

Dennis Chung-Yang Huang

Institute for Chemical Reaction Design and Discovery (ICReDD) • Hokkaido University

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Current Affiliation

Institute for Chemical Reaction Design and Discovery (WPI-ICReDD), Hokkaido University

Job title Associate Professor (tenure-track junior PI)

Research area synthetic organic chemistry, transition metal catalysis, photochemistry

EXPERIENCE

- 2020–2021 API Process R&D Chemist @ ScinoPharm Taiwan
- 2019–2020 Substitute Military Serviceman @ Aviation Police Bureau
- 2015–2018 Humboldt Postdoctoral Research Fellow @ Humboldt-Universität zu Berlin
- Research Advisor: Prof. Stefan Hecht
- 2009 MIT-Japan MISTI Program Fellow @ The University of Tokyo
- Research Advisor: Prof. Eiichi Nakamura & Prof. Koji Harano

EDUCATION

- 2010–2015 Ph.D., Chemistry @ Princeton University, USA
- Thesis Advisor: Prof. Abigail Doyle
- 2006–2010 B.S., Chemistry @ Massachusetts Institute of Technology, USA
- Thesis Advisor: Prof. Rick Danheiser
 - concentration courseworks on Japanese studies
- 2003–2006 High School @ Kaohsiung Municipal Kaohsiung Senior Hight School, Taiwan

AWARDS AND HONORS

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| Humboldt Postdoctoral Research Fellowship | 2016–2018 |
| Merck-Patchett Summer Fellowship | 2014 |
| Taiwan MOE Technologies Incubation Scholarship | 2013–2015 |
| Eli Lilly - Edward C. Taylor Fellowship | 2013 |
| Merck Index Award | 2010 |
| Phi Beta Kappa | 2010 |
| MIT-Japan MISTI Summer Research Fund | 2009 |
| CRC Freshman Chemistry Achievement Award | 2007 |
| Silver medal at 38 th International Chemistry Olympiad (Gyeongsan, Korea) | 2006 |
| Silver medal at 37 th International Chemistry Olympiad (Taipei, Taiwan) | 2005 |

PUBLICATIONS

8. Kuan-Hsun Huang, Chung-Yang Huang, Tsung-Cheng Hu "Improved process for preparing osimertinib or a salt thereof." US20220185794A1, WO2022132046A1 (patent with ScinoPharm Taiwan, **2022**)
7. Budzák, S.; Jovaišaitė, J.; **Huang, C.-Y.**; Baronas, P.; Tulaitė, K.; Juršėnas, S.*; Jacquemin, D.*; Hecht, S.* "Mechanistic Insights into the Photoisomerization of *N, N'*-Disubstituted Indigos." *Chem. Eur. J.* **2022**, doi:10.1002/chem.202200496.
6. **Huang, C.-Y.**; Bonasera, A.; Hristov, L.; Garmshausen, Y.; Schmidt, B. M.; Jacquemin, D.*; Hecht, S.* "*N, N'*-Disubstituted Indigos as Readily Available Red-Light Photoswitches with Tunable Thermal Half-Lives." *J. Am. Chem. Soc.*, **2017**, *139*, 15205–15211.
5. Woods, B. P.; Orlandi, M.; **Huang, C.-Y.**; Sigman, M. S.*; Doyle, A. G.* "Nickel-Catalyzed Enantioselective Reductive Cross-Coupling of Styrenyl Aziridines." *J. Am. Chem. Soc.*, **2017**, *139*, 5688–5691.
4. **Huang, C.-Y.**; Doyle, A. G.* "Electron-Deficient Olefin Ligands Enable Generation of Quaternary Carbons by Ni-Catalyzed Cross-Coupling." *J. Am. Chem. Soc.*, **2015**, *137*, 5638–5641.
3. **Huang, C.-Y.**; Doyle, A. G.* "The Chemistry of Transition Metals with Three-Membered Ring Heterocycles." *Chem. Rev.*, **2014**, *114*, 8153–8198.
2. Nielsen, D. K.; **Huang, C.-Y.**; Doyle, A. G.* "Directed Nickel-Catalyzed Negishi Cross-Coupling of Alkyl Aziridines." *J. Am. Chem. Soc.*, **2013**, *135*, 13605–13609.
1. **Huang, C.-Y.**; Doyle, A. G.* "Nickel-Catalyzed Negishi Alkylations of Styrenyl Aziridines." *J. Am. Chem. Soc.*, **2012**, *134*, 9541–9544.

CONFERENCE PROCEEDINGS

2. Woods, Brian, **Huang, C.-Y.**; Doyle, A. G. "Nickel-Catalyzed Enantioselective Cross Coupling of Aziridines." *252nd ACS National Meeting*, **2016**, ORGN-87.
1. **Huang, C.-Y.**; Doyle, A. G. "Nickel-Catalyzed Negishi Alkylations of Styrenyl Aziridines." *244th ACS National Meeting*, **2012**, ORGN-510.

