KALLIAT T. VALSARAJ

Charles & Hilda Roddey Distinguished Professor of Chemical Engineering Ike East Professor in Chemical Engineering Gordon and Mary Cain Department of Chemical Engineering 3314R. Patrick F Taylor Hall **Louisiana State University**

Baton Rouge, LA 70803-7303

EDUCATION

B. Sc. Chemistry, University of Calicut, India, 1978

M. Sc. Chemistry, Indian Institute of Technology, Madras, India, 1980

Ph. D. Chemistry (Chemical Engineering Minor), Vanderbilt University, Nashville, Tennessee, 1983 Post-graduate Certificate, Higher Education Administration, Harvard University Graduate School of Education – Institute for Educational Management (IEM), Harvard University, Boston, Massachusetts, July 15-27, 2018

PROFESSIONAL EXPERIENCE

2005 - present: Char	les and Hilda Roddey Distingu	ushed Professor in Chemical	Engineering, LSU, Baton
Dong			

2000 - present: Ike East Professor in Chemical Engineering, LSU, Baton Rouge.

2000 - present: Professor, Cain Department of Chemical Engineering, LSU, Baton Rouge.

Vice President (originally Vice Chancellor) for Research and Economic Development, 2013-2019:

LSU, Baton Rouge

2011 - 2013: Associate Vice Chancellor for Research and Economic Development, LSU, Baton Rouge. 2005 - 2011: Department Chair, Cain Department of Chemical Engineering, LSU, Baton Rouge

2004-2005: Visiting Scientist (on sabbatical leave from LSU), Environmental Laboratory, Engineer

Research and Development Center, US Army Engineers Waterways Experiment Station,

Vicksburg, Mississippi.

2000 - present: Adjunct Professor, Department of Civil and Environmental Engineering, LSU, Baton Rouge.

Associate Professor, Cain Department of Chemical Engineering, LSU, Baton Rouge. 1995 - 00:

Associate Professor (Research), Cain Department of Chemical Engineering, LSU, Baton 1994 - 95:

Rouge.

Assistant Professor (Research), Cain Department of Chemical Engineering, LSU, Baton 1991 - 94:

Rouge.

Research Associate V and Affiliate Faculty, U.S. Environmental Protection Agency 1986 - 91:

Hazardous Waste Research Center, LSU, Baton Rouge.

1983 - 86: Director of Analytical Laboratory, Trace Contaminants Section, Engineering Experiment

Station, and Affiliate Faculty, Department of Chemical Engineering, University of

Arkansas, Fayetteville.

Research Assistant, Department of Chemistry, Vanderbilt University. 1981 - 83:

1980 - 81: Graduate Teaching Assistant, Department of Chemistry, Vanderbilt University.

AWARDS, HONORS AND DISTINCTIONS

FELLOW DESIGNATIONS

- Royal Society of Chemistry (RSC), 2019.
- National Academy of Inventors (NAI), 2015.
- American Association for the Advancement of Science (AAAS), 2009.
- American Institute of Chemical Engineers (AIChE), 2008.

HONORS AND AWARDS

1995:

1980-81:

2019:	•Fellow, Royal Society of Chemistry (RSC), February 2019.	
2018:	•Erudite Scholar-in-Residence, University of Kerala, Trivandrum, Kerala, India, January	
	2-6, 2018.	
2017:	•Jacobs® Professor of Excellence award, LSU Cox Communications Academic Center for	
	Student-Athletes.	
	•LSU 30 Years' service award.	
	 The 2017 Albert Nelson Marquis Lifetime Achievement Award. 	
2015:		
	 Distinguished Leadership Award, Kiwanis Club of LSU. 	
	•Excellence in Innovation Award, Office of Technology and Commercialization, LSU.	
2012:	•Charles E Coates Award jointly awarded by the American Institute of Chemical Engineer	
	and the American Chemical Society professional chapters, Baton Rouge.	
	•LSU Distinguished Research Master Award (Engineering, Science and Technology) for	
	2011.	
	• University Medal, LSU.	
	•LSU 25 Years' Service Award.	
2011:	•LSU Rainmaker 2010 Senior Scholar Award (STEM Category) for Research and	
	Creativity.	
2009:	•Fellow, <u>American Association for the Advancement of Science</u> (AAAS), December, 2009.	
	•Rotary International Vocational Excellence Award, Rotary Club of Kannur North, Kerala,	
	India, January, 2009.	
2008:	•Fellow, <u>American Institute of Chemical Engineers</u> (AIChE), June, 2008.	
2007:	•Excellence in Review Award, Environmental Science and Technology –American	
2007.	Chemical Society publication, June, 2007.	
2006:	•Donald W Clayton Faculty Mentor Award, LSU College of Engineering.	
2000.	•Number 1 cited paper in Environmental Science and Technology, "Chemical and	
	microbiological parameters in New Orleans floodwater following Hurricane Katrina",	
	October-December 2006.	
	•LSU 20 Years' Service Award.	
2005:	•Charles & Hilda Roddey Distinguished Professorship in chemical engineering, LSU.	
2001:	•LSU 15 Years' Service Award.	
2000:	•LSU College of Engineering Dean's Book Award	
1999:	•Ike East Professorship in Chemical Engineering, Department of Chemical Engineering,	
	LSU.	
1997:	•Cross-Holloway Award of Excellence in Research and Service, LSU	
1996:	•LSU 10 Years' Service Award.	

•LSU College of Engineering Dean's Book Award.

•University Scholarship, Vanderbilt University.

1978-80: •Government of India Merit Scholarship.1975-78: •University of Calicut Merit Scholarship.

1978: •Second Rank in the Bachelor of Science examination at the University of Calicut.

BOARD CERTIFICATION/LICENSURE:

• Board Certified Environmental Engineering Member (BCEEM) – American Academy of Environmental Engineers and Scientists (AAEES).

Biographies listings:

- Marquis Who's Who in Science and Engineering, since 1994
- ❖ American Men & Women of Science.
- Marquis Who's Who Worldwide Registry, since 1995.
- Sterling's Who's Who.
- Marquis Who's Who in the South and Southwest.
- Marquis Who's Who in the World.
- ❖ Marquis Who's Who in America, since 1998.
- * Marquis Who's Who in American Academia.
- Academic Keys' Who's Who in Engineering Higher Education (WWEHE)

ADMINISTRATIVE LEADERSHIP TRAININGS:

- Post-graduate Certificate, Higher Education Administration, <u>Harvard University Graduate School of Education</u> *Institute for Educational Management (IEM)*, Harvard University, Boston, Massachusetts, July 15-27, 2018
- Senior Leadership Institute, <u>Society of Research Administrators International</u>, October 26-27, 2013 in New Orleans, LA.
- Fundamentals of Leadership in Higher Education, <u>Academic Impressions</u>, September 22 24, 2019, Orlando, Florida.

ADMINISTRATIVE EXPERIENCE

Vice President of Research and Economic Development:

The Office of Research and Economic Development (ORED) is an organized unit that promotes advanced research and creative scholarship and economic development for LSU. It handles approximately \$150 million dollars in research annually on the LSU A&M campus; and, when combined with the LSU AgCenter and the Pennington Biomedical Research Center (these are reported as the LSU Baton Rouge main campus for the NSF HERD survey) the overall research expenditures are close to \$284 million. For LSU as a system composed of other medical campuses (New Orleans and Shreveport) and 2 sister campuses, the total is ~\$360 million in research expenditures. Combined the total economic impact of LSU on the state of Louisiana is estimated to be ~\$5.1 billion in 2017.

A large number of units such as the Office of Technology Transfer and Commercialization, Office of Sponsored Programs, LSU Research Park (called the Innovation Park), the Louisiana Business and Technology Center, several Compliance Offices, an Economic Development Division and a variety of Centers and Institutes report directly to ORED. The Office deals with approximately \$35 million dollars in annual budget that includes institutional and indirect cost recovery accounts. I oversaw an office of several Associate and Assistant VPRs as well as several Directors and Executive Directors of various divisions. My areas of responsibility included research integrity and compliance, research development, research communications, federal relations, sponsored programs administration, export control, undergraduate research, business development [corporate and foundation research relations/economic development], technology transfer, research operations [core facilities and several research facilities],

administrative business operations, a research park operation, a business and technology center, a 501(c)3 research corporation governance, and university-wide high performance computing.

A few of the key accomplishments are given below:

• Strategic Planning

- Completed a major transformation of the office of research end economic development by significantly expanding and revamping its various functions through a major strategic planning process. Established the ORED annual retreat for reviewing, evaluating and implementing each element of the strategic plan.
- The title for the position moved from Vice Chancellor for Research and Economic Development to Vice President for Research and Economic Development as the LSU System was consolidated into the main campus at LSU in 2013.
- Provided leadership for an operational strategic plan (ORED 2025) for the office of research and economic development.
- o Led the university-wide Research and Economic Development Task Force towards establishing the vision/mission on research in the LSU 2025 Strategic Plan.
- Worked with the Provost and Vice President for Finance and Administration to create a sustainable budget plan for ORED to avoid deficit spending and set aside funds for the university-wide strategic initiatives.

• Intellectual Property and Commercialization

- Successfully implemented revised intellectual property (IP) policies and programs to increase invention disclosures, patents filed, industry research and engagement.
 Restructured the Office of Innovation and Technology Commercialization and hired a new Assistant Director through a national search. Helped establish new metrics for the office and a new strategic plan to achieve them.
- Helped establish the new LSU Leveraging Investments to Finance Technologies (LIFT) funds to help with moving concept proposals/ideas to the demonstration stage and helped with the establishment of an NSF iCORPs program to help investigators negotiate the valley of death on venture capital funding. This led to an 80% increase in invention disclosures, and patents filed at LSU.
- Achieved the highest-ever annual patent licensing portfolio in LSU's history and had the distinction of LSU being in the Top 100 worldwide universities with U.S. utility patents for the very first time in LSU's history in 2016 and repeated in 2017.

• Research Advancement

- Established a new Office of Research Advancement to provide comprehensive support for submitting large, interdisciplinary proposals in seven focal areas of research within the ORED strategic plan. This increased the number of transdisciplinary proposals submitted at LSU by 300% within two years of its establishment.
- o Revamped and restructured the Office of Sponsored Programs to make it truly service oriented. Hired a new Director for the office via a national search and put in place a new strategic plan for the office. Increased the number of program specialists in the office.
- Helped develop several short courses on research development protocols for young faculty, grant writing tools for researchers, services to help arts, humanities and social science communities to fund their creative efforts.
- Provided leadership in modernizing the electronic proposal submission, and compliance efforts and choosing a new electronic Research Administration (eRA) software system and compliance modules to replace an antiquated in-house system.
- Overhauled the large equipment match program to focus on university-wide initiatives within the ORED strategic plans, revised the equipment repair program and faculty travel grant program guidelines.
- Achieved the highest-ever research expenditures post-recession in 2016 at LSU during my term.

- The largest number of proposal submissions occurred during my term including the fact that the largest value proposal (for a Manufacturing USA institute) ever submitted from LSU occurred under my direction.
- Created a 501 (c) 3 organization (Stevenson Technologies Corporation) under the LSU System to increase the defense/security related and applied research focus that has been instrumental in bringing in over \$20 million in three years.
- Hired a new Executive Director for the Stevenson National Center for Security Research and Training (SNCSRT), the largest single Center that brings in ~\$40 million in annual research expenditures at LSU.
- Created a new Office of Research Compliance and hired its first Director. It served the
 entire community of scholars in all matters of regulatory compliance including Export
 Control, Research Integrity, IAB, IACUC and animal research facilities for the veterinary
 school.
- Established protocols and memoranda of understanding for centralized university research facilities, viz., core laboratories such as the Shared Instrumentation Facility for the materials science and engineering program, a Coastal Studies Institute for solving coastal research issues and, a Coastal Sustainability Studio for future coastal building and planning activities.
- Negotiated and established LSU as the manager of the National Center for Advanced Manufacturing (NCAM) located at the NASA Michaud assembly facility in New Orleans. Hired a new Executive Director for NCAM reporting directly to ORED at LSU.
- Provided leadership in bringing the IBM Delta Supercomputer to the Center for Computation Technology (CCT) and also establish the Bioinformatics and Cyber Security Cores within CCT. Hired a new Director for CCT via a national search and helped establish a strategic plan for the Center.
- Hired a new Director for the J Bennett Johnston Sr. Center for Microstructures and Devices (CAMD), the only State-run synchrotron facility in the United States, significantly changed its operational budgets and revamped the entire Center-related activities including rebuilding the Cleanroom Facilities within.
- Established a new Office of Postdoctoral Affairs. Helped change the policy regarding postdoctoral fringe and benefit estimations.
- Established a new Office of Research Engagement to focus on international research
 efforts as well as private foundations-related proposals. This led to numerous
 international research and exchange agreements being signed with institutions in various
 parts of the world. The largest number of private foundations proposals at LSU were
 obtained during my term in office.

• Federal/State Relations

- Represented LSU at many national forums on research and provided leadership on economic development efforts at LSU. Served on the Executive committee of APLU Council on Research and represented APLU on meetings with OMB.
- Acted as the point person for LSU on research to interact with the Governmental Relations folks in Washington DC. Worked extensively with the Louisiana delegation of the legislative branch in DC. Greatly expanded the work on State/Federal relations efforts for LSU research. Worked with the President's office to coordinate federal programmatic requests and conduct of the annual LSU day at the Capitol in Washington, DC.

• Economic Development

 Established an Office of Economic Development and hired a new Director to work on corporate engagement, industry research and economic development. This has resulted in dramatically improved efforts to engage faculty in corporate research activities at LSU. Corporate and Foundation engagement efforts were revamped in coordination with the LSU Foundation leadership.

- O Worked extensively with the economic development entities such as the Baton Rouge Area Chamber of Commerce, Research Park Corporation etc. by serving on their executive boards and interacting with them in developing new proposals for economic development. Helped conduct a region-wide evaluation of the innovation assets and regroup the local innovation ecosystem.
- Helped bring one of the largest economic development projects (DXC Technologies) to Louisiana via interactions with Louisiana Economic Development.
- Managed LSU's research park called the LSU Innovation Park and its assets. The LSU Innovation Park received the designation of the AURP Emerging Research Park of the year during my tenure. Hired a new Director for the LSU Innovation Park and helped guide it through numerous expansion and fundraising activities.

• Research Compliance

- Established an Office of Research Compliance and recruited a Director to coordinate all research-related compliance activities such as IRB, IACUC, IBRDC, Research Safety, Export Control, Financial Conflicts of Interest, Research Integrity etc.
- As the Chief Research Integrity Officer at LSU, I adjudicated numerous research integrity related cases. I also helped establish a new LSU Policy statement on authorship dispute resolutions.
- University Policy and Administration
 - o Interacted extensively with the LSU Faculty Senate to work on several research related policy issues and faculty governance matters.
 - Chaired the Council on Research composed of representatives from all colleges on campus to deal with many issues on research and ORED policies and programs.
 - Served on the Provost's advisory committee on promotion and tenure for the entire university.
 - Participated and helped in preparing the document for LSU to undergo its SACS institutional accreditation in 2013-14.
 - Helped establish the new LSU Discover, the institutional wide undergraduate research program as part of the SACS accreditation initiative. In its formative stages I served on its executive committee to develop LSU Discover Day, a day of undergraduate research symposium.
 - Recruited a new Dean of the Graduate School when that unit was reporting to ORED and worked closely with the Dean to improve both the quality and quantity of graduate students at LSU.
 - As the Vice President for Research, I sat on various high-level university committees including the President's Leadership Team, Provost's Leadership Team and helped make administrative decisions for the university.

