

CURRICULUM VITAE

V. Prakash Reddy, Professor of Chemistry

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1. EDUCATION:

Ph.D.: Organic Chemistry, 1981–1986, Case Western Reserve University, Cleveland, OH.

Dissertation Title: “Mechanistic and Stereochemical Studies of Nonclassical Carbocations,” *Research Advisor:* Professor J. Eric Nordlander.

M.Phil.: Chemistry, 1978–1979, University of Hyderabad, Hyderabad, A.P., India.

2. RESEARCH INTERESTS:

Synthesis, and biological applications of organofluorine chemistry; electrochemistry (lithium ion batteries and fuel cells), high voltage nonaqueous electrolytes; anion receptors; reactive intermediates (free radicals and carbocations) and electrophilic reactions; applications of ^{13}C , ^{19}F and ^2H NMR spectroscopy; asymmetric synthesis and biological applications of unnatural amino acids; AGE-inhibitors; oxidative stress and protein-modifications in neurodegenerative diseases; kinetics and stereochemistry of solvolytic and thermal pericyclic reactions; Friedel-Crafts reactions; green chemistry; nanochemistry, and *ab initio* calculations.

3. HIGHLIGHTS OF RESEARCH AND SCHOLARLY ACTIVITIES:

3.1. BOOKS:

- *Organofluorine Chemistry in Biology and Medicine*, Au: Reddy, V. Prakash.; Elsevier; Amsterdam, **2015** (314 pages).
- Reddy, V. Prakash, *Organofluorine Chemistry: Synthesis and Applications*, Elsevier, **2020** (358 pages).
- Reddy, V. Prakash, *Bioorganic Reactions: Mechanisms and Applications*, John Wiley, in progress.

3.2. PATENTS:

- Purine-Based Triazoles as Protein Kinase Inhibitors, Reddy, V. P.; Nair, N._G.; Smith, M. A.; Kudo, W., US patent awarded in **2015**, Patent number: US8,969,556 B2; WO 2012051296; A2 20120419; US 2010-61392237.
- Koulen, P; Reddy, V. P.; Mehta, J. *Synthesis and use of novel chemical compounds to prevent and cure diabetes and diabetes complications*, **2017** (Patent Disclosure).
- Reddy, V. P.; Puspa, A.; Rafiu, R. Polyphenol-based AGE inhibitor compounds as Therapeutics in Neurodegenerative Diseases and Diabetes; Invention Disclosure, Missouri S&T, **2020**.
- Reddy, V. P.; Puspa, A.; Nerve Agent Decontaminating Agents, US provisional patent application, **2022** (Invention Disclosure, Missouri S&T, **2021**).

3.3. PUBLICATIONS:

Total publications: >100 (please see the list of publications; *vide infra*).

3.4. PRESENTATIONS AT CONFERENCES: >23; Invited speaker at national and international conferences (*vide infra*).

3.5. INVITED SEMINARS: >24 (*vide infra*).

4. ACADEMIC AND EMPLOYMENT EXPERIENCE:

2015–present **Professor** (Tenured), Department of Chemistry, Missouri University of Science and Technology, Rolla, MO.

2006–2015 **Associate Professor** (Tenured), Department of Chemistry, Missouri University of Science and Technology, Rolla, MO.

2001–2006 **Assistant Professor**, Department of Chemistry, Missouri University of Science and Technology, Rolla, MO.

1993–2000 **Visiting Faculty** at nationally prominent universities: University of Miami, Coral Gables, FL; Duke University, Durham, NC, Cleveland State University, Cleveland, OH; Case Western Reserve University, Cleveland, OH; Loker Hydrocarbon Research Institute, University of Southern California, Los Angeles, CA.

1989–1993 **Senior Research Associate**, University of Southern California, Los Angeles, CA (with Nobel Laureate Professor George A. Olah).

1986–1989 **Postdoctoral Research Associate**, Syracuse University, Syracuse, NY (with Professor John E. Baldwin).

1981–1986 **Research/Teaching Assistant**, Case Western Reserve University, Cleveland, OH.

