John D. Protasiewicz

Hurlbut Professor of Chemistry

Department of Chemistry
Case Western Reserve University
10900 Euclid Ave
Cleveland, OH 44106-7078

phone: 216-368-5060
e-mail: protasiewicz@case.edu

A. Professional Preparation

Michigan Technological University *Houghton, Michigan*
B.S. Chemistry — 9-08-81 to 5-18-85
UG research with Prof. G. D. Mendenhall

Cornell University *Ithaca, New York*
Ph.D. Inorganic Chemistry — 8-29-85 to 5-27-90
Graduate thesis "*A Direct Comparison of the Rates of Electron, Proton, and Hydrogen Atom Transfer Between Inorganic Complexes*"
with Prof. K. H. Theopold

Massachusetts Institute of Technology *Cambridge, Massachusetts*
Postdoctoral Associate — 6-01-90 to 6-30-93
with Prof. S. J. Lippard

Oxford University *Oxford, England*
Sabbatical (unpaid visiting professor) — 1-01-04 to 6-30-04
with Prof. Philip Mountford

B. Appointments

Case Western Reserve University *Cleveland, Ohio*	Hurlbut Professorship of Chemistry	7-01-17 to present
National Science Foundation *Alexandria, Virginia*	Rotating Program Officer (CHE)	1-27-25 to 7-17-25
Case Western Reserve University *Cleveland, Ohio*	Chair of Chemistry	7-01-17 to 6-30-20
Case Western Reserve University *Cleveland, Ohio*	Associate Chair of Chemistry	7-01-08 to 6-30-17
Case Western Reserve University *Cleveland, Ohio*	Prof. of Macromolecular Science & Eng.	7-01-09 to present
Case Western Reserve University *Cleveland, Ohio*	Professor of Chemistry	7-01-04 to present
Case Western Reserve University *Cleveland, Ohio*	Associate Professor of Chemistry	7-01-99 to 6-30-04
Case Western Reserve University *Cleveland, Ohio*	Assistant Professor of Chemistry	7-01-93 to 6-30-99
Massachusetts Institute of Technology *Cambridge, Massachusetts*	Visiting Professor of Chemistry	1-26-07 to 3-23-07

C. Past and Current Graduate Students (degree) *current (or last known) position*

1. Eugenijus (Eugene) Urnezius (Ph.D. 1999), *Assistant Professor of Chemistry, University* of Portland
2. Shashin Shah (Ph.D. 2001), *Business Analyst in the Chemicals Division (Management Consulting) for Charles Rivers Associates*
3. Bindu V. Meprathu (Ph.D. 2001), *Adjunct*, *Santa Rosa Junior College*
4. Dainius Macikenas (Ph.D. 2000), *Senior Scientist, Pfizer Global Research & Development*
5. Rhett C. Smith (Ph.D. 2004) *Associate Professor at Clemson University.*
6. Xufang Chen (Ph.D. 2004) *Senior Engineer at Intematix Corporation (Fremont, CA)*

7. Robert Woloszynek (Ph.D. 2007) *Research Scientist at Goodyear*
8. Lisa Beth Gleason (start date 7/2002) *Scientist at Proctor & Gamble*
9. Liqing Ma (Ph.D. 2007) *Research Scientist at Goodyear*
10. Vittal Babu Gudimetla (Ph. D. 2009) *Postdoctoral associate at Rice University*
11. Marlena Washington (Ph. D. 2010) *Assistant Professor, Cliffin University*
12. John Payton (Ph. D. 2010, co-advise w/Simpson) *Postdoctoral associate at Penn State University*
13. Feng (Phoenix) Li (Ph. D. 2012) Scientist, Ferro Corporation.
14. Michael Rectenwald (Ph. D. 2014, Scientist, Sherwin Williams Corporation)
15. Shanshan Wu (Ph. D. 2014, Assistant Professor, Anhui University of Science and Technology, China)
16. Alexandra Beckman (Ph.D. 8/2016)
17. Joshua Gaffen (Ph.D. 11/2017)
18. Andrew Kollar (MS 12/2016)
19. Jerod Kieser (Ph.D. 2019)
20. Kai Wang (Ph.D. 2020)
21. Zakary Ekstrom (PhD 2/2021)
22. Frank Youmbi (MS 12/2017)
23. Guobi Li (start date 9/2017)
24. Emalyn Delgado (start date 9/2018)
25. Alexander Stone (start date 9/2021)
26. Anthony Kornokovich (start date 9/2022)
27. Luis Nunez (start date 9/2024)

D. Postdocs and Visiting Faculty [role], (*last known position if alum, or role in group)*

1. Dr. Dong Zhao [Postdoc, 1994-1995]
2. Dr. Michael Justik, [Postdoc 2000-2001], (*Associate Professor, Penn State Erie)*
3. Dr. Thirupathi Natesan [Postdoc, 2002-2003], (*Reader, University of Delhi, India)*
4. Professor Stan Duraj, Cleveland State University [Visiting Faculty, 2004] *(Sabbatical stay)*
5. Professor Paul Challen, John Carroll University [Visiting Faculty, 2007[(*summer ACS-PRF fellow*)
6. Dr. Andrew Shaffer [Postdoc, 2009-2011] *(Production Support Scientist BASF)*
7. Professor Emel Yildiz, Cukurova University, Turkey [visiting Faculty, summer 2011]
8. Dr. Adam Kois [Postdoc, 2012-2013] *(Sherwin Williams)*
9. Dr. Robert Gilliard [Postdoc, 2015-2017] *(Assistant Professor, University of Virginia)*
10. Dr. Sloane Evariste [Postdoc, 2016-2017] *(Funded Research Officer, Arts & Science, Univ. of Toronto)*
11. Dr. Zacharias Kinney [Postdoc, 2018-2020] *(Assistant Professor at Oakland University)*
12. Dr. Guobi Li [Postdoc 2024]

E. Past and Current Undergraduate & High School Students* in the PI's labs

Shawn Burdette, John C. Fondran, Michelle Boucher, Ronald Cicero, Greg Lohman, Richard Mimna, Jason M. Schmeltzer, Jonathan Rudick, Muralidar Jatla, Brian Lucas, Jennifer Iniman, Benjamin Sherry, Glen Alliger, Alison Donelly, Meredith Earl, Phil Imbesi, Steve Wobser, John Thuermer, Dana Duan, Mark Lipke, Catherine Smith, Andrew Long, Robert J. Gilliard, James Heckler, Sarah Bixler, Josiah Roberts, Neal Sachar, Tadeas Liska, David Hildebrandt, Ryan Kowalski, Nathan Bruker, Katherine Miller, Mathew Porter, Alexandra McNully, Camrinn Chance Hanley*, Andrew Hodowanec, Yishaya Bension, Jenna Mancuso, Youssaf Rouiha*, Lexi Harrison*, Chandana Pandurangi, Oliver Westcott, Nehal Chigurupati*, Jonathan Matsuura,

Hannah Hassoun, Marianna Steele*, Andrew Golden, Justin Bucsanyi, Elizabeth Chew, Samuel Lichtenstein, Allyson Lee.

F. Awards & Distinctions

University of Bonn International Fellowship (2021)
Mort Mandel Award for Outstanding Chemistry Faculty (2017)
Fellow, Royal Society of Chemistry (2014)
ACS Fellow (2013)
NSF Creativity Extension Award (2004)
NSF CAREER Award (1998)
CWRU Glennan Fellowship (1996)

G. Some Professional, Leadership, Service, and other Synergistic Activities

1. Departmental
   Chair, Chemistry Faculty Search Committee (2021-22)
   Member, Chemistry Graduate Recruiting & Admissions Committee (July 2020-)
   Chair, Department of Chemistry, (2017-2020)
   Associate Chair, Department of Chemistry (2008-2017)
   Chair, Green Team (proposal reviewing for junior faculty, 2008-2017)
   Chair Chemistry Safety Committee (2013)
   Director Chemistry GAANN program (2011-)
   Led Chemistry Departmental Strategic Planning process (2004-2005)
   Chair, Inorganic Faculty Search Committee (2002-2003, 2003-2004)
   Chair, Chemical Biology Faculty Search Committee (2007-2008)
   Chair, Energy & Materials Faculty Search Committee (2007-2008)
   Chair, Chemistry Undergraduate Recruiting (2001-2003)
   Secondary Advisor to AXΣ Chemistry Fraternity (1995-)
   Departmental Crystallographer (1993-)
   Chair, Undergraduate Committee (2006-2007)
   With co-PI Professor M. C. Simpson established Chemistry GANN program (Graduate Assistance in Areas of National Need) to provide fellowships for graduate students having interests in teaching careers.
   Chair, Chemistry Graduate Recruiting (1995-1997)
   Member, Chemistry Graduate Recruiting (1993-1994)

2. College & University
   College of Arts and Sciences Executive Committee (Fall 2023)
   Member, Cleveland Center for Membrane and Structural Biology Advisor Board (2018-2020)
   Member, CUE Culture and Climate Thinking Group (2017-2018)
   Member, College of Arts and Sciences Executive Committee (2012-2015)
   Chair, College of Arts and Sciences Executive Committee (2014-2015)
   Member, University Safety Committee (2014)
   Member, CWRU Engineering Strategic Hiring Initiative for Advanced Materials Search Committee (2010-2011)
   Member, College of Arts and Science Strategic Planning & Steering Committee (2010-2012)
   Member, CWRU SAGEs Fellows Search Committee (2010, 2012)
   Member College of Arts and Sciences Executive Committee (2007-2010)
   Chair, College of Arts and Sciences Executive Committee (2008-2009)
   Member, College of Arts & Sciences College, College Strategic Planning Steering Committee (2009-2012)
   Advanced Materials Alliance Planning Group, CWRU (2009-2012)
   Member, College of Arts & Sciences Strategic Task Force on Graduate Education (2007-2008)
   College of Arts Sciences Leadership-Representative, Provost Lunch Series (2005-2006)
   Case Presidential Advisory Committee on Tenure and Promotion (2009-2010)
   Ad Hoc Committee Member for College of Arts & Sciences Committee on non-tenure track Faculty (2006)
   Ad Hoc Chair for College of Arts & Sciences Committee on Faculty Bylaws Revisions (2005)
   College of Arts & Sciences University Faculty Senator Representative (2004-2005)
   Member, College of Arts & Sciences Committee on Educational Programs (2001-2003)

Chair, College of Arts & Sciences Committee on Educational Programs (2003)
Member College of Arts and Sciences Executive Committee (2003-2006)
Case Presidential Advisory Committee on Tenure and Promotion (2005)

3. National & Professional

NSF Program Officer, MPS-CHE (2025)
Awards co-Chair, Division of Inorganic Chemistry (2020-2023)
ACS PRF Advisory Board (2017-2023)
Symposium Organizer "*International Crossroads of Organometallic and Group V Chemistry*" Chicago National ACS Meeting 2022
Interim Chair-Elect, Division of Inorganic Chemistry (2020)
past-Chair, Division of Inorganic Chemistry (2018)
Chair, Division of Inorganic Chemistry (2017)
Chair-elect, Division of Inorganic Chemistry (2016)
International Scientific Committee of the 5th International Conference on Hypervalent Iodine Chemistry (ICHIC 2016)
Chair, Cleveland Section of the American Chemical Society (2011)
Secretary, Division of Inorganic Chemistry, ACS (2010-2013, 2013-2015)
Member, Division of Inorganic Chemistry Strategic Planning Group (2014)
Board of Consulting Editors for the 2012 McGraw-Hill Yearbook of Science & Technology (2011-2016)
Member of Visiting Committee to review Department of Chemistry, University of Minnesota, Duluth (2011)
Chair-Elect, Cleveland Section of the American Chemical Society (2010)
Secretary-Elect, Division of Inorganic Chemistry, ACS (2010)
NSF Committee of Visitors (2010)
Organizer for Inorganic Symposia, 2009 Central Regional ACS Meeting, Cleveland, Ohio
Chair and Organizer, Ohio Inorganic Weekend (2009)
Member of Editorial Advisory Board for the ACS journal *Organometallics* (2010-2011)
Member of Editorial Advisory Board for the RSC journal *Dalton Transactions* (2012-2020)
ACS Cleveland Section, Board of Trustees (2007-2009)
Alternative Councilor, ACS Cleveland Section (2005-2006)
Maintain Ohio Inorganic Chemistry Website (2006-)
http://www.cwru.edu/artsci/chem/faculty/protasiewicz/group/Protasiewicz/Ohio_Inorganic_Website.html
ACS Cleveland Section Treasurer (2000-2002)
National ACS Awards Nominating Committee Chair for Creative Work in Iodine Chemistry (2004)
Chair and Organizer, ACS Meeting in Miniature (2002)
Grand Judge for 2003 Intel International Science and Engineering Fair in Cleveland
Organizer for Main Group Symposia, 1998 Central Regional ACS Meeting, Cleveland, Ohio

H. Collaborators

Professor Rainer Streubel (University of Bonn, Germany) Chemistry of dicarbenes and organophosphorus compounds

Professor Barry Dunietz (Kent State University) Computational Theory

Professor Nyulászi László (**Department of Inorganic Chemistry, Budapest University of Technology and Economics, and MTA-BME Computation Driven Chemistry Research Group, Budapest, Hungary**) Computational Theory

Professor Arturo Espinosa Ferao (**Depto. de Química Orgánica, Facultad de Química Campus de Espinardo, Universidad de Murcia E-30071 Murcia (Spain)**) Computational Theory

Professor Joachim Heinicke (**Institute of Biochemistry, University Greifswald, 17487 Greifswald, Germany**) Benzazaphosphole compounds

Professor Hansjörg Grützmacher (**ETH Zurich, Switzerland)** Synthesis of conjugated phosphorus compounds

Professor Arnold L. Rheingold (University of Delaware, U. of California, San Diego) X-ray Crystallography

Dr. Milan Gembicky (U. of California, San Diego) X-ray Crystallography

Professor Cather M. Simpson (University of New Zealand, Aukland/CWRU) Photoisomerization studies using ultrafast laser equipment (100's fs to ~25 ps) and time-resolved spectroscopic methods in diphosphenes and phosphaalkenes.