Associate Vice Chancellor of Research:

Prior to becoming the Vice President of Research, I served as an associate vice chancellor in this same office and handled all matters relating to the Science, Technology, Engineering and Mathematics (STEM) disciplines.

- Worked with 4 colleges (College of Science, College of Engineering, School for the Coast and the Environment, School of Veterinary Medicine) specifically on large research proposal submissions
- Maintained several research centers that directly reported to ORED
- Concluded several MoUs regarding centralized research facilities.
- Provided direct support for several compliance issues.
- Represented the Vice Chancellor on various committees.

Department Chair:

The Department of Chemical Engineering is the only department that has B.S., M.S. and Ph.D. programs within the State universities in Louisiana. It is over 100 years old and celebrated its Centennial in 2008 when I served as the Department Chair.

- Led the development of a five-year strategic plan for the department.
- Raised several million dollars in alumni fund-raising (LSU Forever Campaign) that was dedicated
 to a new building project for the department and several graduate fellowships, undergraduate
 scholarships and endowed professorships.
- By the time I left the position, the chemical engineering department had the largest endowment (approximately \$30 million) portfolio of any department in the University.
- Raised approximately \$9 million (out of \$30 million) towards a new 100,000 sq. ft. chemical engineering building which eventually morphed into a \$110 million fund raising campaign for a new 400,000 sq. ft. engineering building that was completed in 2018.
- The number of faculty increased to 17, undergraduate enrollment increased by 25%, graduation rate and student retention increased. Changing the demographics of the faculty profile was made a cornerstone of faculty recruitment and retention efforts.
- In 2010 led the department through a successful ABET (Accreditation Board for Engineering and Technology) accreditation with no shortcomings and a successful Internal Program Review.
- The department's research expenditure increased 300%, publications and presentations increased three-fold. The research expenditure per faculty tripled in 2011, the target set by the department's strategic plan.
- A \$12 million new DOE Energy Frontier Research Center (EFRC), was set up during my tenure through a national competition from the Department of Energy.
- The graduate program grew about 25% during my term. The percent of US nationals increased in the program, the quality and quantity of students also increased.
- Worked with the College of Engineering recruitment team to change the demographics of the student body in chemical engineering to attract more women and underrepresented minorities into the chemical engineering discipline.

College of Engineering Policy Committee:

• During the years 1997-2001, I served as the Chair of the College of Engineering Policy Committee to help the Dean implement and restructure College policies with regard to faculty, staff development, tenure and promotion.

Faculty Senate Member:

- Between 2003 and 2005, I served on the LSU Faculty Senate representing the College of Engineering.
- Served on the Faculty Senate International Committee

Graduate Coordinator for the Department of Chemical Engineering:

- Between 1997 and 2005, I served as the Chemical Engineering Department Graduate Coordinator
 in charge of all matters related to graduate student recruitment, advising and administering the
 graduate program within the department.
- Increased the recruitment of U.S. nationals into the graduate program, established new rules for the graduate student qualifying exams and helped reform the graduate course offerings.

Other Relevant Experience:

• Throughout my research career I have been active in several industrial service-related activities such as expert consulting, advice to boards and societies and on various national and international panels overseeing research.

PROFESSIONAL AND SERVICE-RELATED ACTIVITIES

Service on Journal Editorial Boards:

- Academic Editor, Editorial Review Board, PeerJ (Environmental and Climate Sciences), 2017-*)
- Member, Editorial Review Board, Science Progress (2019-*)
- Member, Editorial Review Board (2001-10), Journal of Air and Waste Management Association.
- Member, Editorial Advisory Board (2003-*), Environmental Monitoring and Assessment.
- Member, Editorial Board (2005-07), *Environmental Toxicology and Chemistry*.
- Member, Editorial Board (2013-*), *Technology and Innovation Proceedings of the National Academy of Inventors*.
- Member, Editorial Advisory Board (2014-*), *Journal of Chemical and Process Engineering*.
- Editor-in-Chief (12/2013-*), *Open Journal of Air Pollution*.
- Member, Editorial Board (7/13-*), International Research Journal of Pure and Applied Chemistry.
- Member, Editorial Board (2015-*), *Advances in Environmental Research*.
- Member, Editorial Review Board, Current Trends in Chemical Engineering and Processing Technology (2018-*).
- Member, Editorial Board, Science Publishing Group (2012-*)
- Special Editor for an issue entitled "Connecting the Innovation Community" for the *Technology & Innovation*, the official journal of the National Academy of Inventors (2020).
- Member, Editorial Advisory Board, Journal of Catalysis and Chemical Engineering Advances (2019-*)

Memberships in Professional Associations:

- American Chemical Society (since 1982 and member of the division of environmental chemistry).
- American Institute of Chemical Engineers (and member of Environmental Division)
 - o Member 1984-present.
 - o Senior Member 2003-08.
 - Elected Fellow AIChE 2008.
- American Institute of Chemical Engineers Baton Rouge Chapter
 - o Chair (2007-08)
 - o Vice Chair (2006-07).
 - o Executive committee member (2006-08)
- Air and Waste Management Association.
 - o Member, Dissertation Awards Committee (2009-11)
 - Member, Web Publications Committee (2006-11)
- American Association for the Advancement of Science (1996-*)
 - o Elected Fellow AAAS 2009.
- National Academy of Inventors (2014-*)
 - o Elected Fellow NAI 2015.

- Royal Society of Chemistry (2015-*)
 - o Elected Fellow RSC 2019.
- American Academy of Environmental Engineers and Scientists (2013-*).
- American Geophysical Union (2013-*).
- Association of Environmental Engineering and Science Professors (2009-*).
- National Geographic Society (1982-*).
- Sigma Xi, the Research Society (1995-*)
 - o Secretary LSU Chapter (1999-2000)
 - o Vice President (2000-01)
 - o President (2001-02)
 - o Ex-officio (2002-03).
- American Society of Engineering Education (member)(2007-*)
 - o Chemical Engineering Division (member)
- American Association for Aerosol Research (2009-11)
- Society for Environmental Toxicology and Chemistry (2002-10)

University Representative in Higher Education Organizations:

- University Representative, Association of American Colleges and Universities (2013-18).
- Member, Society of Research Administrators International (2013-19).
- Councilor, LSU official representative, Oak Ridge Associated Universities (ORAU) (2013-18).
- Executive Council Member, Association of Public and Land-Grant Universities (APLU), Council on Research (2014-18).
- University representative, Council on Governmental Relations (2017-19).
- University Representative, Association of Research Integrity Officers (2017-19).
- University representative, University Council on Atmospheric Research (2017-19).

University Service:

University Level:

- Member, President/Chancellor's Cabinet (2013-19)
- Member, University Planning Council (ex-officio) (2013-16)
- Vice President, Office of Research and Economic Development (2013-19)
- Member, Provost's Leadership Council (ex-officio) (2013-19)
- Member, University level Provost's Advisory committee on P&T (2013-19)
- Member, LSU General Counsel Search Committee (2014).
- Member, Master Plan Executive Oversight Committee (2014-16).
- Member, Vice President for Finance and Administration search committee (2013).
- Member, President's Committee on Technology Transfer (2013-14).
- Associate Vice Chancellor, Research and Economic Development (2011-13)
- Member (ex-officio), Council on Research (2011-19)
- Member (ex-officio), Facilities and Development Committee (2011-18)
- Member, LSU Faculty Senate (2003-2005)
- Member, Faculty Senate Council of College Policy Committees (2000-01)
- Member, Faculty Senate International Education Committee (1997-2000).
 - Sub-Committee on International Scholarships and Fee Waivers (1997-2000)
- Member, QEP LSU Discover oversight committee, (2014-16)
- LA-STEM Research Scholar Selection Committee, Office of Strategic Initiatives (2010).

Department Level:

- Department Chair (2006-11)
- Interim Department Chair (2005-06)
- Director of Graduate Studies (2002 05)
- Graduate Student Admissions Committee Chair (2002- 05)
- Chemical Engineering Undergraduate Student Advisor (1997-02)
- Gordon Cain Endowment Committee (Department of Chemical Engineering) (1998-99)
- Departmental Promotion and Tenure Committee (Chemical Engineering Department, Spring 1999; Fall 2000, Spring 2001).
- Departmental Faculty Recruitment Committee (Chemical Engineering Department, Fall 2001, Spring 2002, Spring 2004).
- Chair, Assistant Professor Search Committee (2003)

College Level:

- Chair, College of Engineering Policy Committee (2000-01)
- College of Engineering Policy Committee member (1997-99; 2000-02)
- Chair, College of Engineering Promotion and Tenure Committee, Fall 2000.
- College of Engineering Hall of Distinction Selection Committee, 2000, 2006.
- College of Engineering, Space Allocation Committee, 2000-01.
- College of Engineering, Coordination Council on Environmental and Technological Hazards, 2000-01
- College of Engineering, Coordination Council on Bioengineering, 2002-03.
- College of Engineering, Promotion and Tenure Advisory Committee to the Dean, 2005 11.
- Chair, Mechanical Engineering Department Chair Search Committee, 2008-10.
- Member, Search committee for Department Chair, Biological & Agricultural Engineering (2011).

Service on Boards of Directors and Executive Committees:

- Member, Board of Directors, National Academy of Inventors (2018-*).
- Member, Board of Directors, LSU Research and Technology Foundation (2013-18).
- Member, Executive Committee and Board of Directors, Baton Rouge Area Chamber (BRAC), (2014-18).
- Member, Board of Directors, Research Partnership to Secure Energy for America (RPSEA), (2011-*).
- Member, Executive Committee and 5-year planning committee, Louisiana Universities Marine Consortium (LUMCON), Cocodrie, LA, 2013-16.
- Member and LSU representative, Universities Research Association, Inc. (2013-19).
- Member, Vice Chair, Executive Committee, LUMCON, 2015-17.
- Member, Governor's Louisiana Innovation Council (LIC), 2013-*.
- Member Alternate, Board of Directors, Research Park Corporation (RPC), Baton Rouge, LA (2014-18).
- Member, Vice Chair, Board of Directors, LSU Business and Technology Center, Baton Rouge, LSU (2013-18)
- Member, Executive Board, Vice Chair, Foundation for the East Baton Rouge School System (FEBRPSS) (2014-17).
- Member, Executive Board, Council on Research, Association of Public and Land Grant Universities (APLU), 2016-18.
- Member, University Research Forum of the Education Advisory Board (EAB), 2015-18.
- Member, NAI Fellows Advisory Committee, National Academy of Inventors, 2016-18.
- Member, Executive Committee, Northern Gulf Institute, Mississippi State University, 2017-19
- Member, Louisiana State Board of Regents, EPSCoR Committee, 2015-19.

- Member, Louisiana State Board of Regents, Planning committee, 2016-19.
- Member, Louisiana State Board of Regents, Advisory committee for advancement of research in Louisiana (ACARL), 2016-19.
- Member, Executive Committee, The Water Institute of the Gulf, Baton Rouge, 2014-19.
- Member, LSU Institutional representative, Council of Government Relations, 2017-19.
- Member, Advisory Council, Louisiana Sea Grant, 2013-19.
- Member, LSU representative, University Council on Atmospheric Research (UCAR), 2017-19.
- Chair of the Program Committee for the national meeting of the National Academy of Inventors, Houston, Texas (2019).

RESEARCH ACTIVITIES

RESEARCH INTERESTS

- Surface chemistry
- Environmental chemical engineering
- Atmospheric chemistry
- Modeling the fate and transport in air, water and soil environments
- Separation processes for waste treatment
- Higher education administration

Publications Citation Data (1980-2019):

Google Scholar	Total citations: 6985
	h-index: 48
Research Gate	Total citations: 4776
	h-index: 40
Mendeley	Total Citations: 4462
-	h-index: 40
Web of Science (Researcher ID)	Total citations: 4059
	h-index: 38

PEER-REVIEWED BOOKS AND JOURNAL PUBLICATIONS:

BOOKS:

- 1. K T Valsaraj, Elements of Environmental Engineering: Thermodynamics and Kinetics, CRC Press, Boca Raton, FL (1995), 649 pages [ISBN-1-56670-089-2].
- 2. K T Valsaraj, *Elements of Environmental Engineering: Thermodynamics and Kinetics*, <u>Second Edition</u>, CRC Press/ Lewis Publishers, Boca Raton, FL, (2000), 684 pages [ISBN-1-56670-397-2].
- 3. K T Valsaraj, Elements of Environmental Engineering: Thermodynamics and Kinetics, <u>Third</u> Edition, CRC Press, Taylor & Francis, Boca Raton, FL, (2009), 468 pages [ISBN-1-42007-8-194].
- 4. K T Valsaraj, *Elements of Environmental Engineering: Thermodynamics and Kinetics*, <u>Third Edition</u>, CRC Press, Taylor & Francis, Boca Raton, FL, (2009), Special Indian edition by Vikas Publishing, Delhi, Special Indian Paperback edition [ISBN-9781420078190], 484 pages.
- 5. K T Valsaraj and E M Melvin, <u>Principles of Environmental Thermodynamics and Kinetics</u>, <u>Fourth Edition</u>, CRC Press, Taylor & Francis, Boca Raton, FL, (2018) [ISBN-978-1-4987-3363-2], 475 pages.
- 6. K T Valsaraj, R R Kommalapati (Editors), *Atmospheric Aerosols, Characterization, Chemistry and Modeling*, ACS Symposium Series, American Chemical Society, Washington, D.C. Publisher: Oxford University Press (2009) [ISBN-978-0-8412-6973-6].

7. M Ren, K T Valsaraj, *Photocatalytic Reaction with Inverse Opal Catalyst: A Method to Solve Air Pollution via Photocatalysis*, LAP Lambert Academic Publishing, Saarbrücken, Germany (2010), 168 pages [ISBN-978-3-8433-7854-3].

SOLUTIONS MANUALS (TO MY TEXTBOOK):

- 1. K T Valsaraj and J S Smith, Solutions *Manual to Accompany Elements of Environmental Engineering*, CRC Press, Boca Raton, FL (1996) [ISBN-1-56670-268-2].
- 2. K. T. Valsaraj, J. S. Smith and R Ravikrishna, Solutions Manual to Accompany Elements of Environmental Engineering- Second Edition, CRC Press, Boca Raton, FL (2000) [ISBN-1-56670-549-5].
- 3. K.T. Valsaraj, Solutions Manual for Elements of Environmental Engineering: Thermodynamics and Kinetics Third Edition, CRC Press, Taylor and Francis Group, Boca Raton, FL (2010) [ISBN-978-1-4398-6595-8].

BOOK CHAPTERS (PEER REVIEWED):

- 1. K.T. Valsaraj and L.J. Thibodeaux, "Solvent Sublation-A Non-Foaming Adsorptive Bubble Process for Separation of Waste Streams", In *Advances in Coal and Mineral Processing Using Flotation*, Society of Mining Engineers, Littleton, Co., S. Chander and R.R, Klimpel (Eds.) Chapter 28, pages 255-265, (1989).
- 2. D. D. Reible, K.T. Valsaraj and L.J. Thibodeaux, "Chemodynamic Models for Transport of Chemicals from Bed Sediments", Chapter 3 in *Handbook of Environmental Chemistry*, Vol. 2 Part F, *Reactions and Processes*, O. Hutzinger (Ed.), Springer Verlag GmbH, Germany,1991; pages 185-228.
- 3. G.J. Thoma, A.C. Koulermos, K.T. Valsaraj, D.D. Reible and L.J. Thibodeaux, "The Effects of Porewater Colloids on the Transport of Hydrophobic Compounds from Bed Sediments", Chapter 13 in *Organic Substances and Sediments in Water*, Vol. 1, Humics and Soils, R. A. Baker (Ed.),Lewis Publishers, MI, pages 231-250, (1991).
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(*Denotes invited presentations)

- 1. K.T. Valsaraj and D.J. Wilson, "Removal of Chlorinated Organics from Aqueous Systems" 91st meeting of the Tennessee Academy of Sciences, Clarksville, TN, November 1981.
- 2. D.J. Wilson, K.T. Valsaraj and J.L. Womack, "Removal of Organics from Water by Solvent Sublation" 56th ACS Colloid and Surface Chemistry Symposium, Blacksburg, VA, June 1982.
- 3. K.T. Valsaraj and D.J. Wilson, "Solvent Sublation of Chlorinated Organics and Nitrophenols" 35th Southeastern Regional ACS Meeting Birmingham, AL, November 1982
- 4. C. Schneider, J.L. Womack, K.T. Valsaraj and D.J. Wilson, "Solvent Sublation of p-dichlorobenzene" 92nd meeting of the Tennessee Academy of Sciences Martin, TN, November 1982.
- 5. K.T. Valsaraj and D.J. Wilson, "Theoretical Simulation of the Process Control Operations on a Solvent Sublation Pilot Plant" 93rd meeting of the Tennessee Academy of Sciences, Gallatin, TN, November 1983.

