

Curriculum Vitae of Salvatore D. Lepore

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(November 2024)

EDUCATION

Postdoctoral Fellow (2000), Eli Lilly and Company (with Michael R. Wiley), Indianapolis, IN
Ph.D. Organic Chemistry (1997), Purdue University (with Merritt B. Andrus), West Lafayette, IN
B.S. Chemical Engineering *cum laude* (1992), University of South Florida, Tampa, FL

PROFESSORIAL EXPERIENCE

(FAU Department of Chemistry & Biochemistry)
Graduate Program Director (2023 – present)
Professor (2011 – present)
Associate Professor (2006 – 2011)
Assistant Professor (2000 – 2006)

RELATED PROFESSIONAL EXPERIENCE

Associate Editor: *Letters in Organic Chemistry* (Bentham Science) (2017 – Present)
Associate Editor: *Perspectives in Medicinal Chemistry* (Libertas Academica) (2006 – 2018)
NIH Grant Reviewer:
SBC-A Study Section (Ad-Hoc) (Feb 2014)
ZRG1 MDCN Study Section (Mar 2017)
ZRG1 BCMB-N (Pioneer Award) Study Section, (Jan 2018)
ZGM1 RCB-3 SCORE Study Section (Nov 2018)
Expert Witness (2016 – Present)
Consultant (2002 – Present)
Chief Scientist: Custom Synthesis Incorporated (an FAU spin-out company) (2004 – 2006)
Chemical Engineer: Delta Environmental Consultants (now Antea USA), Tampa, FL (1991 – 1993)

HONORS and AWARDS

National Academy of Inventors inductee (2021)
FAU Distinguished Science Teacher of the Year (2019, 2009, and 2003)
University of Rome (La Sapienza) Visiting Professor Fellowship (Fall 2015)
FAU College of Science Researcher of the Year Award (2012) (Full Professor Category)
FAU College of Science Researcher of the Year Award (2011) (Associate Professor Category)

FAU University Researcher of the Year Award (2006) (Assistant Professor Category)
H. Lee Moffitt Cancer Center Honoree (2006)
FAU Multicultural Pre-Medical Society Teaching Appreciation Award Recipient (2002)
FAU Presidential Research Award (2001) (Only two awards given across all faculty ranks)
Petroleum Research Foundation Graduate Fellow (1994-1996)
Dow Chemical Outstanding Junior of the Year Award Recipient (1991)
Tau Beta Pi National Engineering Honor Society (1991)
National Science Foundation Undergraduate Summer Research Grantee (1991)
University of South Florida Faculty/Staff Scholarship Recipient (1990)

RESEARCH and SCHOLARLY ACTIVITIES

REFEREED WORKS

Simonson, A. J.; Naraine, A. S.; Maki, S. L.; Nugent, K. M.; Lepore, S. D.; Dawson-Scully, K. Resveratrol natural product inspired compound as a potent neuroprotectant against acute oxidative stress. *microPublication Biology* **2024** (10.17912/micropub.biology.001127)
Stilley, S. E.; Naraine, A. S.; Yadavalli, K. P.; Maki, S. L.; Jutte, E. M.; Kahn, J. M.; Surtel, A. A.; Lepore, S. D.; Dawson-Scully, K. Bridged Bicyclic Compounds: Comprehending a Novel Compound Class as Potential Anti-Epileptic Agents. *Epilepsia* **2023**, *64*, 2958 – 2967.
Yadavalli, K. P.; Cummines, J. E.; Carlisle, C. J.; Lepore, S. D. Diastereoselective Additions of H-Phosphinates to Alkenyl Ketones Under Phase-Transfer Conditions. *ChemComm* **2022**, *58*, 6441 – 6444.
Maki, S. L.; Maity, P.; Dougherty, S.; Johns, J.; Lepore, S. D. Allenoate Pre-Nucleophiles: A Triply Diastereoselective Approach to β -Hydroxy Esters