Professor Daniel Scherson (CWRU) Electrochemistry & Li-ion battery chemistry

Professor Thomas Gray (CWRU) Computational Chemistry (DFT and TDDFT)

Professors Man Lung Kwan & Paul Challen (John Carroll University) Transition Metal Pincer Complexes

Professor Michael Justik (Penn State Erie, The Behrend College) Hypervalent Iodine Chemistry

Professor Daniel Mindiola (Indiana University) Phosphinidene Transfer Chemistry

Professor Emel Yildiz (Cuhurova University, Turkey) Pincer Complexes & X-ray crystallography

Professor Lee Higham (Newcastle University, UK) Computational studies on stability of primary phosphines

I. Reviewing Activity

Proposal and Award Reviewer for:

National Science Foundation (including panel member for several different programs and on-site reviews), American Chemical Society-Petroleum Research Fund, Research Corporation (& Cottrell Scholars Program), Dreyfus Foundation, Jeffrees Memorial Trust (Nations Bank), NSERC (National Science and Engineering Council for Canada), Korean Ministry of Education, Science, and Technology (KOSEF), Israel Science Foundation, Foundation for Polish Science, Netherlands Foundation for Fundamental Research on Matter (FOM), Boehringer Ingelheim Stiftung (Boehringer Ingelheim Foundation), CWRU internal grants

Journal Reviewer for:

Journal of the American Chemical Society, Science, Angewandte Chemie, J. Chem. Soc. Chemical Communications, Chemistry Reviews, Inorganic Chemistry, Organometallics, Organic Letters, Journal of Organic Chemistry, Canadian Journal of Chemistry, Chemistry: A European Journal, Coordination Chemistry Reviews, Crystal Growth and Design, European Journal of Inorganic Chemistry, European Journal of Organic Chemistry, Heteroatom Chemistry, Inorganic Chemistry Communications, Inorganica Chimica Acta, Journal Polymer Science A., Journal of Organometallic Chemistry, Phosphorus, Sulfur, and Silicon and the Related Elements, Macromolecules, Main Group Chemistry, New Journal of Chemistry, Synthesis, Synlett, Structure Reactivity in Inorganic Chemistry, Tetrahedron, Tetrahedron Letters, Current Organic Chemistry, Journal of the Electrochemical Society, Polyhedron, Journal of Molecular Structure, Journal of Molecular Catalysis A, ACS Symposium Series, Journal of Cluster Science, Photochemistry and Photobiology, Chemical Physics Letters, Applied Organometallic Chemistry, Journal of Sulfur Chemistry, Australian Journal of Chemistry, Beilstein Journal of Organic Chemistry, AKIVOC.

NSF Panelist (in Washington & for Site Visits)

for single investigator grants, instrumentation grants, and center proposals and site visits

External Reviewer for number of Tenure Evaluations

CWRU President's Advisory Committee on Tenure and Promotion

External Thesis Reader & Examiner Activity

2001, Sept. 27, External Thesis Reader & On-site Examiner: Aaron Hoskin, "*Synthesis and heteroatom-hydrogen activation studies of the anionic zirconocene trihydride [Cp*$_2$ZrH$_3$](-)*" Department of Chemistry and Biochemistry, University of Windsor, Advisor Professor Douglas Stephan

2002, May 3, External Thesis Reader & On-site Examiner for 3 Senior Honors Theses: Calvin Barnes, Richard Pierce, Chelsea Martinez, Department of Chemistry Oberlin College, Advisor Professor Sarah Stoll

2008, External Thesis Reader: Bronwyn H. Gillon, "*Structure and Reactivity of Poly(methylenephosphine)*s" Department of Chemistry, University of British Columbia, Advisor Professor Derek P. Gates,

2008, Feb.12, External Thesis Reader & On-site Examiner: Abdurahmman "Abi" Atesin **"***Synthesis and chemistry of iridium complexes containing chiral diphosphine ligands: Oxidative addition to iridium(I) systems and catalytic activity of the electrophilic iridium(III) complexes***"** Department of Chemistry University of Rochester, Advisor Rich Eisenberg

2010, March 30, External Thesis Reader & On-site Examiner: Nathalie Lavoie, "*Disubstituted 1,8-Diaminonaphthalene as Supporting Ligands for High Oxidation State Early Transition Metal and Lanthanide Complexes* " Department of Chemistry, University of Ottawa, Advisor Dr. Darrin Richeson.

2011, April 29, External Thesis Reader & On-site Examiner: Stefan Durben "*Phosphous-bridged 2,2'-Bithiophenes, Phenylpyridines and 4,4'-Bipyridines – Versatile Material for Organic Electronics*" Department of Chemistry, University of Calgary, Advisor Professor Thomas Baumgartner

2012, External Thesis Reader: Matthew Philip Duffy "*Advancing the chemistry of monovalent phosphorus***"** Division of Chemistry and Biological Chemistry, Nanyang Technological University (NTU), Singapore, Advisor Professor Mathey Francois

2013, June 14, External Thesis Reader & On-site Examiner (Opponent): Anna Arkhypchuk (Respondent) "*Novel Approaches to Phosphorus-containing Heterocycles and Cumulenes*" Department of Chemistry; Uppsala University, Sweden, Advisor Dr. Sascha Ott

2014, External Thesis Reader: Feny Ho "*New Aspects of Phosphirane Chemistry***",** Division of Chemistry and Biological Chemistry, Nanyang Technological University (NTU), Singapore, Professor Mathey Francois

2017, Dec. 8, External Thesis Reader & On-site Examiner: Stephanie Kosnik "*Building New Low Valent Phosphorus Molecules by P^+ Transfer***"** Department of Chemistry and Biochemistry, University of Windsor, Canada, Advisor Professor Charles L. B. Macdonald.

2020, April 14, External Thesis Reader & Off-Site (Zoom-COVID) Examiner: Kevin Szkop "*Exploring Main Group Phosphorus Chemistry: Lewis Acid Catalysis and Applications of Low-Coordinate Building Blocks***"** Department of Chemistry and Biochemistry, University of Toronto, Canada, Advisor Professor Douglas Stephan.

2022, Aug. 17, External Thesis Reader & Off-Site (Zoom) Examiner: Aliona Baradzenka "*Synthesis and Reactivity of Low Valent Silicon and Phosphorus Compounds*" Department of Chemistry, Brock University, Canada, Advisor Professor Georgii Nikonov.

2023, Sept. 27, External Thesis Reader & Off-Site (Zoom) Examiner: Cathlene Del Rosario "*Synthesis and Reactivity of Low Valent Silicon and Phosphorus Compounds*" Department of Chemistry, Boston University, Advisor Professor Linda Doerrer.

J. Courses Taught

Semester	Course Number & Title	Credit Hours
Fall 1993:	CHEM 331: Laboratory Methods and Techniques III	3
Fall 1994:	CHEM 331: Laboratory Methods and Techniques III	3
Spring1995:	CHEM 414: Organometallic Reactions and Structures	3
Fall 1995:	CHEM 331: Laboratory Methods and Techniques III	3
Spring 1996:	CHEM 415: Chemical Applications of Group Theory	3
Fall 1997:	CHEM 331: Laboratory Methods and Techniques III	3
Spring1997:	CHEM 414: Organometallic Reactions and Structures	3
Fall 1997:	CHEM 330 Computers in Chemistry Laboratory	3
Spring 1998:	CHEM 331: Laboratory Methods and Techniques III	3
Fall 1998:	CHEM 331: Laboratory Methods and Techniques III	3
Spring 1999:	CHEM 414: Organometallic Reactions and Structures	3
Fall 1999:	CHEM 331: Laboratory Methods and Techniques III	3
Fall 2000:	CHEM 331: Laboratory Methods and Techniques III	3
Spring 2001:	CHEM 414: Organometallic Reactions and Structures	3
Fall 2001:	CHEM 331: Laboratory Methods and Techniques III	3
Spring 2002:	CHEM 111: Principles of Chemistry for Engineers	3
Fall 2002:	CHEM 331: Laboratory Methods and Techniques III	3
Spring 2003:	CHEM 414: Organometallic Reactions and Structures	3
Fall 2003:	CHEM 331: Laboratory Methods and Techniques III	3
Fall 2003	USFS 100: First Seminar-Life of the Minds (SAGES course)	4
Spring 2004	-SABBATICAL (Oxford University, England)	-
Fall 2004	USFS 100: First Seminar-Life of the Minds (SAGES course)	4
Spring 2005	CHEM 414: Organometallic Reactions and Structures	3
Fall 2005	USFS 100: First Seminar-Life of the Minds (SAGES course)	4
Fall 2005	CHEM 605/395: Colloquium Seminar Class	1
Spring 2006	CHEM 413: Advanced Inorganic II	3
Fall 2006	CHEM 331: Laboratory Methods and Techniques III	3
Spring 2007	CHEM 479: X-ray Crystallography	3
Spring 2007	MIT 5.05: Advanced Inorganic Chemistry III (at MIT)	3
Fall 2007	CHEM 331: Laboratory Methods in Inorganic Chemistry	3
Spring 2008	CHEM 414: Organometallic Reactions and Structures	3
Fall 2008	CHEM 331: Laboratory Methods in Inorganic Chemistry	3
Fall 2009	CHEM 331: Laboratory Methods in Inorganic Chemistry	3
Spring 2010	CHEM 414: Organometallic Reactions and Structures	3
Fall 2010	CHEM 331: Laboratory Methods in Inorganic Chemistry	3
Fall 2011	CHEM 331: Laboratory Methods in Inorganic Chemistry	3
Spring 2012	-SABBATICAL (University of New Zealand, Auckland)	-
Fall 2012	CHEM 331: Laboratory Methods in Inorganic Chemistry	3
Spring 2013	CHEM 414: Organometallic Reactions and Structures	3
Fall 2013	CHEM 331: Laboratory Methods in Inorganic Chemistry	3
Fall 2014	CHEM 331: Laboratory Methods in Inorganic Chemistry	3
Spring 2015	CHEM 316/416: Frontiers in Inorganic Chemistry (2 modules)	3
Fall 2015	CHEM 331: Laboratory Methods in Inorganic Chemistry	3
Spring 2016	CHEM 414: Organometallic Reactions and Structures	3
Fall 2016	CHEM 331: Laboratory Methods in Inorganic Chemistry	3
Spring 2017	CHEM 414: Organometallic Reactions and Structures	3
Fall 2017	CHEM 331: Laboratory Methods in Inorganic Chemistry	3
Fall 2020	CHEM 331: Laboratory Methods in Inorganic Chemistry	3
Spring 2021	-SABBATICAL (University of Bonn, Germany)	-
Fall 2021	CHEM 331: Laboratory Methods in Inorganic Chemistry	3
Spring 2022	CHEM 414: Organometallic Reactions and Structures	3
Fall 2022	CHEM 331: Laboratory Methods in Inorganic Chemistry	3
Spring 2023	CHEM 414: Organometallic Reactions and Structures	3
Fall 2023	CHEM 331: Laboratory Methods in Inorganic Chemistry	3
Spring 2024	CHEM315/415: Industrial Catalysis	3
Fall 2024	CHEM 331: Laboratory Methods in Inorganic Chemistry	3
Fall 2025	CHEM 331: Laboratory Methods in Inorganic Chemistry	3

K. Current, Pending, and Selected Recent Past Funding Activity

NSF funding on numerous single PI grants since 1997 NSF CAREER award, including a 2-year NSF award for special creativity. Have also written successful NSF grant for cyber-enabled single crystal X-ray diffractometer (NSF 0541766). Current funding also includes Underwriters Laboratories. Past funding sources include ACS-PRF, Promerus LLC, Dept of Energy, and Sherwin Williams.

L. Publications

Protasiewicz, J. D.; Mendenhall, G. D. "Di-*tert*-butyl Hyponitrite as a Source of Alkoxyl Radicals for Dimerization" *J. Org. Chem.* **1985**, *50*, 3220.

Protasiewicz, J. D.; Schulte, G.; Theopold, K. H. "Electron-Transfer Rates of a Co(-I)/Co(O) Couple and Crystal-Structure of the Tetrakis(Trimethyl Phosphite)Cobaltate(-I) Ion" *Inorg. Chem.* **1988**, *27*, 1133-1136.

Protasiewicz, J. D.; Lippard, S. J. "Vanadium-Promoted Reductive Coupling of CO and Facile Hydrogenation to Form Cis-Disiloxyethylenes" *J. Am. Chem. Soc.* **1991**, *113*, 6564-6570.

Protasiewicz, J. D.; Bianconi, P. A.; Williams, I. D.; Liu, S. C.; Rao, C. P.; Lippard, S. J. "Synthesis and Structural Characterization of Low-Valent Group-V Phosphine Complexes" *Inorg. Chem.* **1992**, *31*, 4134-4142.

Carnahan, E. M.; Protasiewicz, J. D.; Lippard, S. J. "15 Years of Reductive Coupling - What Have We Learned?" *Acc. Chem. Res.* **1993**, *26*, 90-97.

Protasiewicz, J. D.; Theopold, K. H. "A Direct Comparison of the Rates of Degenerate Transfer of Electrons, Protons, and Hydrogen-Atoms Between Metal- Complexes" *J. Am. Chem. Soc.* **1993**, *115*, 5559-5569.

Protasiewicz, J. D.; Masschelein, A.; Lippard, S. J. "Kinetic, Spectroscopic, and Structural Evidence for Carbene Carbyne Intermediates in Carbyne/CO Coupling" *J. Am. Chem. Soc.* **1993**, *115*, 808-810.