- 6. S-D Huang, K.T. Valsaraj and D.J. Wilson, "Removal of Naphthalene and Phenanthrene from Water by Solvent Sublation" 93rd meeting of the Tennessee Academy of Sciences, Gallatin, TN, November 1983.
- 7. K.T. Valsaraj, C. Springer, T. Nguyen and L.J. Thibodeaux., "Investigation of Floating Immiscible Liquids to Control VOC Emissions from Surface Impoundments" 11th Annual EPA Research Symposium, Cincinnati, OH on April 1985.
- 8. C. Springer, K.T. Valsaraj and L.J. Thibodeaux, "Laboratory Investigations of In-situ Control Methods for Surface Impoundments" 1985 Annual Meeting of the Air Pollution Control Association Detroit, MI, June 1985.
- 9. K.T. Valsaraj, (*)"Comparison of Aeration and Solvent Sublation of Chlorobenzenes" ACS Joint Southeast/Southwest Regional Meeting (Symposium on Hazardous Waste: Storage, Monitoring and Reuse) Memphis, TN, October 1985.
- 10. C. Springer, K.T. Valsaraj and L.J. Thibodeaux, (*)"Emissions of Volatile Organic Chemicals from Landfills and Wastepiles" Seventh Annual Meeting of the Society for Environmental Toxicology and Chemistry, Alexandria, VA, November 1986.
- 11. K.T. Valsaraj and L.J. Thibodeaux, "Diffused Aeration and Solvent Sublation for the Removal of Volatile Organics from Aqueous Systems" National ACS Meeting in New Orleans, LA, August 1987.
- 12. S.H. Poe, K.T. Valsaraj and L.J. Thibodeaux, "Equilibrium Vapor Phase Adsorption of Volatile Organic Chemicals by Dry Soils", National ACS Meeting, New Orleans, LA, August 1987.
- 13. K.T. Valsaraj, A. Velaga, J.S. Cho and L.J. Thibodeaux, "Comparison of Experimental and Calculated Stage Efficiencies in a Packed Cross-Flow Cascade for Methanol-Water Separations", Industrial Engineering Chemistry Division, ACS National Meeting in New Orleans, LA, August 1987.
- 14. K.T. Valsaraj and L.J. Thibodeaux, "Role of Physical Adsorption in Determining the Vapor Pressure of Volatile Organic Above Landfills, Landfarms and Surface Soils", Eight Annual Meeting of the Society of Environmental Toxicology and Chemistry Pensacola, FL, November 1987.
- 15. K.T. Valsaraj and L.J. Thibodeaux, (*)"Equilibrium Adsorption of Chemical Vapors onto Surface Soils: Model Prediction and Experimental Data", EPA sponsored USA-USSR Symposium on the Fate of Pesticides and Chemicals in the Environment, University of Iowa, Iowa City, October 1987.
- 16. K.T. Valsaraj, (*)"On the Physico-Chemical Aspects of Partitioning of Hydrophobic Non-Polar Organics at Air-Water and Solid-Water Interfaces', 43rd Southwest ACS Regional Meeting (Symposium on Environmental Science & Technology), Little Rock, Arkansas, December, 1987.
- 17. K.T. Valsaraj, L.J. Thibodeaux, and D.P. Harrison, "Cascade Crossflow Air Stripping of Volatile Organic Compounds from Groundwater", First Annual Hazardous Waste Research Symposium organized by the LSU Hazardous Waste Research Center, Louisiana State University, Baton Rouge, LA, October 1987.
- 18. L. Locicero, D. Wood, K.T. Valsaraj, L.J. Thibodeaux and D.P. Harrison, "Air Stripping of Volatile Organics from Groundwater Using Packed Crisscrossflow Cascades", AIChE Spring National Meeting in Houston, TX, April 1989.

- 19. A. Velaga, K.T. Valsaraj and L.J. Thibodeaux, "Estimation of Interfacial Areas in Packed Crisscrossflow Distillation Columns", AIChE Spring National Meeting in Houston, TX, April 1989.
- 20. L.J. Thibodeaux, K.T. Valsaraj and D.P. Harrison, "Efficiencies of Volatile Organic Air Stripping in a Packed Crossflow Cascade", Second Annual Symposium on Hazardous Waste Research Sponsored by the LSU EPA Center of Excellence Hazardous Waste Research Center, Baton Rouge, LA, October 1988.
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- 22. J.A. Baron, L.J. Thibodeaux, K. T. Valsaraj and D.D. Reible, (*)"Transport of Hydrophobic Chemicals Into and Out of Bed Sediments Laboratory Simulations", 32nd Annual Meeting of the International Association of Great Lakes Research (IAGLR), University of Wisconsin, Madison, WI, May 1989.
- 23. A.C. Koulermos, L.J. Thibodeaux, K.T. Valsaraj, and D.D. Reible, (*)"Do Colloids Have Significant Chemical Transport Properties in Bed Sediments?", 32 nd Annual Meeting of IAGLR held at University of Wisconsin, Madison, WI, May, 1989.
- 24. A.C. Koulermos, L.J. Thibodeaux, K.T. Valsaraj, and D.D. Reible, "Influence of Natural Colloids on the Transport and Fate of Organic Pollutants in Aquatic Systems", 10th Annual Meeting of SETAC, October, 1989.
- 25. X.Y. Lu, K.T. Valsaraj and L.J. Thibodeaux, "Continuous Countercurrent Solvent Sublation of Hydrophobic Compounds from Aqueous Solutions", 200th National ACS Meeting in Washington, D.C., August, 1990.
- 26. G.J. Thoma, A.C. Koulermos, K.T. Valsaraj, D.D. Reible and L.J. Thibodeaux, (*)"The Effects of Porewater Colloids on the Transport of Hydrophobic Compounds from Bed Sediments", Symposium on "Organic Substances and Sediments in Water" at the National ACS Meeting in Boston, MA, April, 1990.
- 27. K.T. Valsaraj and L.J. Thibodeaux, "Solvent Sublation An Adsorptive Bubble Process for the Removal of Hydrophobic Compounds from Aqueous Solution", Second Annual HWRC Research Symposium at LSU, Baton Rouge, LA, October, 1989.
- 28. L.J. Thibodeaux, K. Nadler, K.T. Valsaraj and D.D. Reible, (*)"The Effect of Moisture on Volatile Organic Chemical Vapor-to-Particle Partitioning with Atmospheric Aerosols Competitive Adsorption Theory Predictions", Symposium on Environmental Chemistry in honor of Philip W. West, 45th Southwest Regional ACS Meeting, Baton Rouge, LA, December, 1989.
- 29. L. J. Thibodeaux, D.D. Reible, K.T. Valsaraj and X. Wang, "Theory of In-Situ Capping of Contaminated Sediments", Second Annual HWRC Symposium, Louisiana State University, Baton Rouge, LA, October, 1989.
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- 32. D. McKay, W.Y. Shiu, K.T. Valsaraj and L.J. Thibodeaux, (*) "Air-Water Transfer: Role of Partitioning", Second International Conference on Gas Transfer at Water Surfaces, Minneapolis, MN, September, 1990.
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- 34. K. T. Valsaraj, X. Y. Lu and L. J. Thibodeaux, "Continuous non-foaming adsorptive bubble separation processes for the removal of hydrophobic organics from the aqueous phase", ACS National meeting, Atlanta, GA, April, 1991.
- 35. D. P. Harrison, D. M. Wetzel, K. T. Valsaraj and E. Mertoetomo, "Criss-cross flow stripping of volatile organics from wastewater", AIChE national meeting, Pittsburgh, PA, August, 1991.
- 36. K. T. Valsaraj and L. J. Thibodeaux, (*)"Non-foaming adsorptive bubble processes for wastewater treatment", National Meeting of the American Society of Mining Engineers, Phoenix, AZ, February, 1992.
- 37. L. J. Thibodeaux, D. D. Reible and K. T. Valsaraj, (*) "Quantitative release rates of bed sediment contaminants", Contaminated Sediment Assessment Methods Workshop, Village of Galilee, Narragansett, RI, May, 1991.
- 38. D. D. Reible, S. A. Savant-Mahliet, K. T. Valsaraj, L. J. Thibodeaux and G. J. Thoma, (*) "Comparison of physical transport processes in noncohesive river sediments", National Conference on Hydraulic Engineering, American Society of Civil Engineers, Nashville, TN, July, 1991.
- 39. K T Valsaraj, "Separation of hydrophobic organic compounds from wastewater using surfactant aggregates on alumina particles", 16 th Biennial International Conference of the International Association for Water Pollution Research and Control, Washington, DC, May, 1992.
- 40. G Thoma, K T Valsaraj, D D Reible, L J Thibodeaux and W Bosworth, "The effectiveness of in-situ capping of contaminated sediments: A Feasibility Study", Spring National Meeting of the American Institute of Chemical Engineers, New Orleans, LA, March, 1992.
- 41. D P Harrison, D M Wetzel, K T Valsaraj, E Mertooetomo and S Verma, "Cascade cross flow stripping for groundwater purification", Summer National AIChE meeting, Minneapolis, MN, August, 1992.
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- 45. D D Reible, L J Thibodeaux and J W Fleeger, "Pollutant fluxes to aquatic systems via coupled biological and physicochemical bed-sediment processes", IAWQ Sediments conference in Milwaukee, WI, June 1993.
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- 49. D D Reible, V Popov, K T Valsaraj, L J Thibodeaux, F Lin and M Dikshit, "Contaminant fluxes from contaminated sediment due to *Tubifex* bioturbation", Dredging '94, Orlando, Florida, November, 1994.
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- 53. K T Valsaraj, L J Thibodeaux and D D Reible, "Modeling of air emissions from contaminated sediment dredged materials", ASTM symposium on Dredging, Remediation and Containment of Contaminated Sediments, Montreal, Quebec, Canada, June 1994.
- 54. L J Thibodeaux, K T Valsaraj and D D Reible, "A quasi-steady state pollutant flux methodology for predicting risk remediation levels when remediating contaminated sediments", ASTM symposium on Dredging, Remediation and Containment of Contaminated Sediments, Montreal, Quebec, Canada, June 1994.
- 55. J W Fleeger, M A Todar, D D Reible, L J Thibodeaux and K T Valsaraj, "The effect of bioturbation by tubificid oligochaetes on pollutant flux from contaminated sediment", 1994 Ocean Sciences meeting sponsored by AGGU and the ASLO, San Diego, CA, February, 1994.
- 56. G. Thoma, D Reible, K Valsaraj and L Thibodeaux, "Efficiency of capping contaminated sediments in-situ. Mathematics of diffusion and adsorption in the capping layer", ACS Symposium on Emerging Technologies in Hazardous Waste Management VI, Atlanta, Georgia, September, 1994.
- 57. W D Constant, D Roy and K T Valsaraj, "An investigation into the in-situ application of colloidal gas aphrons to enhance pump-and-treat remediation of hazardous waste sites", Annual meeting of the Universities Council on Water Resources, Big Sky Resort, Montana, August, 1994.
- 58. V Popov, L Maranto, K T Valsaraj, D D Reible, L J Thibodeaux, M A Todaro and J Fleeger, "Pollutant fluxes to aquatic systems via bed-sediment proceses",21st Annual EPA/RREL Research Symposium, Cincinnati, OH, April, 1995.

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- 60. J S Smith, K T Valsaraj and L J Thibodeaux, "An innovative air-water exchange process for the treatment of wastewaters", 3rd International Symposium on Air-Water Gas Transfer, Heidelberg University, Germany, July, 1995.
- 61. K T Valsaraj, C Zhang, W D Constant and D Roy, "Wastewater treatment using polyaphrons", Fall Symposium "Protecting our watersheds, estuaries and oceans" by the American Water Resources Association meeting, Gonzales, LA, October, 1995.
- 62. L J Thibodeaux, K. T. Valsaraj and D. D. Reible, "Natural recovery field investigation: Chlorinated organics in Olsen's bayou", 1995 Five Centers Conference, July 23 26, Gleneden Beach, Oregon (1995).
- 63. L J Thibodeaux and K T Valsaraj, "Physicochemical property needs for environmental chemical engineering applications", Paper 47a, AIChE meeting, Miami, Florida (1995).
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- 76. C. Zhang, K T Valsaraj, W D Constant and D Roy, "Nutrient and surfactant enhancement for biodegradation of chlorinated hydrocarbons in the wastewater from a Louisiana Superfund site", Symposium on Emerging Technologies in Hazardous Waste Management IX, ACS Special Symposium, Pittsburgh, PA, September 15-17, 1997.
- 77. R R Kommalapati, W D Constant and K T Valsaraj, "Soil flushing of a Superfund site waste using conventional surfactant solutions and colloidal gas aphron suspensions in a two dimensional system", Symposium on Emerging Technologies in Hazardous Waste Management IX, ACS Special Symposium, Pittsburgh, PA, September 15-17, 1997.
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- 87. K T Valsaraj, P M Jain and J S Smith, "Modified alumina particles for dilute solution separations" 1998 Spring meeting of AIChE, New Orleans, LA, March 12, 1998.
- 88. (*)LJ Thibodeaux, D D Reible and K T Valsaraj, "Effectiveness and limitations of remdial dredging", ECODES 98, University of Matanzas, Cuba, June 4-6, 1998.
- 89. L J Thibodeaux, D D Reible and K T Valsaraj, "Containment research on contaminated sediment and dredged material management a review" Presentation to the National Conference on Management and Treatment of Contaminated Sediments, U.S. EPA, Cincinnati, OH, May 13-14, 1997.
- 90. L J Thibodeaux, G Chandra, J S Smith and K T Valsaraj, "Air-to-water partitioning of D4-siloxane-a review of laboratory measurements", Paper 11L. AIChE Annual meeting, Miami Beach, FL (1998).
- 91. K T Valsaraj, R Ravikrishna, D D Reible, L J Thibodeaux, C B Price, J M Brannon and T E Myers, "Air emissions from contaminated exposed sediments and dredged materials" 1999 Conference on Hazardous Waste Research, St. Louis, MO May 25-27, 1999.
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- 93. D. D. Reible and K. T. Valsaraj, "Characterization of exploration and production wastes in Louisiana" Paper presented at the Symposium on Environmental Issues on the Gulf Coast, 218th American Chemical Society National meeting, New Orleans, La, August 22-26, 1999.
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- 96. R Ravikrishna, K T Valsaraj, B Choy, D Reible, L Thibodeaux, C Price, J Brannon, T Myers and S Yost, "Air emissions from exposed, contaminated sediments and dredged materials", Paper presented at the Symposium on Environmental Issues on the Gulf Coast, 218th American Chemical Society National meeting, New Orleans, La, August 22-26, 1999.