5. COURSES TAUGHT AT MISSOURI S&T (2001–PRESENT):

Organic Chemistry Laboratory Course (CHEM 224, Undergraduate level; Spring 2001 and Fall 2001); General Chemistry Laboratory Course (CHEM 2, Undergraduate level; Spring 2001, Fall 2002, and Fall 2003); Introductory Organic Chemistry I, Lecture Course (CHEM 221, Undergraduate level; Summer 2001); Introductory Organic Chemistry II, Lecture Course (CHEM 223, Undergraduate level; Spring 2002 and Summer 2002); Spectrometric Identification of Organic Compounds, Lecture Course (CHEM 401, Graduate level; Spring 2003); Intermediate Organic Chemistry I, Lecture Course (CHEM 321, Graduate/Senior undergraduate level; Fall 2003); Asymmetric Organic Synthesis, Lecture Course (CHEM 423, Fall 2003); Introductory Organic Chemistry II, Lecture Course (CHEM 223, Undergraduate level; Spring 2004); Intermediate Organic Chemistry I, Lecture Course (CHEM 321; Graduate/Senior undergraduate level, Fall 2004); Introductory Organic Chemistry II, Lecture Course (CHEM 223, Undergraduate level; Spring 2005); Organic Chemistry, Lecture Course (CHEM 301, designed for “MS for high school teachers”; Spring 2005); Intermediate Organic Chemistry I, Lecture Course (CHEM 321, Graduate/Senior undergraduate level; Fall 2005); Lecture Course (CHEM 223, Undergraduate level; Spring

2006); Intermediate Organic Chemistry I, Lecture Course (CHEM 321, Graduate/Senior undergraduate level; Fall 2006); Spectrometric Identification of Organic Compounds, Lecture Course (CHEM 401, Graduate level; Fall 2006); CHEM 223 (Undergraduate level; Spring 2007); CHEM 223 (Undergraduate level; Fall 2007); Lecture Course (CHEM 321, Graduate/Senior undergraduate level; Fall 2007); Introductory Organic Chemistry II, Lecture Course (CHEM 223, Undergraduate level; Spring 2008); Introductory Organic Chemistry II; Lecture Course (CHEM 223, Undergraduate level; Fall 2009); Lecture Course (CHEM 223, Undergraduate level; Spring 2009); CHEM 428 (Spectral Interpretations; Graduate level; Fall 2009); CHEM 223 (Undergraduate level; Fall 2010); CHEM 223 (Undergraduate level; Spring 2010); CHEM 223 (Undergraduate level; Fall 2011); CHEM 223 (Undergraduate level; Spring 2011); CHEM 401 (Organofluorine Chemistry, Graduate level; Spring 2011); CHEM 223 (Undergraduate level organic chemistry; Fall 2012); CHEM 428 (Graduate level; Spectral Identifications; Fall 2012); CHEM223 (Undergraduate level organic chemistry; Spring 2013); CHEM 223 (Undergraduate level organic chemistry; Spring 2013); CHEM 223H (Undergraduate level honors organic chemistry; Spring 2013); CHEM 390 (Special topics in organic chemistry; Spring 2013); CHEM 223 (Undergraduate level organic chemistry; Fall 2013); CHEM 2220 (Undergraduate level organic chemistry; Spring 2014); CHEM 6250 (Graduate level; Spectral Identifications; Fall 2014); CHEM 2220H (Undergraduate level honors organic chemistry; Spring 2014); CHEM 2220 (Undergraduate level organic chemistry; Spring 2015); CHEM 2220H (Undergraduate level honors organic chemistry; Spring 2015); CHEM 2220 (Undergraduate level organic chemistry; Fall 2015); CHEM 2220 (Undergraduate level organic chemistry; Spring 2016); CHEM 4000-6J (Undergraduate level; Special Problems; Spring 2016; Spring 2018); CHEM 2220 (Undergraduate level organic chemistry; Fall 2016, Spring 2017, Fall 2017, Spring 2018; Fall 2018; Spring 2019; Fall 2019; Spring 2020; Fall 2020; Fall 2021); CHEM 6250 (Graduate level; Spectral Identifications; Fall 2018; Fall 2019; Fall 2020; Fall 2021; Fall 2022); CHEM 4297 (Organic Synthesis and Spectroscopic Analysis; Spring 2021; Spring 2022; Fall 2022).

5.1. *New courses initiated:*

1. "Spectrometric Identification of Organic Compounds" (CHEM 401/428/6250).
2. "Asymmetric Organic Synthesis" (CHEM 423).
3. "Synthesis and Bioapplications of Organofluorine Chemistry" (CHEM 401).

6. UNDERGRADUATE STUDENT ADVISEES:

Tiffany Lindsay (SO, 2002); Wesley Trueblood (2002–2003); Wesley Roy Street (Fall 2003); Ernest Glaneman III (2003–2005); Jonathan Gaik (Fall 2005); Tyler Fears (Fall 2005); Stephany Velez (2007–2008); Andrew Glover (Fall 2012); Nicholas Jennings (Spring 2011 and Fall 2012), Joshua Grobe (Spring 2013, Fall 2013, and Spring 2014), Tammy Martin (Fall 2013–2015), Matthew T. Jordan (Fall 2015–2016); Sara C. Mccauley (2019–2021); Austin L. Phetchareune (2019–2020); Hannah M. Bahn (2020–Present).

