Eastern Analytical Symposium, October, 1988.

4. *A Systematic Study of Polar Solvation: What Do We Know About Microscopic Solvent-Solute Interactions?* The University of Houston, Department of Chemistry, January, 1989.

5. *Phonon-Mediated Optical Stark Effect in Polydiacetylene*, CLEO/QELS, April, 1989.

6. *Applications of Ultrafast Spectroscopy to Analytical Chemistry*, Northeastern University, Department of Chemistry, February, 1990.

7. *Excitonic and Phonon-Mediated Optical Stark Effects in a Conjugated Polymer*, The American Physical Society March Meeting, March, 1990.

8. *Transient Luminescence Studies of Polar Organic Systems: Dielectric Friction and Solvent Attachment*, The 199th ACS National Meeting, April, 1990.

9. *Chemical Applications of Ultrafast Spectroscopy*, Bates College, Department of Chemistry, September, 1990.

10. *The Role of Photoisomerization on Ultrafast Solvation Dynamics*, FACSS XVII Meeting, October, 1990.

11. *Ultrafast and Not-So-Fast Optical Nonlinearities in Polydiacetylenes*, the 178th Electrochemical Society Meeting, October, 1990.

12. *Ultrafast Analytical Chemistry*, Michigan State University, Department of Chemistry, December, 1990.

13. *Nonlinear Spectroscopy of Conjugated Polymers*, FACSS XVIII/Pacific Conference Meeting, October, 1991.

14. *Optical Spectroscopies as a Probe of $\chi^{(3)}$ in Conjugated Polymer Systems*, The American Chemical Society Polymer Division Workshop on Organic Optoelectronic Materials, April, 1992.

15. *Chemical Applications of Ultrafast Spectroscopy*, Virginia Polytechnic Institute and State University, Department of Chemistry, April, 1992.

16. *Analytical Ultrafast Spectroscopy*, State University of New York at Buffalo, Department of Chemistry, December, 1992.

17. *Using Stimulated Spectroscopies to Probe Vibrational Relaxation*, The University of Illinois, Department of Chemistry, February, 1993.

18. *Does Vibrational Relaxation Really Matter?*, The Ohio State University, Department of Chemistry, February, 1993.

19. *Characterizing Conjugated Polymers for Photonic Signal Processing Applications*, The ACS Great Lakes and Central Joint Regional Meeting, June, 1994.

20. *Using Nonlinear Spectroscopy to Understand the Morphology of Conjugated Polymers*, The FACSS XXI Meeting, October, 1994.

21. *Understanding How Vibrational Energy Relaxes in Liquids*, Michigan Technological University, Department of Chemistry, October, 1994.

22. *Making Optical Logic Gates with Polymers*, Northern Michigan University, Department of Chemistry, October, 1994.

23. *Measuring Local Structure in Liquids Through Vibrational Relaxation*, Transylvania University, November, 1994.

24. *Probing Local Organization with Molecular Vibrations. Understanding How Molecules Exchange Energy in Solution*, The FACSS XX Meeting, October, 1995.

25. *Understanding How Molecules Exchange Vibrational Energy in Solution*, ANACHEM 1995 Meeting, October, 1995.

26. *Understanding $\chi^{(3)}$ Nonlinear Responses in Conjugated Polymers*, Wayne State University, Department of Chemistry, December, 1995.

27. *Vibrational Energy Transport and its Relationship to Local Organization in Solution*, University of Missouri, Department of Chemistry, March, 1996.

28. *Vibrational Energy Transport and its Relationship to Local Organization in Solution*, University of Kansas, Department of Chemistry, March, 1996.

29. *Using Vibrational Energy Relaxation to Examine Organization in Liquids*, Carnegie Mellon University, Department of Chemistry, April, 1996.

30. *Understanding How Single Layers of Molecules form on Metal Surfaces*, Oakland University, Department of Chemistry, September, 1996.

