

Nadeesha Prabhathinie Nambukara Wellala

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EDUCATION

Doctor of Philosophy (Ph.D.) in Organic Chemistry

Expected December 2016

University of Cincinnati, Cincinnati, OH, USA

- Advisor: Prof. Hairong Guan

Bachelor of Science (B.Sc.) in Chemistry

2004-2008

University of Colombo, Colombo, Sri Lanka

Minor Concentrations: Botany, Biochemistry, and Computer Science

AWARDS

University Research Council (URC) Graduate student research fellowship, University of Cincinnati, Cincinnati, OH, USA, Summer 2016 - \$3000

Henry Hochstetter Award for excellence in teaching, Department of Chemistry, University of Cincinnati, Cincinnati, OH, USA, 2013

PUBLICATIONS

Wellala, N. P. N.; Guan, H. "A Diphenyl Ether Derived Bidentate Secondary Phosphine Oxide as a Preligand for Nickel-Catalyzed C-S Cross-Coupling Reactions." *Org. Biomol. Chem.* **2015**, *13*, 10802-10807.

Wellala, N. P. N.; Guan, H.; Collias, D.; Hayes, J. C. "Production of Terephthalic Acid via Reductive Coupling of Propiolic Acid Derivatives." US provisional patent (serial number 62/132550) filed on March 13, **2015**.

COLLABORATIVE EXPERIENCE

Collaborate with Proctor & Gamble (P&G) Corporate R&D to develop CO₂-based technology to synthesize terephthalic acid, December 2014-August 2015.

RELEVANT SKILLS

Development of transition-metal catalyzed organic transformations, organic synthesis, product purification, structural analysis (GC/MS, ¹H, ¹³C, ³¹P, ¹⁹F NMR, IR), literature searching, mentoring undergraduate students, teaching, oral and written presentations.

RESEARCH EXPERIENCE

University of Cincinnati, Cincinnati, OH, USA

2012-present

Graduate Research Assistant (Prof. Hairong Guan)

- Developed a diphenyl ether derived bidentate secondary phosphine oxide ligand and utilized it in nickel catalyzed carbon-sulfur cross-coupling reactions
- Studying the mechanism of carbon-sulfur cross-coupling reactions catalyzed by secondary phosphine oxide ligated nickel complex
- Developed pyridine bis-amide ligands and utilizing them in nickel catalyzed carbon-sulfur cross-coupling reactions

- Developed nickel pincer complexes of deprotonated $\text{HN}(\text{CH}_2\text{CH}_2\text{P}^i\text{Pr}_2)_2$ and studying their reactivity
- Developing bipyridine ligated nickel complexes for decarboxylative trifluoromethylation reactions
- Developed a new synthetic route for terephthalic acid

University of Colombo, Colombo, Sri Lanka

2007-2008

Undergraduate Researcher (Prof. K. M. Nalin de Silva and Dr. W. Rohini M. de Silva)

- Developed *N*-(4-carboxyphenyl)-1-(4'-dimethylaminophenyl)methylamine ligated copper complex as a suitable candidate for metal organic framework

INDUSTRIAL EXPERIENCE

Internship at Quality Assurance and Research Laboratory of Lanka Refractories Ltd., Sri Lanka **2008**

- The following tests were carried out to assure the quality of the refractories: Apperant Porosity, Cold Crushing Strength, Modulus of Rupture, Particle Size Distribution, Moisture Content, Water Absorption.

TEACHING EXPERIENCE

University of Cincinnati

September 2011-April 2015

- **Teaching Assistant**
Taught Freshman Chemistry recitations and laboratories and Organic Chemistry laboratories

South Asian Institute of Technology and Management, Sri Lanka

February 2010-Present

- **Lecturer in Chemistry and Biochemistry** - September 2010-Present
- **Assistant Lecturer in Chemistry** - February 2010-August 2010
Taught Organic Chemistry recitations, laboratories, and Freshman Chemistry laboratories for first year premedical undergraduate students

The Open University of Sri Lanka

June 2009-January 2010

- **Teaching Assistant**
Taught Natural Product Chemistry recitations, Organic, Inorganic, Analytical, Physical Chemistry laboratories for first, second, and third year undergraduate students
Conducted workshops in Organic, Physical and Analytical Chemistry

University of Colombo, Colombo, Sri Lanka

September 2008-June 2009

- **Teaching Assistant**
Taught Biochemistry laboratories, Biostatistics laboratories for first and second year undergraduate students, Organic chemistry, Spectroscopy, Electrochemistry, and Analytical Chemistry recitations for second year undergraduate students

PROFESSIONAL MEMBERSHIPS

- American Chemical Society (ACS), USA
- Chemistry Graduate Student Association (CGSA), University of Cincinnati, Cincinnati, OH, USA
- Association for Women in Science (AWIS), Greater Cincinnati Chapter, Cincinnati, OH, USA