- Containing All-Carbon α -Quaternary Centers. *Org. Lett.* **2019**, *21*, 7952-7955.
- Bollinger, W. L.; St. Germain, E. J.; Maki, S. L.; Sial, N. K.; Lepore, S. D.; Dawson-Scully, K. Resveratrol-Inspired Bridged Bicyclic Compounds: A New Compound Class for the Protection of Synaptic Function from Acute Oxidative Stress. *ACS Chem. Neurosci.* **2019**, *10*, 221-225.
- Nagy, E.; Lepore, S. D. Alkyne Cycloadditions Mediated by Tetrabutylammonium Fluoride: A Unified and Diversifiable Route to Isoxazolines and Pyrazolines. *Org. Lett.* **2017**, *19*, 3695.
- Jana, S.; Roy, A.; Lepore, S. D. Diversification Reactions of γ -Silyl Allenyl Esters: Selective Conversion to All-Carbon Quaternary Centers and γ -Allene Dicarbinols. *ChemComm* **2017**, *53*, 5125.
- Jana, S.; Al-huniti, M. H.; Yang, B. Y.; Lu, S.-Y.; Pike, V. W.; Lepore, S. D. Crown Ether Nucleophilic Catalysts (CENCs): Agents for Enhanced Silicon Radiofluorination. *J. Org. Chem.* **2017**, *82*, 2329.
- Roy, A.; Silvestri, M. A.; Hall, R. A.; Lepore, S. D. Allenyl esters as quenching agents for ruthenium olefin metathesis catalysts. *Tetrahedron Lett.* **2017**, *58*, 106.
- Roy, A.; Bhat, B. A.; Lepore, S. D. Asymmetric Protonation of Cumulenolates: Synthesis of Allenyl Aldehydes Facilitated by an Organomanganese Auxiliary. *Org. Lett.* **2016**, *18*, 1230.
- Nagy, E.; St.Germain, E.; Cosme, P.; Maity, P.; Terentis, A. C.; Lepore, S. D. Ammonium Catalyzed Cyclitive Additions: Evidence for a Cation- π Interaction with Alkynes. *ChemComm* **2016**, *52*, 2311.
- Jana, S.; Suresh, V.; Lepore, S. D. Synthesis of Novel C-Pivot Lariat 18-Crown-6 Ethers and their Efficient Purification. *Synlett* **2015**, *26*, 1977.
- Roy, A.; Bhat, B. A.; Lepore, S. D. Organomanganese η^2 -Auxiliary Directed Reactions: A Diastereoselective Approach to 2,3-Allenols. *Org. Lett.* **2015**, *17*, 900.
- Al-huniti, M. H.; Lepore, S. D. Zinc(II) Catalyzed Conversion of Alkynes to Vinyl Triflates in the Presence of Silyl Triflates. *Org. Lett.* **2014**, *16*, 4154.
- Bhat, B. A.; Maki, S. L.; St.Germain, E. J.; Maity, P.; Lepore, S. D. Annulation Reactions of Allenyl Esters: an Approach to Bicyclic Diones and Medium-Sized Rings. *J. Org. Chem.* **2014**, *79*, 9402.
- Al-huniti, M. H.; Lu, S.-Y.; Pike, V. W.; Lepore, S. D. Enhanced Nucleophilic Fluorination and Radiofluorination of Organosilanes Appended with Potassium-Chelating Leaving Groups, *J. Fluor. Chem.* **2014**, *158*, 48.
- Al-huniti, M. H.; Lepore, S. D. Stereoretentive Copper (II) Catalyzed Ritter Reactions of Secondary Cycloalkanols. *Adv. Synth. Catal.* **2013**, *355*, 3071.
- Mondal, D.; Li, S. L.; Bellucci, L.; Laino, T.; Tafi, A.; Guccione, S.; Lepore, S. D. Stereoretentive Chlorination of Cyclic Alcohols Catalyzed by Titanium (IV) Tetrachloride: Evidence for a Front-Side Attack Mechanism. *J. Org. Chem.* **2013**, *78*, 2118.
- Mondal, D.; Bellucci, L.; Lepore, S. D. A Direct and Stereoretentive Synthesis of Amides from Cyclic Alcohols. *Eur. J. Org. Chem.* **2011**, 7057.
- Maity, P.; Lepore, S.D. Catalytic synthesis of non-racemic azaproline derivatives via a kinetic-resolution based cyclization of β -alkynyl hydrazines. *Angew. Chem. Int. Ed.* **2011**, *50*, 8338.
- Bhowmick, M.; Lepore, S. D. Manganese η^2 -Complexes as Auxiliaries for Stereoselective Aldol Additions: Efficient Synthesis of Highly Functionalized Allenyl Carbinols. *Organic Lett.* **2010**, *12*, 5078.
- Bhowmick, M.; Sappidi, R.; Fields, G.B.; Lepore, S.D. Efficient Synthesis of Fmoc-Protected Phosphinic Pseudodipeptides: Building Blocks for the Synthesis of Matrix Metalloproteinase Inhibitors (MMPis). *Biopolymers (Peptide Science)* **2010**, *96*, 1.
- Lu, S.-Y.; Lepore, S. D.; Li, S. Y.; Mondal, D.; Cohn, P. C.; Bhunia, A. K.; Pike, V. W. Nucleophile Assisting Leaving Groups: A Strategy for Aliphatic ^{18}F -Fluorination *J. Org. Chem.* **2009**, *74*, 5290-5296.
- Maity, P.; Lepore, S.D. Anion Catalyzed Addition of γ -Silylallenyl Esters to Aldehydes: A New Entry into [3.2.1] Bicyclic Natural Products *J. Am. Chem. Soc.* **2009**, *131*, 4196.
- Maity, P.; Lepore, S.D. Selective One-Pot Synthesis of Allenyl and Alkynyl Esters from β -Ketoesters. *J. Org. Chem.* **2009**, *74*, 158.
- Lepore, S.D.; Mondal, D.; Li, S.Y.; Bhunia, A.K. Stereoretentive Halogenations and Azidations with Titanium(IV) Enabled by Chelating Leaving Groups *Angew. Chem. Int. Ed.* **2008**, *47*, 7511.
- Lu, S. Y.; Li, S. Y.; Lepore, S. D.; Pike, V. W. (^{18}F)Fluorination of Alkyl Sulfonate is Enhanced by Arylsulfonate-Based Nucleophile Assisting Leaving Groups (NALGs) Under Microwave Irradiation. *J. Labelled Compd. Radiopharm.* **2007**, *50 (Suppl. I)*, S5.
- Lepore, S.D.; Bhunia, A.K.; Mondal, D.; Cohn, P.C.; Lefkowitz, C. Rapid Conversion of Hindered Arylsulfonates to Alkyl Chlorides with Retention of Configuration. *J. Org. Chem.* **2006**, *71*, 3285.
- Silvestri, M.A.; He, C.; Khoram, A.; Lepore, S.D. Synthesis of Methyl 2-Oxo-5-Vinyl-2,5-Tetrahydrofuran-3-Carboxylate. *Tetrahedron Lett.* **2006**, *47*, 1625.

Lepore, S.D.; Bhunia, A.K.; Cohn, P. Arylsulfonate Based Nucleophile Assisting Leaving Groups (NALGs). *J. Org. Chem.* **2005**, *70*, 8117.

Silvestri, M.A.; Bromfield, D.C.; Lepore, S.D. Michael-Stork Addition of Cyclopentyl Enamine to Allenyl Ketones and Esters. *J. Org. Chem.* **2005**, *70*, 8239.

Lepore, S.D.; Khoram, A.; Bromfield, D.C.; Cohn, P.; Jairaj, V.; Silvestri, M.A. Studies on the Manganese Mediated Isomerization of Alkynyl Carbonyls to Allenyl Carbonyls. *J. Org. Chem.* **2005**, *70*, 7443.

Lepore, S.D.; He, Y.J. Deconjugative Conversion of α -Alkynyl Esters to α,α -Disubstituted β -Alkynyl Esters. *J. Org. Chem.* **2005**, *70*, 4546.

Lepore, S.D.; He, Y.J.; Damsse, P. Studies on the Base-Promoted Conversion of Conjugated Alkynyl Esters to α -Substituted α -Allenyl Esters. *J. Org. Chem.* **2004**, *69*, 9171.

Lepore, S.D.; He, Y.J. Use of Sonication for the Coupling of Sterically Hindered Substrates in the Phenolic Mitsunobu Reaction. *J. Org. Chem.* **2003**, *68*, 8261.