7. RESEARCH AT MS&T (2001–PRESENT):

7.1. *Graduate-student research (supervising and advising)*: Ph.D.'s awarded: 9; M.S. awarded: 1.

(i). *Ph.D.'s awarded*:

- Meher Perambuduru: Ph.D. (2002–2006); Dissertation title: Synthetic methods for biologically relevant organofluorine compounds; papers published at MS&T: 5; **Ph.D. awarded: 2007**; (*Research Scientist at Reliable Pharmaceuticals, St. Louis, MO*).
- Ramesh Alleti: Ph.D. (2001–2006); Dissertation title: Lewis acid catalysis in organic synthesis; papers published at MS&T: 5; **Ph.D. awarded: 2007**; (*Postdoctoral Associate, University of Arizona, Tucson, AZ*).
- Ayse Beyaz: Ph.D. (2003–2006); Dissertation title: Part 1: imidazolium-based ionic liquids as modulators of the critical micelle concentration of sodium dodecyl sulfate; part 2: synthesis and antioxidant studies of carnosine related dipeptides; papers published at MS&T: 4; **Ph.D. awarded: 2007**; (*Postdoctoral Associate, University of Minnesota, Twin Cities*).
- Nanditha Nair: Ph.D. (2006–2010); Dissertation title: Synthesis and Binding Studies of Peptide Mimetics, Anion Receptors and Kinase Inhibitors; papers published at MS&T: 5 journal papers and one patent; **Ph.D. awarded: 2011**; (*Postdoctoral Associate, California Institute of Technology, Pasadena, CA, with Nobel Laureate Professor Robert Grubbs, and currently a faculty member at National Institute of Technology, Kerala, India*).
- Woon Su Oh: Ph.D. (2003–2006 and Spring 2012); Dissertation title: Synthesis and Applications of Imidazolium-based Ionic Liquids and Their Polymer Derivatives; papers published at MS&T: 4; **Ph.D. awarded: 2012**; (*currently Research Scientist and Manager at LG Corporation, South Korea*).
- Avinash Vadapalli: Ph.D. (2010–2015); Dissertation title: Synthesis and Electrochemical Studies of Novel Ionic Liquid Based Electrolytes (published at MS&T: 2); **Ph.D. awarded: 2015**.
- Jatin Mehta: Ph.D. (2013–2018); Part 1: Design, Synthesis, and Studies of Novel AGE-Inhibitors and AGE-Breakers; Part II: Novel Synthetic Methods for Organofluorine Compounds; **Ph.D. awarded: 2018**.
- Abdo Alslam Alwakwak (2018–2020); Continuous-Flow Synthesis of Fine Chemicals and Pharmaceutical Compounds over Intelligent Organocatalysis with Bifunctional Reactivity; Co-advisor and Member of the Dissertation Committee (Advisor: Ali Rownaghi, Department of Chemical Engineering, MS&T); **Ph.D. awarded: 2020**.
- Puspa Aryal: Ph.D. (2018–2022); Design and Synthesis of Purine-Based Neuroprotectors and Novel Synthetic Methods for the Trifluoromethylation of Aldehyde Hydrazones; **Ph.D. awarded: 2022**; currently a Research Scientist at Mallinckrodt Pharmaceuticals.

(ii). **M.S. awarded:**

- Ninu Madria: M.S. (2010–2011); Dissertation title: Synthesis and Toxicity Studies of Imidazolium-Based Ionic Liquids (in collaboration with Biological Sciences, MST); **M.S. awarded: 2011**; Ph.D. candidate (2011–2012; currently staff scientist at MS&T).

(iii). **Current Ph.D. students:**

- Rafiu Raheemat: Ph.D. (2019–); Synthetic and Medicinal Organic Chemistry.
- Emmanuel Darkwah: Ph.D. (2022–); Synthetic and Bioorganic Chemistry.

7.2. Undergraduate-student research (supervising and advising):

Stephany Velez (2007–2008); OURE Fellow (First author of a publication in *Colloids Surf., B.* **2008**, 291-294; please see list of publications (page 18), and the separate folder for publications from Missouri S&T); Jonathan Gaik (Fall 2005); Nicholas Jennings (Spring 2011 and Fall 2012); Andrew Glover (Fall 2012); Joshua Grobe (Fall 2013; Spring 2014); Deanna L. Hyde (Fall 2017–Spring 2018); Oelklas, S. M. (Fall 2017–Spring 2018); Carter, J. A. (Fall 2017–Spring 2018);); Jason Nguyen (Spring 2018); Jerry Harman (OURE sponsored, 2018); Sara Robinson (2019; *Microorganisms*, **2020**); Katherine Haring (2020–2021); Samuel Insall (2022; OURE Fellow) Jared Kenik (2022; OURE Fellow).