31. *Understanding How Single Layers of Molecules form on Metal Surfaces*, Grand Valley State University, Department of Chemistry, September, 1996.

32. *Using Vibrational Population Relaxation to Study Short Range Organization in Solution,* University of Notre Dame, Department of Chemistry and Radiation Laboratory, October, 1996.

33. *Dynamics Within a Single Layer of Molecules: Relaxation, Aggregation and the Absence of (Fast) Motion*, University of Michigan, Department of Chemistry, November, 1996.

34. *Understanding Dynamics within Layered Assemblies,* Iowa State University, Department of Chemistry, April, 1997.

35. *Understanding How Molecular Layers Form on Gold Surfaces,* Calvin College, November, 1997.

36. *The Fundamentals of Alkanethiol Monolayer Formation on Gold,* Hope College, November, 1997.

37. *Understanding The Structure and Dynamics of Self-Assembling Multilayer Systems,* Bates College, Department of Chemistry, February, 1998.

38. *Understanding How Single Thiol Layers Form on Gold Surfaces,* Bowdoin College, Department of Chemistry, February, 1998.

39. *Dynamics and Relaxation in Layered Molecular Assemblies – Relating Spectroscopy and Structure,* Texas A&M University, Department of Chemistry, April, 1998.

40. *Surface Morphology of Multilayer Assemblies – a Combined Spectroscopic and Microscopic Approach*, University of Houston, Department of Chemistry, April, 1998.

41. *Gaining Structural Insight into Layered Molecular Assemblies Through Transient Fluorescence Spectroscopies,* 31st ACS Great Lakes Regional Meeting, Milwaukee, WI, June, 1998.

42. *Photopolymerization of Maleimides and Vinyl Ethers - Mechanistic Insights and Applications to Molecular Interfaces,* IUCRC Planning Meeting, Estes Park, CO, November, 1998.

43. *Understanding Relaxation Processes in Layered Molecular Assemblies,* Georgia Southern University, Department of Chemistry, December, 1998.

44. *How Molecular Details Can Complicate Established Theories - a Story of Energy Transport in Layered Materials,* Armstrong Atlantic University, Department of Chemistry, December, 1998.

45. *Understanding Morphology and Relaxation Dynamics at Layered Interfaces*, Southern Illinois University, Department of Chemistry, April, 1999.

46. *Understanding Morphology and Relaxation Dynamics at Layered Polymer Interfaces,* The ACS National Meeting, New Orleans, LA, August, 1999.

47. *Designing and Characterizing Layered Materials,* Utah State University, Department of Chemistry, September, 1999.

48. *Using Optical Spectroscopies to Characterize Structural Features in Layered Materials,* The University of Utah, Department of Chemistry, September, 1999.

49. *Designing Layered Materials that Use Covalent Interlayer Linkages: Applying Polymer Chemistry to Interfaces*, Clemson University, Department of Chemistry, November, 1999.

50. *Understanding Morphology and Relaxation Dynamics at Layered Interfaces,* Georgia Institute of Technology, Department of Chemistry, November, 1999.

51. *Designing and Characterizing Layered Materials,* St. Louis University, Department of Chemistry, December, 1999.

52. *Using Optical Spectroscopy to Understand Mesoscopic Structural Features in Layered Materials,* The University of Colorado, Department of Chemistry, January, 2000.

53. *Using Optical Spectroscopy to Understand Mesoscopic Structural Features in Layered Materials*, Colorado State University, Department of Chemistry, February, 2000.

54. *Linear and Nonlinear Optical Characterization of Interfacial Materials*, The American Chemical Society National Meeting, March 28, 2000.

55. *Characterizing and Controlling Nanoscale Structure Using Layered Materials*, BioMEMs & Biomedical Nanotechnology WORLD 2000 Conference, Columbus, OH, September 25, 2000.

56. *Optical Spectroscopy and Chemical Synthesis as Tools for Interface Characterization,* College of Wooster, Department of Chemistry, November 9, 2000.