- 97. M Blad, W D Constant, K T Valsaraj and J H Pardue, "Effect of stream dynamics on transport of contaminants in phytoremediation at a Louisiana Superfund site", WEFTEC '99 Annual Conference and 72nd Expo, Baton Rouge, LA, 1999.
- 98. B. G. Bryson and K. T. Valsaraj, "Solvent sublation for waste minimization in a process water stream a pilot-scale study", Paper for the AIChE National meeting in Los Angeles, CA, November 2000.
- 99. R. Ravikrishna, K. T. Valsaraj, D. D. Reible and L. J. Thibodeaux, "Air emissions from contaminated dredged materials", Paper for the SETAC annual meeting in November, 2000.
- 100. K T Valsaraj, R Ravikrishna, D D Reible, L J Thibodeaux, "The effects of oil and grease on the mobility of PAHs in contaminated sediments", Paper for SETAC meeting, Nashville, November 2000.
- 101. K T Valsaraj, R Ravikrishna, D D Reible and L J Thibodeaux, "The effects of oil and grease on the volatilization of organic contaminants from sediments", Paper for the Annual AIChE meeting, Los Angeles, CA, November, 2000.
- 102. (*)K T Valsaraj, "Photochemical treatment of wastewater using modified mineral oxide particles" Invited paper to the Symposium on Recent Trends in Photochemical Sciences, Trivandrum, India, January, 2001.
- 103. L.J. Thibodeaux, K. T. Valsaraj and D. D. Reible, "Non-particle resuspension transport coefficients in stream beds", ACS national meeting, Washington, D.C. (2000).
- L. J. Thibodeaux, K. T. Valsaraj and D. D. Reible, "Bioturbation driven transport of hydrophobic organic contaminants from bed sediments", ACS national meeting, Washington, D. C. (2000).
- 105. (*)K. T. Valsaraj and B. G. Bryson, "Solvent Sublation for Waste Minimization", Baton Rouge AIChE Local Section meeting, Baton Rouge, LA, March 10, 2001.
- 106. (*) K T Valsaraj, H F Lin, R Ravikrishna and Q Yuan, "Photocatalysis for Dilute Waste Water Treatment", Technology Forum on Advanced Catalysis, Lamar University, Texas, July 31 (2001).
- 107. (*) K T Valsaraj, R Ravikrishna, H F Lin and Q Yuan, "Mineral Oxides as Reusable Adsorbents for Dilute Waste Water Treatment" International Conference on Materials for Advanced Technologies, Singapore, June 28-July 6 (2001).
- 108. Y Qingzhong, R Ravikrishna, H Lin and K T Valsaraj, "Photodegradation of organic compounds on surfactant-modified titania" Paper in Session AE-2e, 94th Annual Conference and Exhibition of the Air and Waste Management Association, Nashville, TN, June 24-28 (2001).
- 109. A Kotchetkov, R Ravikrishna, J S Smith, K T Valsaraj and L J Thibodeaux. "Air water partition constants for volatile methyl siloxanes (silicones)", Paper # 144g presented to the National AIChE meeting in New Orleans, March 11, 2002).
- S Raja, F Yaccone, R Ravikrishna and K T Valsaraj. "Partitioning of polycyclic aromatic hydrocarbons at the air-water interface", Paper # 144h presented to the National AIChE meeting in New Orleans, March 11, 2002.
- *R Ravikrishna, F Sanchez, K T Valsaraj, L J Thibodeaux, C B Price, and J M Brannon. "Evaporation of hydrophobic organic compounds from suspended sediment solids during dredging". Paper presented at the Twelfth Annual West Coast Conference on Contaminated Soils, Sediments and

- Water, The Association for Environmental Health and Sciences (AEHS), San Diego, CA, March 18-21, 2002.
- S Raja, R Ravikrishna, R R Kommalapati and K T Valsaraj, "Air-water interfacial adsorption of PAHs" Paper for the AWMA National Meeting, Baltimore MD, June 26, 2002.
- S Raja, T Andrews, R Ravikrishna, R R Kommalapati and K T Valsaraj, "Air-water interfacial adsorption of PAHs and its effects on wet deposition from the atmosphere" Paper for the AWMA National Meeting, San Diego, CA, June 23-27, 2003.
- S Raja, T Andrews, R Ravikrishna, R R Kommalapati and K T Valsaraj, "Air-water interfacial adsorption of PAHs and its effects on wet deposition from the atmosphere" Paper for the ACS National Meeting, New Orleans, LA, March 24-28, 2003.
- H Lin and K T Valsaraj, "A monolith photocatalytic reactor for wastewater treatment" Paper for the ACS National Meeting, New Orleans, LA, March 24-28, 2003.
- 116. R Ravikrishna, C Price, S Yost, K T Valsaraj and J M Brannon, "Air emissions of organic compounds from resuspension of sediments during dredging" Paper for the ACS National Meeting, New Orleans, LA, March 24-28, 2003.
- J Birdwell, L J Thibodeaux and K T Valsaraj, "Predicting the chemodynamics of solubilization from particle resuspension", Paper for the ACS National Meeting, New Orleans, LA, March 24-28, 2003.
- J Birdwell, L J Thibodeaux and K T Valsaraj, "Predicting the chemodynamics of solubilization from particle resuspension", Venice 2003 meeting on Sediments, Venice, Italy, June 2003.
- 119. L J Thibodeaux, R Ravikrishna, K T Valsaraj and J Miller, "Volatilization rates from dredged material and soils- A Literature review with application to Indiana Harbor Canal" Paper presented at the 5th International Sediment Quality Assessment meeting of AEHMS, Chicago, October 16-18, 2002.
- ^{*} K T Valsaraj, R R Ravikrishna, L J Thibodeaux, C B Price and S Yost, "Volatilization of contaminants during dredging and resuspension of contaminated sediments" 2nd International Symposium on Contaminated Sediments, Quebec City, Canada, May 26-28 (2003).
- 121. S Raja, T Andrews, R R Kommalapati, R Ravikrishna and K T Valsaraj, "Adsorption of PAHs on the air-water interface and its implications in atmospheric wet deposition processes" Paper presented at the 2003 Annual AWMA meeting, San Diego, CA, June 23-26 (2003).
- S Raja, T Andrews, R R Kommalapati, R Ravikrishna and K T Valsaraj, "Adsorption of PAHs on the air-water interface and its implications in atmospheric wet deposition processes" Paper presented at the 2003 Annual AIChE meeting, San Francisco, CA, November 23-26 (2003).
- 123. * K T Valsaraj and H F Lin, "Investigations into photocatalytic reactor designs for industrial wastewater treatment" Third International Symposium on Recent Trends in Photochemical Sciences held in Trivandrum, Kerala, India, January, 5-7 (2004).
- 124. Q Z Yuan and K T Valsaraj, "Transport and fate of contaminants in capped sediment systems", Fourth SETAC World Congress / 25th Annual Meeting in North America, Portland, Oregon, November (2004).

- 125. Q Z Yuan and K T Valsaraj, "Transport and fate of contaminants in capped sediment systems", Third International Battelle Conference on remediation of contaminated sediments, New Orleans, Louisiana, January 24-27 (2005).
- 126. S Raja and K T Valsaraj, "Heterogeneous oxidation of naphthalene vapors on the air-water interface of fog droplets" Annual AWMA conference, Minneapolis, MN, June 20-25 (2005).
- 127. H F Lin and K T Valsaraj, "A Titania Optical Fiber Monolith Reactor for Photo-degradation of Organic Contaminants in Dilute Wastewaters", Symposium on Advanced Materials for Purification of Water with Systems, Center of Advanced Materials for the Purification of Water with Systems, Atlanta, Georgia, April 13-15, 2005.
- 128. H F Lin and K T Valsaraj, "Development of optical fiber monolith reactor for wastewater treatment", Third International Congress on Ultraviolet Technologies, Whistler, British Columbia, Canada, May 24-27 (2005).
- 129. K T Valsaraj, S Raja, "Heterogeneous chemistry of organic compounds on atmospheric droplets", Paper presented at the AIChE National meeting, Cincinnati, OH, October 31- November 4, 2005.
- 130. L Yan, K E Thompson, K T Valsaraj, "Stability and coalescence of emulsion droplets in a constricted tube", Paper presented at the AIChE National meeting, Cincinnati, OH, October 31-November 4, 2005.
- 131. Q Z Yuan, K T Valsaraj, C Willson, D D Reible, "Transport of contaminants from sediments by gas ebullition", Poster presented at the AIChE National meeting, Cincinnati, OH, October 31-November 4, 2005.
- 132. S Raja and K T Valsaraj, "Heterogeneous and free radical chemistry of polycyclic aromatic hydrocarbons on fogwater droplets in the atmosphere", Paper presented at the PACIFICHEM 2005 meeting in Honolulu, Hawaii, December 14 21, 2005.
- 133. R Ravikrishna, K Valsaraj, C Price, L Thibodeaux, "Volatile emissions from sediment and dredged material suspensions during remediation", Paper presented at the SETAC meeting, Baltimore, Maryland, November 14-18, 2005.
- 134. L Thibodeaux, K Fountain, C Price, R Ravikrishna, K Valsaraj, "PAH volatile emissions from dredged material 1. Wind tunnel measurements and results", Paper presented at the SETAC meeting, Baltimore, Maryland, November 14-18, 2005.
- 135. L Thibodeaux, K Fountain, C Price, R Ravikrishna, K Valsaraj, "PAH volatile emissions from dredged material 2. Model development and interpretation", Paper presented at the SETAC meeting, Baltimore, Maryland, November 14-18, 2005.
- 136. Q Z Yuan, K T Valsaraj, C Willson, D D Reible, "Sediment and contaminant transport by gas ebullition", Poster presented at the SETAC annual meeting, Baltimore, MD, November 14-18, 2005.
- 137. S Raja, K T Valsaraj, "On the heterogeneous oxidation of semi-volatile organic vapors (SVOCs) on water droplets in the atmosphere. Paper for the 16th annual meeting of SETAC Europe, The Hague, The Netherlands, 7-11, May, 2006.

- 138. R Ravikrishna, S Mbulgwe, H-W Lee, J H Pardue and K T Valsaraj, "Impact of Post-Katrina Cleanup Operations on Air Quality", Paper for 232nd ACS National Meeting, San Francisco, CA, September 10-14, 2006.
- 139. J H Pardue, K T Valsaraj, W M Moe, L Thibodeaux, "Chemical and microbiological characteristics of Katrina floodwater and sediment", 232nd ACS National Meeting, San Francisco, CA, September 10-14, 2006.
- 140. K T Valsaraj, M Ren and R Ravikrishna, "Removal of 1,2-dichlorobenzene from Air in a Photonic-Crystal-Titania Photocatalytic Reactor" 232nd ACS National Meeting, San Francisco, CA, September 10-14, 2006.
- 141. J Chen and K T Valsaraj, "Uptake and UV-photooxidation of gas-phase naphthalene on thin water films in a horizontal flow-reactor", AWMA annual meeting, New Orleans, LA, June 20-23, 2006.
- 142. * J L Collett, A Bator, H Chang, B B Demoz, P Herckes, K Hoag, T Lee, K F Moore, S Raja, X Rao, J Reilly, L Rinehart, D E Sherman, D Straub, S Youngster, X-Y Yu, K T Valsaraj, R Ravikrishna, "The chemical composition of fogs and clouds in the United States", AGU annual meeting, San Francisco, CA, December, 2006 (Invited paper).
- 143. * P Jungwirth, R Vacha, J Chen and KT Valsaraj, "Adsorption of PAHs at the air/water interface", Paper presented at the AIRUCI workshop program, University of Canterbury, Christchurch, NZ, December 11-13, 2006.
- 144. D D Reible, J Liu, NW Johnson, K Valsaraj, RD Delaune, "Fate of mercury beneath a sediment cap" SETAC North America annual meeting, November (2006).
- 145. J Chen, K T Valsaraj, "Adsorption and photochemical reactions of PAHs at the air-water interface of fog droplets", Paper presented at the Symposium on Environmental Transport, Fate, Effects and Models of Atmospheric Pollutants, 233rd national ACS meeting, Chicago, March 25-29 (2007).
- 146. N Ashley, K T Valsaraj, L J Thibodeaux, "Metal and organic sediment contaminants from homes in New Orleans, Louisiana following hurricane Katrina: Long-term environmental and human health implications", Paper at the 233rd ACS national meeting in Chicago, March 25-29, 2007.
- 147. N Ashley, K T Valsaraj, L J Thibodeaux, "Environmental chemodynamics of sediment pollutants in homes in New Orleans, Louisiana following hurricane Katrina" Paper for the symposium "Atmospheric Aerosol Processes", Division of environmental Chemistry, national ACS meeting in Boston, MA, August 19-23, 2007.
- 148. J Chen, K T Valsaraj, "Uptake and UV-photooxidation of gas-phase PAHs in atmospheric water films" Paper for the symposium "Atmospheric Aerosol Processes", Division of environmental Chemistry, national ACS meeting in Boston, MA, August 19-23, 2007.
- 149. *J L Collett, L R-Mazzoleni, P Herckes, X Shen, T Lee, A P Sullivan, S Raja, R R Kommalapati, K T Valsaraj, "Carbonaceous aerosol processing by clouds and fogs", Paper for the symposium "Atmospheric Aerosol Processes", Division of environmental Chemistry, national ACS meeting in Boston, MA, August 19-23, 2007.
- 150. K T Valsaraj, J Chen, "Atmospheric photooxidation of gaseous PAHs on water films", Paper for the special session on Atmospheric Aerosol Processes at the AGU Joint Assembly meeting in Acapulco, Mexico, May 22-25, 2007.

- 151. R R Kommalapati, S Raja, R Ravikrishna, K Murugesan, J L Collett, K Valsaraj, "Fogwater chemistry and air quality in the Texas-Louisiana Gulf coast corridor", Paper for the special session on Atmospheric Aerosol Processes at the AGU Joint Assembly meeting in Acapulco, Mexico, May 22-25, 2007.
- 152. * S Raja, R Ravikrishna, X-Y Lu, T Lee, J Chen, R R Kommalapati, K Murugesan, Y Qingzhong, X Shen, J L Collett, K T Valsaraj, "Fogwater chemistry in the Texas-Louisiana Gulf coast corridor of the United States", Paper for the 4th International Conference on Fog, Fog collection and Dew, City of La Serena, Chile, July 22-27, 2007.
- 153. JL Collett, A Bator, H Chang, BB Demoz, P Herckes, K Hoag, T Lee, KF Moore, S Raja, X Rao, J Reilly, L Rhinehart, DE Sherman, D Straub, G Xu, S Youngster, X-Y Yu, "The chemical composition of fogs and clouds in the United States", Paper for the 4th International Conference on Fog, Fog Collection and Dew, La Serena, Chile, July 21-27 (2007).
- 154. * JL Collett, L Mazzoleni, X Shen, P Herckes, T Lee, S Raja, K T Valsaraj, "Carbonaceous aerosol processing by clouds and fogs", International Conference on Clouds and Precipitation, July, 2008 (Invited paper).
- 155. * D D Reible, N Ashley, J Birdwell, L J Thibodeaux, K T Valsaraj, "Immediate and long-term environmental impacts of hurricane Katrina", Paper for the symposium on "The Impact of Hurricane Katrina from an Environmental and Petrochemical Perspective", ACS national meeting, New Orleans, April, 2008.
- 156.* K T Valsaraj, N Ashley and L J Thibodeaux, "Sediment and air contamination inside homes flooded during hurricane Katrina", Symposium on "The Environmental Impact of Hurricane Katrina on New Orleans and the Surrounding Area", 2008 PITTCON annual meeting, March 1-7, 2008 (Invited Paper).
- 157. N A Ashley, K T Valsaraj, L J Thibodeaux, "Sediment contaminants inside New Orleans, La, homes following hurricane Katrina", Paper for ASCE Geo Congress, New Orleans, La, March, 2008.
- 158. * K T Valsaraj, "Thermodynamics of adsorption of organic vapors at the air-water interface and its implications in atmospheric chemistry", Paper for the 20^{th} International Conference on Chemical Thermodynamics, special symposium on "Environmental Thermodynamics", Warsaw, Poland, August 3-8, 2008 (Invited paper) .
- 159. J Chen, K T Valsaraj, "Adsorption and UV-photooxidation of gas-phase phenanthrene on atmospheric films", Paper for presentation at the ACS National meeting, New Orleans, LA, April, 2008.
- 160. N Ashley, K T Valsaraj, L J Thibodeaux, "Environmental impacts of Hurricane Katrina: Investigation of in-home multiphase contaminant distributions", Paper for ACS national meeting, New Orleans, LA, April, 2008.
- 161. J. Liu, K. T. Valsaraj, I. Devai, R. D. Delaune Sorption of aqueous Hg(II) by machinawite (FeS)", 235th ACS National Meeting New Orleans, LA, April 6-10, 2008.
- 162. N Ashley, K T Valsaraj and L J Thibodeaux, "Environmental analysis of post-Katrina New Orleans: Indoor pollutant exposure, lessons learned, and challenges", Paper for presentation at the 2008 AGU Joint Assembly in Fort Lauderdale, FL, May 27-30, 2008.