8. GRANTS AWARDED AT MS&T:

- Missouri Soybean Merchandising Council (Co-PIs: V. Flanigan, S. Kapila, K. Chandrashekhara; MSMC No. 02-226), 2002, \$13,750.00; Project Title: Soy Based Beverage Can Coatings).
- American Chemical Society-Petroleum Research Fund (Project Title: A Novel Class of Chiral Carbocations – Synthesis and Their Role as Lewis Acid Catalysts); 2003-2006; Percent Effort: 100%; \$80,000.00.
- Joint NASA-NSF Research and Education Opportunities Conference Mini grant (awarded for participation in the conference, Washington DC. Feb 22-24, 2007).
- Synthesis of Imidazolium-based Polymeric Materials for Applications in Alkaline-Exchange Membranes, Jet Propulsion Laboratory; 2007, Percent Effort: 100%; \$15,050.00.
- NASA/JPL Faculty Award (2003, 2004, 2006, 2007, 2008, 2010, and 2013); (\$20,000 each year).
- Novel Antioxidants on Aging and Age-related Diseases: Design and Synthesis of Peptide Mimetics of Carnosine and its related compounds as Antioxidants and Neuroprotective Agents, Schwab Foundation, 2008, Percent Effort: 100%; \$50,000.00; *active*.
- Novel Antioxidants on Aging and Age-related Diseases: Design and Synthesis of Peptide Mimetics of Carnosine and its related compounds as Antioxidants and Neuroprotective Agents, Schwab Foundation, 2008, Matching Fund from Missouri S&T; Percent Effort: 100%; \$50,000.00; *active*.

- Advanced Li/CFx Primary Batteries with Non-flammable Electrolytes, NASA STTR, Phase I (with CFX Battery, Inc.); 2010; Percent Effort: 100%, \$40,000.00; *completed*.
- An Interdisciplinary Research Program on Development of Safe and High Energy Density Lithium-Air Batteries; Co-PI (PI: Fatih Dogan); University of Missouri-Interdisciplinary Campus Research Program; \$75,000.00 (MST, UMSL, MU; \$25,000.00 each); 2013-2014; Percent effort: 50% from Missouri S&T campus; *completed*.
- Design and Synthesis of Novel Antiglycating Agents; Schwab Foundation; \$6,000.00; 2018; Percent Effort: 100%; (active).
- Cell-Cycle Inhibitor Compounds for Neurodegenerative Diseases; Technology Acceleration grant, Missouri S&T; \$25,000.00; 2018–2019; Percent Effort: 100%; *completed*.
- Design and Synthesis of Novel Antiglycating Agents; Schwab Foundation; \$6,000.00; 2018; Reddy, V. P. (PI); Percent Effort: 100%, 2018–2019.
- Design and Synthesis of Novel Antiglycating Agents; Schwab Foundation; \$8,000.00; 2020; Reddy, V. P. (PI); Percent Effort: 100%, 2020–2022 (*completed*).
- Nonaqueous Decontamination Agents for Nerve Agents and Pesticides; \$497,832; Department of Defense, Reddy, V. P. (PI); Percent Effort: 100%, 2021–2024 (*active*).
- Designing Self-Decontaminating Fibers and Fabrics: Toxicity Mitigation of Organophosphate-Based Pesticides and Nerve Agents, \$500,000; Reddy, V. P. (PI); Percent Effort: 100%, 2022–2025 (*active*).
- Design and Synthesis of Neuroprotector Compounds for Traumatic Brain Injury, Department of Defense, Reddy, \$690,000; V. P. (PI); Percent Effort: 100%, 2023–2026 (*pending*).

9. PROFESSIONAL ACTIVITIES:

Active in numerous service activities to the American Chemical Society (ACS), ACS National Award Selection Committee, panelist for NSF GRFP, DoD/ASEE, and editorial service to many journals.

- American Chemical Society National Award Selection Committee, 2015–2016; 2016–2017; 2017–2018.
- National Science Foundation Panelist 2022.
- National Science Foundation panelist for the Graduate Fellowship Program (NSF-GRFP), February 2005; 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021.
- Chair, American Chemical Society South Central Missouri Section (2003–2004).
- Department of Defense panelist for the Graduate Fellowship Program (ASEE), 2012.
- Department of Defense panelist for the Graduate Fellowship Program (ASEE), 2011.
- Department of Defense panelist for the Graduate Fellowship Program (ASEE), 2010.
- Department of Defense panelist for the Graduate Fellowship Program (ASEE), February 2009.
- Associate Editor, *Nanotechnology for Environmental Engineering* (NTEE), Springer Nature, (2015– Present).