Mendenhall, G. D.; Protasiewicz, J. D.; Brown, C. E.; Ingold, K. U.; Lusztyk, J. "5-Endo Closure of the 2-Formylbenzoyl Radical" *J. Am. Chem. Soc.* **1994**, *116*, 1718-1724.

Protasiewicz, J. D.; Bronk, B. S.; Masschelein, A.; Lippard, S. J. "Electrophile-Promoted Carbyne CO Coupling at a Tantalum Center" *Organometallics* **1994**, *13*, 1300-1311.

Bronk, B. S.; Protasiewicz, J. D.; Pence, L. E.; Lippard, S. J. "Reactions of Low-Valent Group-V Dicarbonyl Phosphine Complexes with Carbon-Based Electrophiles to Produce Metal Alkyl, Acyl, Carbyne, and Acetylene Complexes" *Organometallics* **1995**, *14*, 2177-2187.

Bronk, B. S.; Protasiewicz, J. D.; Lippard, S. J. "Reductive Coupling of Group-5 Dicarbonyls to Disiloxyacetylene Complexes - Ring Formation and Effects of Increasing Steric Demands" *Organometallics* **1995**, *14*, 1385-1392.

Cicero, R.; Protasiewicz, J. D. "Is π–Backbonding Important for σ-Bound Aldehyde & Ketone Complexes? Synthesis and Structural Characterization of Aromatic Aldehyde Complexes of the $[CpFe(CO)_2]^+$ Cation" *Organometallics* **1995**, *14*, 4792.

Laplaza, C. E.; Odom, A. L.; Davis, W. M.; Cummins, C. C.; Protasiewicz, J. D. "Cleavage of the Nitrous-Oxide NN Bond by a 3-Coordinate Molybdenum(III) Complex" *J. Am. Chem. Soc.* **1995**, *117*, 4999-5000.

Lin, C.; Protasiewicz, J. D.; Smith, E. T.; Ren, T. "Redox Tuning of the Dimolybdenum Compounds at the Ligand Periphery: A Direct Correlation with the Hammett Constant of the Substituents" *J. Chem. Soc. Chem. Comm.* **1995**, 2257.

Odom, A. L.; Cummins, C. C.; Protasiewicz, J. D. "Nitric-Oxide Cleavage - Synthesis of Terminal Chromium(VI) Nitrido Complexes via Nitrosyl Deoxygenation" *J. Am. Chem. Soc.* **1995**, *117*, 6613-6614.

Protasiewicz, J. D. "Reduction of Intermolecular Association in the Sterically Encumbered (Dichloroiodo)Arene Aricl(2) (Ar=2,6-bis(3,5- Dichloro-2,4,6-Trimethylphenyl)Benzene)" *J. Chem. Soc. Chem. Commun.* **1995**, *1116*, 1115-1116.

Cicero, R. L.; Zhao, D.; Protasiewicz, J. D. "Polymorphism of (Tosyliminoiodo)*o*-toluene: Two New Modes of Polymeric Association for ArINTs" *Inorg. Chem.* **1996**, *35*, 275.

Lin, C.; Protasiewicz, J. D.; Ren, T. "Electronic Tuning Using Remote Substituents in Tetrakis(μ-N,N'-diarylformamidinato)dinickel. Linear Free Energy Relationships in Dinuclear Compounds. 3" *Inorg. Chem.* **1996**, *35*, 7455-7458.

Lin, C.; Protasiewicz, J. D.; Smith, E. T.; Ren, T. "Linear Free Energy Relationships in Dinuclear Compounds. 2. Inductive Redox Tuning via Remote Substituents in Quadruply Bonded Dimolybdenum Compounds." *Inorg. Chem.* **1996**, *35*, 6422.

Protasiewicz, J. D. "(Tosyliminoiodo)benzene at 298 K" *Acta. Cryst. C* **1996**, 1570.

Urnezius, E.; Protasiewicz, J. D. "Synthesis and Structural Characterization of New Hindered Aryl Phosphorus Centers (Aryl = 2,6-Dimesitylphenyl)" *Main Group Chemistry* **1996**, *1*, 369-372.

Boucher, M.; Macikenas, D.; Ren, T.; Protasiewicz, J. D. "Secondary Bonding as a Force Dictating Structure and Solid-State Aggregation of the Primary Nitrene Sources (Arylsulfonylimino)iodoarenes (ArINSO$_2$Ar')" *J. Am. Chem. Soc.* **1997**, *119*, 9366-9376.

Garner, P.; Cox, P. B.; Anderson, J. T.; Protasiewicz, J.; Zaniewski, R. "Use of Silicon-Based Tethers to Control Diastereofacial Selectivity in Azomethine Ylide Cycloadditions" *J. Org. Chem.* **1997**, *62*, 493-498.

Gopal, D.; Macikenas, D.; Sayre, L. M.; Protasiewicz, J. D. "Structural Determination of a Dimeric Side-Product Accompanying Dihydropyrazine Preparation" *Acta. Chem. Scand.* **1997**, *51*, 938-941.

Shah, S.; Burdette, S. C.; Swavey, S.; Urbach, F. L.; Protasiewicz, J. D. "Alkali Metal Induced Rupture of a Phosphorus-Phosphorus Double Bond. Electrochemical and EPR Investigations of New Sterically Protected Diphosphenes and Radical Anions [ArPPAr]$^{-}$" *Organometallics* **1997**, *16*, 3395-3400.

Macikenas, D.; Meprathu, B. V.; Protasiewicz, J. D. "Solubilization of the Primary Nitrene Sources (Tosyliminoiodo)arenes (ArINTs)" *Tetrahedron Lett.* **1998**, *39*, 191-194.

Ren, T.; Lin, C.; Amalberti, P.; Macikenas, D.; Protasiewicz, J. D.; Baum, J. C.; Gibson, T. L. "Bis(μ-*N*,*N*'-η2-*N*,*O*-η2-*N*',*O*'-di(*o*-methoxyphenyl)-formamidinato)disilver(I): An Interesting Coordination Geometry for Silver(I) and Room Temperature Fluorescence" *Inorg. Chem. Commun.* **1998**, *1*, 23-26.

Shah, S.; Yap, G. P. A.; Protasiewicz, J. D. "'Phospha-Wittig' Reactions Using Isolable Phosphoranylidenephosphines ArP=PR$_3$ (Ar = 2,6-Mes$_2$C$_6$H$_3$ or 2,4,6-Bu$^t_3$C$_6$H$_2$)" *J. Chem. Soc. Chem. Commun.* **1998**, 1585-1586.

Macikenas, D.; Skrzypczak-Jankun, E.; Protasiewicz, J. D. "A New Class of Iodonium Ylides Engineered as Soluble Primary Oxo and Nitrene Sources" *J. Am. Chem. Soc.* **1999**, 7164-7165.

Meprathu, B. V.; Diltz, S.; Walsh, P. J.; Protasiewicz, J. D. "Hypervalent Iodine Nitrene Precursors Bearing *N*-Heterocyclic Rings" *Tetrahedron Lett.* **1999**, *40*, 5459-5460.

Shah, S.; Protasiewicz, J. D. "Phosphoranylidenephosphines (R$_3$P=PR) as Phospha-Wittig Reagents" *Phosphorus, Sulfur* **1999**, 343.

Urnezius, E.; Shah, S.; Protasiewicz, J. D. "Diphosphene and Phosphoranylidenephosphine Formation from a Terminal Phosphinidene Complex" *Phosphorus, Sulfur* **1999**, 137-139.

Macikenas, D.; Skrzypczak-Jankun, E.; Protasiewicz, J. D. "Redirecting Secondary Bonds to Control Molecular and Crystal Properties of an Iodosylbenzene and an Iodoxybenzene" *Angew. Chem. Int. Ed. Engl.* **2000**, *11*, 2007-2010.

Macikenas, D.; Skrzypczak-Jankun, E.; Protasiewicz, J. D. "Richtungsändernde Nebenbindungen, die molekulare und kristalline Eigenschaften von Iodosyl- und Iodoxybenzolen kontrollieren" *Angew. Chem.* **2000**, *112*, 2063-2066.

Mandal, S.; Macikenas, D.; Protasiewicz, J. D.; Sayre, L. M. "Novel *tert*-Butyl Migration in Copper Mediated Phenol *o*-Oxygenation Implicates a Mechanism Involving Conversion of a 6-Hydroperoxy-2,4-cyclohexadienone Directly to an *o*-Quinone" *J. Org. Chem.* **2000**, *65*, 4804-4809.

Shah, S.; Yap, G. P. A.; Protasiewicz, J. D. "Crystal Structure of the Phosphoranylidene-σ^4-phosphophine DmpP=PMe$_3$ (Dmp = 2,6-Mes$_2$-C$_6$H$_3$) and Reactions with Electrophiles" *J. Organomet. Chem.* **2000**, *608*, 12-20.

Shah, S.; Protasiewicz, J. D. ""Phospha-variations" On The Themes Of Staudinger and Wittig: Phosphorus analogs of Wittig Reagents" *Coord. Chem. Rev.* **2000**, *210/1*, 181-201.

Shah, S.; Concolino, T.; Rheingold, A. L.; Protasiewicz, J. D. "Sterically Encumbered Systems for Two Low-

Coordinate Phosphorus Centers" *Inorg. Chem.* **2000**, *39*, 3860-3867.

Urnezius, E.; Klippenstein, S. J.; Protasiewicz, J. D. "Sterically Promoted Zirconium-Phosphorus π-Bonding: Structural Investigations of [$Cp_2Zr(Cl)\{P(H)Dmp\}$] and [$Cp_2Zr\{P(H)Dmp\}_2$] (Dmp = 2,6-$Mes_2C_6H_3$)" *Inorg. Chim. Acta (special volume dedicated to S. J. Lippard)* **2000**, *297*, 181-190.

Garner, P.; Dogan, Ö.; Youngs, W. J.; Kennedy, V. O.; Protasiewicz, J.; Zaniewski, R. "Stereocontrolled 1,3-dipolar cycloadditions using Oppolzer's camphor sultam as the chiral auxiliary for carboxyl stabilized azomethine ylides" *Tetrahedron* **2001**, *57*, 71-85.

Shah, S.; Simpson, M. C.; Smith, R. C.; Protasiewicz, J. D. "Three Different Fates for Phosphinidenes Generated by Photocleavage of Phospha-Wittig Reagents ArP=PMe_3" *J. Am. Chem. Soc.* **2001**, *123*, 6925-6926.

Urnezius, E.; Lam, K.-C.; Rheingold, A. L.; Protasiewicz, J. D. "Triphosphane formation from the terminal zirconium phosphinidene complex [Cp_2Zr=PDmp(PMe_3)] (Dmp = 2,6-$Mes_2C_6H_3$) and crystal structure of DmpP(PPh_2)$_2$" *J. Organomet. Chem.* **2001**, *630*, 193-197.

Ling, K.-Q.; Ren, T.; Protasiewicz, J. D.; Sayre, L. M. "Structural correction of the 3-methylindole oxidatively-coupled dimer" *Tet. Lett.* **2002**, *43*, 6903-6905.

Smith, R. C.; Shah, S.; Protasiewicz, J. D. "A role for free phosphinidenes in the reaction of magnesium and sterically encumbered $ArPCl_2$ in solution at room temperature" *J. Organomet. Chem.* **2002**, *646*, 255-261.

Smith, R. C.; Urnezius, E.; Lam, K.-C.; Rheingold, A. L.; Protasiewicz, J. D. "Syntheses and Structural Characterizations of the Unsymmetrical Diphosphene DmpP=PMes (Dmp = 2,6-$Mes_2C_6H_3$, Mes = 2,4,6-$^tBu_3C_6H_2$) and the Cyclotetraphosphane [DmpPPPh]$_2$" *Inorg. Chem.* **2002**, *41*, 5296-5299.

Smith, R. C.; Ren, T.; Protasiewicz, J. D. "Robust, reactive, and remarkably simple to prepare sterically encumbered meta-terphenyl ligand" *Europ. J. Inorg. Chem.* **2002**, 2779-2783.

Dutan, C.; Shah, S.; Smith, R. C.; Choua, S.; Berclaz, T.; Protasiewicz, J. D.; Geoffroy, M. "Sterically Encumbered Diphosphaalkenes and a Bis-diphosphene as Potential Multi-Redox Active Molecular Switches: EPR and DFT investigations" *Inorg. Chem.* **2003**, *42*, 6241-6251.

Meprathu, B. V.; Protasiewicz, J. D. "Synthesis and characterization of novel polyvalent organoiodine compounds" *ARKIVOC (invited 65th birthday of Professor Anastasios Varvoglis special issue)* **2003**, 83-90.

Scardovi, N.; Garner, P. P.; Protasiewicz, J. D. "S-(2-Pyridinyl)-1,1,3,3-Tetramethylthiouronium Hexafluorophosphate. A New Reagent for the Synthesis of 2-Pyridinethiol Esters" *Org. Lett.* **2003**, *5*, 1633-1635.

Shah, S.; Eichler, B. E.; Smith, R. C.; Power, P. P.; Protasiewicz, J. D. "Synthesis and Solid State Structures of Increasingly Sterically Crowded 1,4-Diiodo-2,3,5,6-tetraarylbenzenes: A New Series of Bulky Benzenes and Aryls" *New J. Chem.* **2003**, *27*, 442-445.

Ling, K.-Q.; Lee, Y.; Macikenas, D.; Protasiewicz, J. D.; Sayre, L. M., "Copper(II)-Mediated Autoxidation of tert-Butylresorcinols" *J. Org. Chem.* **2003,** 68, (4), 1358-1366.

