

## NICHOLAS A LEED

### SUMMARY

Inorganic Chemist with experience teaching a wide range of students from the high school level through graduate students. Previous positions involved education, manufacturing, biological, and experimental applications as well as troubleshooting various instruments. Proficient in standard software for modeling, simulation, optimization, and analysis. Skilled and experienced with the maintenance and repair of GC-MS, GC-FID, HPLC, ICP-MS, ESI-MS, TCSPC, NMR and UV-VIS and IR spectrometers.

### EDUCATION

#### **Ph.D. Inorganic Chemistry, The Ohio State University** **2008 – 2013**

- Advisor: Claudia Turro, PhD
- Research Focus: Ultrafast studies to explore their photodynamic and photophysical properties of novel inorganic complexes with possible applications in photodynamic therapy, dye sensitized solar cells, and photo isomerization

#### **B.S.E. Chemistry, Millersville University, Millersville, Pennsylvania** **1999 – 2003**

- Advisor: Mark Iannone, PhD
- Senior Project: Student Teaching, CP and AP chemistry courses at Hempfield High School.
- GPA: 3.4/4.0

### PROFESSIONAL EXPERIENCE

#### **Millersville University, Millersville, PA** **August 2022 – May 2023** ***Visiting Professor***

- Create lesson plans for non-science major general chemistry students (Chem 101 and Chem 103/104)
- Supervise General Chemistry lab for non-science major students
- Integrate the use of an e-book textbook and digital delivery homework into the course
- Use techniques from the American Modeling Teachers Association to assist students in learning the skills of dimensional analysis and stoichiometry
- Supervise Organic Chemistry laboratory

#### **The University of Delaware, Newark, DE** **August 2019 – Present** ***Adjunct Professor***

- Create lesson plans for general chemistry students
- Integrate the use of an e-book textbook and digital delivery homework into the course
- Use techniques from the American Modeling Teachers Association to assist students in learning the skills of dimensional analysis and stoichiometry
- Assist non-English speaking students through the English Language Institute of the University of Delaware
- Integrate the use technology into the classroom such as the use of iClicker problems/quizzes into the lecture to allow feedback and more individual interaction with students

#### **Widener University, Chester, PA** **September 2019 – Present** ***Adjunct Professor***

- Supervised a general chemistry laboratory for nursing students (Chem106)
- Supervised a general chemistry laboratory for science students (Chem148)
- Grading of laboratory reports and exams

**The University of the Incarnate Word, San Antonio, TX    January 2016 – December 2016**  
*Instrument Specialist*

- Maintain and train students and faculty on the various analytical instruments operated by the department: Agilent HPLC, Agilent GC-MS, Varian ICP-MS, Bruker NMR, Anasazi NMR, Agilent UV-VIS, Varian ATR-IR, Flame AA, PTI Fluorimeter, Microwave synthesis, Advion ESI-MS
- Laboratory lectures/recitations for the general chemistry classes
- Design and implementation of novel laboratory experiments
- Assist laboratory classes with use of analytical instruments
- Assist in grant writing for laboratory equipment

**Benjamin Franklin High School, New Orleans, LA** **March 2014 – December 2015**  
*Chemistry Teacher*

- Create lesson plans for 5 general chemistry classes as well as one earth science class.
- Grading of projects and tests
- Design and management of high school level laboratory experiments
- Assist students with an Independent Research Project in STEM fields
- Assist in grant writing for laboratory equipment

**Tulane University, New Orleans, LA**  
*Postdoctoral Research Fellow, Russell Schmehl, PhD* **May 2013 – July 2014**

- Maintenance and operation of various spectroscopic systems, nanosecond transient absorbance, time-correlated single photon counting
- Explored the photodynamic and photophysical properties of crude oil collected during the Deepwater Horizon oil spill
- Management of undergraduate researchers

**The Ohio State University, Columbus, OH**  
*Graduate Research Assistant, Claudia Turro, PhD*

- Synthesis and characterization of Ruthenium and Rhodium complexes for use as photodynamic therapy agents in the treatment of cancer
- Maintenance and operation of various spectroscopic systems, nano/femtosecond transient absorbance
- Explored the photodynamic and photophysical properties of inorganic complexes through ultrafast laser techniques
- Teaching assistant for graduate and undergraduate level courses

**Shank's Extracts, Centerville, PA** **May 2005 – July 2008**  
*Chemical Analyst, Technical Services Lab*

- Maintenance and operation of analytical instruments including GC/FID, HPLC-UV/VIS and GC/MS.
- Method Development and optimization for various analytical techniques
- Quality control of raw materials as well as finished products
- Research and development of novel products

## QUALIFICATIONS

- Inorganic Chemist with strong analytical and instrumental background
- Proficient in computational chemical modeling in Spartan 4.0, Gaussian 03/09, Chem 3D Pro 12.0.
- Inorganic synthetic methods in liquid phase, solid state and vacuum line
- Experience with varied spectroscopy/chromatography techniques (infrared/near-infrared spectroscopy, gas chromatography, high-performance liquid chromatography, ESI mass spectroscopy, MALDI mass spectroscopy, NMR spectroscopy, nano/femto second laser spectroscopy)
- GC and HPLC method development and maintenance
- NMR maintenance and cryo-fills

## Publications

- "Excited State Dynamics of Two New Ru(II) Cyclometallated Dyes: Relation to Cells for Solar Energy Conversion and Comparison to Conventional Systems" *J. Phys. Chem. C*, **2012**, 116 (42), pp 22186–22195
- "Directional Charge Transfer and Highly Reducing and Oxidizing Active Excited States of New Dirhodium(II,II) Complexes: Potential Applications in Solar Energy Conversion" *Chem. Sci.*, **2014**, 5, 727-737
- "Marked Improvement in Photoinduced Cell Death by a New Tris-Heteroleptic Complex with Dual Action: Singlet Oxygen Sensitization and Ligand Dissociation" *J. Am. Chem. Soc.*, **2014**, 136, 17095-17101

## PRESENTATIONS

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| • Central Regional Meeting of the ACS, Detroit, Michigan; Oral Presentation         | <b>June 2012</b>    |
| • National Meeting of the ACS, Philadelphia, Pennsylvania; Poster                   | <b>August 2012</b>  |
| • Inter-American Photochemical Society Winter Meeting,<br>Sarasota, Florida; Poster | <b>January 2013</b> |
| • Gulf of Mexico Research Initiative Annual Meeting, Mobile Alabama; Poster         | <b>January 2014</b> |
| • National Meeting of the ACS, Philadelphia, Pennsylvania; Poster                   | <b>August 2016</b>  |