

Sarah E. Reisman

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POSITION

- 6/2014 to present **Professor of Chemistry**
Division of Chemistry & Chemical Engineering
California Institute of Technology, Pasadena, CA.
- 6/2008 to
6/2014 **Assistant Professor of Chemistry**
Division of Chemistry & Chemical Engineering
California Institute of Technology, Pasadena, CA.

EDUCATION & TRAINING

- 2006-2008 **Harvard University, Cambridge, MA**
National Institutes of Health Postdoctoral Fellow with Professor Eric N. Jacobsen
- 2001 - 2006 **Yale University, New Haven, CT**
Ph.D. in Organic Chemistry with Professor John L. Wood
- 1997 - 2001 **Connecticut College, New London, CT**
Bachelor of Arts Degree in Chemistry
Undergraduate research with Professor Timo V. Ovaska

AWARDS & HONORS

- Heritage Medical Research Institute Investigator (2015-2017)
- The Society of Synthetic Organic Chemistry, Japan Lectureship Award (2015)
- Bristol-Myers Squibb Unrestricted Grant in Synthetic Organic Chemistry (2014-2015)
- Tetrahedron Young Investigator Award (2014)
- Arthur C. Cope Scholar Award (2013)
- American Cancer Society Research Scholar Award (2013-2016)
- Eli Lilly Grantee (2012-13)
- Novartis Early Career Award (2012-14)
- DuPont Young Professor Grant (2012-14)
- Amgen Young Investigator Award (2012)
- Camille Dreyfus Teacher-Scholar Award (2012)
- Cottrell Scholar Award (2012)
- Alfred P. Sloan Research Fellowship (2012)
- ACS WCC Rising Star Award (2012)
- Boehringer Ingelheim New Faculty Grant (2011)
- NSF CAREER Award (2011-2015)
- ACS PRF Doctoral New Investigator Award (2011-2013)
- Thieme Chemistry Journal Award (2011)
- Baxter Foundation New Faculty Award (2008)
- NIH NRSA Postdoctoral Fellowship (2006-2008)
- Certificate of Distinction in Teaching (Harvard College) (2006)
- Wolfgang Prize for Best Thesis (Yale University) (2006)
- Bristol-Myers Squibb Graduate Research Fellowship (2004-2005)
- Roche Pharmaceuticals Excellence in Chemistry Award (2004)
- Arthur J. and Helen Hill Endowed Fellowship (Yale University) (2004)
- Yale University Chemistry Department Teaching Award (Yale University) (2003)
- Jean V. Johnston Award in Chemistry (Connecticut College) (2001)
- Pfizer Summer Undergraduate Research Fellowship (2000)

- Award for Achievement in Organic Chemistry (Connecticut College) (1999)
- Lawrence Scholar Award (Connecticut College) (1997)

PUBLICATIONS

Contributions from Independent Career:

- Jang, K.-S.; Nani, R. R.; Kalli, A.; Levin, S.; Müller, A.; Hess, S.; Reisman, S. E.; Clemons, W. M. Jr. "A Cationic Cysteine-Hydrazide as an Enrichment Tool for the Mass Spectrometric Characterization of Bacterial Free Oligosaccharides." *Anal. Bioanal. Chem.* **2015**, *407*, 6181.
- Kadunce, N. T.; Reisman, S. E. "Nickel-Catalyzed Asymmetric Reductive Cross-Coupling between Heteroaryl Iodides and α -Chloronitriles." *J. Am. Chem. Soc.* **2015**, *137*, 10480.
- Cherney, A. H.; Kadunce, N. T.; Reisman, S. E. "Enantioselective and Enantiospecific Transition Metal-Catalyzed Cross-Coupling Reactions of Organometallic Reagents to Form C–C Bonds." *Chem. Rev.* **2015**, *115*, 9587.
- Cherney, A. H.; Reisman, S. E. "Nickel-Catalyzed Asymmetric Reductive Cross-Coupling Between Vinyl and Benzyl Electrophiles." *J. Am. Chem. Soc.* **2014**, *136*, 14365.
- Yeoman, J. T. S.; Cha, J. Y.; Mak, V. W.; Reisman, S. E. "A Unified Strategy for the Synthesis of (-)-Maoecrystal Z, (-)-Trichorabdal A, and (-)-Longikaurin E." *Tetrahedron*, **2014**, *70*, 4070.
- Wang, H.; Reisman, S. E. "Enantioselective Total Synthesis of (-)-Lansai B and (+)-Nocardioazines A and B." *Angew. Chem. Int. Ed.* **2014**, *53*, 6206.
- Hsiao, E. Y.; McBride, S. W.; Hsien, S.; Sharon, G.; Hyde, E. R.; McCue, T.; Codelli, J. A.; Chow, J.; Reisman, S. E.; Petrosino, J. F.; Patterson, P. H.; Mazmanian, S. K. "Microbiota Modulate Behavioral and Physiological Abnormalities Associated with Neurodevelopmental Disorders." *Cell* **2013**, *155*, 1451.
- Repka, L. M.; Reisman, S. E. "Recent Developments in the Catalytic, Asymmetric Construction of Pyrroloindolines Bearing All-Carbon Quaternary Stereocenters." *J. Org. Chem.* **2013**, *78*, 12314.
- Cherney, A. H.; Reisman, S. E. "Pd-Catalyzed Fukuyama Cross-Coupling of Secondary Organozinc Reagents for the Direct Synthesis of Unsymmetrical Ketones." *Tetrahedron* **2013**, *70*, 3259. DOI: 10.1016/j.tet.2013.11.104.
- Yeoman, J. T. S.; Mak, V. W.; Reisman, S. E. "A Unified Strategy to *ent*-Kauranoid Natural Products: Total Syntheses of (-)-Trichorabdal A and (-)-Longikaurin E." *J. Am. Chem. Soc.* **2013**, *135*, 11764.
- Cherney, A. H.; Kadunce, N. T.; Reisman, S. E. "Catalytic Asymmetric Reductive Acyl Cross-Coupling: Synthesis of Enantioenriched Acyclic α,α -Disubstituted Ketones." *J. Am. Chem. Soc.* **2013**, *135*, 7442.
- Kieffer, M. E.; Chuang, K. V.; Reisman, S. E. "Copper-Catalyzed Diastereoselective Arylation of Tryptophan Derivatives: Total Synthesis of (+)-Naseazines A and B." *J. Am. Chem. Soc.* **2013**, *135*, 5557.
- Ni, J.; Wang, H.; Reisman, S. E. "Direct, Enantioselective Synthesis of Pyrroloindolines and Indolines From Simple Indole Derivatives." *Tetrahedron*, **2013**, 5622.
- Nani, R. R.; Reisman, S. E. " α -Diazo- β -Ketonitriles: Uniquely Reactive Substrates for Arene and Alkene Cyclopropanation." *J. Am. Chem. Soc.* **2013**, *135*, 7304.
- Lim, A. D.; Codelli, J. A.; Reisman, S. E. "Catalytic Asymmetric Synthesis of Highly Substituted Pyrrolizidines." *Chem. Sci.* **2012**, *4*, 650.
- Kieffer, M. E.; Chuang, K. V.; Reisman, S. E. "A Copper-Catalyzed Arylation of Tryptamines for the Direct Synthesis of Aryl Pyrroloindolines." *Chem. Sci.* **2012**, *3*, 3170.
- Navarro, R. N.; Reisman, S. E. "Rapid Construction of the Aza-Propellane Core of Acutumine via a Photochemical [2+2] Cycloaddition Reaction." *Org. Lett.* **2012**, *14*, 4354.
- Kieffer, M. E.; Repka, L. M.; Reisman, S. E. "Enantioselective Synthesis of Tryptophan Derivatives by a Tandem Friedel-Crafts Conjugate Addition/Asymmetric Protonation Reaction." *J. Am. Chem. Soc.* **2012**, *134*, 5131.
- Codelli, J. A.; Puchlopek, A. L. A.; Reisman, S. E. "Enantioselective Total Synthesis of (-)-Acetylaranotin: A Dihydrooxepine Epidithiodiketopiperazine." *J. Am. Chem. Soc.* **2012**, *134*, 1930.
- Cha, J. Y.; Yeoman, J. T. S.; Reisman, S. E. "A Concise Total Synthesis of (-)-Maoecrystal Z." *J. Am. Chem. Soc.* **2011**, *133*, 14964.

