

LÁSZLÓ KÜRTI, Ph.D.

Associate Professor

EMPLOYMENT AND EDUCATION

- **Associate Professor** – Tenure Track Position at Rice University, Houston, TX **2015 June**
- **Assistant Professor** – Tenure Track Position at UT Southwestern Medical Center, Dallas, TX **2010-2015**
- **Postdoctoral Studies** – Harvard University, Cambridge, MA **2006-2010**
- **Ph.D. in Organic Chemistry** – University of Pennsylvania, Philadelphia, PA **2001-2006**
- **Masters Degree in Organic Chemistry** – University of Missouri, Columbia, MO **2001 June**
- **Diploma in Chemistry** – Lajos Kossuth University (now Univ. of Debrecen), Debrecen, Hungary **1998 June**
- **Diploma in English Hungarian Technical Translation** - Lajos Kossuth University (now Univ. of Debrecen), Debrecen, Hungary **1997 June**

RESEARCH EXPERIENCE

- **Associate Professor** at Rice University, Houston, TX; Current research interests include: **2015 June -**
 - Low-temperature, direct and transition metal-free primary amination of aryl- and alkylmetals (Li, Mg).
 - Bench stable doubly electrophilic *N*-lincpin reagents for the low temperature and transition metal-free synthesis of secondary diaryl-, arylalkyl and dialkyl amines as well as *N*-heterocycles.
 - On-demand, transition metal-free and reactivity-modulated nitrene/nitrenoid generation (i.e., "nitrene in a bottle") for the synthesis of complex *N*-heterocycles under exceptionally mild conditions.
 - Catalytic enantioselective olefin N-H aziridination as well as olefin bis-functionalization exploiting both metal-catalyzed as well as transition metal-free processes.
- **Assistant Professor** at UT Southwestern Medical Center, Dallas, TX; Completed projects include: **2010-2015**
 - Metal-free primary amination of arylboronic acids using 2,4-dinitrophenyl hydroxylamine (DPH).
 - Organocatalytic enantioselective aryl-aryl bond-formation for the preparation of BINAM derivatives.
 - Direct arylation of nitroarenes with aryl Grignards to afford densely substituted aminohydroxy biaryls (i.e., NOBINs) by exploiting a low-temperature multi-heteroatom [3,3]-sigmatropic rearrangement.
 - Aerobic, transition metal-free, direct and regioselective alpha-arylation of ketones with nitroarenes.
 - Direct and stereospecific N-H and N-Me aziridination of olefins.
 - Low-temperature, transition metal-free intramolecular amination of aromatic C-H bonds to access carbazoles and multi-heteroatom fused heterocycles.
 - One-pot synthesis of benzo**b**/furans from ketone oximes via a transition metal-free O-arylation/sigmatropic rearrangement cascade sequence.
- **Damon Runyon Cancer Fellow** at Harvard University; **Advisor: Professor Elias J. Corey** **2006- 2010**
 - Designed and synthesized potent analogs of the anti-angiogenic steroidal alkaloid Cortistatin A.
 - Developed a rapid and scalable synthetic sequence for the construction of the carbocyclic skeleton of Cortistatin A and a previously unknown homo B-estrone.
- **Graduate Student** at the University of Pennsylvania; **Advisor: Professor Amos B. Smith** **2001-2006**
 - Optimized a 17-step, large-scale synthesis leading to the Eastern Hemisphere Subtarget, the key intermediate in the total synthesis of the nodulisporic acids.
 - Developed a new indole synthesis that allows the preparation of highly strained polycyclic indoles.
 - Applied the new indole synthesis for the construction of the parent CDEF tetracycle of the nodulisporic acids A and B, thus allowing, for the first time, the *de novo* synthesis of analogs.
- **Graduate Student** at the University of Missouri-Columbia; **Advisor: Professor Michael Harmata** **1998-2001**
 - Developed an efficient assembly of seven-membered bridgehead halo-ketones by using intermolecular [4+3] cycloaddition reactions and studied their highly diastereoselective quasi-Favorskii rearrangement for the rapid assembly of fused polycarbocycles.
 - Synthesized and characterized radioactive rhenium and technetium complexes with potential applications in the clinical diagnosis/treatment of cancer.
- **Undergraduate Student** at Lajos Kossuth University; **Advisor: Professor Sándor Antus** **1996-1998**
 - Accomplished the total synthesis of four benzofuranoid neolignans, fragnasol A, B, C and dehydroisoeugenol.
 - Designed and executed an efficient synthesis of the potent anti-leukemic natural product asatone and its simplified derivative, demethoxyasatone, using hypervalent iodine-mediated phenolic oxidation as the key step.
 - Investigated the mechanism of the hypervalent iodine-mediated oxidation of phenols.

TEACHING, MENTORSHIP AND LEADERSHIP EXPERIENCE

- **Associate Professor** at Rice University, Houston, TX **2015 June -**
 - Currently teach both graduate and undergraduate level classes (i.e., one each per semester) and also coordinate/oversee the research activities of postdoctoral fellows, graduate as well as undergraduate students. Will soon introduce a new heterocyclic chemistry as well as a medicinal chemistry course for graduate students.
 - ✓ **Organic Chemistry I (Chem 211)**, an intensive (2 x 1.5 hrs/week) undergraduate level course at Rice University