57. *Optical Spectroscopy and Chemical Synthesis as Tools for Interface Characterization,* State University of New York, Brockport, Department of Chemistry, January 30, 2001.

58. *Understanding Surface Structure Using Transient Fluorescence Spectroscopy,* Saginaw Valley State University, Department of Chemistry, March 15, 2001.

59. *Design and Characterization of Layered Polymeric Interfaces,* ACS Midwest Regional Meeting, Grand Rapids, MI, June 13, 2001.

60. *Nonlinear Spectroscopic Characterization of Mono- and Multilayer Interfaces,* ACS Southeast Regional Meeting, Savannah, GA, September 24, 2001.

61. *Putting Polymers on Surfaces one Layer at a Time,* University of Akron, Department of Chemistry, November 6, 2001.

62. *Controlling Adsorption and Desorption at Surfaces Using Molecular Monolayers,* St. Lawrence University, Department of Chemistry, November 5, 2002.

63. *Controlling Adsorption and Desorption at Surfaces Using Molecular Monolayers,* SUNY Potsdam, Department of Chemistry, November 5, 2002.

64. *Controlling Interfacial Adsorption and Desorption with Layered Polymer Structures,* Louisiana State University, Department of Chemistry, January 31, 2003.

65. *Achieving Thermodynamic Control over Interfacial Adsorption,* Michigan State University Center for Fundamental Materials Research Symposium, March 31, 2003.

66. *Spectroscopic Characterization of Mono- and Multilayer Interfacial Structures,* Wayne State University, Department of Chemistry, October 8, 2003.

67. *Design, Synthesis and Characterization of Monomolecular Interfacial Layers,* SURPHARE Workshop on Interfaces, operated by the Polish Academy of Sciences, November 13-16, 2003, Bialowieza, Poland.

68. Pawel Krysinski and G. J. Blanchard, *Spectroscopic and Electrochemical Characterization of Interfacial Biomimetic Assemblies for Biosensors* SURPHARE Workshop on Interfaces, operated by the Polish Academy of Sciences, November 13-16, 2003, Bialowieza, Poland.

69. Pawel Krysinski, A. Zebrowska and G. J. Blanchard, *Designing Biomimetic Molecular Films via Self-Assembly*, 78th ACS Colloid and Surface Science Symposium, Yale University, New Haven, CT, June 20-23, 2004.

70. *Gaining Molecular Control Over Interfacial Phenomena*, International Conference on Electrode Processes, Szczyrk, Poland, September 15-18, 2004.

71. *Spectroscopic Characterization of Mono- and Multilayer Interfacial Structures,* Oakland University, Department of Chemistry, January 19, 2005.

72. Maciej Mazur and G. J. Blanchard, *Probing Intermolecular Communication in Monolayers Using Polycyclic Aromatic Hydrocarbons,* The 207$^{th}$ Electrochemical Society Meeting, Quebec, PQ, Canada, May 15, 2005.

73. Pawel Krysinski, Maciej Mazur and G. J. Blanchard, *Application of ZP Chemistry for the Immobilization of Polycyclic Aromatic Hydrocarbons on Boron-Doped Diamond, Indium Tin Oxide and Quartz*, The 207$^{th}$ Electrochemical Society Meeting, Quebec, PQ, Canada, May 15, 2005.

74. Maciej Mazur, Pawel Krysinski and G. J. Blanchard, *Comparing the Reactivity of Silica surfaces with Boron-Doped Diamond and Indium Tin Oxide*, 38$^{th}$ Silicon Symposium, Boulder, Colorado, June 2, 2005.

75. Pawel Krysinski, Monika Dominska, Maciej Mazur and G. J. Blanchard, *Probing Interfacial Organization in Surface Monolayers using Tethered Pyrene*, XVII International Meeting on Electrode Processes, Coimbra, Portugal, June 19-24, 2005.