Smith, R. C.; Protasiewicz, J. D., "Synthesis and Luminescence Properties of a series of tris-(4-styrylphenyl) Phosphorus (III) and (V) Compounds and of a [$Cu(PR_3)_4$]BF_4 Complex" *J. Chem. Soc. Dalton Trans.* **2003,** 24, 4738-4741.

Smith, R. C.; Chen, X.; Protasiewicz, J. D., "A Fluorescent (E)-Poly(*p*-phenylenephosphaalkene) Prepared by a Phospha-Wittig Reaction" *Inorg. Chem.* **2003,** 42, 5468-5470.

Copeland, T.; Shea, M. P.; Milliken, M. C.; Smith, R. C.; Protasiewicz, J. D.; Simpson, M. C., "Raman Excitation Profile of a Sterically Protected Diphosphene [ArP=PAr]" *Analytica Chimica Acta* **2003,** 496(1-2), 155-163.

Smith, R. C.; Shah, S.; Urnezius, E.; Protasiewicz, J. D., "An Unusual Equilibrium Chlorine Atom Transfer Process and its Potential for Assessment of Steric Pressure by Bulky Aryls" *J. Am. Chem. Soc.* **2003,** 125, 40-41.

Smith, R. C.; Gantzel, P.; Rheingold, A. L.; Protasiewicz, J. D., "*Arsa*-Wittig Complexes (ArAs=PMe_3) as Intermediates to Diarsenes" *Organometallics* **2004,** 23, 5124-5126.

Smith, R. C.; Woloszynek, R. A.; Chen, W.; Ren, T.; Protasiewicz, J. D., "Suzuki reactions catalyzed by palladium complexes bearing the bulky (2,6-dimesitylphenyl)dimethylphosphine" *Tet. Lett.* **2004,** 45, 8327-8330.

Smith, R. C.; Earl, M. J.; Protasiewicz, J. D., "Synthesis and photoluminescent properties of a series of pnictogen-centered chromophores" *Inorg. Chem. Acta.* **2004,** 357, 4139-4143.

Smith, R. C.; Protasiewicz, J. D., "Conjugated Polymers Featuring Heavier Main Group Element Multiple Bonds: A Diphosphene-PPV" *J. Am. Chem. Soc.* **2004,** 126, (8), 2268-2269.

Smith, R. C.; Protasiewicz, J. D., "Systematic investigation of PPV analogue oligomers incorporating low-coordinate phosphorus centres" *Europ. J. Inorg. Chem.* **2004**, (5), 998-1006.

Smith, R. C.; Protasiewicz, J. D., "A *trans*-Spanning Diphosphine Ligand Based on a *meta*-Terphenyl Scaffold and its Palladium and Nickel Complexes" *Organometallics* **2004,** 23, 4215-4222.

Chen, X.; Smith, R. C.; Protasiewicz, J. D., "Cycloaddition of phosphanylidene-σ^4-phosphoranes ArP=PMe_3 and quinones to yield 1,3,2-dioxophospholanes" *J. C. S. Chem. Commun.* **2004**, 146-147.

Smith, R. C.; Bodner, C. R.; Earl, M. J.; Sears, N. C.; Hill, N. E.; Bishop, L. M.; Sizemore, N.; Hehemann, D. T.; Bohn, J. J.; Protasiewicz, J. D., "Suzuki and Heck coupling reactions mediated by palladium complexes bearing trans-spanning diphosphines" *J. Organomet. Chem.* **2005,** 690, 477-481.

Thirupathi, N.; Amoroso, D.; Bell, A.; Protasiewicz, J. D., "Synthesis and Reactivity of Cationic Palladium Phosphine Carboxylate Complexes" *Organometallics* **2005,** 24, 4099-4102.

Meprathu, B. V.; Justik, M. W.; Protasiewicz, J. D., "*ortho*-Phosphoryl stabilized hypervalent iodosyl- and iodyl-benzene reagents" *Tet. Lett.* **2005,** 46, 5187-5190.

Ma, L.; Smith, R. C.; Protasiewicz, J. D., "Self-Assembly of Cationic Palladium Complexes by Redistribution of Pyridine Ligands" *Inorg. Chim. Acta* **2005,** 358, 3478-3482.

Hai, B.; Wu, J.; Chen, X.; Protasiewicz, J. D.; Scherson, D. A., "Metal-Ion Adsorption on Carboxyl-Bearing Self-Assembled Monolayers Covalently Bound to Magnetic Nanoparticles" *Langmuir* **2005,** 21, 3104-3105.

Chen, X.; Chen, W.; Ren, T.; Protasiewicz, J. D., "A Cyclic Diphosphinite by a Formal [4+4] Cycloaddition Reaction of β-Phosphaenone" *Tet. Lett.* **2005,** 46, 5941-5944.

Gudimetla, V.; Rheingold, A. L.; Protasiewicz, J. D., "Photoisomerization and Structural Characterization of meta-tephenyl Protected Phosphaalkenes", *Inorg. Chem.* **2006**, *45*, 4895-4901.

Ma., L; Woloszynek, R. A.; Chen, W.; Ren, T,; Protasiewicz, J. D., "A New Twist on Pincer Ligands and Complexes" *Organometallics* **2006**, *25*, 3301-3304.

Smith, R. C.; Gleason, L. B.; Protasiewicz, J. D., "Solution and Film Photoluminescence of Mesityl-Substituted PPVs and Low Molecular Weight Models" *J. Mat. Chem.* **2006**, *16*, 2445-2452.

Chen, W.-Z.; Shirar, A. J.; Protasiewicz, J. D.; Ren T. "Dimerization of Diruthenium Coordination Compounds via Olefin Metathesis" *Europ. J. Inorg. Chem.* **2006**, 23, 4737-4740.

Xu, G. L.; Xi, B.; Updegraff, J. B.; Protasiewicz, J. D.; Ren T. "1,6-Bis(ferrocenyl)-1,3,5-hexatriyne: Novel Preparation and Structural Study" *Organometallics* **2006**, *25*, 5213-5215.

Chen, W.-Z.; Protasiewicz, J. D.; Davis, S. A.; Updegraff, J. B.; Ma, L.; Fanwick, P. E.; Ren, T. "Olefin Metathesis as an Inorganic Synthetic Tool: Cross and Ring Closing Metathesis Reactions of Diruthenium-Bound w-Alkene-a-carboxylates" *Inorg. Chem.* **2007**, *46*, 3775-3782.

Ma, L.; Wobser, S. D.;Protasiewicz, J. D. "A new patform for NCN dimethylamino pincer complexes: Synthesis and structural studies" *J. Organomet. Chem.* **2007**, *692*, 5331-5338.

Ma, L.; Imbesi, P. M.; Updegraff, J. B.; Hunter, A. H.; Protasiewicz, J. D. "Synthesis and Structural Studies of NCN Diimine Palladium Pincer Complexes Bearing m-Terphenyl Scaffolds" *Inorg. Chem.* **2007**, *46*, 5220-5228.

Thirupathi, N.; Amoroso, D.; Bell, A.; Protasiewicz, J. D. "Reactivity Studies of Cationic Palladium(II) Phosphine Carboxylate Complexes with Lewis Bases: Substitution versus Cyclometalation" *Organometallics* **2007**, *26*, 3157-3166.

Zhang, L.; Huang, Z.; Chen, W. Z.; Negishi, E. I.; Fanwick, P. E.; Updegraff, J. B.; Protasiewicz, J. D.; Ren, T. "Negishi coupling-expedient formation of biphenyls on the periphery of inorganic/organometallic diruthenium species" *Organometallics*, **2007**, *26*, 6526-6528.

Pearson, A. J.; Protasiewicz, J. D.; Updegraff, J.; Zhang, M. "Stereoselective conjugate additions of Grignard reagents to cyclopentadienones" *Tet. Lett.* **2007**, *48*, 5569-5572.

Kunzelman, J.; Kinami, M.; Crenshaw, B. R.; Protasiewicz, J. D.; Weder, C. "Oligo(p-phenylene vinylene)s as a "new" class of piezochromic fluorophores." Adv. Materials, **2008**, *20* 119-122.

Partyka, D. V.; Washington, M. P.; James B. Updegraff, I.; Woloszynek, R. A.; Protasiewicz, J. D. "Synergistic binding of both Lewis acids and bases to phosphinidenes" *Angew. Chem. Int. Ed. Engl.* **2008**, *47*, 7489-

7492.

Thirupathi, N.; Amoroso, D.; Bell, A.; Protasiewicz, J. D. "Latent Cationic Palladium(II) Phosphine Carboxylate Complexes for Norbornene Polymerization" *J. Polym. Sci., Part A, Chemistry* **2008**, *47*,103-110.

Lipke, M. C.; Woloszynek, R. A.; Ma, L.; Protasiewicz, J. D. "*m*-Terphenyl Anchored Palladium Diphosphinite PCP-Pincer Complexes That Promote the Suzuki-Miyaura Reaction Under Mild Conditions" *Organometallics*, **2009**, *28*, 188-196.

Zhang, L.; Huang, Z.; Chen, W. Z.; Negishi, E. I.; Fanwick, P. E.; Updegraff, J. B.; Protasiewicz, J. D.; Ren, T. "Spectroscopy and Electronic Structures of $Ru_2(ap)_4$-alkynyl Compounds" *Inorg. Chem.*, **2009**, *48*, 5187-5194.

Partyka, D. V.; Washington, M. P.; Gray, T. G.; Updegraff, J. B.; Turner, J. F.; Protasiewicz, J. D. "Unusual Phosphorus-Phosphorus Double Bond Contraction Upon Mono- and Di-Auration of a Diphosphene" *J. Am. Chem. Soc.* **2009**, *131*, 10041-10048.

Partyka, D. V.; Washington, M. P.; Updegraff, J. B. , I.; Chen, X.; Rheingold, A. L.; Protasiewicz, J. D. "Surveying the {AuCl} adducts of bulky phosphines bearing the 2,6-dimesitylphenyl group" *J. Organomet. Chem.* **2009**, 694, 1441-1446.

Peng, H.-L.; Payton, J. L.; Protasiewicz, J. D.; Simpson, M. C. "Twisting the Phenyls in Aryl Diphosphenes (Ar-P=P-Ar). Significant Impact upon Lowest Energy States" *J. Phys. Chem. A.*, **2009**, *113*, 7054-7063.

Kilgore, U. J.; Fan, H.; Pink, M.; Urnezius, E.; Protasiewicz, J. D.; Mindiola, D. J. "Phosphinidene group-transfer with a phospha-Wittig reagent: a new entry to transition metal phosphorus multiple bonds" *J. Chem. Soc. Chem. Commun.* **2009**, 4521-4523.

Schroder, P. M.; Spilker, T. F.; Luu, W.; Updegraff, J. B.; Kwan, M. L.; Challen, P. R.; Protasiewicz, J. D. "Improved synthesis of pincer ligand precursor, and synthesis and structural characterization of terphenyl scaffolded S-C-S palladium pincer complex" *Inorg. Chem. Comm.* **2009**, *12*, 1171-1174.

Justik, M. W.; Protasiewicz, J. D.; Updegraff, J. B. "Preparation and X-ray structures of 2-(aryliodonio)benzenesulfonates: novel diaryliodonium betaines" *Tet. Lett.*, **2009**, *50*, 6072-6075.

Gudimetla, V. B.; Ma, L.; Washington, M. P.; Payton, J. L.; Simpson, M. C.; Protasiewicz, J. D. "*meta*-Terphenyl phosphaalkenes bearing electron donating and accepting groups" *Europ. J. Inorg. Chem.* **2010**, 854-865.

Meprathu, B. V.; Protasiewicz, J. D. "Enhancing the solubility for hypervalent ortho-sulfonyl iodine compounds" *Tetetrahon*, **2010**, *66*, 5768-5774 (*invited - special issue on Hypervalent Iodine*).

Protasiewicz, J. D.; Washington, M. P.; Gudimetla, V. B., Payton, J. L.; Simpson, M. C. "A closer look at the phosphorus-phosphorus double bond lengths in *meta*-terphenyl substituted diphosphenes" *Inorg. Chem. Acta*, **2010**, *364*, 39-45 (*invited -special issue dedicated to Prof. Arnold Rheingold*).

Justik, M. W.; Kristufek, S. L.; Protasiewicz, J. D.; Deligonul, N. "Stereoselective Synthesis and X-ray Structures of Alkenyiodonium salts with a Pyridine N-oxide Moiety" *Synthesis*, **2010**, 2345-2347.

Washington, M. P.; Gudimetla, V. B.; Laughlin, F. L.; Deligonul, N.; He, S.; Payton, J. L.; Simpson, M. C.; Protasiewicz, J. D., "Phosphorus Can Also Be A "Photocopy"". *J. Am. Chem. Soc.* **2010**, *132*, 4566-4567.

Shaffer, A. R.; Deligonul, N.; Scherson, D. A.; Protasiewicz, J. D., "A Hybrid Lithium Oxalate-Phosphinate Salt" *Inorg. Chem.* **2010**, *49*, 10756-10758.

Yang, Y.; Samas, B.; Kennedy, V. O.; Macikenas, D.; Chaloux, B. L.; Miller, J. A.; Speer, R. L.; Protasiewicz, J.; Pinkerton, A. A.; Kenney, M. E., Long, Directional Interactions in Cofacial Silicon Phthalocyanine Oligomers. *J. Phys. Chem. A* **2011,** *115*, 12474-12485.

Duraj, S. A.; Hepp, A. F.; Woloszynek, R.; Protasiewicz, J. D.; Dequeant, M.; Ren, T., Synthesis of two new group 13 benzoato-chloro complexes: A structural study of gallium and indium chelating carboxylates. *Inorg. Chim. Acta* **2011,** *365* (1), 54-60.