- ✓ **Advanced Organic Chemistry (Chem 401/501/503)**, an intensive (2 x 1.5 hrs/week + 1 x 2 hrs/week problem-solving) graduate level course at Rice University
- **Assistant Professor** at UT Southwestern Medical Center, Dallas, TX **2010-2015**
 - Taught one course each year and mentored a total of six postdoctoral fellows, a graduate student as well as two summer undergraduate students over five years (2010-2015). My duties involved: (a) discussion of results for each project on a daily basis; (b) encouragement of independence and initiative in designing and carrying out experiments to prove or disprove hypotheses; (c) weekly group meetings in which trainees learn to present their research in an effective manner; (d) review of literature and deep mechanistic discussions.
 - ✓ **Structure and Reactivity**, an intensive (2 x 2 hrs/week + 1 x 2 hrs/week problem-solving) graduate level course at UT Southwestern Medical Center – Fall Semesters of 2011-2014, Spring Semester 2015
 - ✓ **Biologically Active Small Molecules**, a graduate level course (1 x 2 hrs/week) at UT Southwestern Medical Center – Spring Semester of 2011
- **Coordinator of the Organic Chemistry Workshop Program** at the University of Pennsylvania **2002-2006**
 - Organized problem-solving seminars for over 200 undergraduates each semester (Fall/Spring/Summer) who took organic chemistry. Over a span of 4 years, more than 2500 students participated in the program.
- **Graduate Teaching Assistant** at the University of Pennsylvania **2001-2005**
 - Led organic chemistry recitations for Professors Bryan Roberts, Madeleine Joullié, Amos B. Smith, Virgil Percec, Gary Molander and Edward Thornton.
- **Graduate Teaching Assistant** at the University of Missouri-Columbia **1998-2001**
 - Taught organic chemistry labs and recitations for Professors Michael Harmata, Edwin Kaiser, Richard Loeppky and Rainer Glaser.

HONORS, AWARDS AND FELLOWSHIPS

- **Biotage Young Principal Investigator Award** – November 2015
- **NSF CAREER Award** – 2015-2020
- **Japan Society for the Promotion of Science (JSPS) Fellowship** – August 2014 (Lecture tour in Japan in Nov 2014)
- **Amgen Young Investigators' Award** – April 2014
- **Thieme Chemistry Journal Award** – November 2010
- **UTSWMC Endowed Scholar in Biomedical Research** (startup funding) – September 2010
- **Best of Physical Sciences and Mathematics in Professional and Scholarly Publishing** for *Molecules and Medicine* written by E.J. Corey, László Kürti and Barbara Czakó, 2008. [This award is given by the American Association of Publishers, Scholarly Publishing Division, to acknowledge excellence in book, journal and digital publishing in all the disciplines represented by professional, scholarly and reference publishing. The awards are open only to members of the AAP / PSP Division. Read more at www.pspcentral.org]
- **Damon Runyon Cancer Fellowship** – Awarded by the Damon Runyon Cancer Research Foundation – June, 2007
- **Outstanding Academic Title** designation by Choice Magazine for *Strategic Applications of Named Reactions in Organic Synthesis* written by László Kürti and Barbara Czakó. [This designation is given only to 10% of over 7000 titles for their excellence in scholarship and presentation, the significance of their contribution to their field and their value.] – February, 2007
- **Dean's Teaching Award** – University of Pennsylvania – April, 2006
- **Award for Excellence in Professional and Scholarly Publishing** for *Strategic Applications of Named Reactions in Organic Synthesis* written by László Kürti and Barbara Czakó, 2006.
- **Dean's Scholar Award** – University of Pennsylvania – March, 2004
- **Eli Lilly Graduate Fellowship** – by Eli Lilly and Company (2003-2004)
- **Department of Chemistry Teaching Award** – University of Pennsylvania – April, 2003
- **Department of Chemistry Teaching Commendation** – University of Pennsylvania – April, 2002
- **Excellence in Organic Chemistry Award** – by the Chemistry Department of the University of Pennsylvania – April, 2002
- **Ahmed Zewail Graduate Fellowship** – by the Chemistry Department of the University of Pennsylvania (2001-2002)
- **Stevens Fellowship** – Summer Research Fellowship of the University of Missouri-Columbia – Summer, 1996 and 1997
- **Supplementary Grant for Graduate Studies in the United States** – by the George Soros Foundation in Hungary – 1998
- **Outstanding Achievement in Science Award** – by Lajos Kossuth University in Debrecen, Hungary – June, 1998
- **Pro Regione Fellowship** – by Lajos Kossuth University in Debrecen, Hungary (1997-1998)
- **Fellowship of the Republic** – by the Government of Hungary (1997-1998)

TEXTBOOKS AND REFERENCE BOOKS

- Corey, E.J. and Kürti, László *Enantioselective Chemical Synthesis: Methods, Logic and Practice*, Direct Book Publishing, LLC, Dallas, 2010. (Now owned, marketed & sold by ELSEVIER SCIENCE/Academic Press)
- Corey, E.J., Czakó, Barbara and Kürti, László *Molecules and Medicine*, John Wiley and Sons Inc., New York, 2007.
- Kürti, László and Czakó, Barbara *Strategic Applications of Named Reactions in Organic Synthesis*, Academic Press/Elsevier Science: Amsterdam 2005. Foreword by Professor E.J. Corey and Introduction by Professor K.C. Nicolaou.

Independent Work:

1. Zhou, Zhe; Ma, Zhiwei; Behnke, Nicole Erin; Gao, Hongyin and **Kürti, László**.* "Non-Deprotonative Primary and Secondary Amination of (Hetero)Arylmets." *J. Am. Chem. Soc.* **2017**, 139, 115-118 (<http://pubs.acs.org/doi/pdf/10.1021/jacs.6b12712>).
2. Gao, Hongyin; Zhou, Zhe; Kwon, Doo-Hyun; Coombs, James; Jones, Stevens; Behnke, Nicole Erin; Ess, Daniel H.* and **Kürti, László**.* "Rapid Heteroatom-Transfer to Arylmets Utilizing Multifunctional Reagents Scaffolds." *Nature Chemistry* **2016** (<http://www.nature.com/nchem/journal/oaop/current/full/nchem.2672.html>). This article was featured in C&EN News: "Teaching Aryl Grignards New Tricks", <http://cen.acs.org/articles/94/i48/Teaching-aryl-Grignards-new-synthetic.html> and Rice News: "Pine product offers a fresh take on fine chemical synthesis", <http://news.rice.edu/2016/11/28/pine-product-offers-fresh-take-on-fine-chemical-synthesis/>.
3. Mahesh P. Paudyal, Adeniyi Michael Adebesein, Scott R. Burt, Daniel H. Ess, Zhiwei Ma, **László Kürti**, John R. Falck. "Dirhodium-catalyzed C-H arene amination using hydroxylamines." *SCIENCE* **2016**, Vol 353, no 6304, p 1144-1147 (DOI: [10.1126/science.aaf8713](https://doi.org/10.1126/science.aaf8713)). This article was featured in SYNFACTS 2016, 12(12), 1235 (<https://www.thieme-connect.com/products/ejournals/abstract/10.1055/s-0036-1589663>) as well as Rice News: "Chemists make strides to simplify drug design and synthesis", <http://news.rice.edu/2016/09/12/chemists-make-strides-to-simplify-drug-design-and-synthesis-2/>.
4. Wang, Jin-Zheng; Zhou, Jin; Xu, Chang; Sun, Hongbin, **Kürti, László***, and Xu, Qing-Long. "Symmetry in Cascade Chirality-Transfer Processes: A Catalytic Atroposelective Direct Arylation Approach to BINOL Derivatives." *J. Am. Chem. Soc.* **2016**, 138, 5202-5205 (<http://pubs.acs.org/doi/pdf/10.1021/jacs.6b01458>).
5. Gao, Hongyin; Xu, Qing-Long; Keene, Craig; Yousufuddin, Muhammed; Ess, Daniel H. and **Kürti, László***. "Practical Organocatalytic Synthesis of Functionalized Non-C₂-Symmetrical Atropisomeric Biaryls." *Angew. Chem. Int. Ed.* **2016**, 55, 566-571 (**Hot Paper**; <http://onlinelibrary.wiley.com/doi/10.1002/anie.201508419/pdf>). This article was featured in Rice News: <http://news.rice.edu/2015/11/24/chemical-design-made-easier/> and C&EN News: "Functionalized Biaryls by Organocatalysis": <http://cen.acs.org/articles/93/i48/Functionalized-Biaryls-Organocatalysis.html>.
6. Breitbach, Anthony S.; Lim, Yeeun, Xu, Qing-Long; **Kürti, László**; Armstrong, Daniel W* and Breitbach, Zachary S. "Enantiomeric Separations of α -Aryl ketones with Cyclofructan Chiral Stationary Phases via High-Performance Liquid Chromatography and Supercritical Fluid Chromatography." *Journal of Chromatography A* **2016**, 1427, 45-54 (<http://www.sciencedirect.com/science/article/pii/S0021967315017136>).
7. **Kürti, László**. "Streamlining Amine Synthesis" – A Perspective. *SCIENCE* **2015**, Vol 348, no 6237, p864-865 (DOI: [10.1126/science.aab2812](https://doi.org/10.1126/science.aab2812)).
8. Gao, Hongyin; Xu, Qing-Long; Keene, Craig and **Kürti, László***. "Scalable, Transition-Metal-Free Direct Oxime O-Arylation: Rapid Access to O-arylhydroxylamines and Substituted Benzo[b]furans." *Chemistry – A European Journal* **2014**, 20, 8883-8887 (<http://onlinelibrary.wiley.com/doi/10.1002/chem.201403519/pdf>).
9. Wood, Ross M.; Patel, Darshan C.; Lim, Yeeun, Breitbach, Zachary S.; Gao, Hongyin; Keene, Craig; Li, Gongqiang; **Kürti, László** and Armstrong, Daniel W.* "Enantiomeric Separation of Biaryl Atropisomers Using Cyclofructan Based Chiral Stationary Phases." *Journal of Chromatography A* **2014**, 1357, 172-181 (<http://www.sciencedirect.com/science/article/pii/S0021967314006700#>).
10. Frink, Lillian A.; Khan, Muhammad, A; **Kürti, László**; Falck, J.R.; Paudyal, Mahesh P.; Jat, Jawahar L. And Armstrong, Daniel W.* "Enantiomeric Separations of N-H/N-Me Aziridines Utilizing GC and HPLC." *Chromatographia* **2014**, 77(23), 1607-1612 (<http://link.springer.com/article/10.1007/s10337-014-2776-8>).
11. Gao, Hongyin; Xu, Qing-Long; Ess, Daniel H. and **Kürti, László***. "Transition-Metal-Free, Low-Temperature Intramolecular Amination of Aromatic C-H Bonds: Rapid Synthesis of Fused Heterocycles." *Angew. Chem. Int. Ed.* **2014**, 53, 2701-2705 (**Hot Paper**; <http://onlinelibrary.wiley.com/doi/10.1002/anie.201309973/pdf>). This article was featured in SYNFACTS **2014**, 10(4), 0351 (<https://www.thieme-connect.com/products/ejournals/abstract/10.1055/s-0033-1341004>).
12. Jat, Jawahar L.; Paudyal, Mahesh P.; Gao, Hongyin; Xu, Qing-Long; Yousufuddin, Muhammed.; Devarajan, Deepa; Ess, Daniel H*.; **Kürti, László*** and Falck, J.R.* "Direct and Stereospecific Synthesis of Unprotected N-H and N-Me Aziridines from Olefins." *SCIENCE* **2014**, Vol 343, no 6166, p 61-65 (DOI: [10.1126/science.1245727](https://doi.org/10.1126/science.1245727)). This article was featured in *Chemical and Engineering News* on Jan 6th, **2014**; C&EN Vol 92, Issue 1, p. 20-21 and in CHEMISTRY WORLD on Jan 9th, **2014**; Title: "Simple route to add nitrogen to drugs". It was highlighted as a SCIENCE Perspective. *SCIENCE*, 434, 33 (2014) in NATURE CHEMISTRY under the title "Protection not included" (Vol. 6, March 2014), *Angew. Chem. Int. Ed.* March **2014** "A Scalable Rhodium-Catalyzed Intermolecular Aziridination Reaction" and also in the blog "In the Pipeline" under the title "Easy Aziridines".
13. Xu, Qing-Long; Gao, Hongyin; Ess, Daniel H. and **Kürti, László***. "Aerobic, Transition-Metal-Free, Direct and Regiospecific Mono- α -Arylation of Ketones: Synthetic Studies and Mechanism by DFT Calculations." *J. Am. Chem. Soc.* **2013**, 135, 14048-14051 (<http://pubs.acs.org/doi/pdf/10.1021/ja4074563>).
14. Keene, Craig and **Kürti, László***. "Regiospecific Synthesis of Novel Cyclic Nitrostyrenes and 3-Substituted-2-Nitronaphthalenes." *Synthesis* **2013**, 45(13), 1719-1729 (DOI: [10.1055/s-0033-1338867](https://doi.org/10.1055/s-0033-1338867)); Feature Article, Special Issue Dedicated to the 60th Birthday of Professor Scott Denmark (Jul-Aug 2013).
15. Gong-Qiang, Li; Gao, Hongyin; Keene, Craig; Devonas, Michael; Ess, Daniel H. and **Kürti, László***. "Organocatalytic Aryl-Aryl Bond-Formation: An Atroposelective [3,3]-Rearrangement Approach to BINAM Derivatives." *J. Am. Chem. Soc.* **2013**, 135, 7414-7417 (<http://pubs.acs.org/doi/pdf/10.1021/ja401709k>). This article was featured in *Chem. & Eng. News* on May 27th, **2013**; C&EN Vol 91, Issue 21, page 40 as well as in SYNFACTS **2013**, 9(9),1014 (<https://www.thieme-connect.com/products/ejournals/abstract/10.1055/s-0033-1339626>).