ORAL AND POSTER PRESENTATIONS

1. Wellala, N. P. N.; Guan, H. "A Diphenyl Ether Derived Bidentate Secondary Phosphine Oxides as a Preligand for Nickel-Catalyzed C-S Cross-Coupling Reactions." Graduate Student Expo & Poster Forum, Cincinnati, OH, USA, February 26, 2016. **(Poster)**
2. Wellala, N. P. N.; Guan, H. "A Diphenyl Ether Derived Bidentate Secondary Phosphine Oxides as a Preligand for Nickel-Catalyzed C-S Cross-Coupling Reactions." Oesper Symposium, ACS local meeting, Cincinnati, OH, USA, November 13, 2015. **(Poster)**
3. Luebking, J.; Wellala, N. P. N.; Guan, H. "Activation of S-H Bonds Via Metal-Ligand Cooperativity of Nickel Pincer Complexes." Undergraduate Research Conference, Cincinnati, OH, USA, April 24, 2015. **(Poster)**
4. Wellala, N. P. N.; Guan, H. "A Diphenyl Ether Based Secondary Phosphine Oxide as Preligand for Nickel-Catalyzed Carbon-Sulfur Cross-Coupling Reactions." 249th ACS National Meeting & Exposition, Denver, CO, USA, March 22-26, 2015. **(Oral)**
5. Wellala, N. P. N.; Guan, H. "A Diphenyl Ether Based Secondary Phosphine Oxide as Preligand for Nickel-Catalyzed Carbon-Sulfur Cross-Coupling Reactions." Graduate Student Expo & Poster Forum, Cincinnati, OH, USA, March 06, 2015. **(Poster)**
6. Wellala, N. P. N.; Guan, H. "Secondary Phosphine Oxides as Effective Ligands for Nickel-Catalyzed Carbon-Sulfur Cross-Coupling Reactions." Ohio Inorganic Weekend, Ann Arbor, MI, USA, November 14-15, 2014. **(Poster)**
7. Wellala, N. P. N.; Guan, H. "Secondary Phosphine Oxides as Effective Ligands for Nickel-Catalyzed Carbon-Sulfur Cross-Coupling Reactions." Oesper Symposium, ACS local meeting, Cincinnati, OH, USA, October 24, 2014. **(Poster)**
8. Wellala, N. P. N.; Guan, H. "Secondary Phosphine Oxide as an Effective Ligand for Nickel-Catalyzed Carbon-Sulfur Cross-Coupling Reactions." 31st H. C. Brown Lectures, West Lafayette, IN, USA, April 19, 2014. **(Poster)**
9. Mckoy, A.; Wellala, N. P. N.; Guan, H. "Pyridine Bis-amido Nickel Complexes for Catalytic Carbon-Sulfur Cross-Coupling Reactions." 247th ACS National Meeting, Dallas, TX, USA, March 16-20, 2014. **(Poster)**
10. Wellala, N. P. N.; Guan, H. "Secondary Phosphine Oxide as Effective Ligands for Nickel-Catalyzed Carbon-Sulfur Cross-Coupling Reactions." Graduate Poster Forum, Cincinnati, OH, USA, February 28, 2014. **(Poster)**
11. Wellala, N. P. N.; Guan, H. "Secondary Phosphine Oxides as Effective Ligands for Nickel-Catalyzed Carbon-Sulfur Cross-Coupling Reactions." Ohio Inorganic Weekend, Dayton, OH, USA, November 15-16, 2013. **(Poster)**
12. Wellala, N. P. N.; Guan, H. "Secondary Phosphine Oxide (SPO) as an Effective Ligand for Nickel-Catalyzed Carbon-Sulfur Cross-Coupling Reactions." 246th ACS National Meeting, Indianapolis, IN, USA, September 8-12, 2013. **(Oral)**
13. Wellala, N. P. N.; Guan, H. "Secondary Phosphine Oxides as Effective Ligands for Nickel-Catalyzed Carbon-Sulfur Cross-Coupling Reactions." Oesper Symposium, ACS local meeting, Cincinnati, OH, USA, October 25, 2013. **(Poster)**
14. Wellala, N. P. N.; Guan, H. "Secondary Phosphine Oxide as an Effective Ligand for Nickel-Catalyzed Carbon-Sulfur Cross-Coupling Reactions." 30th H. C. Brown Lectures, West Lafayette, IN, USA, April 27, 2013. **(Poster)**
15. Wellala, N. P. N.; Guan, H. "Secondary Phosphine Oxide as a Potential Ligand for Nickel-Catalyzed Carbon-Sulfur Cross-Coupling Reactions." Graduate Poster Forum, Cincinnati, OH, USA, March 01, 2013. **(Poster)**
16. Wellala, N. P. N.; Guan, H. "Secondary Phosphine Oxide as a Potential Ligand for Nickel-Catalyzed Carbon-Sulfur Cross-Coupling Reactions." Ohio Inorganic Weekend, Detroit, MI, USA, October 19-20, 2012. **(Poster)**

17. Wellala, N. P. N.; Guan, H. "Secondary Phosphine Oxide as a Potential Ligand for Nickel-Catalyzed Carbon-Sulfur Cross-Coupling Reactions." Oesper Symposium, ACS local meeting, Cincinnati, OH, USA, October 12, 2012. **(Poster)**

MENTORING UNDERGRADUATE STUDENTS

1. Adina Mckoy - NSF-REU program (Summer 2013), Rochester Institute of Technology, Rochester, NY.
She worked on "Pyridine Bis-amido Nickel Complexes for Catalytic Carbon-Sulfur Cross-Coupling Reactions."
2. John Luebking (Spring 2014, Summer 2014 and Fall 2014), University of Cincinnati, Cincinnati, OH.
He worked on "Activation of Sulfur-Hydrogen Bonds via Metal-Ligand Cooperativity of Nickel Pincer Complexes." He is currently enrolled in the Chemistry Ph.D. program at the Ohio State University.

ACTIVITIES

- Secretary of Chemistry Graduate Student Association (CGSA), University of Cincinnati, Cincinnati, OH, USA (2014-2015)
- Volunteer for Chemistry demonstrations for students from Summer Institute and Urban League (2014, 2016)
- Volunteer for ACS Project SEED Program (2013)
- Volunteer for Graduate Recruiting Weekend of the Department of Chemistry (2012)
- Active participant of CGSA poster board committee (2011 to present)