Washington, M. P.; Payton, John L.; Simpson, M. C.; Protasiewicz, J. D. "Redox Behavior of Benzoxaphospholes and Bezo[1,2-d:4,5-d']bisoxaphospholes" *Organometallics*, **2011**, *30*, 1975-1983.

Laughlin, F. L.; Rheingold, A. L.; Deligonul, N.; Laughlin, B. J.; Smith, R. C.; Higham, L. J.; Protasiewicz, J. D. "Naphthoxaphospholes as examples of fluorescent *phospha*-acenes" *Dalton Trans.* **2012**, *41*, 12016-12022.

Peng, H.-L.; Payton, John L.; Simpson, M. C.; Protasiewicz, J. D. "P=P bond photophysics in a ArP=PAr diphosphene" *Dalton Trans.* **2012**, *41*, 13204-13209.

Protasiewicz, J. D. "Coordination-Like Chemistry of Phosphinidenes by Phosphanes" *Eur. J. Inorg. Chem.*, **2012**, 4539-4549.

Ay, B.; Yildiz, E.; Protasiewicz, J. D.; Rheingold, A. L. "Hydrothermal synthesis, crystal structure and heterogeneous catalytic activity of a novel inorganic-organic hybrid complex, possessing infinite La-O-La linkages" *Inorg. Chim. Acta* **2013**, *399*, 208-213.

Simpson, M. C.; Protasiewicz, J. D. "Phosphorus as a Carbon Copy and as a Photocopy: New Conjugated Materials Featuring Multiply Bonded Phosphorus" *Pure Appl. Chem.*, **2013**, *85*, 801-815.

Laughlin, B. J.; Duniho, T. L.; Homsi, S. J. E.; Levy, B. E.; Deligonul, N.; Gaffen, J. R.; Protasiewicz, J. D.; Tennyson, A. G.; Smith, R. C. "Comparison of 1,4-distyrylfluorene and 1,4-distyrylbenzene analogues: synthesis, structure, electrochemistry and photophysics" *Org. Biomol. Chem.*, **2013**, *11*, 5425-5434.

Wu, S.; Deligonal, N.; Protasiewicz, J. D. "An unusually unstable *ortho*-phosphinophenol and its use to prepare benzoxaphospholes having enhanced air-stability" *Dalton Trans.* **2013**, *42*, 14866-14874.

Laughlin, F. L.; Deligonal, N.; Rheingold, A. L.; Golen, J. A.; Protasiewicz, J. D. "Fluorescent Heteroacenes with Multiply-Bonded Phosphorus" *Organometallics* **2013**, *32*, 7116-7121.

Protasiewicz, J. D. "Nitrogen, phosphorus, arsenic, antimony, and bismuth" *Annu. Rep. Prog. Chem., Sect, A: Inorg. Chem.*, **2013**, *109*, 66-79.

Protasiewicz, J. D. "Chapter 1.14. *New Developments in Multiple Bonded Compounds - Group 15", invited chapter to* Comprehensive Inorganic Chemistry, **2013**, ed. Reedjik J.; Peoppelmeier, K., Elsevier, 1, 325-348.

Rectenwald, M. F.; Gaffen, J. R.; Rheingold, A. L..; Morgan. A, B.; Protasiewicz, J. D. "Phosphoryl-Rich Flame Retardant Ions (FRIONs): Towards Safer Lithium Ion batteries" *Angew. Chem. Int. Ed.* **2014**, *53*, 4173-4176.

Zhdankin, V. V.; Protasiewicz, J. D. "Development of new hypervalent iodine reagents with improved properties and reactivity by redirecting secondary bonds at iodine center" *Coord. Chem. Rev.* **2014**, *275*, 54-62.

Wu, S.; Rheingold, A. L.; Protasiewicz, J. D. "Luminescent materials containing multiple benzoxaphosphole units" *Chem. Commun.* **2014**. *50*, 11036-11038.

Pignotti, L. R.; Luck, R. L.; Deligonul, N.; Protasiewicz, J. D.; Johnson, K. E., Nguyen, L. P.; Urnezius, E. "Bimetallic nickel complexes supported by 2,5-bis(phosphine)-1, 4-hydroquinonate ligands. Structural, electrochemical and theoretical investigations" *Inorg. Chim. Acta* **2015**, *424,* 274–285.

Wu, S.; Rheingold, A. L.; Golen, J. A.; Protasiewicz, J. D. "Synthesis of a Luminescent Azaphosphole" **2016**, *Eur. J. Inorg. Chem.* **2016**, 768-773.

Protasiewicz, J. D. "Organoiodine(III) Reagents as Active Participants and Ligands in Transition-Metal Catalyzed Reactions: Iodosylarenes and (Imino)iodoarenes", *invited book chapter* in *Topics in Current Chemistry*, **2016**, *373*, 263-288.

Gilliard, R. J. Jr.; Kieser, J. M.; Protasiewicz, J. D. "Recent Advances in Synthons Towards for the Development of New Organophosphorus Functional Materials" invited book chapter in *Main Group Strategies towards Functional Organic Materials*, John Wiley & Sons, **2018**, 357-382.

Kieser, J. M.; Gilliard R. J. Jr.; Rheingold, A. L.; Grützmacher, H.; Protasiewicz, J. D. "Insertion of Sodium Phosphaethynolate, Na[OCP], into a Zirconium-Benzyne Complex". *J. Chem. Soc., Chem. Commun.*, **2017**, 53, 5110-5112.

Grimm, A. B.; Evariste, S.; Rheingold, A. L.; Moore, C. E.; Protasiewicz, J. D. "Tungsten Pentacarbonyl Complexes of 1,3-Benzoxaphospholes" *J. Organomet. Chem.* **2017**, *851*, 9-13.

Gilliard R. J. Jr.; Suter, R.; Schrader, E.; Benko, Z.; Rheingold, A. L.; Grützmacher, H.; Protasiewicz, J. D. "Synthesis of $P_2C_2O_2$ and P_2CO via NHC-Mediated Coupling of the phosphaethynolate Anion". *J. Chem. Soc., Chem. Commun.*, **2017**, *53*, 12325-12328.

Gilliard R. J. Jr.; Heift, D.; Benko, Z; Kieser, J. M.; Rheingold, A. L.; Grützmacher, H.; Protasiewicz, J. D. "An Isolable Magnesium Diphosphaethynolate Complex", *Dalton Trans.* **2018**, *47*, 666-669.

Sarkar, S.; Protasiewicz, J. D.; Dunietz, B. D. "Controlling the Emissive Activity in Heterocyclic Systems Bearing C=P Bonds", *J. Phys. Chem. Lett.* **2018**, *9*, 3567-3572.

Kieser, J. M.; Kinney, Z. J.; Gaffen, J. R.; Evariste, S.; Harrison, A. M.; Rheingold, A. L.; Protasiewicz, J. D. "Three Ways Isolable Carbenes Can Modulate Emission of NH- Containing Fluorophores", *J. Am. Chem. Soc.* **2019**, *141*, 12055−12063.

Kinney, Z. J.; Rheingold, A. L.; Protasiewicz, J. D. "Preferential N–H···C Hydrogen Bonding Involving Ditopic *NH*-Containing Systems and *N*-Heterocyclic Carbenes", *RSC Advances* **2020**, *10*, 42164-42171 (DOI:10.1039/D0RA08490E)

Delgado Rosario, E.; Rectenwald, M. F.; Gaffen, J. R.; Rheingold, A. L.; Protasiewicz, J. D. "Organophosphorus Decorated Lithium Borate and Phosphate Salts with Extended π-Conjugated Backbone", *Dalton Trans.* **2021**, *50*, 6667-7762.

Li, G.; Rheingold, A. L.; Protasiewicz, J. D. "Remote Substituents as Potential Control Elements for the Solid-State Structures of Hypervalent Iodine(III) Compounds" *Inorg. Chem.* **2021**, *60*, 7865-7875.

Grimm, A. B.; Wang, Kai; Rheingold, A. L.; Moore, C. E.; Szieberth, D. ; Nyulászi, L.; Protasiewicz, J. D. 2-Aryl-1,3-Benzoxaphospholes as Unwilling Participants for Catalytic Suzuki-Miyaura CC Coupling Reactions, *Organometallics*, **2021**, *40*, 3436-3444. (DOI: 10.1021/acs.organomet.1c00462)

Li, G.; Rheingold, A. L.; Protasiewicz, J. D. "Solid State Aggregation of Cyclic Iodonium Ylides" *Arkivoc (invited, special issue on Hypervalent Iodine - ICHIC Moscow Conference)* **2021**, online (DOI: https://doi.org/10.24820/ark.5550190.p011.667).

Li, G.; Smith, R.; Gembicky, M.; Rheingold, A. L.; Protasiewicz, J. D. "Sterically Crowded 1,4-Diiodobenzene as Precursor to Difunctional Hypervalent Iodine Compounds" *Chem. Commun.* **2022**, *58*, 1159-1162 (*DOI: 10.1039/d1cc06486j*).

Sarkar, S.; Durairaj, P.; Protasiewicz, J. D.; Dunietz, B.D. "Enhancing Fluorescence and Lowering the Optical Gap Through C=P Doping of a π-Conjugated Molecular Backbone: A Computational-Based Design Approach", *J. Photochem. Photobiol.* **2021**, *8 (invited, special issue for SERMCAS conference)*, *8*, 100088 (https://doi.org/10.1016/j.jpap.2021.100089)

Ekstrom, Z. T.; Rheingold, A. L.; Protasiewicz, J. D. "Synthesis and Structural Characterization of Two Rotationally Flexible Bis(benzoxaphosphole)s" *Phosphorus Sulfur Silicon Relat. Elem. (invited, special issue dedicated to Francois Mathey)* **2022**, 426-433 *(https://doi.org/10.1080/10426507.2021.2011887)*.

Protasiewicz, J. D.; Hering-Jughans, C. "Phosphanylidenephosphoranes" invited chapter in *Encyclopedia of Inorganic and Bioinorganic Chemistry* **2022**; John Wiley & Sons Ltd.: p eibc2795. DOI: 10.1002/9781119951438.eibc2795.

Li, G.; Rheingold, A. L.; Protasiewicz, J. D. "Synthesis and Structural Characterization of Nitro-functionalized Cyclic Hypervalent Iodine Compounds" *Polyhedron.* **2022**, *223,* 115988.

Evariste, S.; Harrison, A. M.; Sarkar, S.; Rheingold, A. L.; Dunietz, B. D.; Heinicke, J.;, Delgado Rosaria, E.; Yoon, S.; Teets, T. T.; Protasiewicz, J. D. "Luminescent 1,3-Benzazaphospholes", *RSC Advances*. **2023**, 13, 594-601.

Stone, Alexander M.; Golden, Andrew R.; Daniel, Shan M.; Rheingold, Arnold L.; Protasiewicz, J. D. "Hydrogen Bonding vs Dihydrogen Bonding in the Air Stable Primary Phosphine *ortho*-Phosphinophenol", *Europ. J. Inorg. Chem*. **2024**, *27*, e202400260 .

Kornokovich,Anthony D.; Rheingold, Arnold L.; Rikka, Vallabha R.; Tang, Wan Si; Jeevarajan, Judith A.; Protasiewicz, J. D. "*Dealkylation as a Strategy to Unconventional Lithium Salts from ortho-Phenyl-phosphonate-boranes*", *Inorg. Chem.* **2026**, **ASAP**, doi=10.1021/acs.inorgchem.5c05101.

Ekstrom, Zakary T.; Stone, Alexander M.; Li, Guobi; Hassoun, Hannah D.; Kornokovich, Anthony D.; Delgado Rosario, Emalyn; Espinosa Ferao, Arturo; Zeller, Matthias; Rheingold, Arnold L.; Protasiewicz, John D. "*When Acids and Quinones Replace Metals: Expanding the Toolbox for the Mild Dehydrocoupling of Phosphines*", **2026**, *Inorg. Chem.* submitted.

M. Patents and Invention Disclosures & Related Activities

(1) **Invention Disclosure** "Latent, Cationic, Organic Acid Based, Phosphine Palladium Initiators for the Polymerization of Functionalized Norbornenes" filed with CWRU **2003**
(2) **Provisional Patent** "Latent, Cationic, Organic Acid Based, Phosphine Palladium Initiators for the Polymerization of Functionalized Norbornenes" **2004**, Promerus LLC.
(3) **Patent Filing** Bell, A.; Amoroso, D.; Protasiewicz, J.; Thirupathi, N. Single component cationic palladium proinitiators for the latent polymerization of cycloolefins. 2004-US37983 2005042147, 20041029., **2005**.
(4) **Provisional Patent/Patent Filing** Scherson, D. A.; Protasiewicz, J. D. "Charge Storage Nanoparticles Incorporating Functional Conductive Surfactants" **2004**.
(5) **Invention Disclosure** "Dehydrocoupling PH Bonds - Non-Metal Stoichiometric & Catalytic Routes" filed with CWRU **2021 (**CWRU 2022-3961**)**

N. Seminars, Conferences, & Other Presentations

1985 Protasiewicz, J. D.; Mendenhall, G. D., **Undergraduate Research Symposium**, **Eue Claire, WI.**, "*Di-tert-butyl-hyponitrite as a source of radicals for dimerization*", submitted talk.

1988 Protasiewicz, J. D.; Theopold, K. H., **ACS National Meeting**, **Toronto, Canada**, "*Rates of Degenerate Electron and Hydrogen Transfer in Low Valent Cobalt Phosphite Complexes*", submitted talk.

1991 Protasiewicz, J. D.; Lippard, S. J., **Organometallic Gordon Conference**, **Newport, RI.**, "*Vanadium Promoted CO Reductive Coupling Reactions*", submitted poster.

1994 Protasiewicz, J. D., **Workshop on Xray Diffraction & Shelxtl**, **Madison, WI.**, "*Workshop on Xray Diffraction & Shelxtl*", workshop participant.