- Guest Editor, *Microorganisms*, Special Issue "Microbiota-Gut-Brain Axis 2.0", **2022**.
- Editorial Board member for over 6 journals (*vide supra*).
- Co-Guest Editor for three special issues (2016, 2019–2020).
- **Associate Editor**; *Nanotechnology for Environmental Engineering*, Springer Nature, **2015– Present**.
- Guest Editor, *Microorganisms*, Special Issue "Microbiota-Gut-Brain Axis 2.0", **2022**.
- Guest Editor, *Microorganisms*, Special Issue "Microbiota-Gut-Brain Axis", **2019–2020**.
- Review Editor, *Frontiers in Chemistry*, **2021– Present**.
- Editorial Board and Academic Editor, *Microorganisms*, **2019– Present**.
- Co-Guest Editor, *Current Pharmaceutical Design*, **2016**, Volume 22.
- Co-Guest Editor, *CNS & Neurological Disorders-Drug Targets* **2016**, 15 (2).
- Medicinal Chemistry Section Editor, *The Open Medicine Journal* (**2018–2020**).
- Editorial Board and Academic Editor, *Journal of Chemistry (Hindawi)*, **2012– Present**.
- Associate Editor, *J. Alzheimer Disease* (**2009–2011**).
- Editorial Board, *International Journal of Clinical and Experimental Medicine* (**2010– Present**)
- Reviewer Board, *J. Pediatric Biochemistry* (**2010–2017**).
- Editorial Board, *Immunology, Endocrine & Metabolic Agents in Medicinal Chemistry (IEMA-MC)* (**2010–2017**).
- Editorial Board, *Pure and Applied Chemical Sciences*, (**2012–2020**).
- Reviewed many national and international research proposals including: UM Research Board (2003), Petroleum Research Fund (PRF-ACS, 2002, 2005), Army Research Office (2002), and National Science Foundation (NSF, 2003, 2004, 2008, 2009, 2010, 2014); Netherlands Organization for Scientific Research (NOW; 2011); Oak Ridge Associated Universities (ORAU) Ralph E. Powe Junior Faculty Award proposals (four proposals; 2012); National Science Center, Poland (2014, 2017); Israel Pazy Foundation (2017), FRC Foundation, Strasbourg (2018, 2019, 2022).
- Reviewed numerous manuscripts (2002–Present) for various journals (ACS, RSC, Elsevier, ECS, Springer) including: *Scientific Reports (Nature publishing group)*, *J. Am. Chem. Soc.*; *RSC Advances*; *Anal. Chem.*; *Nanoscale* (RSC); *J. Visualized Experiments*; *Langmuir*; *Bioorganic and Med. Chem. Lett.*; *Bioorganic and Med. Chem.*; *Int. J. Quantum Chem.*; *J. Mol. Catal.*; *J. Phys. Chem.*; *Synthesis*; *Colloids and Surface*; *Chem. Mater.*; *Synthesis*; *Appl. Catal.*; *Free Radical Res.*; *Can. J. Chem.*; *J. Org. Chem.*; *J. Fluorine Chem.*; *Curr. Org. Synthesis*; *J. Alz. Disease*; *Curr. Alzheimer Res.*; *J. Neuro Chem.*; *Tetrahedron Lett.*; *Tetrahedron*; *Bioorg. Med. Chem. Lett.*; *CNS Neurological Disorders*; *J. Neuro Chem.*; *Catal. Lett.*; *Eur. J. Med. Chem.*; *Arabian J. Chem.*; *IEMAMC*; *Br. J. Pharmacol.*; *Bioconjug. Chem.*; *Neurobiology of Stress*; *Sensors and Actuators-B. Chemical. J. Electrochem. Soc.*, *J. CO₂ Utilization*.

10. HONORS AND AWARDS:

- JPL Faculty Research Award, Jet Propulsion Laboratory/Caltech, Summer 2013
- JPL Faculty Research Award, Jet Propulsion Laboratory/Caltech, Summer 2010
- NASA Tech Brief Award/Certificate of Recognition, 2008.