76. G. J. Blanchard, Kelly Greenough and Monique Koan, *Probing local organization in biomimetic bilayer systems,* 32nd FACSS and 51st ICASS Meeting, Quebec, PQ, Canada, October 9-13, 2005.

77. G. J. Blanchard and Monika Dominska, *Dynamics and Reactivity of Surface-Bound Spectroscopic Probes,* 32nd FACSS and 51st ICASS Meeting, Quebec, PQ, Canada, October 9-13, 2005.

78. Maciej Mazur, Monika Dominska, Pawel Krysinski and G. J. Blanchard, *Probing Organization and Communication at Layered Interfaces,* 2nd Workshop on Surface Modification for Chemical and Biochemical Sensing, Kazimierz, Poland, November 6-10, 2005.

79. *Probing Lipid Bilayer Fluidity and Structure*, Saginaw Valley State University, Department of Chemistry, January 26, 2006.

80. *Using Optical Spectroscopy and Electrochemistry to Probe Organization Lipid Bilayer and Biomimetic Structures*, Southern Illinois University at Carbondale, Department of Chemistry, April 14, 2006.

81. *Characterizing Lipid Bilayer and Biomimetic Structures Spectroscopically and Electrochemically*, Wichita State University, Department of Chemistry, April 26, 2006.

82. *Dynamics within Bilayer Membranes*, Gordon Research Conference on Bioelectrochemistry, Aussois, France, September 6, 2006.

83. *Understanding and Controlling Curvature and Intermolecular Interactions in Biomimetic Membranes,* 3rd Workshop on Surface Modification for Chemical and Biochemical Sensing, Wlodowice, Poland, November 4-8, 2007.

84. *Immobilization of molecules: From self-assembled monolayers to polymeric hollow structures*, Maciej Mazur, Paweł G. Krysiński, Gary J. Blanchard and Jerzy Rogalski, 3rd Workshop on Surface Modification for Chemical and Biochemical Sensing, Wlodowice, Poland, November 4-8, 2007.

85. *Dynamics, Phase Transitions and the Role of Curvature in Lipid Bilayers*, Institute of Chemistry, Chinese Academy of Sciences, Beijing, China, May 12, 2008.

86. *Factors Affecting Organization in Biomimetic Interfaces,* Department of Chemistry, Shaanxi Normal University, Xi'an, China, May 14, 2008.

87. *Factors Affecting Organization in Biomimetic Interfaces,* Department of Chemistry, Xi'an Jiaotong University, Xi'an, China, May 16, 2008.

88. *Dynamics, Phase Transitions and the Role of Curvature in Lipid Bilayers,* Key Laboratory of Applied Surface and Colloid Chemistry, Shaanxi Normal University, Xi'an, China, May 17, 2008.

89. *Design, Synthesis and Characterization of Interfacial Layers,* Summer School II, Application of multilayers in chemical and biochemical sensors, Polish Academy of Sciences, Olsztyn, Poland, September 15, 2008.

90. *Multilayers Grown at Interfaces – Chemistry and Selectivity,* Summer School II, Application of multilayers in chemical and biochemical sensors, Polish Academy of Sciences, Olsztyn, Poland, September 16, 2008.

91. *Spectroscopic Characterization of Mono- and Multilayer Interfacial Structures,* Summer School II, Application of multilayers in chemical and biochemical sensors, Polish Academy of Sciences, Olsztyn, Poland, September 17, 2008.

92. *Dynamics, Phase Transitions and the Role of Curvature in Lipid Bilayers,* Summer School II, Application of multilayers in chemical and biochemical sensors, Polish Academy of Sciences, Olsztyn, Poland, September 18, 2008.

93. *Factors Affecting Organization in Biomimetic Interfaces,* Summer School II, Application of multilayers in chemical and biochemical sensors, Polish Academy of Sciences, Olsztyn, Poland, September 19, 2008.