1994 Protasiewicz, J. D., **Workshop on Computers in Chemical Education**, **CWRU**, "*Use of Bibliographic Database Software in Chemistry*", invited speaker.

1995 Cicero, R. L.; Zhao, D.; Protasiewicz, J. D., **ACS National Meeting**, **Anaheim, CA**, "*New Transition-Metal Promoted Ketone and Aldehyde Epoxidation Reactions*", submitted talk.

1995 Protasiewicz, J. D., **ACS National Meeting**, **Anaheim, CA**, "*Sterically Encumbered Iodosylarenes*", submitted talk.

1995 Protasiewicz, J. D., **ACS National Meeting**, **Chicago**, "*Structural Details of the Primary Nitrene Source (Tosylimino)iodo]benzene (PhI=NTS) and Related Organoiodine(III) Species*", submitted talk.

1995 Protasiewicz, J. D., **University of Akron**, "*Structural Details of the Primary Nitrene Source (Tosylimino)iodo]benzene (PhI=NTS) and Related Organoiodine(III) Species*", invited speaker.

1995 Protasiewicz, J. D., **Kent State University**, "*Polyvalent Iodine Derivatives*", invited speaker.

1996 Cicero, R. L.; Zhao, D.; Protasiewicz, J. D.; Ren, T., **ACS National Meeting**, **New Orleans, LA**, "*Structural diversity in the primary nitrene sources - [(Tosylimino)iodo]arenes ArINTs*", submitted talk.

1996 Lin, C.; Ren, T.; Harvey, P. D.; Protasiewicz, J. D.; Eglin, J. L., **ACS National Meeting**, **New Orleans, LA**, "*Cuprous compounds supported by formamidinate ligands: Equilibrium, structural and photophysical properties*", submitted talk.

1996 Lin, C.; Smith, E. T.; Ren, T.; Protasiewicz, J. D., **ACS National Meeting**, **New Orleans, LA**, "*Redox tuning at the ligand periphery: Dimolybdenum and dinickel compounds*", submitted talk.

1996 Protasiewicz, J. D., **Florida Institute of Technology**, "*Structural Details of the Primary Nitrene Source (Tosylimino)iodo]benzene (PhI=NTS) and Related Organoiodine(III) Species*", invited speaker.

1996 Urnezius, E.; Protasiewicz, J. D., **ACS National Meeting**, **New Orleans, LA**, "*Sterically encumbered meta-terphenyl phosphines, phosphaketenes, and complexes*", submitted talk.

1997 Boucher, M. A.; Macikenas, D.; Protasiewicz, J. D., **ACS National Meeting**, **San Francisco, CA**, "*Structural and solution chemistry of the primary nitrene sources [(tosylimino)iodo]arenes ArINSO2Ar'.*" submitted talk.

1997 Protasiewicz, J. D., **1997 NSF Inorganometallic Chemistry Workshop**, **Sante Fe, NM**, "*Relationships Between Phosphinidene Complexes & Diphosphenes*", workshop participant and invited speaker.

1997 Protasiewicz, J. D., **University of Deleware**, "*Diphosphenes and Phosphinidene Complexes: Low Coordinate Phosphorus Centers Stabilized By Sterically Encumbered meta-Terphenyls*", invited speaker.

1997 Protasiewicz, J. D., **University of North Dakota**, "*Diphosphenes and Phosphinidene Complexes: Low Coordinate Phosphorus Centers Stabilized By Sterically Encumbered meta-Terphenyls Phosphorus*", invited speaker.

1997 Protasiewicz, J. D., **North Dakota State University**, "*Diphosphenes and Phosphinidene Complexes: Low Coordinate Phosphorus Centers Stabilized By Sterically Encumbered meta-Terphenyls Phosphorus*", invited speaker.

1997 Protasiewicz, J. D., **Massachusetts Institute of Technology**, "*Diphosphenes and Phosphinidene Complexes: Low Coordinate Phosphorus Centers Stabilized By Sterically Encumbered meta-Terphenyls*", invited speaker.

1997 Protasiewicz, J. D., **University of Chicago**, "*Diphosphenes and Phosphinidene Complexes: Low Coordinate Phosphorus Centers Stabilized By Sterically Encumbered meta-Terphenyls*", invited speaker.

1997 Protasiewicz, J. D., **CWRU Glennan Fellows Program**, **Case Western Reserve University**, "*Visualizing Molecules and Molecular Bonding Using the World Wide Web*", invited speaker.

1997 Protasiewicz, J. D.; Meprathu, B. V., **ACS Cleveland Local Section Meeting,**, **John Carrol University, OH**, "*Solubilization of Hypervalent Iodine Reagents*", submitted talk.

1997 Protasiewicz, J. D.; Shah, S.; Urnezius, E., **Canadian Society for Chemistry CSC97**, **Windsor, Ontario**, "*New Sterically Encumbered Meta-Terphenyl Phosphorus Centres and Diphosphenes*", invited speaker.

1997 Shah, S.; Protasiewicz, J. D., **ACS National Meeting**, **San Francisco, CA**, "*Sterically encumbered meta-terphenyl diphosphenes*", submitted talk.

1997 Urnezius, E.; Protasiewicz, J. D., **ACS National Meeting**, **San Francisco, CA**, "*Zirconocene phosphido- and phosphinidene complexes*", submitted talk.

1998 Protasiewcz, J. D., **Ohio State University**, "*Relationships Between Diphosphenes, Phosphinidene Complexes and PhosphinePhosphinidenes*", invited speaker.

1998 Protasiewicz, J. D., **ACS National Meeting**, **Boston**, "*Is foresight ever 20/20? Some hindsights for younger faculty*", invited speaker.

1998 Protasiewicz, J. D., **Organometallic Gordon Conference**, **Newport, RI**, "*Relationships Between Diphosphenes, Phosphinidene Complexes, and Phosphine-Phosphinidenes*", invited speaker.

1998 Protasiewicz, J. D., **University of Windsor**, "*Transition Metal and Main Group Phosphinidine Complexes as Synthetic Tools*", invited speaker.

1998 Protasiewicz, J. D., **University of Missouri-St. Louis**, "*Transition Metal and Main Group Phosphinidine Complexes as Synthetic Tools*", invited speaker.

1998 Protasiewicz, J. D., **Washington University**, "*Transition Metal and Main Group Phosphinidine Complexes as Synthetic Tools*", invited speaker.

1998 Shah, S.; Protasiewicz, J. D., **ACS NAtional Meeting**, **Boston, MA**, "*Phospha-Wittig chemistry of phosphoranylidene-phosphines (R_3P=PR)*", submitted talk.

1998 Shah, S.; Protasiewicz, J. D., **XIV International Conference on Phosphorus Chemistry**, **Cincinnati, OH**, "*Phosphoranylidenephosphines (R_3P=PR) as Phospha-Wittig Reagents*", submitted poster.

1998 Urnezius, E.; Shah, S.; Protasiewicz, J. D., **XIV International Conference on Phosphorus Chemistry**, **Cincinnati, OH**, "*Diphosphene and Phosphoranylidenephosphine Formation from a Terminal Phosphinidene Complex*", submitted talk.

1998 Urnezius, E.; Shah, S.; Protasiewicz, J. D., **ACS National Meeting**, **Boston, MA**, "*Reactions of zirconocene phosphinidene complexes with dichlorophosphines - Mechanistic studies*", submitted talk.

1998 Urnezius, E.; Shah, S.; Protasiewicz, J. D., **ACS Central Regional Meeting**, **Cleveland, Ohio**, "*Relationships Between Phosphindene Complexes and Diphosphenes*", invited speaker.

1999 Protasiewicz, J. D., **Case Western Reserve University**, "*Is Phosphorus a Carbon Copy? Recent Efforts to Develop New Materials with pi-Bonds to Phosphorus*", invited speaker.

1999 Protasiewicz, J. D., **SUNY University of Buffalo**, "*Development of New Iodosylbenzenes (PhI=O) and (Tosyliminoiodo)benzenes (PhI=NTs) as Soluble Oxygen Atom and Nitrene Sources in Catalysis*", invited

speaker.

1999 Protasiewicz, J. D., **Youngstown State University**, "*Development of New Iodosylbenzenes (PhI=O) and (Tosyliminoiodo)benzenes (PhI=NTs) as Soluble Oxygen Atom and Nitrene Sources in Catalysis*", invited speaker.

1999 Protasiewicz, J. D.; Shah, S., **ACS National Meeting**, **New Orleans, LA**, "*Difunctional main-group and transition metal-phosphinidene complexes for synthesis of new materials*", submitted talk.

1999 Protasiewicz, J. D.; Macikenas, D., **ACS National Meeting**, **New Orleans, LA**, "*Soluble analogs of iodosylbenzene (Phl=O) and (tosyliminoiodo)benzene (PHI=NTS) for homogeneous catalysis*", submitted talk.

2000 Protasiewicz, J. D., **University of Minnesota, Duluth**, "*New Soluble Iodosylbenzenes (PhI=O) and (Tosyliminoiodo)benzenes (PhI=NTs) for Catalysis*", invited speaker.

2000 Protasiewicz, J. D., **Ferro Corporation, MCCT Symposium**, "*Learning to Control Inorganic Versions of Hydrogen-Bonds by X-ray Studies of Hypervalent Compounds*", invited speaker.

2000 Protasiewicz, J. D., **Purdue University**, "*Is Phosphorus a Carbon Copy? Main Group and Transition Metal Phosphinidine Complexes for Synthesis of New Materials*", invited speaker.

2000 Protasiewicz, J. D., **Indiana University Bloomington**, "*Is Phosphorus a Carbon Copy? Main Group and Transition Metal Phosphinidine Complexes for Synthesis of New Materials*", invited speaker.

2000 Protasiewicz, J. D., **Wayne State University**, "*Is Phosphorus a Carbon Copy? Main Group and Transition Metal Phosphinidine Complexes for Synthesis of New Materials*", invited speaker.

2000 Protasiewicz, J. D., **Northwestern University**, "*Is Phosphorus a Carbon Copy? Main Group and Transition Metal Phosphinidine Complexes for Synthesis of New Materials*", invited speaker.

2000 Protasiewicz, J. D., **Universitry of California, Riverside**, "*Is Phosphorus a Carbon Copy? Main Group and Transition Metal Phosphinidine Complexes for Synthesis of New Materials*", invited speaker.

2000 Protasiewicz, J. D., **Boston College**, "*Is Phosphorus a Carbon Copy? Main Group and Transition Metal Phosphinidine Complexes for Synthesis of New Materials*", invited speaker.

2000 Protasiewicz, J. D., **Buffalo State College**, "*Is Phosphorus a Carbon Copy? Main Group and Transition Metal Phosphinidine Complexes for Synthesis of New Materials*", invited speaker.

2000 Protasiewicz, J. D., **Organometallic Gordon Conference**, **Newport, RI**, "*Construction of PPV-like Materials Incorporating Multiply-bonded Phosphorus Centers*", submitted poster.

2000 Protasiewicz, J. D., **Inorganic Gordon Conference**, **Newport, RI**, "*Construction of PPV-like Materials Incorporating Multiply-bonded Phosphorus Centers*", submitted poster.

2000 Protasiewicz, J. D.; Shah, S., **ACS National Meeting**, **San Francisco, CA**, "*Novel bis-phosphaalkenes and bis-diphosphenes*", submitted talk.

2000 Protasiewicz, J. D.; Shah, S., **Lippard Inorganic Chemistry Symposium**, **Cambridge, MA**, "*Novel bis-phosphaalkenes and bis-diphosphenes*", submitted poster.

2000 Protasiewicz, J. D.; Meprathu, B. V., **Inorganic Chemistry Weekend**, **Ohio State University, Columbus, OH**, "*Development of Soluble Organoiodine Oxidants for Transition Metal Catalyzed Reactions*", submitted talk.

2000 Protasiewicz, J. D.; Macikenas, D.; Meprathu, B. V., **ACS National Meeting**, **New Orleans, LA**, "*Soluble hypervalent iodine oxo and nitrene precursors*", submitted talk.

2000 Protasiewicz, J. D.; Shah, S., **ACS National Meeting**, **New Orleans, LA**, "*Novel bis-phosphaalkenes and bis-diphosphenes*",

2001 Protasiewicz, J. D., **Society for Applied Spectroscopy and Cleveland ACS Annual May Conference**, **John Carroll University, Ohio**, "*Study of Inorganic Versions of Hydrogen Bonds by X-ray Diffraction*", invited speaker.

2001 Protasiewicz, J. D., **2001 NSF Inorganic Chemistry Workshop**, **Shanty Creek, MI**, "*Free Phosphinidenes as Reactive Intermediates in Inorganic Chemistry*", workshop participant and invited speaker.

2001 Protasiewicz, J. D., **Oberlin College**, "*Is Phosphorus a Carbon Copy? Phosphorus Analogues of Conjugated Organic Polymers*", invited speaker.

2001 Protasiewicz, J. D., **Southern Methodist University**, "*Is Phosphorus a Carbon Copy? Main Group and*

Transition Metal Phosphinidine Complexes for Synthesis of New Materials", invited speaker.

2001 Protasiewicz, J. D., **Texas Christian University**, "*Is Phosphorus a Carbon Copy? Main Group and Transition Metal Phosphinidine Complexes for Synthesis of New Materials*", invited speaker.

2001 Protasiewicz, J. D., **New Mexico State University**, "*Is Phosphorus a Carbon Copy? Main Group and Transition Metal Phosphinidine Complexes for Synthesis of New Materials*", invited speaker.

2001 Protasiewicz, J. D., **Cleveland State University**, "*Is Phosphorus a Carbon Copy? Main Group and Transition Metal Phosphinidine Complexes for Synthesis of New Materials*", invited speaker.