- NASA Faculty Fellow, Jet Propulsion Laboratory/Caltech, Summer 2008
- NASA Faculty Fellow, Jet Propulsion Laboratory/Caltech, Summer 2007
- Outstanding Professor Award, Eta Kappa Chapter of Chi Omega, MS&T, March, 2006
- NASA Faculty Fellow, Jet Propulsion Laboratory/Caltech, Summer 2006
- NASA Tech Brief Award/Certificate of Recognition, 2006
- NASA Faculty Fellow, Jet Propulsion Laboratory/Caltech, Summer 2004
- NASA Faculty Fellow, Jet Propulsion Laboratory/Caltech, Summer 2003
- Certificate of Recognition (“For research contributions made through the NASA Faculty Fellowship program”), NASA/USRA/ASEE, 2004
- MS&T Chemistry Department Excellence in Teaching 400-level Chemistry Award, 2004
- Certificate of Recognition (“For research contributions made through the NASA Faculty Fellowship program”), NASA/USRA/ASEE, 2003
- “Certificate of Achievement”, American Chemical Society (Local Sections Activities Committee), 2003
- “Recognition of Teaching Excellence”, a special note from Provost, University of Missouri-Rolla, Fall 2003
- Honorary Member, Golden Key National Honor Society, 1999 (CWRU)
- Graduate Fellowship, Case Western Reserve University (1981–1986)
- Adjunct Assistant Professor, School of Medicine, Institute of Pathology, Case Western Reserve University, Cleveland, OH (1996–2011)
- Faculty Member: Center for the Environmental Science and Technology (CEST), Missouri S&T; 2001–2013.
- Faculty Member: Energy Research and Development Center (ERDC), Missouri S&T; 2013– Present
- Faculty Member: Center for Biomedical Science and Engineering, Missouri S&T; 2013– 2015; 2020– Present.

11. PROFESSIONAL SOCIETIES:

- Member of the American Association for the Advancement of Science (AAAS); 2008– Present.
- Member of the American Chemical Society (ACS) and ACS Organic Division (1984– Present).
- Chair Elect, American Chemical Society South Central Missouri Section (2003).
- Chair, American Chemical Society South Central Missouri Section (2004).
- Member of the Association for the Research in Visual Ophthalmology, 1997.

13. INVITED SEMINARS:

- Designing Novel Therapeutics for Neurodegenerative Diseases, School of Medicine, Washington University Medica School, St. Louis, MO; October 6, **2021**.
- Persistent Carbocations in Superacids, Feb. 17, **2020**, Department of Chemical and Biochemical Engineering, Missouri S&T.

- Organofluorine Chemistry: From Superacids to Medicinal Chemistry, Missouri State University, Springfield, MO, March **2018**.
- The Steps to Future: Career Opportunities, Missouri State University, Springfield, MO, March **2018**.
- Organofluorine Chemistry: From Superacids and Persistent Carbocations to Medicinal Chemistry, Shanghai Institute of Organic Chemistry, Shanghai, China, November **2017**.
- Delivered a 'Lead Lecture' at the International Conference on "Environment and Energy (ICEE-2014)", Jawaharlal Nehru Technological University, Hyderabad, India; December **2014**.
- High Voltage Nonaqueous Electrolytes for Lithium-ion Batteries: Evaluation of Chemical and Electrochemical Stabilities, Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA, August **2013**.
- Synthesis and Neuronal Toxicity Studies of CDK Inhibitors, Louis Stokes VA Medical Center, Cleveland, OH, January **2013**.
- Organofluorine-Based Protein Kinase Inhibitors as Neuroprotectors; International symposium on "Current chemical challenges", University of Southern California, Los Angeles, October **2012**.
- Recent Studies on Organofluorine Compounds and Superacids, Department of Chemistry, Missouri University of Science and Technology, February **2012**.
- Organofluorine Chemistry in the Design of Cell Cycle Inhibitors, Department of Chemistry, Missouri University of Science and Technology, February **2011**.
- Nonaqueous Electrolytes for Lithium-Ion Batteries, Eagle Picher Inc., Joplin, MO, Dec. **2011**.
- Purine Based Kinase Inhibitors as Therapeutics in Alzheimer's Disease, International Symposium on Emerging Trends in Biotechnology, Taj Banjara Hotel, Hyderabad, India, April **2010**.
- Introduction to Cationic Polymerizations and ESI-MS/MS Studies of Anion Receptors, Jawaharlal Nehru Technological University (JNTU), Hyderabad, India, April **2010**.
- Recent Studies of Anion Receptors, Madhira Institute of Science, Hyderabad, India, January **2010**.
- Recent Studies of Carbocations; Department of Chemistry, University of New Mexico, May **2008**.
- Persistent Small Ring Carbocations; Department of Chemistry, Western Michigan University, February **2008**.
- Long-Lived Carbocations in Superacids, University of Hyderabad, India, May **2007**.
- Recent Studies of Carbocations, University of Southern California, Los Angeles, CA; October **2007**.
- Recent Studies of Carbocations, University of Southern California, Los Angeles, CA; August **2004**.
- Recent Studies of Long-Lived Carbocations and Carbocations, Northern Illinois University, De Kalb, IL; February **2004**.
- Friedel-Crafts Reactions; Dover Chemical Corporation, Dover, OH; January **1996**.