- 163. *K T Valsaraj, S Raja, R Ravikrishna, R R Kommalapati, T Lee, X Shen, J L Collett, "Organic composition of fogwater in the Texas-Louisiana Gulf Coast Corridor", Paper for the symposium on Atmospheric Chemistry and Climate Change, ACS Southwest Regional Meeting, Little Rock, AR, October 1, 2008.
- 164. *K T Valsaraj, J Chen, "Uptake and photooxidation of PAHs on atmospheric water films", Paper for the symposium on Atmospheric Chemistry and Climate Change, ACS Southwest Regional Meeting, Little Rock, AR, October 1, 2008.
- 165. K T Valsaraj, "Atmospheric Chemistry of Aerosols and Climate Change", Pan IIT 2008 Research Symposium, Indian Institute of Technology, Madras, December 17-22 (2008).
- 166. N Ashley, N McBride, B Baker, K T Valsaraj, "Reactions of Gas-Phase Naphthalene with Paint and Sunscreen Surfaces Containing TiO₂ Nanoparticles" Paper presented at the ACS national meeting, Salt Lake City, March 22-26, 2009.
- 167. N Ashley, K T Valsaraj, LJ Thibodeaux, "Unsteady-state chemodynamic fate and transport model for in-home pollutants following Hurricane Katrina" Paper presented at the ACS national meeting, Salt Lake City, March 22-26, 2009.
- 168. LJ Thibodeaux, N Ashley, KT Valsaraj, "Katrina Flood Chemical Exposure: Data and model Results", Paper for the Grand Challenges in Engineering Symposium at the Annual AEESP Conference, Iowa City, Iowa, July 24-26, 2009.
- 169. K T Valsaraj, M J Wornat and D J Donaldson, "Adsorption and reactions of trace gas-phase PAHs on atmospheric water film surfaces", 22nd International Symposium on Polycyclic Aromatic Compounds, Charleston, SC, September 22-24, 2009.
- 170.Raghava R. Kommalapati, Suresh Raja, Jeffrey L. Collett Jr., Kalliat T. Valsaraj, "Air Quality and Fog Chemistry and Their Interactions in the Gulf Coast Corridor", AEESP Annual meeting, Iowa City, IA, July 24-26, 2009.
- 171. (*)LJ Thibodeaux, N Ashley, KT Valsaraj, "Katrina Flood Chemical Exposure: In-home sediment data and model results", Paper for the SETAC North America Annual meeting, New Orleans, La. 2010.
- 172. (*)LJ Thibodeaux, N Ashley, KT Valsaraj, "Indoor Unsteady-state chemodynamic fate and transport model for in-home pollutants following Hurricane Katrina", Paper for SETAC North America Annual meeting, New Orleans, La. 2010.
- 173. MRM Chaves, KT Valsaraj, JS Preston, RP Gambrell, RD DeLaune, PM Buchler, "Influence of L-methionine on the Mackinawite oxidation stability", 2010 Goldschmidt Conference in Knoxville, Tennessee on June 17th, 2010.
- 174. (*)KT Valsaraj, "Adsorption and Reactions on Water Thin Films in Atmospheric Aerosols", Invited speaker for the Gordon Research Conference on "Water in the Environment", Holderness School, NH, August 8-13, 2010.
- 175. J Chen, F Ehrenhauser, K T Valsaraj, M J Wornat, "Polycyclic aromatic hydrocarbons transformations in an urban fog" 5 th international conference on fog, fog collection and dew, Munster, Germany, July 25-30, 2010.

- 176. Y Wang, K Khadapkar, FS Ehrenhauser, JW Hutchings, MJ Wornat, K T Valsaraj, P Herckes, "Fog processing of polycyclic aromatic hydrocarbons (PAH)", 5th international conference on fog, fog collection and dew, Munster, Germany, July 25-30, 2010.
- 177. J Birdwell, K T Valsaraj, "Fluorescence spectroscopy for the characterization of fog water organic matter", 5th international conference on fog, fog collection and dew, Munster, Germany, July 25-30, 2010.
- 178. Y Wang, K Khadapkar, FS Ehrenhauser, JW Hitchings, MJ Wornat, KT Valsaraj, P Herckes, "Fog processing of polycyclic aromatic hydrocarbons (PAH)", 29th Annual AAAR Conference, Portland, Oregon, October 25-29, 2010.
- 179. FS Ehrenhauser, KT Valsaraj, MJ Wornat, "UV Degradation of Polycyclic Aromatic Hydrocarbons in Thin Water Films", 2010 Spring AIChE Meeting & 6th Global Congress on Process Safety, San Antonio, TX, March 29, 2010.
- 180. Thilanga P. Liyana-Arachchi, Kalliat T Valsaraj and Francisco R. Hung, "A molecular simulation study of the adsorption of polycyclic aromatic hydrocarbons and ozone on atmospheric ice films", "Mardi Gras Conference 2010 in Baton Rouge, LA.
- 181. (*) K T Valsaraj, "Deepwater Oil and Gas Spills –Research Issues" Invited plenary lecture to the Tulane Engineering Forum, Tulane University, New Orleans, LA, April 15, 2011.
- 182. K T Valsaraj, "Aqueous aerosol chemistry in the atmospheric context" Plenary lecture for the International Conference on Recent Advances in Chemical Engineering and Technology (RACET 2011) organized by the Indian Institute of Chemical Engineers (IIChE) on March 10-12, 2011, Cochin, Kerala, India.
- 183. M Abdelrahim, D Rao, K Valsaraj, "Understanding the phase behavior of oil/dispersant/water systems at different salinities, temperature and pressure" Presented at the "Deepwater Horizon Oil Spill Conference: Research from the Four University Consortium and LUMCON", LSU Faculty Club, Baton Rouge, April 29, 2011.
- 184. MA Abdelrahim, DN Rao, KT Valsaraj, "Measurement of interfacial tension and spreading behavior in hydrocarbon/water/dispersant systems at deep-water conditions", 15th Annual GoM Deepwater Technical Symposium and Exhibition, Hilton Riverside Hotel, New Orleans, Louisiana, August 11-12, 2011.
- Thilanga P. Liyana-Arachchi, Kalliat T Valsaraj and Francisco R. Hung, "A Molecular Simulation Study of the Adsorption of Polycyclic Aromatic Hydrocarbons and Ozone On Atmospheric Ice Films" AIChE national meeting, Minneapolis, MN, October 16-21, 2011.
- 186. FS Ehrenhauser, KT Valsaraj, MJ Wornat, "Uptake and photo-oxidation of fluorene at the air-water interface", Paper presented at the ISPAC 23 in Munster, Germany, September 4-9, 2011.
- 187. A A Heath, FS Ehrenhauser, KT Valsaraj, "Effect of salinity and pH on the kinetics of the photo-oxidation of benzene with hydrogen peroxide", Paper presented at the ISPAC 23 in Munster, Germany, September 4-9, 2011.
- 188. K Khadapkar, FS Ehrenhauser, Y Wang, JW Hutchings, A Marcotte, O Delhomme, MJ Wornat, P Herckes, KT Valsaraj, "PAH and oxy-PAH processing during a fog event", Paper presented at the ISPAC 23 in Munster, Germany, September 4-9, 2011.

- 189. F Ehrenhauser, K Khadapkar, Y Wang, JF Hutchings, O Delhomme, RR Kommalapati, P Herckes, MJ Wornat, KT Valsaraj, "PAH and OPAC processing during a fog event", Paper presented to the 243rd ACS national meeting in San Diego, CA, March 25-29, 2012.
- 190. A Heath, F Ehrenhauser, KT Valsaraj, "Photo-degradation of benzene with hydroxyl radicals in maritime environments", Paper presented to the 243rd ACS national meeting in San Diego, CA, March 25-29, 2012.
- 191. A Heath, F Ehrenhauser, KT Valsaraj, "Monitoring the kinetics of the photo-degradation of benzene with hydroxyl radicals", Paper presented to the International Conference on Environmental Science and Technology 2012 in Houston, TX on June 25-29, 2012.
- 192. FS Ehrenhauser, V Dugas, KT Valsaraj, "Deepwater Horizon oil spill: Aerosolization via bursting bubbles", Paper presented to the 243rd ACS national meeting in San Diego, CA, March 25-29, 2012.
- 193. J. Eagar, F.S. Ehrenhauser, Y. Wang, J. W. Hutchings, A. Marcotte, O. Delhomme, R. R. Kommalapati, M. J. Wornat, K. T Valsaraj and P. Herckes, Fog Processing of Particulate Molecular Marker Species, AAAR annual meeting 2012, Minneapolis, MN, October 8-12, 2012.
- Thilanga P. Liyana-Arachchi, Kalliat T Valsaraj and Francisco R. Hung, "A molecular simulation study of the adsorption of aromatic hydrocarbons and reactive oxygen species on atmospheric ice films", "AIChE 2012 Annual Meeting in Pittsburgh, PA.
- 195. Thilanga P. Liyana-Arachchi, Kalliat T Valsaraj and Francisco R. Hung, "Ice growth from benzene, naphthalene and phenanthrene/super-cooled water solutions", "AIChE 2012 Annual Meeting in Pittsburgh, PA.
- 196. Thilanga P. Liyana-Arachchi, Kalliat T Valsaraj and Francisco R. Hung, "Green leaf volatiles on atmospheric air/water interfaces", "AIChE 2012 Annual Meeting in Pittsburgh, PA.
- 197. Thilanga P. Liyana-Arachchi, Kalliat T Valsaraj and Francisco R. Hung, "Adsorption of polycyclic aromatic hydrocarbons and ozone on atmospheric air/ice interfaces: A molecular simulation study", "ACS 2012 National Meeting in San Diego, California.
- 198. Ehrenhauser FS, Valsaraj KT, Wornat MJ, "Interfacial degradation of fluorene in atmospheric aqueous aerosols", Paper presented at the 86th Colloid and Interface Science symposium, Johns Hopkins University, Baltimore, MD, June 10-13, 2012.
- Eagar J, Ehrenhauser F, Wang Y, Hutchings J, Marcotte A, Delhomme O, Kommalapati R, Wornat M, Valsaraj, Herckes P, "Fog processing of particulate molecular marker species", Paper for the 2012 American Association of Aerosol Research (AAAR) Symposium held in Minneapolis, MN on October 8-12, 2012.
- 200. Raja S, Hopke PK, Xia X, Chandrasekaran SR, Lin L, Valsaraj KT, Klassen J, Sweet JW, "Investigation of beta attenuation monitor filter rolls for particulate matter speciation, Paper for the 2012 American Association of Aerosol Research (AAAR) Symposium held in Minneapolis, MN on October 8-12, 2012.
- ^{*}F Ehrenhauser, A Heath, P Herckes, M J Wornat, K T Valsaraj, "Chemistry at the air-water interface: Chemical transformations at the interface" Invited talk to the ACS national meeting and symposium on "Nexus of Food, Energy and Water" in New Orleans April 7-11, 2013.

- 202. T P Liyana-Arachchi, KT Valsaraj, F Hung, "Green leaf volatiles on atmospheric air/water interfaces" Paper presented at the annual AIChE meeting (Symposium in honor of Prof. Keith Gubbin's 75th birthday), Pittsburgh, PA, October 29, 2012.
- 203. A Rao, RR Guntaka, K Nandakumar, F Ehrenhauser, KT Valsaraj, "Dynamics of organic droplets in water in the presence of mass transfer: A model system for the deep water oil spill", Paper presented at the Symposium on Dispersants for Deep Sea Oil Spill Remediation Applications at the 68th Southwest Regional meeting, American Chemical Society, Baton Rouge, November 4-7, 2012.
- 204. TP Liyana-Arachchi, KT Valsaraj, FR Hung, "Molecular dynamics of oil hydrocarbons and surfactants at atmospheric air/salt water interfaces", Paper presented at the Symposium on Dispersants for Deep Sea Oil Spill Remediation Applications at the 68tth Southwest Regional meeting, American Chemical Society, Baton Rouge, November 4-7, 2012.
- 205. F Ehrenhauser, P Avij, KT Valsaraj, "Bursting bubbles- Aerosolization of alkanes and dispersants", Paper presented at the Symposium on Dispersants for Deep Sea Oil Spill Remediation Applications at the 68tth Southwest Regional meeting, American Chemical Society, Baton Rouge, November 4-7, 2012.
- 206. AA Heath, FS Ehrenhauser, KT Valsaraj, "Atmospheric oxidation of benzene: The effect of pH, ionic strength, and temperature on biphenyl formation and yield", Paper presented at the 68th Southwest Regional meeting, American Chemical Society, Baton Rouge, November 4-7, 2012.
- 207. AK Hansel, FS Ehrenhauser, KT Valsaraj, "Green leaf volatiles as a s secondary organic aerosol precursor: Methyl jasmonate oxidation", Paper presented 68tth Southwest Regional meeting, American Chemical Society, Baton Rouge, November 4-7, 2012.
- 208. Liyana-Arachchi, T.P.; Ehrenhauser, F. S.; Avij, P.; Valsaraj, K.T.; Hung, F.R. "Oil hydrocarbons and surfactants at air/salt water interfaces: Molecular simulations and experiments", Presentation at the Gulf of Mexico Oil Spill & Ecosystem Science Conference, January 21st-23rd, 2013 New Orleans, USA.
- 209. Rao, A.; Reddy, R..; Ehrenhauser, F.S.; Valsaraj, K.T.; Nandakumar, K. "Surfactant Effect on the Dynamics of BP Crude Oil Droplet in a Water Column", Presentation at the Gulf of Mexico Oil Spill & Ecosystem Science Conference, January 21st-23rd, 2013 New Orleans, USA.
- 210. Avij, P.; Woodson, I.; Dugas, V.; Ehrenhauser, F.S.; Valsaraj, K.T. "Aerosolization of Oil Spill Matter via Bursting Bubbles", Presentation at the Gulf of Mexico Oil Spill & Ecosystem Science Conference , January 21st-23rd, 2013 New Orleans, USA.
- 211. Heath, A.A.; Ehrenhauser, F.S.; Valsaraj, K.T. "Atmospheric Oxidation of Benzene: Biphenyl Formation in the Bulk Aqueous Phase Versus the Air-Water Interface", presentation at the 245th ACS National Meeting & Exposition, April 7th- 13th 2013 New Orleans, USA.
- Bourdon, C.; Ehrenhauser, F.S.; Valsaraj, K.T. "Impact of Environmental Pollution on Fog Events in the Gulf Coast Corridor", presentation at the 245th ACS National Meeting & Exposition, April 7th-13th 2013 New Orleans, USA.
- 213. Hansel, A.; Ehrenhauser, F.S.; Kaur R; Anastasio C; Valsaraj, K.T. "Oxidation of Green Leaf Volatiles in Fog Water Part 1 SOA formation", Oral presentation at the 245th ACS National Meeting & Exposition, April 7th- 13th 2013 New Orleans, USA.
- *Ehrenhauser, F.S.; Heath, A.A.; Liyana-Arachchi, T.P.; Wornat, M.J.; Hung, F.R.; Valsaraj, K.T. "Chemistry at the Interface - Chemical Transformation at the Air-Water Interface", Oral