Lepore, S.D.; Wiley, M.R. Application of Aryloximes as Solid-Phase Ketone Linkers. *Organic Lett.* **2003**, *5*, 7.

Lepore, S.D.; Schacht, A.L.; Wiley, M.R. Preparation of 2-Hydroxybenzamidines from 3-Aminobenzisoxazoles. *Tetrahedron Lett.* **2002**, *43*, 8777.

Zhang, Z.; Lepore, S.D. Synthesis of cyclopentadienyl manganese tricarbonyl resins as potential olefin traceless supports. *Tetrahedron Lett.* **2002**, *43*, 7357.

Lepore, S.D. The use of 18-crown-6 as an ionizable phase label for the expedited synthesis of small-molecules. *Tetrahedron Lett.* **2001**, *42*, 6437.

Lepore, S.D.; Wiley, M.R. Studies on the Synthetic Compatibility of Aryloxime Linkers in the Solid Phase Synthesis of 3-Aminobenzisoxazoles. *J. Org. Chem.* **2000**, *65*, 2924.

Lepore, S.D.; Wiley, M.R. Use of the Kaiser Oxime Resin in the Solid Phase Synthesis of 3-Aminobenzisoxazoles. *J. Org. Chem.* **1999**, *64*, 4547.

Andrus, M.B.; Lepore, S.D.; Turner, T.M. Total Synthesis of Stipiamide and Designed Polyenes as New Agents for the Reversal of Multidrug Resistance. *J. Am. Chem. Soc.*, **1997**, *119*, 12159.

Andrus, M.B.; Lepore, S.D.; Sclafani, J.A. Selective Dihydroxylation of Non-Conjugated Dienes in Favor of the Terminal Olefin. *Tetrahedron Lett.* **1997**, *38*, 4043.

Andrus, M.B.; Lepore, S.D. Synthesis of Stipiamide and a New Multidrug Resistance Reversal Agent, 6,7-

Dehydrostipiamide. *J. Am. Chem. Soc.*, **1997**, *119*, 2327.

Andrus, M.B.; Lepore, S.D. Asymmetric Additions to Dichlorophenyl Dioxane, a New Chiral Acetal. *Tetrahedron Lett.* **1995**, *36*, 9149.

CHEM ED, BOOK CHAPTERS and REVIEWS

Yadavalli, K.; Lepore, S. D. Chiral allenylcarbonyls – underexploited building blocks for complex synthesis. *Letters in Organic Chemistry* **2022**, *19*, 597.

Roy, A.; Bhat, B. A.; Lepore, S. D. Carbon-Carbon Bond Formation Facilitated by π -Complexed Organometallic Auxiliaries: An Overview. *Letters in Organic Chemistry* **2019**, *9*, 689.

St.Germain, E. J.; Horowitz, A.S.; Rucco, D.; Rezler, E. M.; Lepore, S. D. Teaching Experiment To Elucidate a Cation- π Effect in an Alkyne Cycloaddition Reaction and Illustrate Hypothesis-Driven Design of Experiments. *J. Chem. Educ.* **2017**, *94*, 240.

Lepore, S.D.; Mondal, D.; Li, S.Y. *SynForm* **2009**, *2*, A16.

Li, S. Y.; Lepore S.D. 2-(2-methoxyethoxy)-ethyl 2-(chlorosulfonyl)-benzoate. *Encyclopedia of Reagents for Organic Synthesis* **2008** (2nd ed., vol. 8) pg. 6629.

Lepore, S.D.; Mondal, D. Recent Advances in Heterolytic Nucleofugal Leaving Groups *Tetrahedron* **2007**, *63*, 5103-5122.

PATENTS and APPLICATIONS

Weissbach, H.; Prentice, H.; Lepore, S. D.; Allani, S. K.; Dawson-Scully, K. Non-Provisional Patent (World Application (PCT/US24/50950): Bridged Bicyclic Compounds as Cardiovascular Protective Agents, (FAU, **2024**).

Lepore, S. D.; Dawson-Scully, K.; Stille, S.; Yadavalli, K. P. Non-Provisional Patent (World Application (PCT/US23/25444): Bridged bicyclic compounds and their derivatives as antiepileptic agents and methods of use thereof, (FAU/NSU, **2023**).

Lepore, S. D.; Dawson-Scully, K.; St. Germain, E. J.; Maki, S. L.; Bollinger, W.; Sial, N. K. Bridged bicyclic compounds and their derivatives as neuroprotective agents and methods of use thereof. US20190284123A1 (FAU, **2020**)

Lepore, S.D.; Silvestri, Maximilian. Non-oxidative Termination of Ruthenium Catalyzed Olefin Metathesis Reactions. *App. No.* 62149836 (FAU, **2015**).

Lepore, S.D. Nucleophile Assisting Leaving Groups. *US 8,822,707 B2* (FAU, 2014). Licensed by FAU to Millipore-Sigma and offered as a catalog item (#721255).

Argade, A.B.; Goodson, T.; Herron, D.K.; Joseph, S.; Lepore, S.D.; Marquart, et al. Preparation of (hetero)aromatic ether amides as inhibitors of Factor Xa and/or thrombin. *WO 2006057845* (Eli Lilly, 2006)

Lepore, S.D.; Wiley, M.R. Solid phase synthesis of ketone group containing molecules. *WO 2001036362* (Eli Lilly, 2001)

Wiley, M.R.; Lepore, S.D. Use of aryloxime linkers in the solid-phase synthesis of 3-amino-1,2-benzisoxazoles and polycyclic heterocyclic analogs. *WO 2000027627* (Eli Lilly, 2000)

Wiley, M.R.; Lepore, S.D. Preparation of amino-benzisoxazole compounds and libraries as thrombin inhibitors. *WO 2000027199* (Eli Lilly, 2000)

CONTRACTS and GRANTS RECEIVED as PI

2020 "Synthesis of a Bridged Bicyclic Natural Product Using Allenyl Esters" (9/20 - 8/24) (budget period)
Agency: NIH (NIGMS), GM110651-03
Direct Costs: \$299,945 Indirect Costs: \$148,473

2017 "Synthesis of a Bridged Bicyclic Natural Product Using Allenyl Esters" (4/17 - 3/21) (budget period)
Agency: NIH (NIGMS), GM110651-02
Direct Costs: \$300,000 Indirect Costs: \$148,500