- Stable-ion Studies of 2-Norbornyl and Related Carbocations; Kent State University, Kent, OH; November **1996**.
- Recent Studies of Allyl Carbocations, and β -Silicon Effect; Loker Hydrocarbon Research Institute, Los Angeles, CA; October **1992**.
- Stereochemistry and Deuterium Kinetic Isotope Effects for the Diels-Alder Reaction of Butadiene and Cyclopropene, Syracuse University, Syracuse, NY; March **1989**.

14. PUBLICATIONS:

103. Reddy, V. P., Aryal, P.; Darkwah, E., Advanced Glycation End Products in Health and Disease, *Microorganisms*, **2022**, *10*(9), 1848; doi.org/10.3390/microorganisms10091848.
102. Obrenovich, M.; Li, Y.; Tayahi, M.; Reddy, V. P. Polyphenols and Small Phenolic Acids as Cellular Metabolic Regulators, *Curr. Issues Mol. Biol.* **2022**, *44*, 4152–4166.
101. Aryal, P.; Rafiu, R.; Reddy, V. P. Acetic Acid-Promoted Photoredox Catalyzed Trifluoromethylation of Aldehyde Hydrazones, *J. Fluorine Chem.* **2022**, *261–262*, 110003.
100. Editorial: Obrenovich, M.; Reddy, V. P. Special Issue: Microbiota–Gut–Brain Axis, *Microorganisms*, **2022**, *10*, 309.
99. Mehta, J.; Aryal, P.; Reddy, V. P. Cu-Catalyzed C(sp²–H)-Trifluoromethylation of Aldehyde Hydrazones with Langlois Reagent, *Eur. J. Org. Chem.* **2021**, 2018–2024.
98. Reddy, V. P.; Aryal, P.; Robinson, S.; Rafiu, R.; Obrenovich, M.; Perry, G. Polyphenols in Alzheimer’s Disease and in the Gut–Brain Axis. *Microorganisms* **2020**, *8*, 199 (SR is the MS&T undergraduate summer research fellowship awardee).
97. Obrenovich, M; Siddiqui, B.; McCloskey, B.; Reddy, V. P. The Microbiota–Gut–Brain Axis Heart Shunt; Part I: The French Paradox, Heart Disease and the Microbiota, *Microorganisms*, **2020**, *8*, 490.
96. Jones, L.; Kumar, J.; Mistry, A.; Chittoor Mana, T. S.; Perry, G.; Reddy, V. P.; Obrenovich, M. E. The transformative possibilities of the microbiota and mycobiota for health, disease, aging and technological innovation, *Biomedicines*, **2019**, *7*, 24; doi:10.3390/biomedicines7020024.
95. Reddy, V. P.; Prakash, G. K. S.; Rasul, G. Ab Initio ¹³C NMR and Structural Studies of (Trifluoromethyl)cyclopentyl Carbocations, *J. Fluorine Chem.* **2018**, *210*, 83–87.
94. Reddy, V. P.; Perambuduru, M.; Mehta, J. N-Heterocyclic Carbene-Catalyzed Trifluoromethylation of Aromatic N-Tosylaldimines, *Top. Catal.* **2018**, *61*, 699–703.
93. Reddy, V. P. Hydrogen Fluoride for the Synthesis of Alkyl Fluorides, in Synthetic Organofluorine Chemistry 1, Encyclopedia Series, Springer, Ed. J. Hu and T. Umemoto, **2018**, 1-14; https://doi.org/10.1007/978-981-10-1855-8_34-1.
92. Reddy, V. P.; Rasul, G.; Prakash, G. K. S. Ab initio structural studies of cyclobutylmethyl cations: effect of fluoroalkyl groups on the relative stability of the carbocations, *Arkivoc* **2018**, *2*, 233–240.
91. Reddy, V. P.; Perry, G.; Smith, M. A. Brain Composition: Age-Related Changes, *Reference Module in Neuroscience and Behavioral Psychology*, Elsevier **2017**, http://dx.doi.org/10.1016/B978-0-12-809324-5.02591-8.