6. Chuang, K. V.; Navarro, R. N., Reisman, S. E. "Short, Enantioselective Total Syntheses of (-)-8-Demethoxyrunanine and (-)-Cepharatines A, C and D." *Angew. Chem., Int. Ed.* **2011**, *50*, 9447.
5. Reisman, S. E.; Nani, R. R.; Levin, S. "Buchner and Beyond: Arene Cyclopropanation in the Service of Natural Product Total Synthesis." *Synlett*, **2011**, 2437.
4. Chuang, K. V.; Navarro, R. N., Reisman, S. E. "Benzoquinone-Derived Sulfinyl Imines as Versatile Intermediates for Alkaloid Synthesis: Total Synthesis of (-)-3-Demethoxyerythratidinone." *Chem. Sci.* **2011**, *2*, 1086.
3. Levin, S.; Nani, R. N.; Reisman, S. E. "Enantioselective Total Synthesis of (+)-Salvileucalin B." *J. Am. Chem. Soc.* **2011**, *133*, 774.
2. Repka, L. M.; Ni, J.; Reisman, S. E. "Catalytic Asymmetric Synthesis of Pyrroloindolines by a Formal [3+2] Cycloaddition Reaction." *J. Am. Chem. Soc.* **2010**, *132*, 14418.
1. Levin, S.; Nani, R.N.; Reisman, S.E. "Rapid Assembly of the Salvileucalin B Norcaradiene Core." *Org. Lett.* **2010**, *12*, 780.

Undergraduate, Graduate and Postdoctoral Research Contributions:

7. Freeman, D. B.; Holubec, A. A.; Weiss, M. W.; Dixon, J. A.; Kakefuda, A.; Ohtsuka, M.; Inoue, M.; Vaswani, R. G.; Ohki, H.; Doan, B. D.; Reisman, S. E.; Stoltz, B. M.; Day, J. J.; Tao, R. N.; Dieterich, N. A.; Wood, J. L. "Welwitindolinone C Synthetic Studies. Construction of the Welwitindolinone Carbon Skeleton Via a Transannular Nitrene Cycloaddition." *Tetrahedron*, **2010**, *66*, 6647.
6. Reisman, S. E.; Doyle, A. G.; Jacobsen, E. N. "Enantioselective Thiourea-Catalyzed Additions to Oxocarbenium Ions." *J. Am. Chem. Soc.* **2008**, *130*, 7198.
* highlighted in *Synfacts*, **2008**, *10*, 1106.
5. Reisman, S. E.; Ready, J. M.; Weiss, M. M.; Hasuoka, A.; Tamaki, K.; Ovaska, T. V.; Wood, J. L. "Evolution of a Synthetic Strategy: Total Synthesis of (±)-Welwitindolinone A Isonitrile." *J. Am. Chem. Soc.* **2008**, *130*, 2087.
4. Reisman, S. E.; Ready, J. M.; Hasuoka, A.; Smith, C. J.; Wood, J. L. "Total Synthesis of (±)-Welwitindolinone A Isonitrile." *J. Am. Chem. Soc.* **2006**, *128*, 1448.
* highlighted in *Synfacts*, **2006**, *7*, 642.
3. Ready, J. M.; Reisman, S. E.; Hirata, M.; Weiss, M. M.; Tamaki, K.; Ovaska, T. V.; Wood, J. L. "A Mild and Efficient Synthesis of Oxindoles: Progress toward the Synthesis of Welwitindolinone A Isonitrile." *Angew. Chem., Int. Ed.* **2004**, *43*, 1270.
2. Kumar, J. S. R.; O'Sullivan, M. F.; Reisman, S. E.; Hulford, C. A.; Ovaska, T. V. "Facile Approach to the Bicyclo[5.3.0]Decane Ring System; Efficient Synthesis of (±)-7-epi-β-Bulnesene." *Tetrahedron Lett.* **2002**, *43*, 1939.
1. Ovaska, T. V.; Reisman, S. E.; Flynn, M. A. *Org. Lett.* **2001**, *3*, 1, 115. "Facile Entry to the Tetracyclic 5-7-6-3 Tigliane Ring System."

Essays and Commentaries:

Codelli, J. A., Reisman, S. E. "Pactamycin Made Easy." *Science*, **2013**, *340*, 152.

Yeoman, J. T. S., Reisman, S. E. "Organic Chemistry: Single Molecules Put a Ring on It." *Nature*, **2012**, *490*, 179.

Reisman, S. E. "Medicinal Chemistry: New Lead For Pain Treatment." *Nature*, **2011**, *473*, 458.