PUBLICATIONS

Independent Work (Continued):

- Gao, Hongyin; Ess, D.E.; Yousufuddin, M. and **Kürti, László***. "Transition-Metal-Free Direct Arylation: Synthesis of Halogenated 2-Amino-2'-Hydroxy-1,1'-Biaryls and Mechanism by DFT Calculations." *J. Am. Chem. Soc.* **2013**, *135*, 7086-7089 (<http://pubs.acs.org/doi/pdf/10.1021/ja400897u>). This article is featured on Cover of the May 15th 2013 issue of the *J. Am. Chem. Soc.* (JACS). It was also featured in the May 15th, 2013 JACS Spotlights: *JACS* **2013**, *135*, 7081-7081 (<dx.doi.org/10.1021/ja404575r>) as well as in *SYNFACTS* **2013**, 9(8), 0879 (DOI: [10.1055/s-0033-1339407](https://doi.org/10.1055/s-0033-1339407)).
- Zhu, Chen; Li, Gongqiang; Ess, Daniel H., Falck, J.R. and **Kürti, László***. "Elusive Metal-Free Primary Amination of Arylboronic Acids: Synthetic Studies and Mechanism by Density Functional Theory." *J. Am. Chem. Soc.* **2012**, *134*, 18253-18256 (<http://pubs.acs.org/doi/pdf/10.1021/ja309637r>). This article was featured in *Chemical and Engineering News* on November 5th, **2012**, p. 31. It was also Highlighted in *Angewandte Chemie International Edition*, April **2013** (DOI: [10.1002/anie.201300382](https://doi.org/10.1002/anie.201300382)).

Postdoctoral, Graduate and Undergraduate Work:

- Kürti, László**; Blewett, Megan M. and Corey, E.J. "The Origin of Enantioselectivity in the Jacobsen Epoxidation of Olefins." *Org. Lett.* **2009**, *11*, 4592-4595.
- Czakó, Barbara; **Kürti, László**, Mammoto, Akiko, Ingber, Donald and Corey, E.J. "Discovery of Potent and Practical Antiangiogenic Agents Inspired by Cortistatin A." *J. Am. Chem. Soc.* **2009**, *131*, 9014-9019.
- Kürti, László**; Czakó, Barbara and Corey, E.J. "A Short, Scalable Synthesis of the Carbocyclic Core of the Anti-Angiogenic Cortistatins from (+)-Estrone by B-Ring Expansion." *Org. Lett.* **2008**, *10*, 5247-5250.
- Kürti, László**; Chein, Rong-Jie and Corey, E. J. "Conformational Energetics of Cationic Backbone Rearrangements in Triterpenoid Biosynthesis Provide an Insight into Enzymatic Control of Product." *J. Am. Chem. Soc.* **2008**, *130*, 9031-9036.
- Smith, Amos B., III; **Kürti, László**; Davulcu, Akin H.; Cho, Young-Shin; Ohmoto, Kazuyuki. "Indole Diterpene Synthetic Studies: Development of a Second Generation Synthetic Strategy for (+)-Nodulisporic Acids A and B." *J. Org. Chem.* **2007**, *72*, 4611-4620.
- Smith, Amos B., III; Davulcu, Akin H.; Cho, Young Shin; **Kürti, László**; Ishiyama, Haruaki. "Indole Diterpene Synthetic Studies. Total Synthesis of (+)-Nodulisporic Acid F and Construction of the Heptacyclic Cores of (+)-Nodulisporic Acids A and B and (-)-Nodulisporic Acid D." *J. Org. Chem.* **2007**, *72*, 4596-4610.
- Smith, Amos B., III; Davulcu, Akin H.; **Kürti, László**. "Indole Diterpenoid Synthetic Studies. Construction of the Heptacyclic Core of (-)-Nodulisporic Acid D." *Org. Lett.* **2006**, *8*, 1669-1672. Smith, Amos B., III; Davulcu, Akin H.; **Kürti, László**. "Indole Diterpenoid Synthetic Studies. The Total Synthesis of (+)-Nodulisporic Acid F." *Org. Lett.* (**2006**), *8*, 1665-1668.
- Harmata, Michael; Barnes, Charles L.; Brackley, James; Bohnert, Gary; Kirchhoefer, Patrick; **Kürti, László**; Rashatasakhon, Paitoon. "Generation of Cyclopentadienones from 2-Bromocyclopentenones." *J. Org. Chem.* **2001**, *66*, 5232-5236.
- Juhász, László; **Kürti, László**; Antus, Sándor. "Simple Synthesis of Benzofuranoid Neolignans from *Myristica fragrans*." *J. Nat. Prod.* **2000**, *63*, 866-870.
- Kürti, László**; Szilágyi, László; Antus, Sándor; Nógrádi, Mihály. "Oxidation of 2-methoxyphenols with a hypervalent iodine reagent. Improved synthesis of asatone and demethoxyasatone." *Eur. J. Org. Chem.* **1999**, *10*, 2579-2581.
- Kürti, László**; Herczegh, Pál; Visy, Júlia; Simonyi, Miklós; Antus, Sándor; Pelter, Andrew. "New insights into the mechanism of phenolic oxidation with phenyliodonium(III) reagents." *J. Chem. Soc., Perkin Trans. 1* **1999**, *4*, 379-380.
- Harmata, Michael; Shao, Lixin; **Kürti, László**; Abeywardane, Asitha. "[4+3] Cycloaddition reactions of halogen-substituted cyclohexenyl oxyallylic cations." *Tetrahedron Lett.* **1999**, *40*, 1075-1078.