94. *Self-Assembling Monolayers – an Overview*, University of Warsaw, Department of Chemistry, International Graduate Student Program, Warsaw, Poland, May 11, 2009.

95. *Multilayer Structures, Covalent and Ionic*, University of Warsaw, Department of Chemistry, International Graduate Student Program, Warsaw, Poland, May 12, 2009.

96. *Lipid Mono- and Bilayers,* University of Warsaw, Department of Chemistry, International Graduate Student Program, Warsaw, Poland, May 13, 2009.

97. *Spectroscopic Characterization of Interfaces,* University of Warsaw, Department of Chemistry, International Graduate Student Program, Warsaw, Poland, May 14, 2009.

98. *Time Resolved Spectroscopy and its Utility for Interfaces,* University of Warsaw, Department of Chemistry, International Graduate Student Program, Warsaw, Poland, May 15, 2009.

99. *Lipid Bilayers: Impurities, Curvature and Self-Assembly*, University of Bath, Department of Chemistry, August 19, 2009.

100. *Self-Assembled Monolayers: A Review of Selected Systems*, Summer School III, Application of multilayers in chemical and biochemical sensors, Polish Academy of Sciences, Olsztyn, Poland, September 7, 2009.

101. *Optical and Spectroscopic Characterization of Interfaces*, Summer School III, Application of multilayers in chemical and biochemical sensors, Polish Academy of Sciences, Olsztyn, Poland, September 9, 2009.

102. *Lipid Bilayers: Impurities, Curvature and Self-Assembly*, Summer School III, Application of multilayers in chemical and biochemical sensors, Polish Academy of Sciences, Olsztyn, Poland, September 11, 2009.

103. *Strategies for Self-Assembly of Phospholipids at Interfaces*, 4th Workshop on Surface Modification for Chemical and Biochemical Sensing, Krakow, Poland, November 6-11, 2009.

104. *Summary of Advances in Biosensing and Interfacial Phenomena – SMCBS 2009,* 4th Workshop on Surface Modification for Chemical and Biochemical Sensing, Krakow, Poland, November 6-11, 2009.

105. *Lipid Bilayer Structures: Impurities, Curvature and Self-Assembly,* Michigan State University Center for Nanomaterials Design and Assembly, November 19, 2009.

106. *Advances in Nanoporous Solids for use as Electrocatalysts,* University of Warsaw, Department of Chemistry, September 10, 2010.

107. *Using Spectroscopy to Reveal Dynamics in Self-Assembling Systems,* FACSS 2010 meeting, Anachem Award Symposium, Raleigh-Durham, NC, October 19, 2010.

108. *Biomimetic Interfaces – Binding a Fluid to a Surface,* Saginaw Valley State University, Department of Chemistry, Saginaw, MI, February 10, 2011.

109. *Assessment of cytochrome c oxidase activity in reconstituted proteoliposomes*, ACS National Meeting, Anaheim, CA, March 28, 2011.

110. *Biomimetic Interfaces – Binding a Fluid to a Surface*, Shaanxi Normal University, Department of Chemistry, Xi'an, PRC, May 12, 2011.

111. *Local Heating in Bilayers. Its Importance and Quantitation,* Shaanxi Normal University, Department of Chemistry, Xi'an, PRC, May 14, 2011.

112. *American Culture and Its Influence on Education,* Chunjuan Rostrum Lecture, Shaanxi Normal University, Graduate School, Xi'an, PRC, May 15, 2011.

113. *Optically Induced Perturbations in Bilayer Structures. Consequences on Local Organization,* MPD International PhD Program, University of Warsaw, Łochow, Poland, October 6, 2011.

114. *Organization and Dynamics within Supported Interfaces: Implications for the Creation of Biomimetic Structures*, SMCBS 2011, 5th Workshop on Surface Modification for Chemical and Biochemical Sensing, Łochow, Poland, November 4-9, 2011.