PRESENTATIONS

13. "From Organic Chemistry to Blue Jeans." National Chiayi Senior High School (Science Class), Chiayi, Taiwan, November 2018.
12. **ORCHEM 2018** (poster #P113), Berlin, Germany, September 2018.
11. **7th EuCheMS Chemistry Congress** (oral & poster #PO96S), Liverpool, UK, August 2018.
10. "*N, N'*-Disubstituted Indigos as Red-Light Photoswitches with Tunable Thermal Half-Lives." Max Planck Institute for Polymer Research (invited by Dr. Akimitsu Narita), Mainz, Germany, August 2018.
9. **Network Meeting of the Alexander von Humboldt Foundation** (poster #P35), Bielefeld, Germany, October 2017.
8. **GDCh WiFo: The Scientific Forum Chemistry 2017 Anniversary Congress** (poster #PH 010), Berlin, Germany, September 2017.
7. "*N*-Substituted Indigos as Red-Light Photoswitches with Tunable Thermal Half-Lives." **12th Phenics International Network Symposium** (oral presentation), Strasbourg, France, July 2017.
6. **The 28th International Conference on Photochemistry** (poster #MIM-POS-20), Strasbourg, France, July 2017.
5. "*N*-Substituted Indigo Photoswitches." **8th International Symposium on Photochromism** (oral presentation #O-17), Shanghai, China, November 2016.
4. **26th International Conference on Organometallic Chemistry** (poster #1P151), Sapporo, Japan, July 2014.
3. **16th Biennial Eli Lilly Grantee Symposium** (poster), Indianapolis, IN, USA, March 2014.
2. "Nickel-Catalyzed Negishi Alkylations of Styrenyl Aziridines." **244th ACS National Meeting** (oral presentation #510), Philadelphia, PA, USA, August 2012.
1. "The Industrial Applications of Cross-Coupling Reactions." LCY Chemical Corporation (invited talk), Taipei, Taiwan, January 2012.

TEACHING EXPERIENCE

- ◆ *Practical Course Co-Assistant, Advanced Organic Chemistry* 2018
Department of Chemistry, Humboldt-Universität zu Berlin
- ◆ *Private Tutor, Organic Chemistry I, II* 2016
Berlin
- ◆ *Laboratory Teaching Assistant, Organic Chemistry I, II* 2011–2012
Department of Chemistry, Princeton University
- ◆ *Undergraduate tutor, Organic Chemistry I, II, Physical Chemistry I* 2007–2008
Department of Chemistry, Massachusetts Institute of Technology

MENTORING

- ◆ Bachelor thesis student, Humboldt-Universität zu Berlin 2017
“Dynamic Covalent Chemistry with Indigo Photoswitches”
- ◆ Master student, Humboldt-Universität zu Berlin 2016–2017
“Development of Water-Soluble Indigo Photoswitches”
- ◆ Visiting student, Humboldt-Universität zu Berlin 2015–2016
“An Exploration of Indigo Functionalization”
- ◆ Graduate student, Princeton University 2014–2015
“Parameterization of Electron-Deficient Olefin Ligands”
- ◆ Undergraduate thesis student, Princeton University 2014–2015
“Mechanistic Investigations of Nickel-Catalyzed Aziridine Cross Couplings”
- ◆ Undergraduate researcher, Mercer County Community College 2012
“Preparation and Evaluation of Electron-Deficient Olefin Ligands”

ACADEMIC COLLABORATORS

- ◆ Prof. Akimitsu Narita @ Okinawa Institute of Science and Technology
bottom-up synthesis of functional materials
- ◆ Prof. Denis Jacquemin @ Université de Nantes, France
theoretical chemistry, computational photochemistry
- ◆ Prof. Šimon Budzák @ Matej Bel University, Slovakia
theoretical chemistry, computational photochemistry
- ◆ Prof. Arri Priimägi @ Tampere University of Technology, Finland
photonic materials, functional supramolecular systems
- ◆ Prof. Saulius Antanas Juršėnas @ Vilnius University, Lithuania
fluorescence spectroscopy, transient spectroscopy

PROJECTS

- ◆ Commercialization of “Fro-DO” ligand (product # 804371) with Sigma-Aldrich (2015)
- ◆ A Data Science Approach for the Analysis of Hammett Values (2019) <https://github.com/dennishcy/>

OUTREACH ACTIVITIES

- Know it Wall (journal article contributor) 2019
- ORCHEM 2018 (event staff), Berlin, Germany 2018
- Super Science Saturday: New Jersey State Science Festival, Trenton ACS, USA 2011–2015
- 42th National Organic Symposium (event staff), Princeton, USA 2011
- Study-Abroad Seminar (organizer), Kaohsiung Senior High School, Taiwan 2010

LANGUAGES

- Human languages** Chinese (native), English (fluent), Japanese (JLPT N1), German (CEFR B2~C1), Italian (beginner)
- Computer languages** Python (elementary), R (elementary)