2014 "Synthesis of a Bridged Bicyclic Natural Product Using Allenyl Esters" (4/14 - 3/17)
Agency: NIH (NIGMS), GM110651
Direct Costs: \$210,000 Indirect Costs: \$101,320

"New Natural Product Derived HIV Entry Inhibitors" and "Ultrafast Silicon F18-Fluorination for PET Medical Imaging"
Agency: FAU Seed Grants (two awarded)
Direct Costs: \$15,500 and \$22,900

2013 "Total Synthesis of Garsubellin A" (9/13 - 9/14)
Agency: Indo-US Science and Technology Forum
Direct Costs: \$38,000 Indirect Costs: \$0
FAU Matching Funds: \$8,000

2011 "Elucidation of Reactions Mediated by Sulfidic Carbonate and Clay Depositions" (1/12 - 12/13)
Agency: Amer. Chem. Soc. PRF (51785-ND2)
Direct Costs: \$100,000

Torrey Pines Institute (8/11 - 8/12)
Direct Costs: \$40,100 Indirect Costs: \$3,208

2010 "New Methods for the Expedited Synthesis of C11 and F18 PET Tracers" (4/10 - 1/13)
Agency: NIH (1R21MH087932-01A1)

Direct Costs: \$450,000 Indirect Costs: \$200,250

Torrey Pines Institute (8/10 - 8/11)
Direct Costs: \$40,100 Indirect Costs: \$3,208

2009 "Identification of Active Compounds in Treated Calendula Extracts" (12/09 - 11/10)
Agency: Unison Pharmaceuticals, Inc.
Direct Costs: \$20,077 Indirect Costs: \$9,436

"Synthesis of NALG Compounds" (11/09 - 11/10)
Agency: NIH (NIMH)
Direct Costs: \$18,800 Indirect Costs: \$1,200

2005 "Synthesis of azaphilone analogs as HIV entry inhibitors" (6/05 - 5/10)
Agency: NIH (NIGMS), S06 GM073621-01
Direct Costs: \$545,000 Indirect Costs: \$223,500

2004 "Synthesis of quinazoline derivatives" (9/04 - 6/05)
Agency: The Scripps Research Institute (Florida)
Direct Costs: \$14,592 Indirect Costs: \$5,909

"Chemical synthesis of sucrose derivatives and subsequent antimicrobial testing" (10/04 - 6/06)
Agency: Florida Crystals Corporation
Direct Costs: \$20,000 Indirect Costs: \$8,100
Chemical synthesis of "Product C" (8/03 - 7/04)
Agency: Florida Crystals Corporation
Direct Costs: \$9,700 Indirect Costs: \$2,425

2003 "Synthesis of Pyran Bicyclic Natural Products" (5/1/03 - 4/30/05)
Agency: NIH (NIGMS), R15 GM067635-01
Direct Costs: \$100,000 Indirect Costs: \$39,000

"Solid-Phase Approach to the Synthesis of C11 PET Tracers" (3/03 - 2/06)
Agency: NIH (NIMH), R03 MH66963-01
Direct Costs: \$139,000 Indirect Costs: \$55,000

"Purchase of an NMR for Teaching Creative Problem Solving Skills in the Chemistry Laboratory Program at FAU" (9/03 - 8/05)
Agency: NSF (DUE), 0311369
Direct Costs: \$133,620 FAU-Match: \$116,520
Indirect Costs: \$8,990

"Chemical synthesis of simplified analogs of verbenaloxide an anti-tumor agent" (9/03 - 8/05)
Agency: FAU Center of Excellence
Direct Costs: \$70,000 Indirect Costs: none

2002 "Manganese η^2 -Bond as a Solid-Phase Traceless Linker for the Expedited Synthesis of Olefins" (summer fellowship) (5/02 - 8/02)
Agency: ACS PRF (Type G), 36633-G1
Direct Costs: \$8,000 Indirect Costs: none

“Enantioselective Conversion of Alkynes to Allenes: Application to the Synthesis of Anti-HIV Compounds” (3/02 – 2/03)

Agency: Florida Atlantic University – Research Initiation Award

Direct Costs: \$5,000 Indirect Costs: none

“Sulfonate resins for the synthesis of ¹⁸F-labeled PET tracers” (6/02 – 5/06)

Agency: NIH (PO # 263-MD-212362)

Direct Costs: \$42,186 Indirect Costs: \$9,214

Donation of methylcyclopentadienyl manganese tricarbonyl (MMT)

Agency: Ethyl Corporation

Estimated value: \$12,000 Indirect Costs: none

2001 “Manganese η^2 -Bond as a Solid-Phase Traceless Linker or the Expedited Synthesis of Olefins” (9/01 – 8/03)

Agency: ACS PRF (Type G), 36633-G1

Direct Costs: \$25,000 Indirect Costs: none

“Synthesis and SAR Study of Isochromophilone II – an HIV Prophylactic Agent” (7/01 – 6/02)

Agency: Florida Atlantic University – Presidential Research Development Award

Direct Costs: \$25,000 Indirect Costs: none

“Development of a New Method for the Solid-Phase Synthesis of Medicinally-Relevant Alkenes” (3/01 – 2/02)

Agency: FAU – Research Innovation Award

Direct Costs: \$5,000 Indirect Costs: none

PROCEEDINGS

(including 21 invited lectures and chaired sessions)

The following are technical presentations (45 min) to pharma companies for the purpose of licensing FAU patented technology developed by my group and collaborators.