- presentation at the 245th ACS National Meeting & Exposition, April 7th- 13th 2013 New Orleans, USA.
- 215. Hansel, A.; Ehrenhauser, F.S.; Kaur, R.; Richards, N.K.; Anastasio, C.; Valsaraj, K.T. "Oxidation of Green Leaf Volatiles in Fog Droplets Formation of Secondary Organic Aerosols", Oral Presentation at the 6th International Conference on Fog, Fog Collection and Dew, May 19th 24th 2013 Yokohama, Japan.
- 216. Thilanga P. Liyana-Arachchi, Kalliat T Valsaraj and Francisco R. Hung, "Molecular dynamics simulations of oil hydrocarbons and surfactants at atmospheric air/salt water interfaces", ACS 2013 National Meeting, New Orleans, LA.
- 217. Thilanga P. Liyana-Arachchi, Kalliat T Valsaraj and Francisco R. Hung, "Adsorption of green leaf volatiles (GLVs) on atmospheric air/water interfaces", ACS 2013 National Meeting, New Orleans, LA.
- 218. N.K Richards-Henderson, A Hensel, A T Pham, HS Vempati, KT Valsaraj, C Anastasio, " Aqueous oxidation of green leaf volatiles as a source of secondary organic aerosol", Paper for presentation at the Fall 2013 AGU meeting in San Francisco, LA.
- 219. A Rao, RR Guntaka, F Ehrehauser, K Nandakumar, KT Valsaraj, "Transport processes influencing dynamics of droplet released in water column", 1st Hamburg Symposium on Deep Sea Oil Spills, Hamburg University of Technology, Germany, September 4, 2013.
- 220. Thillanga P Liyana-Arachchi, A K Hansel, C Stevens, FS Ehrenhauser, KT Valsaraj, FR Hung, "Green leaf volatiles and reactive oxygen species on atmospheric air/water interfaces" Paper for the 2013 AIChE annual meeting, San Francisco, LA, November 3-8, 2013.
- 221. A A Heath, FS Ehrenhauser, KT Valsaraj, "Atmsopehric oxidation of benzene: Effect of temperature, ionic strength in both bulk aqueous phase and at the air-water interface", Paper for the 2013 AIChE annual meeting, San Francisco, LA, November 3-8, 2013.
- 222. A Heath, F Ehrenhauser, K T Valsaraj, "Atmospheric oxidation of benzene: Effect of pH and ionic strength at the air-water interface", Paper for the 247th national meeting, American Chemical Society, March 16-20, 2014, Dallas, TX.
- 223. R Abhijit, R Reddy Guntaka, F Ehrenhauser, K Nandakumar, KT Valsaraj, "Transport processes influencing dynamics of droplet released in water column", Paper presented at the 1st Hamburg Symposium on Deep-sea Oil Spills, Hamburg, Germany, September 4, 2013.
- 224. K T Valsaraj, "Dispersants for deep sea oil spill remediation: Efficacy and design" Paper presented at the symposium on Chemical Applications in Producing Oil and Gas at the World Congress on Petrochemistry and Chemical Engineering, San Antonio, TX, November 18-20, 2013.
- 225. T Coolbaugh, V John, K Valsaraj, A McCormick, A Bose, K Johnston, "Fundamental aspects of the science and engineering of oil spill dispersant systems: An overview of recent research activities", International Oil Spill Conference (IOSC), Savannah, GA, May 5-8, 2014.
- 226. P Avij, V Dugas, X Shu, KT Valsaraj, "Dispersant effect in enhancing the droplet and particle formation by bursting bubbles", Paper for presentation at the 2014 3rd Biennial State of the Coast Conference, New Orleans, LA, March 18-20, 2014.

- 227. P Avij, KT Valsaraj, "Laboratory experimental demonstration of trhe effect of oceanic whitecap in transferring oil and dispersant compounds to atmosphere", 2014 Gulof Mexico Oil Spill and Ecosystem Science Conference, Mobile, AL, January 26-29, 2014.
- 228. LJ Thibodeaux, A Parsons, E Overton, K Valsaraj, K Nandakumar, "Subsurface oil material trapping and release fate within a stable, laterally mobile, horizontal layer: Model and Field data for soluble and droplet fractions", 2014 Gulf of Mexico Oil Spill & Ecosystem Science Conference, Mobile, AL, January 26-29, 2014.
- 229. Z Zhang, TP Liyana-Arachchi, FS Ehrenhauser, P Avij, KT Valsaraj, FR Hung, "Molecular dynamics simulation of oil alkanes and dispersants in atmospheric air/saltwater interfaces", 2014 Gulf of Mexico Oil Spill & Ecosystem Science Conference, Mobile, AL, January 26-29, 2014.
- 230. R Kaur, C Anastasio, K T Valsaraj, H S Vempati, M Vaitlingom, "Photoformation of triplet excited states and other oxidants in fog waters and their impact on fog processing of organic compounds", AGU fall meeting, San Francisco, December 15-19, 2014.
- 231. M Vaitlingom, P Avij, H Huang, KT Valsaraj, "Atmospheric fate of oil matter adsorbed on sea salt particles under UV light", AGU fall meeting, San Francisco, December 15-19, 2014.
- 232. P Avij, KT Valsaraj, "The role of different dispersants in the transport of spilled oil matter into the atmosphere", Paper for the 2015 Deepwater Technical Symposium, New Orleans, LA, August 15-20, 2015.
- 233. A Noel, M Vaitilingom, V Le Donne, R Kulkarni, Z Perveen, D Paulsen, S Jayaseelan, KT Valsaraj, AL Penn, "Oxidation of pollen by atmospheric factors (O₃ and UV) aggravates markers of pollen allergenicity in the lungs", 14th International Congress on Combustion By-Products and their Health Effects, Umea, Sweden, June, 2016.
- 234. Z Zhang, TP Liyana-Arachchi, P Avij, KT Valsaraj, J Field, FR Hung, "Molecular simulation of oil and dispersant components in interfaces involving air, seawater and oil", Paper for presentation at the 2015 National AIChE meeting, Salt Lake City, UT, November 8-13, 2015.
- 235. Z Zhang, TP Liyana-Arachchi, P Avij, KT Valsaraj, J Field, FR Hung, "Molecular simulation and partitioning phenomena of oil and dispersant components in air-seawater-oil system", Paper for presentation at the 2015 National AIChE meeting, Salt Lake City, UT, November 8-13, 2015.
- 236. R Duran, A Milet, KT Valsaraj, Y Lakhnech, AM Marmande, "Strategic partnership in research and economic development: From NSF to EU to a foundation collaboration", Council on Undergraduate Research conference, Tampa, FL, June 2016.
- 237. A Rao, K Nandakumar, KT Valsaraj, "Advanced multiphase CFD modeling to understand impact of undersea oil spill", Qatar Foundation Annual Research Conference, Doha, Qatar, March 22-23, 2016.
- 238. J Wang, Z Zhang, H Yao, KT Valsaraj, A Heath, J Lian, T Yao, F Gao, WL Ebert, "Radionuclide incorporation and long-term performance of apatite waste form", MRWFD Working Group meeting, U S Department of Energy, Gaithersburg Washingtonian, August 11-12, 2015.
- 239. R Duran, W Ward, B Ashwell, JA Smith, KT Valsaraj, "The ROAd Project: Launching an integrated Higher Ed/Industrial research office", Paper to be presented at the 2017 International/Canadian

- section meeting of the Senior Research Administrators (SRA) International meeting in Reykjavik, Iceland, May 14-17, 2017.
- 240. A Maas, KT Valsaraj, FK Alexander, A Cooper, "The role of university-based proof-of-concept centers in building robust innovation ecosystems", Paper presented at the University-Industry Interaction Conference in Dublin, Ireland, June 7-9, 2017.
- 241. J G Lee, L L Larive, K T Valsaraj, B Bharti, "Adsorption of lignin nanoparticles at oil-water interface: An ecofriendly approach to oil spill cleanup", Paper for the 2019 AIChE Annual Meeting, Hyatt Regency, Orlando, FL, November 10-15, 2019.

INVITED SEMINARS AND PLENARY LECTURES

- 242. "Electrophoretic light scattering", Department of Chemistry, Vanderbilt University, Nashville, TN, November 1981.
- 243. "Solvent Sublation of Refractory Organics", Department of Chemical Engineering University of Arkansas, Fayetteville, AR, January 1984.
- 244. "Removal of Trace Organics from Aqueous Solutions by Aeration and Solvent Sublation", Department of chemical engineering, Hazardous Waste Research Center, Louisiana State University, Baton Rouge, LA, May 1986.
- 245. "Pollutant fluxes to water via bed sediment processes", Department of Civil and Mineral Engineering, University of Minnesota, Minneapolis, MN, March, 1995.
- 246. "Interfacial Phenomena in Dilute Solutions Separations", Dow Chemical Co., Freeport, TX, June 1997.
- 247. "Bubble column reactors for industrial wastewater treatment", Department of Civil and Environmental Engineering, Louisiana State University, Baton Rouge, LA, October, 1997.
- 248. "Adsorption of PAHs at the air-water interface and consequences in atmospheric wet deposition processes", Department of Chemical and Biomolecular Engineering, Tulane University, New orleans, LA, September 19, 2003.
- 249. "Volatiles release from dredged materials", Environmental Laboratory, Engineer Research and Development Center, U S Army Corps of Engineers Waterways Experiment Station, Vicksburg, MS, December 10, 2004.
- 250. "Heterogeneous chemistry on atmospheric droplets", Department of Chemical and Materials Engineering, University of California, Davis, CA, October 24, 2005.
- 251. "Organic species interactions at the environmental air-water interface", University of California, Irvine, AirUCI, January 24, 2006.
- 252. "Fogwater chemistry and lower atmospheric pollution", Department of chemical engineering, Indian Institute of Technology, Madras, July 6, 2007.
- 253. "Fogwater chemistry and air pollution", Department of Chemical Engineering, Auburn University, Auburn, AL, October 24, 2007.

- 254. "Fogwater chemistry and lower atmospheric pollution", Center for Environmental Research, Escola Politecnica da USP, University of Sao Paulo, Brazil, December 4, 2007.
- 255. "Photocatalysis reactor designs for wastewater treatment and air pollution control", Departmento de Engenharia Quimica, Escola Politecnica da USP, University of Sao Paulo, Sao Paulo, Brazil, December 3, 2007.
- 256. "Atmospheric Aerosols and Global Climate", PanIIT 2008 meeting at the Indian Institute of Technology, Madras, December 19-21, 2008.
- 257. "Fogwater chemistry and Air Pollution in the U.S. Gulf Coast Region", Department of Chemical and Biomolecular Engineering, Georgia Institute of Technology, Atlanta, Georgia, March 11, 2009.
- 258. "Fogwater chemistry and Air Pollution in the U.S. Gulf Coast Region", Department of Chemistry and Biochemistry, Arizona State University, Tempe, AZ, November 21, 2009.
- 259. "Adsorption and reaction in water thin films in atmospheric aerosols", Gordon Research Conference on "Water in the Environment", Holderness School, NH, August 8-13, 2010.
- 260. "Surface Chemistry of aqueous surfaces in the atmospheric context" Plenary lecture presented at the IV International Conference on Pollution Prevention and Control" University of Sao Paulo, Sao Paulo, Brazil, October 15-21, 2010.
- 261. "Chemistry on Aqueous Surfaces in the Atmospheric Context", Department of Chemical and Biomolecular engineering, Carnegie Mellon University, November 4, 2010.
- 262. "Chemistry on Aqueous Surfaces in the Atmospheric Context", Department of Chemical and Biomolecular engineering, University of Houston, November 19, 2010.
- 263. "Aqueous aerosol chemistry in the atmospheric context" Plenary lecture for the International Conference on Recent Advances in Chemical Engineering and Technology (RACET 2011) organized by the Indian Institute of Chemical Engineers (IIChE) on March 10-12, 2011, Cochin, Kerala, India.
- 264. "Aqueous aerosol chemistry in the atmospheric context" Invited seminar (Fourth University Lecture) to the Department of Atmospheric Sciences, Kannur University, Kannur, Kerala, India, December 20, 2010.
- 265. "Aqueous aerosol chemistry in the atmospheric context" Invited seminar to the Department of Chemistry, Indian Institute of Technology, Delhi, India, December 15, 2010.
- ^{266.} "Deepwater Oil and Gas Spills Research Issues" Invited plenary lecture to the Tulane Engineering Forum, Tulane University, New Orleans, LA, April 15, 2011.
- 267. "New initiatives at LSU ORED", Invited breakfast meeting seminar for the LSU Administrators of Sponsored Programs (ASP) group, LSU Faculty Club, February 23, 2012.
- 268. "Aerosol Chemistry in the Atmospheric Context", Invited keynote lecture for the Environmental and Energy Sustainability Conference held by the Center for Research Excellence in Science and Technology(CREST-RESSACA), Texas A&M University Kingsville held in Houston, Texas, April 26-27, 2012.
- 269. "Chemistry on Aqueous Surfaces in the Atmospheric Context", Department of Chemical engineering, Lamar University, Beaumont, TX, September 27, 2012.

- 270. "Atmospheric transport of oil and dispersants from the air-water interface", Invited plenary presentation to the session on "Oil-dispersant sediment interactions and weathering/degradation of spilled oil in the Gulf of Mexico ecosystems", 2015 Gulf of Mexico Oil Spill and Ecosystem Science Conference, Houston, Texas, February 15-18, 2015.
- 271. "Sustainability Research at LSU", Plenary presentation to the meeting on Sustainability in the Chemical Industry: Challenges & Opportunities", LSU, Baton Rouge, October 23, 2014.
- 272. "Atmospheric Chemistry at the Air-Water Interface", Seminar to the Department of Environmental Studies, Kannur University, Payyanur, Kerala, India, January 23, 2015.
- 273. "Fundamentals of environmental models of fate and transport of chemicals", Erudite Lecture #1 delivered at the University of Kerala, Kariavattom as part of the Erudite scholar-in-residence lecture series, January 3, 2018.
- 274. "Environmental Chemodynamics of petrochemical industry expansions on the U.S. Gulf Coast", Erudite Lecture #2 delivered at the University of Kerala, Kariavattom as part of the Erudite scholar-in-residence lecture series, January 4, 2018.
- 275. "Environmental Chemodynamics of sediment and water contamination", Erudite Lecture #3 delivered at the University of Kerala, Kariavattom as part of the Erudite scholar-in-residence lecture series, January 5, 2018.
- 276. "Public lecture on scientific research funding and policy implications", Erudite Lecture #4 delivered at the University of Kerala, Kariavattom as part of the Erudite scholar-in-residence lecture series, January 5, 2018.
- 277. "Health effects of air pollution and fog", Erudite Lecture #5 delivered at the University of Kerala, Kariavattom as part of the Erudite scholar-in-residence lecture series, January 6, 2018.
- 278. "Fog chemistry and air pollution", Seminar to the Department of Chemistry, Louisiana State University, September 21, 2018.
- 279. "Chemistry of aqueous surfaces in the atmospheric context", Plenary speaker for the China India Association of Atmospheric Scientists (CIAAS) meeting at the Indian Institute of Technology, New Delhi, India, March 22-25, 2019.
- 280. "Lignin nanoparticle mediated ecofriendly alternative to oil spill recovery", Invited talk at the International Symposium on Environmental Geochemistry (ISEG) held at Peking University, Beijing, August 7-10, 2019.
- 281. "Fog chemistry and atmospheric pollution", Seminar to the Department of Environmental Science and Engineering, Nanjing University of Information Science and Technology, Nanjing, China, August 11, 2019.