PATENTS

- "Amination and Hydroxylation of Arylmetal Compounds." Gao, Hongyin; **Kürti, László** and Zhou, Zhe. (US Provisional filed on 5/5/2016 by Rice University; IP Application # 62/366,483).
- "Transition Metal Free Methods of Synthesis of Biaryl Compounds." Gao, Hongyin and **Kürti, László**. (US Provisional patent filed on 11/9/2015 by Rice University. Now Converted: PCT/US2016/061628).
- "Direct C-H Amination and Aza-Annulation." Falck, John R; **Kürti, László** and Paudyal, Mahesh P. (US Provisional patent filed on 10/05/2015 jointly by Rice University and University of Texas Southwestern Medical Center).
- "Biaryl Compounds as Antimicrobial and Chemotherapeutic Agents." Inventors: Cannon, Carolyn L.; Gao, Hongyin; **Kürti, László**; Shah, Kush Nimish and Shah, Parth Nimish. (US Provisional patent filed on 9/16/2015 jointly by Rice University and Texas A&M University. Now Converted: PCT/US2016/061607).
- "Direct Stereospecific Synthesis of Unprotected Aziridines from Olefins." Ess, Daniel H.; Falck, John R; Jat, Jawahar, **Kürti, László** and Paudyal, Mahesh P. (US Provisional patent filed on 01/02/2014 jointly by Brigham Young University and University of Texas Southwestern Medical Center. Now Converted: PCT/US2015/010076).
- "Angiogenesis Inhibitors." Inventors: Corey, Elias J., Czakó, Barbara, **Kürti, László**, Mammoto, Akiko and Ingber, Donald E. (US provisional patent filed on April 22, 2009 by Harvard University).

INVITED LECTURES (2014-2017)