Dawson-Scully, K.; Lepore, S. D. “Bridged Bicyclic Compounds as Antiepileptic Agents”

- Presented to Epygenix (May **2023**)
- Presented to Xenon Pharmaceuticals (July **2023**)
- Presented to Neurocentria (July **2023**)

Elyse M. Jutte; Krishna P. Yadavalli, Jared M. Kahn and Salvatore D. Lepore Resveratrol-natural product inspired neuroprotective agents: An optimized route to all-carbon [3.2.1] bridged bicyclic compounds via a reductive aldol step. Abstracts of Papers, ACS National Meeting, Chicago, August (**2022**)

Yadavalli, K.; Lepore, S. D. Diastereoselective Formation of Phosphinates via Phospha-Michael Catalyzed by a Phase Transfer Agent. Castle Conference, April (**2022**)

Kristina M. Nugent; Abdul Motaleb; Silas Q. Hintze; Pradip Maity; and Salvatore D. Lepore. Unprecedented endo cyclizations involving carbon additions on unactivated carbon-carbon triple bonds catalyzed by potassium tert-butoxide. Castle Conference, April (**2022**)

Nugent, K.; Motaleb, A.; Maity, P.; Nagy, E.; Lepore, S. D. Unprecedented endo cyclizations of alkynes catalyzed by alkali metal alkoxide salts: Evidence for a non-Conia-ene mechanism. Pacifichem, Honolulu, HI (held virtually due to COVID-19 pandemic), December (**2021**)

Maki, S. L.; Sial, N.; Yadavalli, K.; Dawson-Scully, K.; Lepore, S. D. Neuroprotective agents inspired by a resveratrol natural product: A new class of molecular probes based all-carbon bridged bicycles. Pacifichem, Honolulu, HI (held virtually due to COVID-19 pandemic), December (**2021**)

Rahill, R.; Lepore, S. D. Socratic Active Learning (SAL): A flipped class method for increased student engagement in remote and F2F modalities. *Invited lecture* for FAU Center for Online and Continuing Education (COCE) Professional Development Session (**2021**). Lecture available on YouTube at: www.youtube.com/watch?v=LiljbLcfDhQ&list=PLEyk-pfnue6OmmBjUoowc6E4K0gDWh_ne0&index=1

Lepore, S. D. Neuroprotective agents inspired by a resveratrol natural product: A new class of molecular probes based all-carbon bridged bicycles. University of Florida Drug Discovery Symposium (UFDDS), March (**2021**)

St. Germain, E. J.; Horowitz, A. S.; Rucco, D.; Rezler, E. M.; Lepore, S. D. Teaching experiment to illustrate experimental design in the investigation of a mechanism involving a novel ammonium-alkyne interaction. Abstracts of Papers, ACS National Meeting, Orlando, March (**2019**)

Yadavalli, K. P.; Lepore, S. D. Phase transfer-catalyzed phospha-Michael additions: An asymmetric approach to phosphinate esters. Abstracts of Papers, ACS National Meeting, Orlando, March (**2019**)

Maki, S. L.; Jana, S.; Lepore, S. D. Diversification of allenyl esters: α -Selective reactions leading to products containing all-carbon quaternary centers. Abstracts of Papers, ACS National Meeting, Orlando, March (**2019**)

Maki, S. L.; Sial, N.; St. Germain, E. J.; Ghuman, G.; Bollinger, W. Dawson-Scully, K.; Lepore, S. D. Natural Product Inspired Bridged Bicyclic Compounds as Neuroprotective Agents. Abstracts of Papers, ACS National Meeting, Orlando, March (**2019**)

Maki, S. L.; Maity, P.; Dougherty, S.; Johns, J.; Lepore, S. D. Titanium-Mediated Diastereoselective

Halo-Aldol Reactions Resulting in α -Vinyl β -Hydroxy Esters. Abstracts of Papers, ACS National Meeting, Boston, March (2018)

Maki, S. L.; Bollinger, W.; Dawson-Scully, K.; Maity, P.; Lepore, S. D. Studies Toward the Total Synthesis of Vitisinol D and Evaluation of Its Analogs as Neuroprotective Agents. Abstracts of Papers, ACS National Meeting, Boston, March (2018)

Lepore, S. D. Lepore, S. D. Alkyne Cycloadditions Mediated by TBAF: A Unified and Diversifiable Route to Diheteroatom Heterocycles. *Invited lecture* for the University of Rome (La Sapienza) Italy, June (2017)

Nagy, E.; Lepore, S. D. Studies on Ammonium-Catalyzed Cyclitive Additions to Alkynes: A General Approach to Diheteroatom Heterocycles. ACS Div. Organic Chemistry Symposium. Bryn Mawr, PA July (2016).

Jana, S.; Roy, A.; Lepore, S. D. Diversification reactions of γ -silyl allenyl esters: selective conversion to γ -disubstituted allenes and all-carbon quaternary centers. Abstracts of Papers, ACS National Meeting, San Diego, March (2016)

Jana, S.; Al-huniti, M. H.; Lepore, S. D. Crown Ether Nucleophilic Catalysts (CENCs) for the Ultrafast Fluorination of Silicon. Abstracts of Papers, ACS National Meeting, San Diego, March (2016)

Maki, S. L.; St.Germain, E. J.; Yadavalli, K. P.; Maity, P.; Lepore, S. D. Construction of congested bridged bicyclic systems: Progress towards the first total synthesis of an anti-thrombotic natural product. Pacificchem, Honolulu, HI, December (2015)

Lepore, S. D. Stereoselective construction of functionalized allenes and subsequent diversification. *Invited lecture* for University of Siena, Italy, October (2015) and University of Rome (La Sapienza) Italy, November (2015)

Lepore, S. D. New Methods for the Stereoselective Synthesis of Functionalized Allenes Using a Traceless Organomanganese Auxiliary. *Invited lecture* for the Department of Chemistry, Kyoto University (Kyoto, Japan) April (2015)

Nagy, E.; Lepore, S. D. Ammonium-catalyzed alkyne additions: A unified method for the synthesis of isoxazolidines and pyrazolidines. Abstracts of Papers, ACS National Meeting, Boston, MA, August (2015)

Nagy, E.; Roy, A.; Lepore, S. D. Regio- and stereoselective additions to enynes containing an organo-manganese auxiliary leading to highly substituted allenyl aldehyde products. Abstracts of Papers, ACS National Meeting, Denver, CO, (2015)

Roy, A.; Lepore, S. D. Asymmetric isomerization of alkynyl to allenyl aldehydes bearing a traceless

organo-manganese η^2 -auxiliary. Abstracts of Papers, ACS National Meeting, Denver, CO, March (2015)

Roy, A.; Lepore, S. D. Stereoselective synthesis of allenyl alcohols using an organomanganese η^2 -auxiliary: A new entry to furo-furanone natural products. Abstracts of Papers, ACS National Meeting, Denver, CO, March (2015)

Nagy, E.; St.Germain, E.; Maity, P.; Lepore, S. D. Ammonium catalyzed cyclitive additions: Evidence for a cation- π interaction with alkynes. Abstracts of Papers, ACS National Meeting, Dallas, TX, March (2014)

Roy, A.; Lepore, S.D. Diastereoselective Additions to Allenyl Aldehydes Directed by an Organo-Manganese η^2 -Auxiliary. ACS National Organic Symposium (Seattle, WA) June (2013).

