

Ian Bass Seiple

Curriculum Vitae

Appointment

Assistant Professor
University of California, San Francisco
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Personal

Place / Date of Birth: Chapel Hill, North Carolina, United States, January 26, 1984

Citizenship: United States

Education

2011 – 2015 NIH Postdoctoral Fellow
Adviser: Professor Andrew G. Myers
Harvard University, Cambridge, Massachusetts

2006 – 2011 Ph.D. in Chemistry
Adviser: Professor Phil S. Baran
The Scripps Research Institute, La Jolla, California

2002 – 2006 B.S. with Honors in Chemistry
Adviser: Professor Dirk Trauner
University of California at Berkeley, Berkeley, California

1998 – 2002 Full International Baccalaureate Diploma
Newbury Park High School, Newbury Park, California

Research Experience

2015 – Present **University of California, San Francisco** (Assistant Professor)

2011 – 2015 **Harvard University** (Postdoctoral Fellow)
Developed a highly convergent, practical platform for the synthesis of macrolide antibiotics in Professor Myers' laboratory. This platform has enabled the synthesis of over 150 novel antibiotic candidates, and has led to the discovery of a unique glycine aldol reaction.

2006 – 2011 **The Scripps Research Institute** (Graduate Student)
Developed an asymmetric route to the dimeric pyrrole-imidazole alkaloids, enabling the first total syntheses of palau'amine, the massadines, and the axinellamines. This research led to several ancillary discoveries involving radical arylation and trifluoromethylation of heterocycles.

2005 – 2006 **University of California at Berkeley** (Undergraduate Research Associate)
Completed total syntheses of natural products in the aureothin and taiwaniaquinoid families.

- 2005 **Amgen** (Undergraduate Summer Intern)
Investigated intramolecular migration of nitriles under radical conditions.
- 2002 **Rockwell Science Center** (High School Student Intern)
Designed the visual interface of a logistic probability modeling software.

Teaching Experience

- 2016 Co-instructor for Chemistry 244, a graduate-level Reaction Mechanisms course at UCSF.
- 2013 Invited speaker for Chemistry 135, the advanced undergraduate organic chemistry laboratory course at Harvard (April 22, 2013).
- 2012 – 2015 Resident Tutor at Harvard University
Description: In-house chemistry tutor for ~400 undergraduate students who reside in Lowell House. Weekly group study and individual tutoring for students in lower- and upper-division chemistry courses.
- 2009 – 2010 Graduate Teaching Assistant for Prof. Phil Baran at The Scripps Research Institute.
Courses: Classics in Total Synthesis II
Heterocyclic Chemistry

Honors and Awards

- 02/2016 – 02/2017 Program for Breakthroughs in Biomedical Research NFR Award, UCSF
- 09/2011 – 09/2014 National Institutes of Health F-32 Postdoctoral Fellowship
- 04/2010 Bristol-Myers Squibb Graduate Fellowship
- 07/2009 Japan Global Center of Excellence Conference: Featured Speaker
- 04/2009 Roche Symposium: Excellence in Chemistry Award
- 09/2008 Scripps Graduate Student Symposium Award: Best Chemistry Talk
- 09/2008 – 08/2011 National Science Foundation Pre-Doctoral Fellowship
- 07/2006 – 06/2007 Scripps Dean's Fellowship
- 05/2006 Merck Index Award for Undergraduate Research
- 08/2002 – 05/2006 UC Berkeley Dean's List
- 08/2002 – 05/2006 Robert C. Byrd Undergraduate Fellowship
- 06/2002 Valedictorian of 2002 Graduating Class, Newbury Park High School

Publications

18. Seiple, I. B.*; Zhang, Z.*; Jakubec, P.; Langlois–Mercier, A.; Wright, P. M.; Hog, D. T.; Yabu, K.; Allu, S. R.; Fukuzaki, T.; Carlsen, P. N.; Kitamura, Y.; Zhou, X.; Condakes, M. L.; Szczepinski, F.; Green, W. D.; Myers, A. G. A Platform for the Discovery of New Macrolide Antibiotics. *Nature* **2016**, *533*, 338–345.
17. Seiple, I. B.; Hog, D. T.; Myers, A. G. Practical Protocols for the Preparation of Highly Enantioenriched Silyl Ethers of (R)-3-Hydroxybutan-2-one, Building Blocks for the Synthesis of Macrolide Antibiotics. *Synlett* **2015**, *27*, 57–60.
16. Wright, P. M.; Seiple, I. B.; Myers, A. G. The Evolving Role of Chemical Synthesis in Antibacterial Drug Discovery. *Angew. Chem. Int. Ed.* **2014**, *53*, 8840–8869.
15. Seiple, I. B.; Mercer, J. A. M.; Sussman, R. J.; Myers, A. G. Stereocontrolled Synthesis of *Syn*- β -Hydroxy- α -Amino Acids by Direct Aldolization of Pseudoephedrine Glycinamide. *Angew. Chem. Int. Ed.* **2014**, *53*, 4642–4647.