90. Reddy, V. P. Synthetic Methods for High Energy Organofluorine Compounds, *Conventional and Advanced Processing Technologies for Next Generation Energetic Materials*, Eds.: Mezger, M. J.; Tindle, K. J.; Pantaya, M.; Groven, L. J.; Kalyan, D. M.; CRC Press, **2017**, Chapter 1, 3–23.
89. Editorial: Neurodegeneration, Oxidative Stress, Metabolic Syndrome, Drug Design and Development: Clinical Implications; Cacabelos, R.; Aliev, G.; Reddy, V. P. *CNS & Neurological Disorders-Drug Targets* **2016**, *15* (2), 1.
88. Editorial: Metabolic Disorders, Drug Development, Drug Design and Biomarkers; Aliev, G.; Cacabelos, R.; Reddy, V. P. *Current Pharmaceutical Design*, **2016**, *22*, 1–3.
87. Neganova, M. E.; Klochkov, S. G.; Afanasieva, S. V.; Serkova, T. P.; Chudinova, E. S.; Bachurin, S. O.; Reddy, V. P.; Shevtsova, E. F.; Aliev, G. Neuroprotective effects of the securinine-analogues: identification of Allomargaritarine as a lead compound, *CNS & Neurol. Disorders*, **2016**, *15*, 102–107.
86. Savvateeva, L. V.; Schwartz, A. M.; Gorshkova, L. B.; Gorokhovets, N. V.; Makarov, V. A.; Reddy, V. P.; Aliev, G.; Zamyatnin, A. A. Prophylactic Admission of an In Vitro Reconstructed Complexes of Human Recombinant Heat Shock Proteins and Melanoma Antigenic Peptides Activates Anti-Melanoma Responses in Mice, *Curr. Mol. Med.* **2015**, *15*, 462–468.
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15. PRESENTATIONS AT CONFERENCES:

- Metal-Free Photoredox-Catalysis for the S-Trifluoromethylation (S–CF₃) of 1,3-Benzothiazole-2-thiols, Raheemat, R.; Reddy, V. P. ACS National Meeting, August **2022**.
- Synthesis and oxidative stress studies of purine-based compounds, Puspa A, Reddy, V. P. ACS National Meeting, August **2022**.
- Fluorescence studies of polyphenol-based AGE inhibitors, Aryal, P.; Raheemat, R.; Reddy, V. P. Midwest ACS Regional Meeting, Springfield, MO October **2021**.
- Synthesis and Applications of Organofluorine Compounds, Invited Speaker for the Brewer Science Mini Symposium, Rolla, MO, **2018**.
- Designing Novel Therapeutics for Diabetes and Neurodegenerative Diseases, Invited video presentation, International Conference (Tunisian Forum of Knowledge and Human Development), Tunisia, November **2018**.
- Greener Approaches toward Synthesis of Organofluorine Compounds and Their Biological Applications, Reddy, V. P.; Invited Speaker; Green Fluorine Chemistry: Development of Efficient Green Methods and Reagents for Fluorination; 21st Green Chemistry & Engineering Conference, Reston, Virginia, June 15, **2017**.
- Invited Speaker at the Technology and Innovative Industrial Policy Symposium on Advanced Fluorine-Containing Materials in Asia-Pacific Region (Ministry of Science and Technology of the People's Republic of China), Quzhou, People's Republic of China, Synthesis and Biochemical Studies of Organofluorine Compounds, November **2017**.
- Missouri S&T Ozark Biomedical Initiative Research Symposium, February 27, **2016**.
- Participated in: Traumatic Brain Injury (TBI) Research and Clinical Care Symposium, Fort Leonard Wood, April 1, **2016**; member of TBI consortium.

- Reddy, V. P., CDK5 Inhibitors in the Alzheimer's Disease, Missouri Institute of Mental Health, University of Missouri, St. Louis, Research Conference, Dec. 9, **2015**.
- Reddy, V. P. Nonaqueous Electrolytes and Anion Receptors for Lithium-ion and Metal-Air Batteries: Synthesis and Electrochemical Studies, Invited Speaker, De Nora Tech Symposium, Ohio, November **2013**.
- Reddy, V. P.; Vadepalli, A.; Mehta, J.; Dogan, F.; Bugga, R. Solid Electrolyte Interface on Cathode Materials: ^{19}F NMR, XPS and SEM Study, De Nora Tech Symposium, Ohio, November **2013**.
- Cyclic Voltammetric Studies of Li-Ion Battery Electrolytes, Bugga, K.; Reddy, V. P.; Smart, M.; Homer, M.; West, W. 218th Meeting of the Electrochemical Society, Las Vegas, Nevada, Oct **2010**.
- Nair, Nanditha G.; Reddy, Prakash V. NMR studies of transition metal ion binding to histidine, glutamic acid, and aspartic acid: The potential metal ion binding sites of amyloid beta peptide; Abstracts of Papers, 239th ACS National Meeting, San Francisco, CA, 2010, ORGN-111 (*Chem. Abstr.* **2010**:345392).
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