1. **52nd Mexican Chemical Congress & 36th National Mexican Chemistry Education Congress** (Plenary Lecturer) – Puerto Vallarta Jalisco, Mexico, September 26-29, 2017
2. **18th Tetrahedron Symposium Asia Edition** (Keynote Speaker) – Melbourne, Australia, July 23-27, 2017
3. **18th Tetrahedron Symposium** (Keynote Speaker) – Budapest, Hungary, June 27-30, 2017
4. **University of Strasbourg, Institute of Chemistry CNRS** – Strasbourg, France, May 5, 2017 (Host: Prof. Michel Miesch)
5. **Technical University of Berlin** – Berlin, Germany, May 2, 2017 (Host: Prof. Martin Oestreich)
6. **University of Magdeburg** – Magdeburg, Germany, April 28, 2017 (Host: Prof. Dieter Schinzer)
7. **University of Göttingen** – Göttingen, Germany, April 27, 2017 (Host: Prof. Lutz Ackermann)
8. **University of Münster** – Münster, Germany, April 26, 2017 (Host: Prof. Frank Glorius)
9. **Max-Planck-Institut für Kohlenforschung** – Mülheim, Germany, April 25, 2017 (Host: Prof. Benjamin List)
10. **University of Cologne** – Cologne, Germany, April 24, 2017 (Host: Prof. Albrecht Berkessel)
11. **Institute of Organic Chemistry RWTH Aachen University** – Aachen, Germany, April 21, 2017 (Host: Prof. Carsten Bolm)
12. **University of Marburg** – Marburg, Germany, April 20, 2017 (Host: Prof. Eric Meggers)
13. **ICIQ (The Institute of Chemical Research in Catalonia)** – Tarragona, Spain, April 18, 2017 (Host: Profs. Julio Lloret & Antonio M. Eschavarren)
14. **Aalto University** – Helsinki, Finland, April 13, 2017 (Host: Prof. Ari Koskinen)
15. **Duke University** – Durham, NC, March 28, 2017 (Host: Prof. Jennifer Roizen)
16. **North Carolina State University (NCSU)** – Raleigh, NC, March 27, 2017 (Host: Prof. Vincent Lindsay)
17. **Merck Research Laboratories (Process Chemistry)** – Rahway, NJ, March 16, 2017 (Host: Dr. Tamás Benkovics)
18. **AbbVie (Medicinal Chemistry)** – Chicago, IL, February 24, 2017 (Host: Dr. Chris Marvin)
19. **Emory University** – Atlanta, GA, February 15, 2017 (Host: Prof. Albert Padwa)
20. **A*Star-ICES (Institute of Chemical and Engineering Sciences at the Biopolis)** – Singapore, January 11, 2017 (Host: Prof. Lim Yee Hwee).
21. **National University of Singapore** – Singapore, January 10, 2017 (Host: Prof. Zhao Yu)
22. **Nanyang Technological University** – Singapore, January 9, 2017 (Host: Prof. Choon-Hong Tan)
23. **Nanjing Tech University** – Nanjing, China, December 14, 2016 (Host: Prof. Teck-Peng Loh)
24. **Texas State University** – San Marcos, TX, November 21, 2016 (Host: Prof. Alexander V. Kornienko)
25. **The 3rd International Symposium on Natural Product Synthesis and Innovative Process Methods (NPSPM) for Drug Manufacture** – Peking University, Beijing, China, October 14-16, 2016 (Organizer & Host: Prof. Zhi-Xiang Yu)
26. **University of Arizona** – Tucson, AZ, September 1, 2016 (Host: Prof. Jon Njardarson)
27. **University of New Mexico** – Albuquerque, NM, August 26, 2016 (Host: Prof. Wei Wang)
28. **Nanjing University** – Nanjing, China, July 21, 2016 (Host: Prof. Guigen Li)
29. **Eötvös Lóránd University (ELTE)** – Budapest, Hungary, July 18, 2016 (Host: Prof. Zoltán Novák)
30. **23rd IUPAC Conference on Physical Organic Chemistry** – Sydney, Australia, July 3-8, 2016 (Organizer: Prof. Jason Harper)
31. **Australian National University (ANU)** – Canberra, Australia, July 1, 2016 (Host: Prof. Michael Sherburn)
32. **Monash University** – Melbourne, Australia, June 29, 2016 (Host: Prof. David Lupton)
33. **ACS Green Chemistry & Engineering Conference** – Portland, OR, June 14-16, 2016 (Organizer: Dr. Daniel Richter, Pfizer)
34. **International Symposium on Resource Chemistry** – Shanghai, China, January 14-15, 2016 (Organized jointly by the International Joint Laboratory of Resource Chemistry between Shanghai Normal University, National University of Singapore and Princeton University)
35. **PACIFICHEM – Organocatalysis Symposium** – Honolulu, HI, December 15-19, 2015 (Organizers: Profs. M. Terada & J. Antilla)
36. **PACIFICHEM – Applications of C-H Functionalization** – Honolulu, HI, December 15-19, 2015 (Organizers: Profs. P. Vachal, Zhang-Jie Shi, Chao-Jun Li, Huw Davies, Kenichiro Itami, Helen Lebel)
37. **PACIFICHEM – Innovative Strategies for the Synthesis of Nitrogen Heterocycles Symposium** – Honolulu, HI, December 15-19, 2015 (Organizers: Profs. R. Danheiser & T. Fukuyama)
38. **Colorado State University** – Fort Collins, CO, October 5, 2015 (Host: Prof. Tomislav Rovis)
39. **50th Anniversary Symposium of the Department of Chemistry at the Center for Advanced Studies and Research of the National Polytechnic Institute (Cinvestav)** – Mexico City, Mexico, September 28-29, 2015 (Host: Prof. J.A.L. Montelongo)
40. **10th International Congress of Pharmaceutical Sciences (CIFARP; <http://www.cifarp.com.br>)** – Ribeirão Preto, Brazil, September 5-9, 2015 (Host: Prof. Flavio da Silva Emery)
41. **Wuxi Aptec** – Shanghai, China, August 6, 2015 (Host: Drs. Rujian Ma & Qiang Han)
42. **Shanghai Jiao-Tong University** – Shanghai, China, August 5, 2015 (Host: Prof. Wanbin Zhang)
43. **Wuxi Aptec** – Wuhan, China, August 4, 2015 (Host: Dr. Rongfeng Gao)
44. **Nanjing University** – Nanjing, China, August 3, 2015 (Host: Prof. Guigen Li)
45. **Shanghai Normal University** – Shanghai, China, July 30, 2015 (Host: Prof. Hexing Li)
46. **Heterocyclic Chemistry Gordon Conference** – Salve Regina University, RI, June 21-25, 2015
47. **Blue Danube Conference on Heterocyclic Chemistry** – Balatonalmádi, Hungary, June 14-18, 2015
48. **Hungarian Academy of Sciences, Organic Chemistry Research Institute** – Budapest, Hungary, June 12, 2015 (Host: Prof. Tibor Soós)
49. **Paul Walden 9th Symposium** – Riga, Latvia, May 21-22, 2015 (Host: Prof. Peteris Trapencieris)
50. **University of Pennsylvania** – Philadelphia, PA, May 13, 2015 (Student-invited seminar)
51. **Wayne State University** – Detroit, MI, April 7, 2015 (Host: Prof. Ladislau Kovari)
52. **Texas A&M University** – College Station, TX, February 9-10, 2015 (Host: Prof. Kevin Burgess)
53. **Rice University** – Houston, TX, December 4, 2014 (Host: Prof. K.C. Nicolaou)
54. **Kitasato University - JSPS Fellowship Stop#14** – Tokyo, Japan, December 1, 2014 (Prof. Toshiaki Sunazuka)
55. **Gakushuin University - JSPS Fellowship Stop#13** – Tokyo, Japan, November 26, 2014 (Prof. Takahiko Akiyama)
56. **Tohoku University - JSPS Fellowship Stop#12** – Sendai, Japan, November 25, 2014 (Prof. Yujiro Hayashi) **Advanced Molecular Transformations by Organocatalysts & 7th Symposium on Organocatalysis** – The University of Tokyo, Tokyo, Japan, November 21-22, 2014 (Organizer: Prof. Masahiro Terada)
57. **Okayama University - JSPS Fellowship Stop#9** – Okayama, Japan, November 14, 2014 (Profs. Kazuhiko Takai & Seiji Suga)
58. **Ono Pharmaceutical Co., Ltd - JSPS Fellowship Stop#8** – Osaka, Japan, November 13, 2014 (Dr. Toru Maruyama)
59. **Kyoto University - JSPS Fellowship Stop#7** – Kyoto, Japan, November 12, 2014 (Prof. Keiji Maruoka)

INVITED LECTURES (2009-2014)