115. *Characterizing Interfaces Using Time-Resolved Spectroscopy*, Eastern Analytical Symposium, Somerset, NJ, November 16, 2011. NYSAS Gold Medal Award Address.

116. *Nanoporous Solids as Catalysts and Catalyst Supports,* Saginaw Valley State University, Department of Chemistry, Saginaw, MI, March 15, 2012.

117. *Anthracycline Photoreactivity and Iron Complexation*, Krzysztof Nawara, Pawel Krysinski and G. J. Blanchard, International PhD Program, University of Warsaw, Pultusk, Poland, October 4, 2012.

118. *Nanomaterials and their Potential for the Community: From Portable Power to Chemical Sensing,* 68th Annual Fall Scientific Meeting of the Midland Section of the ACS, Saginaw, MI, October 20, 2012 (Keynote Address).

119. *Electrocatalytic Oxidation of Ethanol at Metallic Nanoporous Catalyst Structures*, 223rd Meeting of the Electrochemical Society, Toronto, Canada, May 15, 2013 (Keynote lecture).

120. *Doctoral Chemistry Programs in the US: Benefits and Limitations of the Current Structure,* From MPD to KNOW, First Scientific Conference for PhD Students, Rawa Mazowiecka, Poland, September 28, 2013 (Plenary Lecture).

121. *Imaging Supported Lipid Bilayers – Factors that Influence Film Fluidity and Domain Structures and Molecular-Scale Order*, SMCBS 2013, 6th Workshop on Surface Modification for Chemical and Biochemical Sensing, Łochow, Poland, November 8-12, 2013.

122. *Imaging Supported Interfacial Layers – Factors that Influence Interface Organization and Dynamics*, 225th Meeting of the Electrochemical Society, Orlando, Florida, May 13, 2014.

123. *Electrocatalytic Enhancement Effects at Platinized Nanoporous Substrates: Oxidation of Ethanol at PtRu Nanoparticles Dispersed over Rh-Containing $ZrO_2$ Support*, Pawel J. Kulesza, Iwona A. Rutkowska, Ewelina Zagubien and Gary J. Blanchard, 225th Meeting of the Electrochemical Society, Orlando, Florida, May 13, 2014.

124. *Self-Assembled Interfaces in Perspective,* Tutorial Lecture, Department of Chemistry and Key Laboratory for Interfaces, Shaanxi Normal University, Xi'an, PRC, June 11, 2014.

125. *Bringing Time-Resolved Spectroscopy to Heterogeneous Systems,* Workshop on Frontiers of Applied Surface and Colloid Chemistry, Shaanxi Normal University, Xi'an PRC, June 13, 2014.

126. *Spectroscopic Characterization of Interfaces,* Tutorial Lecture, Department of Chemistry and Key Laboratory for Interfaces, Shaanxi Normal University, Xi'an, PRC, June 15, 2014.

127. *Using Time Resolved Spectroscopy to Elucidate Organization in Heterogeneous Systems,* Lilly Endowment Analytical Sciences Seminar, University of Notre Dame, Notre Dame, IN, March 26, 2015.

128. *Molecular Motion as a Probe of Interfacial Organization,* Oakland University, Department of Chemistry, Rochester, MI, October 28, 2015.

129. *Molecular Motion as a Probe of Interface Structure. Application from LB Films to Plasma Membranes*, SMCBS 2015, 7th Workshop on Surface Modification for Chemical and Biochemical Sensing, Pultusk, Poland, November 6-10, 2015.

130. *Effect of Iron Oxide-Based Magnetic Nanocarriers on Model Biomimetic Membranes: Electrochemical and Spectroscopic Studies* (presented by P. Krysinski), SMCBS 2015, 7th Workshop on Surface Modification for Chemical and Biochemical Sensing, Pultusk, Poland, November 6-10, 2015.

131. *Recent Advances in Impact Sensing at Michigan State University,* Michigan State University Board of Trustees meeting, East Lansing, MI, February 19, 2016.