Lepore S.D. New Reactions Enabled by Nucleophile Assisting Leaving Groups (NALGs) *Invited lecture* for the Department of Diagnostic Radiology at the Yale University School of Medicine (New Haven, CT) October (2012)

Lepore S.D. Development of Nucleophile Assisting Leaving Groups (NALGs) for Enhanced Reactivity in Substitution Reactions. *Invited lecture* for Distinguished Lecture Series at Torrey Pines Institute for Molecular Studies (Port St. Lucie, Florida) July (2011)

Lepore S.D. Development of Nucleophile Assisting Leaving Groups (NALGs) for Enhanced Reactivity in Substitution Reactions. *Invited lecture* for University of Rome, Italy (La Sapienza) & University of Athens, Greece, June (2011)

Lepore, S.D. Development of Nucleophile Assisting Leaving Groups (NALGs) for Enhanced Reactivity in Substitution Reactions. *Invited lecture* for Emory University, Atlanta, March (2011)

Mondal, D.; Li, S. Y.; Lepore, S. D. Revisiting reactions of thionyl chloride: Stereoretentive methods for the one-pot synthesis of halides and amides from alcohols. Pacificchem, Honolulu, HI, December (2010)

Lepore, S.D. New Synthesis Methods Involving Allenyl Carbonyl Compounds and Development of Nucleophile Assisting Leaving Groups (NALGs). *Invited lecture* for The Scripps Research Institute (Jupiter, Florida) (November 2010)

Maity, P.; Lepore, S.D. Organocatalytic amination of allenyl esters and subsequent cyclization to form azaproline derivatives. Abstracts of Papers, 240th ACS Nat. Meeting, Boston, MA August (2010)

Li, S.; Lepore, S.D. Stereoretentive and mild halogenation of cyclic alcohols catalyzed by titanium (IV) reagents: Evidence for a new front-side attack

mechanism. Abstracts of Papers, 240th ACS Nat. Meeting, Boston, MA August (2010)

Lepore, S.D. New Synthesis Methods Involving Allenyl Carbonyl Compounds and Development of Nucleophile Assisting Leaving Groups (NALGs), *Invited Lecture* for Brigham Young University March (2009)

Lepore, S.D.; Mondal, D. New Titanium (IV) Mediated Reactions with Chelating Leaving Groups: Stereoretentive One-Step Benzoylation of Secondary Alcohols. Abstracts of Papers, 237th ACS Nat. Meeting, Salt Lake City, UT, March (2009)

Lepore, S.D. **SESSION CHAIR:** Total Synthesis of Complex Molecules: (Oral session #30422) at the 237th ACS National Meeting, Salt Lake City, UT, March (2009)

Maity, P.; Lepore, S.D. Reductive Aldol as a Novel Method for Substituted [3.n.1] Bicycle Formation: Progress Toward the Total Synthesis of Vitisinol D. Abstracts of Papers, 236th ACS National Meeting, Philadelphia, PA, August (2008)

Lepore, S.D.; Maity, P.; Sappidi, R. Selective One-Pot Synthesis of Allenyl and Alkynyl Esters: Applications to Mukaiyama-type Additions to Form Nonracemic 2-Alkynyl-3-hydroxy Esters. Abstracts of Papers, 236th ACS National Meeting, Philadelphia, PA, August (2008)

Mondal, D.; Li, S.Y. Lepore, S.D. Stereoretentive and Rapid Synthesis of Secondary Halides and Azides using New Chelating Leaving Groups with Titanium (IV) Reagents. Abstracts of Papers, 236th ACS National Meeting, Philadelphia, PA, August (2008)

Lepore, S.D. New Synthesis Methods Involving Allenyl Carbonyl Compounds and Development of Nucleophile Assisting Leaving Groups (NALGs). *Invited lecture* for The Scripps Research Institute (La Jolla) November (2007)

Lepore, S.D. New Synthesis Methods Involving Allenyl Carbonyl Compounds and Development of Nucleophile Assisting Leaving Groups (NALGs). *Invited lecture* for University of California at San Diego, November (2007)

Lepore, S.D. Development of New Leaving Groups. *Invited lecture and short course* for the University (degli Studi) of Catania (Sicily, Italy) October (2007)

Lepore, S.D.; Mondal, D.; Li, S. New Titanium (IV) Reactions Using Nucleophile Assisting Leaving Groups (NALGs): Stereoretentive Alkyl Halide and Azide Syntheses. European Symposium on Organic Chemistry (ESOC) at University College Dublin, Ireland, July (2007)

Lepore, S.D. New Synthesis Methods Involving Allenyl Carbonyl Compounds and Development of

Nucleophile Assisting Leaving Groups (NALGs). Lecture for Eli Lilly and Co. April (2007)

Lepore, S.D. New Synthesis Methods Involving Allenyl Carbonyl Compounds and Development of Nucleophile Assisting Leaving Groups (NALGs) *Invited lecture* for Purdue University Chemistry Department, March (2007)

Lepore, S.D.; Mondal, D.; Li, S. Accelerated reactions using nucleophile assisting leaving groups (NALGs): Applications to stereospecific alkyl halide synthesis. 233rd ACS National Meeting, Chicago, IL, March (2007)

Lepore S.D. New Synthesis Methods Involving Allenyl Carbonyl Compounds and Development of Nucleophile Assisting Leaving Groups (NALGs). *Invited lecture* for Moffitt Cancer Center, November 22 (2006)

Lepore S.D. New Synthesis Methods Involving Allenyl Carbonyl Compounds and Development of Nucleophile Assisting Leaving Groups (NALGs). *Invited lecture* for University of Rome (La Sapienza), Italy, September 29 (2006)