PRESENTATIONS

A selection of named lectures, special symposia and conferences are listed below:

- *Lectureship Award Speaker*, The Society of Synthetic Organic Chemistry, Japan Symposium, Yugawara, Japan. 9/16/2015
- *Tri-Institutional PhD Program in Chemical Biology Annual Symposium*, New York, NY. 8/26/2015

- *Invited Speaker*, RSC International Symposium on Synthesis in Organic Chemistry, Cambridge, United Kingdom. 7/20/2015.
- *Invited Speaker*, Organometallic Chemistry directed toward Organic Synthesis Symposium. Sitges, Spain. 6/30/2015.
- *Invited Speaker*, 2015 Brazilian Chemical Society National Meeting, Aguas de Lindoia, Brazil. 5/26/2015.
- *Invited Speaker*, 50th EUCHEM Conference on Stereochemistry – “Bürgenstock Conference”, Brunnen, Switzerland. 4/29/2015.
- *Award Lecture*, 2015 Bristol-Myers Squibb Chemistry Award Symposium, Princeton, NJ. 4/16/2015.
- *Award Symposium in Honor of Gary Molander*, 249th National Meeting of the American Chemical Society, Denver, Colorado. 3/23/2015.
- *Cubist Pharmaceuticals Lecture*, Boston College, Chestnut Hill, MA. 3/12/2015.
- *Student Invited Speaker*, University of Southern California, Los Angeles, CA. 12/10/2014.
- *Student Invited Speaker*, University of Delaware, Newark, DE. 11/14/2014.
- *Silver Science Lecturer*, Barnard College, NY, NY. 11/13/2014.
- *Stereochemistry Gordon Research Conference*, Newport, RI. 7/30/2014.
- *Invited Speaker*, French American Chemical Society 15th Meeting, Avignon, France. 6/3/2014.
- *Award Lecture*, Tetrahedron Symposium, London, England. 6/25/2014.
- *Keith Fagnou Memorial Lecture*, University of Ottawa, Ottawa, Canada. 5/1/2014.
- *Paul Dowd Lectureship*, University of Pittsburgh, Pittsburgh, PA. 4/9/2014, 4/10/2014.
- *Novartis Early Career Award Symposium*, Novartis, Cambridge, MA. 11/4/2013.
- *Cope Scholar Symposium in Honor of Sarah Reisman*, 44th Western Regional Meeting of the American Chemical Society, Santa Clara, CA. 10/4/2013.
- *Aldrich Student Invited Lecture*, Massachusetts Institute of Technology, Cambridge, MA. 10/3/2013.
- *Plenary Speaker*. Reaxys Inspiring Chemistry Conference, Grindelwald, Switzerland. 9/24/2013.
- *Cope Scholar Award Symposium*, 246th National Meeting of the American Chemical Society, Indianapolis, IN. 9/10/2013.
- *Organic Reactions and Processes Gordon Research Conference*, Smithfield, Rhode Island. 7/16/2013.
- *High Throughput Chemistry and Chemical Biology Gordon Research Conference*, New London, NH. 6/3/2013.
- *Boehringer Ingelheim Symposium Invited Speaker*, Harvard University, Cambridge, MA. 5/20/2013.
- *DuPont Young Professor Award Lecture*, DuPont, Newark, DE. 5/8/2013.
- *Award Symposium in Honor of Erick Carreira*, 245th National Meeting of the American Chemical Society, New Orleans, LA. 4/9/2013.
- *AbbVie Symposium Invited Speaker*. University of Michigan, Ann Arbor, MI. 4/4/2013.
- *Student Invited Speaker*, Shenzhen Graduate School of Peking University, Shenzhen, China. 3/17/2013.
- *Organic Syntheses Distinguished Speaker*, Colorado State University, Ft. Collins, CO. 3/9/2013.
- *Bristol-Myers Squibb Lecturer*, University of California, Berkeley, Berkeley, CA. 1/29/2013.
- *Vertex Day Invited Speaker*, University of California, Irvine, CA. 12/6/2012.
- *Amgen Young Investigator's Symposium*, Amgen, Thousand Oaks, CA. 10/17/2012.
- *Plenary Speaker*, International Symposia for Advancing the Chemical Sciences, Edinburgh, Scotland. 6/9/2012.
- *Student Invited Lecture*. Philadelphia Organic Chemist's Club, University of Pennsylvania, Philadelphia, PA. 5/24/2012.
- *Award Symposium in Honor of Gregory Fu*, 243rd National Meeting of the American Chemical Society, San Diego, CA. 3/27/2012.
- *Keynote Speaker*. Banff Symposium on Organic Chemistry. Banff, Canada. 11/12/2011.
- *Boston University Women In Chemistry Invited Speaker*, Boston University, Boston, MA. 10/31/2011.

- *Natural Products Gordon Research Conference*, Smithfield, RI. 7/28/2011.
- *Women In Science at Columbia Invited Speaker*, Columbia University, New York, NY. 4/6/2011.
- *Heterocyclic Compounds Gordon Research Conference*, Newport, RI. 6/21/2010.