SPONSORED RESEARCH GRANTS SUPPORT

• "EAGER: Understanding the dispersibility of aging micro/nano plastics", National Science Foundation (NSF), 2020-2022: \$248,854 (Co-PI with Bhuvnesh Bharti (PI)).

- "Development of a model research operation and administration (ROAd) program for the Petroleum Institute (RFP-1303)", Petroleum Institute, Abu Dhabi, 2014-2016: \$805,743 (Co-PI with Winona Ward (PI), J Smith, R Duran, JC Rood, JM Slocum and PS Lowry).
- "Collaborative Research: Fog drop reactions of green leaf volatiles as a source of secondary organic aerosols", National Science Foundation, 2011-15: \$393,561 (PI).
- "Consortium for the Molecular Engineering of Dispersant Systems (C-MEDS)", BP/Gulf of Mexico Research Initiative, V J John (PI and Director), KT Valsaraj (co-PI and co-Director), KJ Johnston (co-PI), A Bose (co-PI), 38 investigators, 22 institutions, 2011-15: \$10,340,000 total budget (\$1,245,600 LSU share).
- "EmCon Subroutine development for SWAT", US Department of Agriculture National Institute of Food and Agriculture (NIFA) and Food Research Initiative (AFRI), LJ Thibodeaux and KT Valsaraj (Co-PIs), 2011-12: \$15,000.
- "Polycyclic aromatic hydrocarbons processing by a fog cloud Field and Laboratory studies", National Science Foundation, 2009-12: \$429,900 (PI).
- ROA Supplement to "Polycyclic aromatic hydrocarbons processing by a fog cloud Field and Laboratory studies", National Science Foundation, 2009-12: \$35,488 (PI).
- "Demonstration of an active cap for mercury sequestration in contaminated lake sediments in Louisiana", US Department of Interior (US Geological Survey via Louisiana Water Resources Research Institute), 2010-11: \$15,992 (PI).
- "Understanding the phase behavior of oil/dispersant/water system at different pressures, temperatures and salinities", LSU Gulf of Mexico Oil Spill (GOMOS) Research Program funded by BP, 2010-11: \$189,997 (PI).
- "An Exploratory study of a photonic crystal monolith reactor for air pollution control", National Science Foundation, 2005-07: \$76,395 (PI).
- "Adsorption and photochemical transformations of PAHs at the air-water interface (fog and ice) in the atmosphere" National Science Foundation, 2004-08: \$611,200 (PI).
- "Laboratory simulation of air emissions of organic compounds from dredging induced resuspended sediment in advective systems" U S Army Corps of Engineers, Vicksburg, TX, 2005-07: \$29,915 (PI).
- "In-situ containment and Treatment: Engineering Cap Integrity and Reactivity", U.S. Environmental Protection Agency through LSU Hazardous Substance Research Center (S&SW), 1/1/05-12/31/07, \$55,000 (PI).
- "A study of the air emissions of organic compounds during dredging and disposal of contaminated sediments" U S Army Corps of Engineers, Vicksburg, TX, 2003-05: \$21,531 (PI).
- "Evaluation of capping of the CITGO surge pond and lagoon", CITGO, 2004-05: \$84,881 (with DD Reible)

- "Evaluation of capping of Pompton Lake Acid Brook Delta mercury deposits", DuPont, 2004-05: \$105,693 (with DD Reible, and R Delaune)
- "Wind tunnel measurements of chemical volatilization under IHC/CDF-like conditions: Data gathering, interpretation and modeling", U S Army Corps of Engineers, Vicksburg, MS, 2003-04: \$60,466 (with Louis Thibodeaux).
- "Determination of partition constants and formulation of models for air emissions from contaminated sediments in Indian Harbor Canal" U S Army Corps of Engineers, Vicksburg, MS, 2003-04: \$97,425 (with Louis Thibodeaux).
- "Photo-adsolubilization in a semiconducting monolithic reactor" Gulf Coast Hazardous Substance Research Center, Lamar University, TX, 2002-04: \$41,529 (PI).
- "In-situ containment and Treatment: Engineering Cap Integrity and Reactivity", U.S. Environmental Protection Agency through LSU Hazardous Substance Research Center (S&SW), 1/1/02-12/31/04, \$99,043 (PI).
- Supplement to "Air water interfacial chemistry of polycyclic aromatic hydrocarbons and relevance to atmospheric deposition processes Research Opportunity Award" National Science Foundation, 2002-04, \$51,431 (PI).
- Supplement to "Air water interfacial chemistry of polycyclic aromatic hydrocarbons and relevance to atmospheric deposition processes Research Experience for Undergraduates" National Science Foundation, 2001-02, \$3,840 (PI).
- "Assessment of mathematical models for UXO air emissions from soils", U.S. Army Coprs of Engineers, Department of Army, 2002-03, \$57,628 (PI).
- "Adsolubilization photocatalytic monolith reactor for wastewater treatment" Gulf Coast Hazardous Substance Research Center, Lamar University, TX, 2001-02: \$44,394 (PI).
- "Air water interfacial chemistry of polycyclic aromatic hydrocarbons and relevance to atmospheric deposition processes" National Science Foundation, 2001-04, \$267,450 (PI).
- "Assessment of a mathematical model for the air emission of UXO compounds from soils", U.S. Army Corps of Engineers, Department of Army, 2001-02: \$43,218 (PI).
- "Enhancement of an air pollution control laboratory" Louisiana State Board of Regents, Enhancement Grant, 2001-02, \$35,000 (with William Moe)
- "Effectiveness of environmental dredging" Alcoa, 1998-2001, \$99,000 (with DD Reible and LJ Thibodeaux)
- "Chemical volatilization rates from sediments and soils A literature review", U.S. Army Corps of Engineers, Department of the Army, 3/01 6/01: \$22,050 (with L J Thibodeaux).
- "Technical assistance in proposed regulatory changes to statewide order #29-B and toxicological review of oilfield waste test data", Louisiana Department of Natural Resources, 1/01-12/01, \$20,000 (co-PI with D D Reible).

- "Estimating air emissions of organic compounds during dredging and disposal of contaminated sediments in CDFs", U. S. Army Corps of Engineers, Department of Army, 2000-01: \$53,000 (PI).
- "Adsolubilization photocatalytic monolith reactor for wastewater treatment" Gulf Coast Hazardous Substance Research Center, Lamar University, TX, 2000-01: \$48,867 (PI).
- "Mathematical model development for air emissions of nitro-aromatics from soils", U. S. Army Corps of Engineers, Department of Army, 2000-01: \$15,068 (PI)
- "Mathematical model development and control strategies of air emissions of volatile and semivolatile organic compounds from contaminated sediment and dredged material", U. S. Army Corps of Engineers, Department of Army, 1999-2000: \$20,000 (PI).
- "Photocatalytic adsolubilization semiconducting monolith reactor for treatment of dilute wastewater", U.S. Department of Interior through the Louisiana Water Resources Research Institute, 1999-2000: \$12,500 (PI).
- "LSU Authors Travel Grant", Office of Research, LSU, May 2000: \$1,000 (PI).
- "Assessment of air emissions of volatile and semi-volatile organic compounds from contaminated sediments and dredged materials", U S Army Corps of Engineers, 1997-98: \$30,000 (PI).
- "Bubble Column Research Support", Unrestricted grant from Borden Chemicals and Plastics, 1998: \$10,000 (PI).
- "Assessment and control of air pollution from contaminated sediment dredged material", U.S. Environmental Protection Agency through the EPA Hazardous Substances Research Center (S&SW), 1998-99, \$34,126 (PI).
- "Long term release of pollutants from contaminated sediment and dredged materials", U.S. Environmental Protection Agency through the EPA Hazardous Substances Research Center (S&SW), 1997-98, \$74,242 (PI).
- "Measurement of soil-water partition coefficients for the harbinger compounds at the PPI site", U. S Federal District Court through LSU/EPA Hazardous Waste Research Center, 1996-98: \$53,690 (PI).
- "Modeling of air emissions from contaminated sediments and dredged materials", U.S. Environmental Protection Agency through the EPA Hazardous Substances Research Center (S&SW), 1994-97 \$258,375. (PI).
- "Use of plant based natural surfactants and mineral oxide adsorbents in soil remediation", U S Department of Interior, 1996-98, \$ 71,280 (PI).
- "In-situ biochemical remediation of TNT-contaminated soils", U S Environmental Protection Agency through the Hazardous Substance Research Center (S&SW) at LSU, 1994-95, \$ 163,977 (PI).
- "Measurement of vinyl chloride partition coefficients for the PPI site", U. S Federal District Court through LSU/EPA Hazardous Waste Research Center, 1994-95, \$ 47,450 (PI).

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- "Crossflow Air Stripping of Moderately Volatile Organics", Air Force Engineering and Services Center, Tyndall Air Force Base, FL, 1989-91, IPA, \$46,136 (PI).
- "Solvent sublation for reclamation of industrial wastewater", Center for Waste Reduction Technologies of the American Institute of Chemical Engineers, 8/1/94-12/15/95, \$37,314 (PI).
- "Wastewater treatment using polyaphrons", US Geological Survey through Louisiana Water Resources Research Institute, 9/1/94-8/31/95, \$18,000 (PI).
- "Simulation and Modelling Coal Liquefaction in a Bubble Column Reactor.", LEQSF PLEx Program, 5/95 9/95, \$45,000 (PI).
- "Potassium carbonate conversion via flash reforming", Vicksburg Chemical Company, Mississippi, 7/96-9/96, \$10,000 (PI).
- "Fate and transport of contaminants at the PPI site Natural attenuation studies" U. S. District Court, Middle District of Louisiana, 1998-99: \$100,000 (PI).
- "Assessment of air emissions at the U S Liquids exploration and production land treatment facility", US DOE through LaDNR, 1998-2000:\$185,000 (PI).
- "Biological response and availability of desorption resistant organic pollutants", U.S. Department of Defense, 1999, \$1,115,634 (Co-PI with D D Reible).
- "Enhancement of air pollution control laboratory" LEQSF 2001: \$35,000 (co-PI with W Moe)
- "A study of the effectiveness of environmental dredging", ALCOA EHS Technology Center, 1997-98 \$99,269 (Co-PI).
- "Biological response and availability of desorption resistant organic pollutants" EPA through LSU HSRC (S&SW), 1998-99 \$188,689 (Co-PI).
- "In-situ Capping of Contaminated Bed Sediments", EPA through LSU Hazardous Waste Research Center, 1990-91, \$43,367 (Co-PI).
- "Experimental Studies on the Efficiency of Capping Contaminated Bed Sediments In-Situ", EPA through LSU-HWRC, 1991-92, \$62,562 (Co-PI).
- "Colloid Enhanced Transport from Unconsolidated Media", National Science Foundation-LaSER/EPSCoR Program, 1992-96, \$516,987 (Co-PI).
- "Pollutant fluxes to aquatic systems via coupled biological and physicochemical bed-sediment processes" U.S. Environmental Protection Agency through the EPA Hazardous Substances Research Center (S&SW), 1991-93; 1994-95; 1995-96; 1996-97; 1997-98; \$210,107; \$106,718; \$101,975; \$110,237; \$87,344 (Co-PI).
- "An investigation of chemical transport from contaminated sediment through porous containment structures", U.S. Environmental Protection Agency through the EPA Hazardous Substances Research Center (S&SW), 1991-93; 1994-95; \$221,655; \$44,825 (Co-PI).

- "Development of Procedures for the Selection and Design of a Cap for In-situ Treatment of Contaminated Sediments", U S Environmental Protection Agency, 1992-94; \$186,709 (Co-PI).
- "In-situ Capping of Contaminated Sediments", U S Environmental Protection Agency, 1994-95, \$118,726 (Co-PI).
- "In-situ Capping of Contaminated Sediments", U S Environmental Protection Agency through EPA Hazardous Substance Research Center (S&SW), 1995-96; 1996-97; \$ 97,727; \$104,271 (Co-PI).
- "In-situ soil washing using surfactants and colloidal gas aphrons to enhance pump and treat remediation", U. S Federal District Court through LSU Hazardous Waste Research Center, 6/91-11/93; 12/93 11/94, 12/94-11/95, 12/95-11/96, 12/96-11/97, \$72,431; \$97,348; \$99,892; \$97,818, \$75,000 (Co-PI).
- "Development of Microbial Gas Aphrons for In-Situ decontamination of Hazardous Waste Sites", LEQSF Subprogram B (8g grant), 1989-92, \$258,500 (Co-PI).
- "Strengthening the Basic Research Capabilities of the Hazardous Waste Research Center", LEQSF Equipment Enhancement Grant (8g grant), 1987-88, \$95,000 (Co-PI).
- "Performance Verification of a Packed Crossflow Cascade for Air Stripping Volatiles from Groundwater", LEQSF Subprogram B (8g grant), 7/91-7/93, \$166,908 (Co-PI).
- "Surface and Flow Characterization Equipment", LEQSF Equipment Enhancement Grant, 6/1/92-5/30/93, \$144,000 (Co-PI).
- "Solvent Sublation for the Removal of Low Solubility Hydrophobic Compounds from Aqueous Solutions", National Science Foundation (NSF), 1989-91, \$127,076 (Co-PI).
- "Enhancement of the Subsurface Environmental Research Lab.", LEQSF Equipment Enhancement Grant, 6/1/92 5/30/93, \$100,000 (Co-PI).
- "Pilot studies on the application of colloidal gas aphrons for in-situ remediation of hazardous waste sites", LEQSF Industrial Ties Program, 6/1/92-5/30/93, \$25,000 (Co-PI).

ADMINISTRATIVE SUPPORT FUNDS:

- "The Gordon and Mary Cain Chair #3 in Advanced Materials" State matching grant from Louisiana State Board of Regents, 2004. \$800,000 (PI).
- "Paul Horton Chair in Chemical Engineering" State matching grant from Louisiana State Board of Regents, 2007, \$800,000 (PI).
- "Improving and modernizing the graduate student computer laboratory in chemical engineering" Shell Oil Products, U.S., 2005, \$25,000 (PI).
- "Modernizing the undergraduate unit operations laboratory", Shell Oil Products, U.S., 2006: \$25,000; 2007: \$20,000; 2008: \$20,000; 2009: \$17,000; 2010: \$17,500 (PI).