Lepore, S.D.; Mondal, D.; Cohn, P.C.; Li, S. Accelerated Reactions Using Nucleophile Assisting Leaving Groups (NALGs): Applications to Stereospecific Alkyl Halide Synthesis. Ischia Advanced School of Organic Chemistry, Ischia, Naples (Italy), September 16-21 (2006)

Lepore S.D. Development of New Leaving Groups and New Methods Involving Allenyl Carbonyl Compounds. *Invited lecture* for University of Florida Chemistry Department Organic Seminar Series, January 26 (2006)

Lepore S.D.; Bhunia, A.K. Arylsulfonate based nucleophile assisting leaving groups. Pacificchem, Honolulu, HI, December (2005)

Lepore, S.D., Bhunia, A.K.; Cohn P. Design of arylsulfonate based nucleophile assisting leaving groups. *Invited lecture* for NIH (Mental Health), August (2005)

Lepore S.D.; Bhunia, A.K. Arylsulfonate based nucleophile assisting leaving groups. 230th ACS National Meeting, Washington DC, August (2005)

Lepore S.D.; Bhunia, A.K.; Cohn P. Arylsulfonate based nucleophile assisting leaving groups. *Invited lecture* for ACS Florida Annual Meeting and Exhibition (FAME), May (2005)

Lepore S.D. Bhunia, A.K.; Nucleophile Assisting Leaving Groups (NALGs). *Invited lecture* for Florida State University Chemistry Department Organic Seminar Series, December (2004)

Lepore, S.D. New Methods for the Preparation of Highly Functionalized Allenyl Carbonyl Compounds.

FAU Center for Molecular Biology and Biotechnology (CMBB) October (2004). Bromfield, D.C.; Silvestri, M.A.; Lepore, S.D. New chemical methods for the synthesis of geniposidic acid, an antiviral marine natural product. Florida Marine Biotechnology Conference, October (2004)

Silvestri, M.A.; Lepore, S.D. The Development of a Novel Diels-Alder Reaction Involving Allenyl Esters as Heterodienes. XI International Symposium of Marine Natural Products, Sorrento, Italy, September (2004)

Lepore, S.D. New methods for the preparation of allenyl esters and their application in hetero-Diels-Alder reactions. Annual Organic Faculty of Florida (OFF) Conference, Orlando, FL, March (2004)

Lepore, S.D. and He, Y. Synthesis of α -tributylstannyl- α -allenyl esters and their application in the Lewis acid mediated reaction with aldehydes. South Eastern Regional Meeting of the American Chemical Society, Atlanta, GA, September (2003)

Lepore, S.D. and He, Y. Studies on the base-promoted conversion of conjugated alkynyl esters to α -substituted α -allenyl esters. South Eastern Regional Meeting of the American Chemical Society, Atlanta, GA, September (2003)

Bromfield, D.C.; Jairaj, V.; Lepore, S.D. Studies on the Manganese-Mediated Isomerization of Alkynyl Carbonyls to Allenyl Carbonyls. BioTech 2003.

He, Y.; Lepore, S.D. Base-promoted Alkylation Reactions of Alkynyl Esters. BioTech 2003.

Lepore, S.D. New Methods for the Preparation of Highly Functionalized Allenyl Carbonyl Compounds. *Invited Lecture* for Barry University Science Seminar Series (2003)

Lepore, S.D.; Vinod, J.; Tatalovich, J.E. Studies towards the total synthesis of Isochromophilone II: Intramolecular Diels-Alder reactions of allenyl carbonyls. 223rd ACS National Meeting, Orlando, FL, April (2002)

Lepore, S.D.; Zongren, Z. Studies toward the development of cyclopentadienylmanganese tricarbonyl resins as traceless olefin linkers. 223rd ACS National Meeting, Orlando, FL, April (2002)

Jairaj, V.; Lepore, S.D. Studies Toward the Total Synthesis of Isochromophilone II: Intramolecular Diels-Alder Reactions of Allenyl Carbonyls. BioTech 2002

Zhang, Z.; Lepore, S.D. Studies towards the development of a cyclopentadienylmanganese tricarbonyl resin as a traceless olefin. BioTech 2002

Lepore, S.D.; Jairaj, V.; Tatalovich, J.E. Study of the electronic and steric effects of the reaction of hydroxyl-protected-1-lithioalkynols with several

electrophiles. South Eastern Regional Meeting of the American Chemical Society, Savannah, GA, September (2001)

Lepore, S.D. Development of New Solid-Phase Methods for the Synthesis of Small Molecules. *Invited Lecture* for Florida International University Chemistry Department Seminar Series (2001)

Lepore, S.D. Studies Toward the Total Synthesis of Isochromophilone II - an HIV Entry Inhibitor. CMBB (2001) Lepore, S.D. Development of New Solid-Phase Methods for the Synthesis of Small Molecules. CMBB (2000)

COURSES TAUGHT and DEVELOPED

Undergraduate Courses

- CHM 2200 - Introduction to Organic Chemistry
- CHM 2210 - Organic Chemistry 1
- CHM 2211 - Organic Chemistry 2
- CHM 3060 - Chemical Literature
- CHM 4220 - Organic Chemistry 3
- IDS 2382 - Human Mission to Mars (co-taught)

Graduate Courses

- CHM 5224 - Organic Chemistry 3
- CHM 5944 - Introduction to Chemical Research
- CHM 6225 - Advanced Organic Chemistry
- CHM 6428 - Medicinal Chemistry
- CHM 6730 - Synthesis and Characterization

ACADEMIC SERVICE

Departmental (Chemistry & Biochemistry)

Director of Graduate Program Committee (2023 – present)

Graduate Program & Admissions Committee (2008 – present)

Master Researcher (significant mentoring duties) (2012 – 2016)

Graduate Program Committee Chair (2006 – 2008)

Graduate Admissions Committee Chair (2003 – 2006)

Instrumentation Committee (2007 – 2020)

P&T Committee Chair (2022 – present)

College (of Science)

Sustained Performance Evaluation Committee (2019)

Non-Tenure-Track (NTT) Faculty Promotion Committee (2012 – 2018)

College Graduate Programs Committee (2007 – 2012)

P&T Committee Chair (2022 – present)

University

Financial Conflict of Interest Committee (2021 – present)

University Research Committee (2009 – 2012)

University Intellectual Property Committee (2005 – 2014)

Chair of University Faculty Council Library Committee (2003 – 2006, 2007 – 2012 *ex officio*, 2019 - present).