2001 Protasiewicz, J. D., **University of Akron**, "*Is Phosphorus a Carbon Copy? Main Group and Transition Metal Phosphinidine Complexes for Synthesis of New Materials*", invited speaker.

2001 Protasiewicz, J. D.; Shah, S.; Simpson, M. C.; Smith, R. C., **National ACS Meeting**, **Chicago. IL**, "*Photocleavage of phospha-Wittig reagents as a new route to free phosphinidenes*", submitted talk.

2001 Protasiewicz, J. D.; Shah, S.; Simpson, M. C.; Smith, R. C., **XV International Conference on Phosphorus Chemistry**, **Sendai, Japan**, "*Photocleavage of phospha-Wittig reagents as a new route to free phosphinidenes*", submitted talk.

2001 Shah, S.; Smith, R. C.; Dutan, C.; Chou, S.; Geoffroy, M.; Protasiewicz, J. D., **XV International Conference on Phosphorus Chemistry**, **Sendai, Japan**, "*Development of new ligands for the simultaneous protection of two low coordinate phosphorus centers*", submitted poster.

2001 Shah, S.; Protasiewicz, J. D., **Society for Applied Spectroscopy and Cleveland ACS Annual May Conference**, **John Carroll University, Ohio**, "*Application of X-ray Crsytallography in the Synthesis and Characterization of Low-Coordinate Phosphorus Compounds*", submitted talk.

2002 Protasiewicz, J. D.; Shah, S.; Simpson, M. C.; Smith, R. C., **National ACS Meeting**, **Boston, MA**, "*Photochemical and thermal routes to possible phosphinidene intermediates*", submitted talk.

2002 Smith, R. C.; Ren, T.; Protasiewicz, J. D., **ACS National Meeting**, **Boston, MA**, "*Robust, reactive, and remarkably simple to prepare sterically encumbered meta-terphenyl ligand*", submitted talk.

2002 Smith, R. C.; Ren, T.; Protasiewicz, J. D., **Inorganic Gordon Conference**, **Newport, RI**, "*Robust, reactive, and remarkably simple to prepare sterically encumbered meta-terphenyl ligand*", submitted poster.

2003 Natesan, T.; Amoroso, D.; Bell, A.; Protasiewicz, J. D., **Inorganic Gordon Conference**, **Newport, RI**, "*Unusual Thermal Chemistry of Cationic Palladium Complexes*", submitted poster.

2003 Protasiewicz, J. D., **University of California, San Diego**, "*Phosphorus Analogues of Wittig Reagents, Carbenes, Olefins, and pi-Conjugated Materials*", invited speaker.

2003 Protasiewicz, J. D., **University of Rhode Island** (Oct. 17), "*Low Coordinate Phosphorus in π-Conjugated Oligomers and Polymers*", invited speaker.

2003 Protasiewicz, J. D., **ACS Central Regional Meeting** (Oct. 21), "*Unusual Catalytic Chlorine Atom Transfer Process*", invited speaker.

2004 Protasiewicz, J. D. "*Towards New Plastics Featuring Main Group Elements*" **Cleveland State University**, invited speaker.

2004 Protasiewicz, J. D. "*New Conjugated Oligomers and Polymers Featuring Main Group Elements Participating in pπ-pπ Conjugation*" **12th National Science Foundation Workshop on Materials and Nanochemistry, Boulder, Colorado**, invited speaker.

2004 Protasiewicz, J. D. In *Introduction of Main Group Elements into the Backbone of Conjugated Polymers*, **Oxford University**, invited speaker.

2004 Protasiewicz, J. D. "*Introduction of Main Group Elements into the Backbone of Conjugated Polymers*" **Oxford University (Bayley Research Group)** invited speaker.

2004 Protasiewicz, J. D. "*Introduction of Main Group Elements into the Backbone of Conjugated Polymers*" **University of Texas at Austin**, invited speaker.

2004 Protasiewicz, J. D. "*Introduction of Main Group Elements into the Backbone of Conjugated Polymers*" **Texas A&M University**, invited speaker.

2004 Protasiewicz, J. D. "*Introduction of Main Group Elements into the Backbone of Conjugated Polymers*" **Rice University**, invited speaker.

2005 Woloszynek, R. A.; Ma, L.; Smith, R. C.; Protasiewicz, J. D. "*meta-Terphenyls as Platforms for Catalysis*"

Inorganic Gordon Conference, Newport, RI, submitted poster

2005 Smith, R. C.; Woloszynek, R. A.; Chen, X.; Gudimetla, V.; Protasiewicz, J. D. "*Main Group Containing Conjugated Polymers and Materials*" **Inorganic Gordon Conference; Newport, RI**, submitted poster

2005 Protasiewicz, J. D. "*Applications of meta-Terphenyls in Materials and Catalysis Chemistry"* **University of California, Berkeley**, (Oct. 28) invited speaker.

2005 Protasiewicz, J. D. "*Applications of meta-Terphenyls in Materials and Catalysis Chemistry"* **University of California, Davis**, (Oct. 27) invited speaker.

2005 Protasiewicz, J. D. "*Introduction of Main Group Elements into the Backbone of Conjugated Polymers*" **PACIFICHEM05, Hawaii**, (December 20) invited speaker.

2006 Protasiewicz, J. D. "*Applications of meta-Terphenyls in Materials and Catalysis Chemistry"* **University of Toledo,** (Feb. 8) invited speaker.

2006 Ma, L.; Woloszynek, R. A.; Protasiewicz, J. D. "*meta-Terphenyls as Ligand Platforms*" **Inorganic Gordon Conference, Newport, RI**, submitted poster

2006 Woloszynek, R. A.; Smith, R. C.; Chen, X.; Gudimetla, V.; Protasiewicz, J. D. "*Towards new electronically interesting plastics and materials featuring low-coordinate phosphorus*" **Inorganic Gordon Conference; Newport, RI**, submitted poster

2006 Protasiewicz, J. D. "*Applications of meta-Terphenyls in Materials and Catalysis Chemistry"* **John Carroll University,** (Nov. 26) invited speaker.

2006 Protasiewicz, J. D. "*Towards new electronically interesting plastics and materials featuring main group elements"* **John Carroll University,** (Nov. 26) invited speaker.

2007 Protasiewicz, J. D. "*Towards new electronically interesting plastics and materials featuring main group elements"* **Hope College,** (Jan. 26) invited speaker.

2007 Protasiewicz, J. D. "*Towards new electronically interesting plastics and materials featuring main group elements"* **Connecticut College,** (March 6) invited speaker.

2007 Protasiewicz, J. D. "*New electronically interesting plastics and materials featuring main group elements"* **University of Connecticut ,** (March 14) invited speaker.

2007 Protasiewicz, J. D. "*New electronically interesting plastics and materials featuring main group elements"* **McMaster University,** (April 19) invited speaker.

2007 Protasiewicz, J. D. "*New electronically interesting plastics and materials featuring main group elements"* **Brock University,** (April 20) invited speaker.

2007 Protasiewicz, J. D. "*New electronically interesting plastics and materials featuring main group elements"* **University of Vermont,** (May 3) invited speaker.

2007 Protasiewicz, J. D. "*New electronically interesting plastics and materials featuring main group elements"* **90th Canadian Chemical Conference,** (May 29) invited plenary speaker.

2007 Protasiewicz, J. D. "*Conjugated polymers and materials featuring main group elements*" **University of Dayton** (Sept. 20) invited speaker.

2007 Protasiewicz, J. D. "*Conjugated polymers and materials featuring main group elements*" **Indiana University**, (Sept. 21) invited speaker.

2008 Protasiewicz, J. D. "*Conjugated polymers and materials featuring main group elements*" **Youngstown State University**, (March 28) invited speaker.

2008 Protasiewicz, J. D. "*Capitalizing on Terphenyl Scaffolds for Ligands and Catalysts*" **Central Regional ACS Meeting**, (June 11) invited speaker.

2008 Protasiewicz, J. D. **NSF Workshop on Cyber-Enabled Instrumentation**, (July 16-18) workshop participant.

2008 Protasiewicz, J. D. "*Gold complexes of low coordinate phosphorus compounds*" **Inorganic Gordon Conference; Newport, RI**, (June 13-16) submitted poster.

2009 Protasiewicz, J. D. "*Conjugated polymers and materials featuring main group elements*" **Kent State University**, (Feb. 22) invited speaker.

2009 Protasiewicz, J. D. "*meta-Terphenyl anchored pincer complexes*" **National ACS Meeting, Salt Lake City**, (March 22) contributed talk.

2009 Protasiewicz, J. D. "*Phospha-PPVs and phospha-OPVs: Materials featuring phosphorus as participatory element in pi-conjugation*" **National ACS Meeting, Salt Lake City**, (March 22) contributed talk.

2009 Protasiewicz, J. D. "*Gold adducts of diphosphenes, phospha-Wittig reagents, and phosphines*" **National ACS Meeting, Salt Lake City**, (March 23) contributed talk.

2009 Protasiewicz, J. D. "*Twisted and Nonplanar Pincer Complexes: Structures and Catalysis"* **92nd Canadian Chemical Conference,** (June 30) invited plenary speaker.

2009 Protasiewicz, J. D. "*Development of Multiply Bonded Main Group-Based Materials with Novel Photophysical Properties*" **Inorganic Gordon Conference; Biddeford, ME**, (June 21-26) submitted poster.

2010 Protasiewicz, J. D. "*Twisted and Nonplanar Pincer Complexes: Structures and Catalysis"* **University of Ottawa, Canada**, (March 30) invited speaker.

2010 Protasiewicz, J. D. "*New Conjugated Materials Featuring Low Coordinate Phosphorus*" **International Symposium on Functional Pi Electron Systems 9 (F-Pi-9); Atlanta, GA**, (May 23-28) submitted poster.

2010 Protasiewicz, J. D. "Phosphorus as a Carbon-Copy and as a Photo-Copy: Rise of New Conjugated Materials" **Inorganic Gordon Conference; Biddeford, ME**, (June 20-25) invited speaker.

2010 Protasiewicz, J. D. "*Phosphorus as a Carbon-Copy and as a Photo-Copy*" **National ACS Meeting, Boston, MA**, (August 22-26) submitted talk to Lippard Symposium.

2010 Protasiewicz, J. D. "*Multiply bonded low coordinate phosphorus in pi-conjugated materials*" **Pacifichem; Honolulu, Hawaii**, (Dec. 15-20) invited speaker.

2011 Protasiewicz, J. D. "*Fly Fishing In Ireland: Lough Corrib World Varsities Trout Fly Fishing Competition*" **North Coast Fly Fishers, Ohio** (Jan. 15) invited speaker.

2011 Protasiewicz, J. D. *"FRIONs: Flame retardant ions for safer lithium ion batteries"* **National ACS Meeting, Anaheim, CA**, (April 30) contributed talk.

2011 Protasiewicz, J. D. *"Phosphorus as a carbon copy and as a photocopy for conjugated polymer chemistry"* **National ACS Meeting, Anaheim, CA**, (April 28) contributed talk.

2011 Protasiewicz, J. D. *"Development of soluble hypervalent organoiodine reagents for homogenous transition metal catalyzed reactions"* **National ACS Meeting, Anaheim, CA**, (April 28) invited speaker for V. Zhdankin Award Symposium.

2011 Protasiewicz, J. D. "*Design and Synthesis of Conjugated Materials For Optoelectronic Applications Featuring Phosphorus*" **Moravian College**, (April 6) invited speaker.

2011 Protasiewicz, J. D. "*Phosphorus as a carbon copy and as a photocopy for conjugated polymer chemistry*" **University of Calgary**, **Canada**, (April 29) invited speaker.

2011 Protasiewicz, J. D. *"Coordination Chemistry of Low Coordinate Phosphorus Compounds"* **Zing Conference on Coordination Chemistry, Cancun, Mexico**, (December 13) invited speaker.

2012 Protasiewicz, J. D. "*"Phun" with Phosphorus. New Conjugated Materials Featuring Multiply Bonded Phosphorus Atoms*" **Cleveland State University**, (February 24) invited speaker.

2012 Protasiewicz, J. D. *"*FRIONs: Flame retardant ions for safer lithium ion batteries*"* **National ACS Meeting, San Diego, CA**, (March 27) contributed talk.

2012 Protasiewicz, J. D. *"*Phosphorus as a carbon copy and as a photocopy for conjugated materials chemistry*"* **National ACS Meeting, San Diego, CA**, (March 25) contributed talk.

2012 Protasiewicz, J. D. "*Phosphorus as a carbon copy and as a photocopy for conjugated polymer chemistry*" **University of North Carolina, Charlotte**, (April 26) invited speaker.

2012 Protasiewicz, J. D. *""Phosphorus as a Carbon-Copy and as a Photo-Copy: Rise of New Conjugated Materials Featuring Multiply Bonded Phosphorus"* **International Conference on Heteroatom Chemistry, Kyoto, Japan**, (March) invited speaker.

2012 Protasiewicz, J. D. "*Phosphorus as a carbon copy and as a photocopy for conjugated polymer chemistry*" **University of North Carolina, Charlotte**, (April 26) invited speaker.

2012 Protasiewicz, J. D. "*Phosphorus as a carbon copy and as a photocopy for conjugated polymer and materials chemistry*" **University of New Zealand, Auckland**, (June 4) invited speaker.

2012 Protasiewicz, J. D. *"Phosphorus as a Carbon-Copy and as a Photo-Copy: New Conjugated Materials Featuring Multiply Bonded Phosphorus"* **National ACS Meeting, Philadelphia, PA**, (August 20) invited

talk.

2012 Protasiewicz, J. D. *"Phosphorus as a Carbon-Copy and as a Photo-Copy: New Conjugated Materials Featuring Multiply Bonded Phosphorus"* **Zhengzhou Workshop, Zhengzhou, China**, (Sept. 17) invited talk.