14. Seiple, I. B. Silver(II) Picolinate. *Encyclopedia of Reagents in Organic Synthesis* **2012**, DOI: 10.1002/047084289X.rm01408.
13. Lansdell, T. A.; Hewlett, N. M.; Skoumbourdis, A. P.; Fodor, M. D.; Seiple, I. B.; Su, S.; Baran, P. S.; Feldman, K. S.; Tepe, J. J. Palau'amine and Related Oroidin-Alkaloids Dibromophakellin and Dibromophakellstatin Inhibit the Human 20S Proteasome. *J. Nat. Prod.* **2012**, *75*, 980–985.
12. Köck, M.; Schmidt, G.; Seiple, I. B.; Baran, P. S. Configurational Analysis of Tetracyclic Dimeric Pyrrole–Imidazole Alkaloids using a Floating Chirality Approach. *J. Nat. Prod.* **2012**, *75*, 127–130.
11. Seiple, I. B.; Su, S.*; Young, I. S.*; Nakamura, A.; Yamaguchi, J.; Jørgensen, L.; Rodriguez, R. A.; O'Malley, D. P.; Gaich, T.; Köck, M.; Baran, P. S. Enantioselective Total Syntheses of (–)-Palau'amine, (–)-Axinellamines, and (–)-Massadines. *J. Am. Chem. Soc.* **2011**, *133*, 14710–14726.
10. Ji, Y.; Brueckl, T.; Baxter, R. D.; Fujiwara, Y.; Seiple, I. B.; Su, S.; Blackmond, D. G.; Baran, P. S. Innate C–H Trifluoromethylation of Heterocycles. *Proc. Nat. Acad. Sci.* **2011**, *108*, 14411–14415.
9. Fujiwara, Y.; Domingo, V.; Seiple, I. B.; Gianatassio, R.; Del Bel, M.; Baran, P. S. Practical C–H Functionalization of Quinones with Boronic Acids. *J. Am. Chem. Soc.* **2011**, *133*, 3292–3295.
8. Seiple, I. B.; Su, S.; Rodriguez, R.; Gianatassio, R.; Fujiwara, Y.; Sobel, A.; Baran, P. S. Direct C–H Arylation of Electron-Deficient Heterocycles with Arylboronic Acids. *J. Am. Chem. Soc.* **2010**, *132*, 13194–13196. *Most read JACS article in October 2010*.
7. Seiple, I. B.*; Su, S.*; Young, I. S.; Lewis, C. A.; Yamaguchi, J.; Baran, P. S. Total Synthesis of (±)-Palau'amine. *Angew. Chem. Int. Ed.* **2010**, *49*, 1095–1098. *Featured on the cover of the issue*.
6. Su, S.; Seiple, I. B.; Young, I. S.; Baran, P. S. Total Synthesis of (±)-Massadine and Massadine Chloride. *J. Am. Chem. Soc.* **2008**, *130*, 16490–16491.
5. O'Malley, D. P.; Yamaguchi, J.; Young, I. S.; Seiple, I. B.; Baran, P. S. Total Synthesis of (±)-Axinellamines A and B. *Angew. Chem. Int. Ed.* **2008**, *47*, 3581–3583. *Featured on the inside cover of the issue*.
4. Yamaguchi, J.*; Seiple, I. B.*; Young, I. S.; O'Malley, D. P.; Maue, M.; Baran, P. S. Synthesis of 1,9-Dideoxy-Pre-Axinellamine. *Angew. Chem. Int. Ed.* **2008**, *47*, 3578–3580.
3. Köck, M.; Grube, A.; Seiple, I. B.; Baran, P. S. The Pursuit of Palau'amine. *Angew. Chem. Int. Ed.* **2007**, *46*, 6586–6594.
2. Liang, G.; Xu, Y.; Seiple, I. B.; Trauner, D. Synthesis of Taiwaniaquinoids via Nazarov Triflation. *J. Am. Chem. Soc.* **2006**, *128*, 11022–11023.
1. Liang, G.; Seiple, I. B.; Trauner, D. Stereoselective Syntheses of the Bioactive Polypropionates Aureothin, N-Acetylaureothamine, and Aureonitrile. *Org. Lett.* **2005**, *7*, 2837–2839.

Patents

4. Myers, A. G.; Seiple, I. B.; Zhang, Z. Macrolides with Modified Desosamine Sugars and Uses Thereof. **PCT/US2014/024333**. Filed March 25, 2016.
3. Myers, A. G.; Seiple, I. B.; Zhang, Z. 14-Membered Ketolides and Methods of their Preparation and Use. **PCT/US2015/054700**. Filed October 8, 2015.
2. Myers, A. G.; Seiple, I. B.; Sussman, R. J. Monobactams and Methods of their Synthesis and Use. **PCT/US2015/010247**. Filed January 6, 2015.

1. Myers, A. G.; Seiple, I. B.; Zhang, Z. Macrolides and Methods of their Preparation and Use. **PCT/US2014/033025**. Filed April 4, 2014.