P&T Committee (2021 – present)

PROFESSIONAL SERVICE

Manuscript Reviews

Eur. J. Med. Chem. (top 10th percentile reviewer)

J. American Chemical Society

J. Organic Chemistry

Org. Biomol. Chem.

Organic Letters

Tetrahedron Letters

Tetrahedron

Perspectives in Med. Chem.

Letters in Organic Chemistry

COMMUNITY SERVICE

Gave a Professional Development Session available to the public on “Socratic Active Learning (SAL): A flipped class method for increased student engagement in remote and F2F modalities”. Lecture is available on YouTube at: www.youtube.com/watch?v=LiljbLcfDhQ&list=PLEykp-fnue6OmmBjUoowc6E4KOgDWh_ne0&index=1 (September 2021). Boca Raton.

Institute for Learning in Retirement (ILIR): “To Mars and Back Again: a Live Off the Land Strategy” (March 2020). Boca Raton.

Motivational presentation to Boca Raton High School students (November 2018 and January 2019).

Institute for Learning in Retirement (ILIR): “From Concept to Capsule: A Tour of the Prescription Drug Discovery Process” (October 2017). Boca Raton.

Heroes Class - invited to address middle school students in summer (2009) emphasizing the

importance of scientific discoveries (such as the story of aspirin) in our daily lives.

Invited lectures to FAU Life-Long Learning Center and to FAU charitable donors audience: “From Concept to Capsule: A Tour of the Prescription Drug Discovery Process” (2008/09)

Palm Beach Post (6/20/05) “FAU hopes \$4 million grant boosts research reputation” by Kimberly Miller

Sun-Sentinel (3/6/05) “Recent FAU graduate seeks chance to ‘expand my mind’” by Glenn Singer

Lecture presentation to the Science National Honor Society at C.W. Flanagan High School (Pembroke Pines, FL) (2003 & 2004)

Lecture presentation to High School Science Teachers at Boynton Beach Community High (2003)

Palm Beach County Science Fair Judge (2002 & 2004)

Miami Herald (9/24/03) “Bush gives research a \$10-million boost” by Jasmine Kripalani

Appeared on the local television news (News Channel 5) on 7/18/02 in an interview with Jean Apodaca. This science-related segment concerned the drug gamma hydroxybutyrate (GHB).

GRADUATE STUDENT & POSTDOC GUIDANCE

Current Graduate Students & Postdoc

Dr. Juliana Marques, Kristina Nugent, Silas Hintze, and Jared Kahn.

Former Graduate Students

Elyse Jutte (MS, 2023): Research Associate at Curia (formerly Albany Molecular Research)

Krishna Yadavalli (PhD, 2022): Senior Investigator Syngene (part of Biocon group); Purdue University Postdoctoral Fellow (Prof. Daniel P. Flaherty)

Samantha Maki (PhD, 2019): Senior Scientist in Discovery Chemistry at AbbVie; University of Chicago Postdoctoral Fellow (Prof. Scot Snyder)

Elijah St. Germain (PhD, 2018): Instructor in the Department of Chemistry at FAU

Susovan Jana (PhD, 2018): Research Chemist, United Therapeutics Corporation; NIH Postdoctoral Fellow (Dr. Victor Pike)

Edith Nagy (PhD, 2017): Research Investigator at the MD Anderson Cancer Center as part of their Institute for Applied Cancer Science; (NSF Fellow at FAU, award number 1257290); Boston University Postdoctoral Fellow (Prof. John Porco);

Animesh Roy (PhD, 2017); Scripps Florida Postdoctoral Fellow (Prof. Thomas Kodadek)

Mohammed Alhuniti (PhD, 2014): Staff Scientist with Process R&D at Thermo Fisher Scientific (Greenville, SC); University of North Carolina (Greensboro) Research Scientist (Prof. Mitchell P. Croatt)

Pradip Maity (PhD, 2011): Assistant Professor at CSIR-National Chemical Laboratory, Pune India (Aug 2015); Postdoctoral fellow at the University of Texas Southwestern Medical Center (Prof. Uttam Tambar) (2012 – 2015)

Songye Li (PhD, 2011): Associate Research Scientist, Yale PET Center (Sept 2016); Yale Postdoctoral Associate (Prof. Henry Huang) (2011-2016).

Debo Mondal (PhD, 2010): Senior Scientist at Noven Pharmaceuticals (Miami, FL); Postdoctoral Fellow at Baylor University (2017) (Prof. Kevin Pinney)

Yuanjun He (PhD, 2004): Senior Research Scientist (permanent position), Scripps Florida

Anita Khoram (MS, 2003): Chemist at Florida Surface Chemists

Deborah Bromfield (MS, 2005): Associate Professor of Chemistry at Florida Southern College.

Pamela Cohn (MS, 2006): Associate Professor of Chemistry at Richard Stockton College (Galloway, NJ); Doctoral student at Univ. of Florida; Postdoc at Case Western (Prof. Rowan);

Chang He (MS, 2009): Nutraceutical industry

Former Postdoctoral Fellows

Manish Bhowmick: Senior Scientist at Sigma-Aldrich Corp. (Natick, MA)

Maximillian Silvestri: Strategic Technology Leader, Energy Services Division, Nalco Company (Sugarland, TX)

Anjan Bhunia: Synthesis Team Leader (overseeing 12-14 chemists), Chembiotek, TCG, Lifesciences (Calcutta, India)

Zhanhui Xu: Research Associate, Chemistry Department, Zhengzhou University (China)

Vinod Jairaj: Head of Synthetic Chemistry Division, International Institute of Biotechnology and Toxicology (IIBAT) (India)

Zongren Zhang: Senior Scientist, Department of Radiology, Washington University School of Medicine

Hosted Visiting Professor

Dr. Bilal A. Bhat (2013 - 2014), Scientist Medicinal Chemistry Division of the Indian Institute of Integrative Medicine

LANGUAGE PROFICIENCY

English	Native
Italian	Excellent (BA Degree from Florida Atlantic University in Dec. 2016)
French	Intermediate (BA Degree from Florida Atlantic University in May 2023)
Spanish	Intermediate
Greek	Intermediate (ancient) beginner (modern)