132. *Rapid On-Site Head Impact Evaluation Technology,* Spartan Innovations Board meeting, Lansing, MI, May 18, 2016.

133. *Simple Technology to Aid in Concussion Evaluation,* Big Ten CIC / Ivy League Head Health Summit, Philadelphia, PA, July 13, 2016.

134. *ROSH Head Impact Sensing Gear,* Greenlight Michigan Business Model Competition: MTBIsense LLC, 29, East Lansing, MI, March 29, 2017.

135. *Overview of interfacial science – a chemist's perspective,* International Summer School, Shaanxi Normal University, Xi'an PRC, July 3, 2017.

136. *Chemistry and morphology of silica interfaces,* International Summer School, Shaanxi Normal University, Xi'an PRC, July 3, 2017.

137. *Interfaces constructed using Langmuir-Blodgett methodology,* International Summer School, Shaanxi Normal University, Xi'an PRC, July 4, 2017.

138. *Measuring interface thickness – optical ellipsometry,* International Summer School, Shaanxi Normal University, Xi'an PRC, July 4, 2017.

139. *Imaging single molecular layers – Brewster Angle Microscopy,* International Summer School, Shaanxi Normal University, Xi'an PRC, July 5, 2017.

140. *Getting interface molecular organization information from FTIR spectroscopy,* International Summer School, Shaanxi Normal University, Xi'an PRC, July 5, 2017.

141. *Interfacial self-assembly I,* International Summer School, Shaanxi Normal University, Xi'an PRC, July 6, 2017.

142. *Interfacial self-assembly II,* International Summer School, Shaanxi Normal University, Xi'an PRC, July 6, 2017.

143. *Layered interfacial structures I,* International Summer School, Shaanxi Normal University, Xi'an PRC, July 7, 2017.

144. *Layered interfacial structures II,* International Summer School, Shaanxi Normal University, Xi'an PRC, July 7, 2017.

145. *Time resolved spectroscopy of interfaces: TCSPC,* International Summer School, Shaanxi Normal University, Xi'an PRC, July 10, 2017.

146. *Time resolved spectroscopy of interfaces: FRAP,* International Summer School, Shaanxi Normal University, Xi'an PRC, July 10, 2017.

147. *Lipid bilayer structures I,* International Summer School, Shaanxi Normal University, Xi'an PRC, July 11, 2017.

148. *Lipid bilayer structures II,* International Summer School, Shaanxi Normal University, Xi'an PRC, July 11, 2017.

149. *Oil-water interfaces and nano-emulsions,* International Summer School, Shaanxi Normal University, Xi'an PRC, July 12, 2017.

150. *Ionic liquid interfaces,* International Summer School, Shaanxi Normal University, Xi'an PRC, July 12, 2017.

151. *Interfaces in three dimensions,* International Summer School, Shaanxi Normal University, Xi'an PRC, July 13, 2017.

152. *Heterogeneous catalysis at interfaces,* International Summer School, Shaanxi Normal University, Xi'an PRC, July 13, 2017.

153. *Future horizons in interfacial science: Biological systems,* International Summer School, Shaanxi Normal University, Xi'an PRC, July 14, 2017.

154. *Future horizons in interfacial science: Materials science,* International Summer School, Shaanxi Normal University, Xi'an PRC, July 14, 2017.

155. *Helping Doctors Detect the Invisible: Developing Head Impact Sensing Technology,* Great Lakes Science Boot Camp for Librarians, East Lansing, MI, July 19, 2017.

156. *Long Range Organization in Room Temperature Ionic Liquids,* 68$^{th}$ ISE Annual Meeting, Providence, RI, August 29, 2017.

157. *Using Ionic Liquids to Control Interface Properties over Macroscopic Distances,* SMCBS 2017, 8$^{th}$ Workshop on Surface Modification for Chemical and Biochemical Sensing, Żelechów Palace, Poland, November 3-7, 2017.