2013 Protasiewicz, J. D. *"Phosphorus as a Carbon-Copy and as a Photo-Copy: New Conjugated Materials Featuring Multiply Bonded Phosphorus"* **Uppsala University, Uppsala, Sweden**, (June. 13) invited talk.

2013 Protasiewicz, J. D. *"FRIONs: Flame retardant ions for safer lithium ion batteries"* **National ACS Meeting, Indianapolis, IN**, (Sept. 11) invited talk.

2013 Protasiewicz, J. D. *"Fluorescent phospha-acenes as new electronically interesting materials"* **National ACS Meeting, Indianapolis, IN**, (Sept. 9) contributed talk.

2013 Protasiewicz, J. D. *"*π-Conjugated Materials Featuring Phosphorus-Carbon Multiple Bonds*"* **Zing Conference on Coordination Chemistry, Cancun, Mexico**, (Dec. 5) invited speaker.

2014 Protasiewicz, J. D. "*Materials for Energy Applications Based on Main Group Chemistry*" **University of Akron**, (Jan. 22) invited speaker.

2014 Protasiewicz, J. D. *"*Hypervalent iodine compounds for transition metal catalyzed oxidation reactions*"* **International Conference on Hypervalent Iodine Chemistry, Narita, Japan**, (July 3) invited speaker.

2015 Protasiewicz, J. D. "*Carbon- and Photo-Copying Organic Conjugated Materials with Phosphorus*" **Carnegie Mellon University**, (April 16) invited speaker.

2015 Protasiewicz, J. D. *"Benzoxaphospholes and Related Compounds as Luminescent Materials"* **International Conference on Heteroatom Chemistry, Caen, France**, (June 15) invited speaker.

2015 Protasiewicz, J. D. *"Luminescent materials featuring multiply bonded phosphorus groups"* **National ACS Meeting, Boston, MA**, (Aug. 16) contributed talk.

2015 Protasiewicz, J. D. *"Phospha-acenes"* **Pacifichem Meeting, Honolulu, HI**, (De. 16) contributed talk.

2015 Protasiewicz, J. D. *"Advances in luminescent materials containing multiply bonded phosphorus"* **Pacifichem Meeting, Honolulu, HI,** (Dec. 19) invited talk.

2016 Protasiewicz, J. D. *"Phosphorus as a Carbon-Copy and as a Photo-Copy: Rise of New Conjugated Materials Featuring Multiply Bonded Phosphorus"* **European Workshop on Phosphorus Chemistry, Berlin, Germany,** (March 8) invited talk.

2016 Protasiewicz, J. D. *"Luminescent Benzoxaphospholes as Ligands for Transition Metals"* **Gordon Research Conference on Inorganic Chemistry, Biddeford, ME,** (June 20) contributed poster.

2016 Protasiewicz, J. D. *"Tailoring Hypervalent Iodine Compounds for Catalysis"* **International Conference on Hypervalent Iodine Chemistry, Les Diablerets, Switzerland,** (July 5) invited talk.

2016 Protasiewicz, J. D. *"Luminescent Benzoxaphospholes as Ligands for Transition Metals"* **National ACS Meeting, Philadelphia, PA**, (Aug. 24) contributed talk.

2017 Protasiewicz, J. D. *"Synthesis of benzoylphosphine via insertion of sodium phosphaethynolate (Na[OCP]) into a zirconium benzyne complex"* **National ACS Meeting, San Francisco**, (April 3) contributed talk.

2017 Protasiewicz, J. D. *"New Routes to π-Conjugated Organophosphorus Materials"* **International Conference on Heteroatom Chemistry, Vancouver, Canada,** (June 13) invited talk.

2017 Protasiewicz, J. D. *"Benzoxaphospholes & Related Compounds as Luminescent Materials"* **National ACS Meeting, San Francisco**, (August 22) invited talk.

2017 Protasiewicz, J. D. *"Conjugated Luminescent Materials Featuring Multiply Bonded Phosphorus Atoms"* **Bowling Green State University**, (Sept. 13) invited talk.

2017 Protasiewicz, J. D. *"Phosphorus as an element for hybrid inorganic-organic materials having interesting optoelectronic properties"* **Colorado State University**, (October 3) invited talk.

2017 Protasiewicz, J. D. *"Phosphorus as an element for hybrid inorganic-organic materials having interesting optoelectronic properties"* **University of Windsor, Canada**, (Dec. 8) invited talk.

2017 Protasiewicz, J. D. "*Fly Fishing Out West in Colorado, Wyoming and Montana*" **North Coast Fly Fishers, Ohio** (Nov. 1) invited speaker.

2018 Protasiewicz, J. D. *"Phosphorus as an Element for Hybrid Inorganic-Organic Materials Having Interesting Optoelectronic Properties"* **Youngstown State University**, (Feb. 9) invited talk.

2018 Protasiewicz, J. D. *"Phosphorus as an Element for Hybrid Inorganic-Organic Materials Having Interesting Optoelectronic Properties"* **Lehigh University**, (May 2) invited talk.

2018 Protasiewicz, J. D. *"Phosphorus as an Element for Hybrid Inorganic-Organic Functional Materials"* **Lubrizol Corporation**, (May 24) invited talk.

2018 Protasiewicz, J. D. *"Advances in the Synthesis and Photophysics of 1,3-Benzoxaphospholes and Related Materials"* **International Conference on Phosphorus Chemistry, Budapest, Hungary,** (July 10) contributed talk.

2018 Protasiewicz, J. D. *"1,3-Benzoxaphospholes and Related Compounds as Luminescent Materials"* **National ACS Meeting, Boston**, (Aug. 21) invited talk.

2019 Protasiewicz, J. D. *"Carbenes and phosphaalkenes-reactivity and applications in photoactive materials "* **National ACS Meeting, Orlando**, (April 2) invited talk.

2019 Protasiewicz, J. D. *"Impact of Stable Carbenes on π-Conjugated Nitrogen and Phosphorus Compounds"* **International Conference on Heteroatom Chemistry, Prague, Czech Republic,** (July 4) contributed talk.

2019 Protasiewicz, J. D. *"Benzoxaphospholes as Ligands for Transition Metals "* **Southeastern Regional Meeting of the ACS (SERMACS), Savannah, GA**, (Oct. 20) invited talk.

2019 Protasiewicz, J. D. *"Impact of Stable Carbenes on the Photophysics of Heterocyclic Nitrogen and Phosphorus Compounds"* **Selected Problems of Chemistry of Acyclic and Cyclic Heteroorganic Compounds Conference, Częstochowa, Poland** (Nov. 21) invited talk.

2019 Protasiewicz, J. D. *"Impact of Stable Carbenes on the Photophysics of Heterocyclic Nitrogen and Phosphorus Compounds"* **Advances in the Chemistry of Heteroorganic Compounds Conference, Lodz , Poland** (Nov. 21) invited talk.

2020 Protasiewicz, J. D. *"Phosphorus as an Element for Hybrid Inorganic-Organic Functional Materials"* **John Carroll University**, (Jan. 22) invited talk.

2020 Protasiewicz, J. D. *"Phosphorus as an Element for Hybrid Inorganic-Organic Functional Materials"* **Cleveland State University**, (Feb. 28) invited talk.

2020 Protasiewicz, J. D. *"Conjugated Organophosphorus Materials featuring Multiply Bonded Phosphorus Atoms"* **University of Nevada Reno**, (Nov. 20) invited talk (ZOOM).

2021 Protasiewicz, J. D. *"From Carbon-Copies to Photo-Copies, Chasing π-Conjugated Materials Featuring P=E Bonds"* **European Monthly Online Phosphorus Seminar**, (June 17) invited talk (ZOOM).

2021 Protasiewicz, J. D. *"Carbon- and Photo-Copies of Olefins: Overview, Synthesis, & Properties of π-Conjugated Materials with P=E Bonds"* **University of Bonn, Germany**, (June 23-25) Workshop (three sets of invited talks). Trip & Lectures sponsored by University of Bonn International Fellowship

2021 Protasiewicz, J. D. *"New Directions in the Chemistry of Luminescent 1,3-Benzoxaphospholes and 1,3-Benzazaphospholes"* **International Conference on Phosphorus Chemistry, Częstochowa, Poland** (July 7) invited speaker - lecture (moved to ZOOM).

2022 Protasiewicz, J. D. *"Photoactive π-Conjugated Materials Featuring Multiple Bonded Phosphorus Atoms"* **University of South Carolina**, (Feb. 18) invited talk.

2022 Protasiewicz, J. D. *"Synthesis and photophysics of π-conjugated luminescent phosphorus and nitrogen compounds"* **National ACS Meeting, San Diego**, (March 21) invited talk.

2022 Protasiewicz, J. D. *"Metal-Free Dehydrocoupling Reactions of Primary and Secondary Phosphines"* **National ACS Meeting, San Diego**, (March 24) contributed talk.

2022 Protasiewicz, J. D. *"Shining New Light on Luminescent Low-Coordinate Organophosphorus Compounds"* **2nd Spanish Workshop on Phosphorus Chemistry, Spain** (June 20) invited plenary speaker - lecture (ZOOM).

2022 Protasiewicz, J. D. *"Luminescent 1,3-Benzoxaphospholes and 1,3-Benzazaphospholes"* **International Symposium on Inorganic Ring Systems (IRIS16), Gratz, Austria** (July 28) contributed talk.

2022 Protasiewicz, J. D. *"From carbon-copies to photo-copies: Luminescent 1,3-benzoxaphospholes and 1,3-*

benzazaphospholes" **National ACS Meeting, Chicago**, (Aug. 21) invited talk.

2022 Protasiewicz, J. D. *"NSF Panel Reviews-who reviews proposals?"* **CWRU Graduate Council Arts & Sciences, Cleveland**, (Oct. 10) invited talk to graduate students.

2022 Protasiewicz, J. D. *"Shining New Light on Luminescent Low-Coordinate Organophosphorus Compounds"* **Southeastern Regional Meeting ACS (SERMACS), San Juan, Puerto Rico**, (Oct. 21) invited talk.

2023 Protasiewicz, J. D. *"Photoactive π-Conjugated Materials Featuring Multiple Bonded Phosphorus Atoms"* **Oakland University**, (Feb. 8) invited talk.

2023 Protasiewicz, J. D. *"Chasing Low-Coordinate Organophosphorus Compounds with Interesting, Maybe Even Useful, Photophysical Properties"* **MIT Bruker Symposium**, (Feb. 25) invited talk.

2023 Protasiewicz, J. D. *"Chasing Low-Coordinate Organophosphorus Compounds with Interesting, Maybe Even Useful, Photophysical Properties"* International Symposium on Interplay of p-Block and Organometallic Chemistry **IpBOC-23**, Murcia, Spain, (March 13) invited talk.

2023 Protasiewicz, J. D. *"Carbon-copies vs photo-copies: Shining light on luminescent low-coordinate organophosphorus compounds"* **National ACS Meeting, Indianapolis, IN**, (March 26) invited talk.

2023 Protasiewicz, J. D. *"Unusual routes to benzoxadiphospholes via PP coupling reactions"* **National ACS Meeting, Indianapolis, IN**, (March 27) invited talk.

2023 Protasiewicz, J. D. *"Multiple reaction pathways for isolable carbenes and NH containing materials"* **National ACS Meeting, Indianapolis, IN**, (March 28) invited talk.

2023 Protasiewicz, J. D. *"Photoluminescent π-Conjugated Materials Featuring Multiple Bonded Phosphorus Atoms"* **University of Toledo**, (April 17) invited talk.

2023 Protasiewicz, J. D. *"Photoluminescent π-Conjugated Materials Featuring Multiple Bonded Phosphorus Atoms"* **University of Kansas**, (April 21) invited talk.

2023 Protasiewicz, J. D. *"Phuntastic Chemistry"* Achievements in Molecular Inorganic Chemistry Symposium, **University of Bonn, Germany**, (Sept. 11) invited talk.

2023 Protasiewicz, J. D. *"Photoluminescent π-Conjugated Materials Featuring Multiple Bonded Phosphorus Atoms"* **University of Toronto, Canada**, (Nov. 30) invited talk.

2023 Protasiewicz, J. D. *"Photoluminescent π-Conjugated Materials Featuring Multiple Bonded Phosphorus Atoms"* **Brock University, Canada**, (Dec. 1) invited talk.

2024 Protasiewicz, J. D. *"Phosphorus as an element for hybrid inorganic-organic functional materials"* **John Carroll University**, (Feb. 21) invited talk.

2024 Protasiewicz, J. D. *"Catalytic dehydrocoupling routes to benzoxadiphospholes and other PP bonded materials "* **Emerging Trends in Organometallics and Catalysis, Kolkata, India**, (July 13) invited talk.

2024 Protasiewicz, J. D. *"ortho-Phosphinophenol, a Relatively Simple Air-Stable Primary Phosphine with a Rather Rich Chemistry"* **International Conference on Organometallic Chemistry**, Agra, India, (July 15) invited talk.

2025 Protasiewicz, J. D. *"Photoluminescent π-Conjugated Materials Featuring Multiple Bonded Phosphorus Atoms & Unusual Reactivity"* **University of Akron**, (Jan. 23) invited talk.

****

Conference Speaker Invitations deferred/cancelled due to COVID-19/politics:

20XX Protasiewicz, J. D. *"Chemistry of Luminescent 1,3-Benzoxaphospholes and 1,3-Benzazaphospholes"* **International Conference on Phosphorus Chemistry, Ningbo, China** (original dates May 31-June 4, 2020) invited speaker - lecture.

20XX Protasiewicz, J. D. *"Structural Chemistry of Hypervalent Iodine Compounds & Secondary Bonding"* **International Conference on Hypervalent Iodine Chemistry, Moscow, Russia** (original dates June 28-July 2, 2020) invited speaker - lecture.