60. **Nagoya University - JSPS Fellowship Stop#5** – Nagoya, Japan, November 10, 2014 (Prof. Kazuaki Ishihara)
61. **Tokyo University - JSPS Fellowship Stop#4** – Tokyo, Japan, November 7, 2014 (Prof. Masayuki Inoue)
62. **Takasago International Corporation - JSPS Fellowship Stop#3** – Tokyo, Japan, November 6, 2014 (Dr. Mitsuhiro Fujiwara)
63. **Tokyo University of Agriculture and Technology - JSPS Fellowship Stop#2** – November 5, 2014 (Prof. Shinji Iwasawa)
64. **Keio University - JSPS Fellowship Stop#1** – Tokyo, Japan, November 4, 2014 (Host: Prof. Noritaka Chida)
65. **University of Washington** – Seattle, WA, October 22, 2014 (Host: Prof. Gojko Lalic)
66. **Amgen Young Investigators' Symposium** – Thousand Oaks, CA, October 15, 2014
67. **Brigham Young University (BYU)** – Provo, UT, September 26, 2014 (Host: Prof. Daniel H. Ess)
68. **KAUST Catalysis Center (KCC)**, Saudi Arabia, Sept 7-8, 2014 (Host: Profs. Jörg Eppinger & Nikos Hadjichristidis)
69. **European Young Investigator Symposium**, Larnaca, Cyprus, August 28-30, 2014 (Organizer: Prof. Ilan Marek)
70. **Academic Young Investigator Award Symposium**, San Francisco, CA, 248th ACS National Meeting, August 10, 2014
71. **2014 Stereochemistry Gordon Conference**, Salve Regina University, RI, July 27-August 1, 2014
72. **Texas A&M University** – College Station, TX, July 17, 2014 (Host: Prof. Karen Wooley)
73. **Eli Lilly and Company - ACC Summer Seminar Series** – Indianapolis, IN, July 7-8, 2014 (Host: Dr. Matthew A. Schiffler on behalf of Lilly's Academic Contacts Committee)
74. **Korean Advanced Institute of Science & Technology (KAIST)** – Daejeon, South Korea, June 5, 2014 (Prof. Sukbok Chang)
75. **Hanyang University** – Seoul, South Korea, June 4, 2014 (Host: Prof. Cheon-Gyu Cho)
76. **Roche Shanghai** – Shanghai, China, May 30, 2014 (Host: Dr. Yimin Hu)
77. **East China Normal University (ECNU)** – Shanghai, China, May 30, 2014 (Host: Prof. Junliang Zhang)
78. **Novartis Shanghai** – Shanghai, China, May 29, 2014 (Host: Dr. Haibing Guo)
79. **Hengrui Medicine, Co., Ltd** – Shanghai, China, May 29, 2014 (Host: Dr. Biao Lu)
80. **Shanghai Normal University** – Shanghai, China, May 28, 2014 (Host: Prof. Hexing Li)
81. **Shanghai Institute of Organic Chemistry (SIOC)** – Shanghai, China, May 27, 2014 (Host: Prof. Shuli You)
82. **Fudan University** – Shanghai, China, May 26, 2014 (Host: Prof. Junli Hou)
83. **Shanghai Institute of Materia Medica (SIMM)**, Shanghai, China, May 26, 2014 (Host: Prof. Yang Ye)
84. **The 2014 International Symposium on Organic Synthesis and Drug Development** – Xuzhou, China, May 24-25, 2014 (Host: Prof. Guigen Li)
85. **Nankai University** – Tianjin, China, May 22, 2014 (Host: Prof. Zhen Xi)
86. **Tianjin University** – Tianjin, China, May 21, 2014 (Host: Prof. Yunfei Du)
87. **National Institute of Biological Science** – Beijing, China, May 20, 2014 (Host: Dr. Xiangbing Qi)
88. **Peking University** – Beijing, China, May 19, 2014 (Host: Prof. Tuoping Luo)
89. **Pfizer La Jolla** – La Jolla, CA, April 11, 2014 (Host: Dr. Douglas Behenna)
90. **California Institute of Technology** – Pasadena, CA, April 9, 2014 (Host: Prof. Brian Stoltz)
91. **University of California Santa Barbara (UCSB)** – Santa Barbara, CA, April 7, 2014 (Host: Prof. Armen Zakarian)
92. **The Scripps Research Institute** – La Jolla, CA, April 4, 2014 (Host: Prof. Phil Baran)
93. **University of Texas at Austin** – Austin, TX, February 24, 2014 (Host: Prof. Michael Krische)
94. **Bristol-Myers-Squibb Process Chemistry** – New Brunswick, NJ, February 19-20, 2014
95. **School of Pharmacy, University of Wisconsin-Madison** – Madison, WI, February 7, 2014 (Host: Prof. Weiping Tang)
96. **King Abdullah University of Science and Technology/Winter Enrichment Program (WEP)** – Saudi Arabia, Jan 25-31, 2014
97. **University of Pécs** – Pécs, Hungary, December 19, 2013 (Host: Prof. Tamás Kálai)
98. **Vanderbilt University** – Nashville, TN, November 4, 2013 (Host: Prof. Gary Sulikowski)
99. **University of Missouri-Columbia** – Columbia, MO, October 21, 2013 (Host: Prof. Rainer Glaser)
100. **University of Hawaii** – Honolulu, HI, July 10, 2013 (Host: Prof. Marcus Tius)
101. **Short Talk at the 2013 Heterocyclic Chemistry Gordon Conference** – Salve Regina University, Newport, RI, June 16-21, 2013
102. **University of Milan - Spring 2013 Lectureship in Chemistry** – Milan, Italy, March 11-15, 2013
103. **University of Oklahoma** – Norman, OK, February 13, 2013 (Host: Prof. G.R. Addo)
104. **Chirality 2012** – Fort Worth, Texas, June 8-10, 2012 (also Member of the Organizing Committee)
105. **International Symposium on Physical Organic Chemistry and Synthetic Materials** – Nankai University, Tianjin, China, July 1-3, 2011
106. **Nanjing University** – Nanjing, China, June 29-30, 2011 (Host: Prof. Guigen Li)
107. **Novartis Shanghai** – Shanghai, China, June 28, 2011
108. **Shanghai Normal University** – Shanghai, China, June 28, 2011
109. **Hong Kong University of Science and Technology** – Hong Kong, China, June 26-27, 2011 (Host: Prof. Jianwei Sun)
110. **Peking University Shenzhen Graduate School** – Shenzhen, China, June 25, 2011 (Host: Prof. Zigang Li)
111. **East China Normal University (ECNU)** – Shanghai, China, June 24, 2011 (Host: Prof. Junliang Zhang)
112. **Fudan University** – Shanghai, China, June 23, 2011 (Host: Prof. Junli Hou)
113. **Shanghai Institute of Organic Chemistry (SIOC)** – Shanghai, China, June 22, 2011 (Host: Prof. Shuli You)
114. **Third European Workshop in Drug Synthesis (III EWDSy)** – University of Siena, Siena, Italy, May 23-27, 2010
115. **South Plains Award Banquet Keynote Speaker** – Local Section, American Chemical Society, Lubbock, TX, April 16, 2010
116. **Stony Brook University** – Stony Brook, NY, January 28, 2010
117. **ETH Lausanne (EPFL)** – Lausanne Switzerland, January 13, 2010
118. **UT Southwestern Medical Center** – Dallas, TX, December 3, 2010
119. **ANGIOKEM – Inhibitors of Angiogenesis: design, synthesis and biological exploitation** – Favignana, Italy, October 16-18, 2009
120. **Natural Products Chemistry, Biology and Medicine II** – ESF-COST High Level Research Conference, Acquafredda di Maratea, Italy, August 29-September 3, 2009

CURRENT EXTERNAL FUNDING SOURCES

- **NCI R01:** \$410,000 (co-PI, 2015-2020)
- **NIH R01:** \$1,160,000 (PI, 2015-2019)
- **NSF CAREER AWARD:** \$675,000 (PI, 2015-2020)
- **Robert Welch Foundation Grant:** \$225,000 (PI, 2014-2017)

UNDERGRADUATE STUDENTS ADVISED

- **Russell Kielawa** – (Sophomore, Spring 2017)
- **Carlos Barrera** – (Junior, Fall 2016 – Present day, Recipient of the Pfizer AIR Fellowship to work in the Kürti lab; \$15K/year)
- **Suhyeorn (Jane) Park** – (Senior, Summer 2016 – Fall 2016)
- **James Siriwongsup** – (Junior, Summer 2016 – Present day)
- **Zoe Punske** – (Junior, Summer 2016 – Present day)
- **Qi (Yukki) Li** – (Senior, Spring 2016)
- **Anna Truong** – (Sophomore, Spring 2016)
- **Tania Lopez Silva** – (Senior, Summer 2015) – Now graduate student at Rice in Jeff Hartgerink's laboratory

GRADUATE STUDENTS ADVISED

- **Kaitlyn Lovato** – (1st Year Grad Student, joined Fall 2016)
- **Nicole Erin Behnke** – (1st Year Grad Student, joined Fall 2016, Recipient of Welch-Atwell Fellowship 2016)
- **Craig Keene** – (Graduated with Ph.D. in December 2016, Recipient of Welch-Atwell Fellowship 2015)

POSTDOCTORAL FELLOWS ADVISED

- **Dr. Adám Gyömöre** (January 2017 – Present day) – Recipient of a Postdoctoral Fellowship by the Rosztoczy Foundation (\$30K)
- **Dr. Byeong-Seon Kim** (July 2016 – Present day) – Ph.D. from University of Pennsylvania (Prof. Patrick J. Walsh)
- **Dr. Zhe Zhou** (February 2016 – Present day) – Ph.D. from University of Hawaii (Prof. Marcus A. Tius)
- **Dr. Jun Yin** (January – June 2016) – Now a Group Leader at Wuxi Apptec in Shanghai, China
- **Dr. Zhiwei Ma** (August 2015 – Present day) – Ph.D. from Brigham Young University (Prof. Steven L. Castle)
- **Dr. Padmanabha Venkatesh Kattamuri** (September 2014 – Present day) – Ph.D. from Texas Tech University (Prof. Guigen Li)
- **Dr. Hongyin Gao** (February 2012 – October 2016) – Ph.D. from East China Normal University (ECNU, Prof. Junliang Zhang) – Now Professor at Shandong University (Jinan, China)
- **Dr. Qinglong Xu** (Sept 2012 – January 2014) – Ph.D. from Shanghai Institute of Organic Chemistry (SIOC, Prof. Shuli You) – Now Professor at China Pharmaceutical University (Nanjing, China)
- **Dr. Gongqiang Li** (August 2011- February 2013) – Ph.D. from Shanghai Institute of Organic Chemistry (SIOC, Prof. Shuli You) – Now Professor at Nanjing Tech University (Nanjing, China)

RICE CHEMISTRY DEPARTMENTAL SERVICE

- **Departmental External Review Advisory Committee** (Member, Fall 2016)
- **Faculty Search Committee** (Member, Fall 2015 and Fall 2016)
- **Chemistry Graduate Admissions Committee** (Member, Fall 2015)
- **K.C. Nicolaou 70th Birthday Symposium Organizing Committee** (Vice Chair, January - October, 2016)

RICE UNIVERSITY SERVICE

- **University Laboratory Safety Committee** (Member, Fall 2016 – Present Day)
- **Board of Cohen House** (Member, Fall 2016 – Present Day)

PEER REVIEWING AND REFEREEING ACTIVITY

- **Books:** John Wiley & Sons, Elsevier Science/Academic Press
- **Journals:** SCIENCE, NATURE CHEMISTRY, NATURE COMMUNICATIONS, Journal of the American Chemical Society (JACS), Accounts of Chemical Research, Angewandte Chemie International Edition (ACIIE), Chemical Science, Advanced Synthesis & Catalysis, Chemical Communications, Organic Letters, Chemistry – A European Journal, European Journal of Organic Chemistry (EurJOC), Journal of Organic Chemistry (JOC)
- **Funding Agencies:** National Science Foundation (NSF Career Panel), ACS Petroleum Research Fund (ACS-PRF), Hungarian Academy of Sciences Grants (NKFIH)