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- "Gordon and Mary Cain Chair #4 in Sustainability/Green Engineering", State matching grant from La State Board of Regents, 2008, \$800,000 (PI).
- "Modernizing undergraduate laboratory support", Dean's Discretionary fund, 2009: \$25,000 (PI).
- "Undergraduate laboratory support" Hess Foundation, 2009: \$15,000 (PI).
- "Malcolm C Lowe Undergraduate Scholarship fund" Perdue Estates Trust, 2010: \$5,000 (PI).
- "William A Brookshire Graduate Assistantship fund", Brookshire estates, 2010: \$500,000 (PI).
- "Undergraduate laboratory improvement", Hess Foundation, 2010: \$15,000 (PI).
- "Undergraduate laboratory development fund", Hess Corporation, 2011: \$15,000 (PI).
- "Undergraduate laboratory development fund", British Petroleum, 2011: \$45,000 (PI).
- "Undergraduate laboratory development fund", Paxon Polymer Co., 2011: \$24,796 (PI).
- Numerous other direct support for the Cain Department of Chemical Engineering from various sources for which I was PI as the administrative head of the department.

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TEACHING RELATED ACTIVITIES

COURSES TAUGHT (*denotes courses developed and taught by me.)

At the *University of Arkansas*:

CHEG 5883* Special Topics in Chemical Engineering (Interfacial Phenomena)- Graduate Level.

At the **Louisiana State University**:

CHE 7536*	Advanced Mass Transfer (Interfacial Transport Phenomena)- Graduate level.
CHE 3102	Transport Phenomena (Heat and Mass)- Undergraduate Senior level.
CHE 4253	Introduction to Industrial Pollution Control (Air Pollution)- Undergraduate Senior level.
CHE 3101	Transport Phenomena (Momentum) - Undergraduate Junior level.
CHE 3100*	Chemical Thermodynamics and Kinetics of Environmental Processes- Undergraduate
	Junior level.
CHE 3104	Engineering Measurements Laboratory - Undergraduate Senior level.
CHE 4263	Environmental Chemodynamics - Undergraduate Senior/ Graduate level.
CHE 4162	Unit Operations Laboratory - Undergraduate Senior level.
CHE 7120	Chemical Engineering Thermodynamics - Graduate level.

Continuing Education Courses Taught:

- Hazardous Materials Training Program and Site-Specific Course, per 29 CFR 1910.120
- Air Pollution and Toxic Air Contamination, C 203, 3 CEU units. 6 hours of course taught through LSU Continuing Education, August 2- August 16, 1995
- Short course entitled "Fundamentals of Chemical Fate and Transport for Ecological Exposure Assessment" for the Society of Environmental Toxicology and Chemistry, November 18-19, Washington, D.C.
- Workshop entitled "Innovative Approaches to the in-situ assessment and remediation of contaminated sites" Course taught: Thermodynamic Models and Property Estimation", Pan-American Advanced Studies Institute, Rio de Janeiro, Brazil, July 22 August 2, 2002.
- Global Initiative on Academic Network (GIAN), Government of India program of courses at the National Institute of Technology, Calicut, India entitled "Multidimensional Engineering Approaches for Resolving Complex Environmental Issues", December 19-23, 2016.
- Five Erudite lectures delivered at the University of Kerala, Kariavattom, India as part of the Erudite scholar-in-residence program, January 3-6, 2018.

GRADUATE STUDENT SUPERVISION

Name	Degree and Year graduated	Thesis or dissertation title	Present Affiliation
Paria Avij	Ph.D., 2016	Aerosol generation from sea surface oil spills	Instructor in Chemistry, University of Washington, Seattle, WA.
Harsha Vempati	MS, 2014	Thermodynamic property estimations for green leaf volatiles.	Engineer, ERM Inc, Palo Alto, CA.
Amie Hansel	MS, 2013	Reaction of green leaf volatiles as a source of secondary organic aerosols in fog droplets.	Process Engineer, Audubon Engineering Operations, New Orleans, LA
Aubrey A Heath	Ph.D., 2015	Aqueous atmospheric species, a dual study: 1. Comparison of the effects of temperature, oxygen level, ionic strength and pH on the reaction of benzene with hydroxyl radicals at the air-water interface to the bulk aqueous phase, 2. Determination of carbonyl compounds in fog water samples via online concentration and HPLC.	R&T Engineer III, Albemarle Corp., Baton Rouge, LA.
Kalindi Khadapkar	MS, 2011	Fog-smog cycle and fog processing of atmospheric PAHs.	Environmental engineer, Trinity Consultants, Baton Rouge, LA
Franz Ehrenhauser	PhD, 2011	Adsorption and photoreactions of PAHs on thin water films	Manager, Technical Services, U.S. Sugar, Clewiston.
	(co-advised with Wornat)		
Suresh Raja	MS, 2003,	Transport and kinetics of aromatic hydrocarbons into micron-sized liquid droplets with applications to atmospheric chemistry	Air Quality Engineer, Providence Engineering, Dallas, TX
	PhD, 2005		
Neha Damle	MS, 2008	Fog-smog reactor for organic chemicals processing in fog.	Air Quality Engineer, Environmental Resource Management, MN
Melanie K Harris	MS, 2005	An in-situ capping design for the remediation of petroleum contaminated sediments.	Staff engineer, Weyerhauser Co., Ohio
Jing Chen	PhD, 2008	Adsorption and photochemical reactions of PAHs at the air-water interface in the atmosphere.	Associate Professor, Beijing Normal University, China.
Yuan Qingzhong	PhD, 2007	Experimental and modeling studies on capping effectiveness in a contaminated sediment environment.	GE Water & Process Technologies, Bellevue, WA.
Hong Fei Lin	PhD, 2005	Photocatalysis in a novel semiconductor optical fiber monolith reactor for wastewater treatment.	Associate Professor, Washington State University, Pullman.
Nicholas Ashley	PhD, 2009	Particle-chemical interactions and environmental chemodynamics of fine and ultrafine particles in a natural disaster scenario.	Corporate Safety Manager, W.R.Grace & Co., Baton Rouge, LA
Ming Yin	MS, 2004	Measurement of metal migration is sediment caps with synchrotron X-ray fluorescence.	Engineer, Innovative Steel Detailing.
	PhD, 2007		
Jianrong Liu	MS, 2007	Mercury transport in a capped sediment.	Senior Process Engineer, Cheniere Energy, Inc.
	PhD, 2008		
Maoming Ren	Ph.D, 2009	Photocatalytic reactions in a monolith optical fiber reactor with inverse opal titania.	Process Engineer, Worley, Baton Rouge, LA

Bruce Ellis	MS, 2004	Modeling of cane sugar colorant removal in packed-bed ion exchange columns and an investigation into pretreatment methods.	Houston TX
Hugh A. Broadhurst	M.S, 2002	Modeling adsorption of cane sugar solution colorant in packed-bed ion exchangers	Rohm & Haas Co, Louisville, KY
David T Solberg	M.S, 2004	Online Heat Transfer Measurement and Analysis for Sugar Mill Evaporators	Associate Engineer, ProSys Inc., Baton Rouge, LA
Ravikrishna, R	Ph.D, 2000	Evaporative mass transfer of hydrophobic organic compounds from exposed, contaminated sediment and dredged materials.	Professor, IIT- Madras, India.
De Seze, Guilheme	Ph.D, 1999	Sediment-air partitioning of hydrophobic organic chemicals	Head, European Food Safety Authority (EFSA), Parma, Italy
Jain, Preeti M	M.S., 1998	Surfactant-modified mineral oxides for dilute solution separation.	Jacobs Engineering Group, Baton Rouge
Vidrine, W	M.S., 1999	Flow of polyaphrons through porous media	TRW Inc., Salt Lake City, UT
Zhang, C L	Ph.D, 1997	Removal of hydrophobic organic compounds and surfactants from wastewater: Polyaphron-enhanced solvent extraction and biodegradation	Professor, University of Houston, Clear Lake
Smith, J. S.	Ph.D, 1996	Solvent sublation for industrial wastewater treatment	ExxonMobil Chemicals,
	(co-advised with Thibodeaux)		Baytown, TX
Sojitra, I	M.S., 1994	Colloid-enhanced transport of hydrophobic organic compounds through porous media.	Union Carbide, New Orleans
Lu, X Y	M.S., 1991	Solvent sublation for treatment of contaminated water	Louisiana Dept. of Environmental Quality, Baton Rouge
Subramanyam, V	M.S., 1989	Gas-to-particle partitioning of PAHs in the Baton Rouge atmosphere.	Siemens Corporate Research , New Jersey
Koulermos, A. C.	M.S., 1988	Colloid transport from bed sediments.	CK Associates, Baton Rouge.
Wayne Barker	MS, 2004	Non-thesis Master's	ExxonMobil, Baton Rouge, LA
Ravikanth M Iyer	MS, 2003	Non-thesis Master's	
Jay Stephenson	MS, 2004	Non-thesis Master's	
Henry Nwabuzor	MS, 2004	Non-thesis Master's	

Awards for Students:

- LSU Alumni Association Distinguished Dissertation Award in Science, Engineering and Technology awarded to the PhD dissertation of Aubrey A Heath, April 2016.
- Best student presenter award, American Chemical Society to Aubrey Heath, April 2015.
- Second place for Paria Avij, presentation to the Society of Petroleum Engineers meeting in Baton Rouge, March, 2014.
- First Prize for Poster presentation to Ms. Victoria Dugas at the 3rd Annual Undergraduate Research Conference (Triple EX) on November 4, 2011 at LSU.
- 2012 Undergraduate Student Award for Mr. Isaiah Woodson from the ACS Division of Environmental Chemistry, April 2012.

- Best PhD dissertation award for student, Dr. Maoming Ren, AIChE Baton Rouge section, 2010.
- First Prize award for Best Student Paper from AIChE Environmental Division for PhD student Dr. Nicholas Ashley, August 2008.
- 2008 Undergraduate Student Award for Ms. Noelle McBride from the ACS Division of Environmental Chemistry, April, 2008.
- Best PhD dissertation award for student, Dr. Yuan Qingzhong, Baton Rouge AIChE Section, 2007.
- Best PhD dissertation award for student, Dr. Hongfei Lin, Baton Rouge AIChE Section, 2006.
- Honorable Mention, PhD thesis of Dr. Chun Long Zhang, 1997 Award for Outstanding Water Resources PhD Dissertation in the field of Engineering and Physical Sciences, The Universities Council on Water Resources, Inc.
- Best Practice-oriented paper award to student Mr. Fabian Sanchez from the Environmental and Water Resources Institute of the American Society of Civil Engineers, 2003 national meeting.

POST DOCTORAL RESEARCH SUPERVISION

- Dr. Kommalapati, R R, 1996-98, <u>Project</u>: Partitioning of hydrophobic organics on soils and sediments, evaluation of colloidal gas and liquid aphrons for wastewater remediation using mineral oxides and natural plant-derived surfactants. (Presently Professor, Dept. of Civil Engineering, Prairies View A&M University, Houston, TX).
- Dr. Smith J S, 1997-98, <u>Project</u>: Reactive Distillation and Mineral Oxide based Wastewater Treatment.. (Presently, Research Engineer, Exxon Chemical Americas, IBCT, Freeport, TX)
- Dr. Zhang, C. L,1997-99, <u>Project</u>: Aerobic and anaerobic biodegradation of PPI wastewaters containing chlorinated hydrocarbons. (Presently Professor, Department of Environmental Science, University of Houston, Clearlake, TX).
- Dr. Ravikrishna, R, 2000-2005, <u>Project:</u> Evaporation of explosives from soil surfaces at military installations. (Presently Associate Professor, Indian Institute of Technology, Madras, India).
- Dr. Justin Birdwell, 2008-09, <u>Project</u>: DOC behavior in sediments and fog waters. (Presently Research Scientist, US Geological Survey, Denver, CO).
- Dr. Maria Rodrigues De Morais Chaves, University of Sao Paolo, Brazil, 2009-11, <u>Project</u>: Hg immobilization mechanism in sediments. (Presently Assistant Professor at Universidade do Sagrado Coracao, Brazil).
- Dr. Franz Ehrenhauser, 2011-13, <u>Project</u>: Air-water surface interactions of PAHs. (Presently Manager, Technical Services, U.S. Sugar, Clewiston).
- Dr. Mickael Vaitilingom, 2013-15, Project: Fog processing of organic chemicals in a laboratoryfog chamber. (Presently Lecturer, Universite des Antilles, France).

VISITING RESEARCHERS HOSTED AND SUPERVISED

- Ms. Liljenfeldt K, hosted as part of CHUST program between University of Arkansas, Fayetteville and Royal Institute of Technology, Sweden. Summer 1985. <u>Project:</u> Solvent sublation as a wastewater treatment technique.
- Mr. Y Qingzhong, visiting scholar from the Department of Chemical Engineering, Shangdong Institute of Light Industry, Peoples Republic of China, 1999-2000, <u>Project:</u> Development of semiconducting monolithic reactor for wastewater treatment.
- Ms. Palsander, M hosted as part of CHUST program between LSU and Royal Institute of Technology, Sweden. Summer 1994. <u>Project:</u> Analysis of colloid-bound PAHs in porewater.
- Ms. Jernelov, T, hosted as part of CHUST program between LSU and Royal Institute of Technology, Sweden Summer 1992. <u>Project:</u> Analysis of PAHs in sediment porewater.
- Ms. A Dahlbeck, hosted as part of CHUST program between LSU and Royal Institute of Technology, Sweden. Summer 1993. <u>Project:</u> Capping of contaminated sediments.

- Dr. R. R. Kommalapati, visiting assistant professor from the Department of Civil Engineering, Prairie View A&M University, Prairie View, TX, Summer, 2000, <u>Project:</u> Desorption equilibrium and kinetics of VOCs from a Louisiana Superfund site soil.
- Dr. R. R. Kommalapati, visiting associate professor from the Department of Civil Engineering, Prairie View A&M University, Prairie View, TX, Summer, 2002; Summer 2003; Summer, 2005; Summer 2016, Summer 2010, Summer 2011. <u>Project:</u> Fog Water Chemistry in Baton Rouge, LA.
- Dr. Jasmina Khanam, Visiting professor from the department of pharmaceutical engineering, Jadavpur University, Kolkata, India; (Faculty Training and development under the World Bank assistance scheme TEQIP, Government of India). Summer 2006. Project: Adsorptive bubble separation techniques.
- Prof. Pedro Buchler, Departmento de Engenharia Quimica, Escola Politecnica da USP, University of Sao Paulo, Sao Paulo, Brazil (Visiting Professor, (December 2007- January 2008).
- Prof. Baagi T Mmereki, Department of chemistry, University of Botswana, Gaborone, Botswana, 2008.

HIGH SCHOOL / MIDDLE SCHOOL STUDENT MENTORING:

- Dilip Nataraj, Baton Rouge High School student for Louisiana Science and Engineering (S&E) Fair, 1st Place, 1988.
- Viveca Valsaraj, Glasgow Middle School student for Louisiana S&E Fair, 2nd Place, 2007.
- Anmol Hingorani and Vinay Valsaraj, Glasgow Middle School student team for Louisiana S&E Fair, 1st Place, 2009; 1st Place, 2010.
- Vinay Valsaraj, Glasgow Middle School, Louisiana S&E Fair, 3rd place, 2011.

OTHER PROFESSIONAL SERVICE RELATED ACTIVITIES

Service as Reviewer for Journals, Books & Proposals:

Journals:

- Atmospheric Environment,
- Proceedings of the National Academy of Sciences (USA),
- · Separation Science and Technology,
- Water Research, Environmental Science and Technology,
- Environmental Progress,
- Industrial and Engineering Chemistry Research,
- Hazardous Waste & Hazardous Materials (now Environmental Science and Engineering),
- Separations Technology,
- Water Science and Technology, ACS Symposium Series,
- Croatia Chimica Acta,
- Water Resources Research,
- Talanta,
- Environmental Monitoring and Assessment,
- Advances in Environmental Research,
- Separation and Purification Technology,
- Environmental Toxicology and Chemistry,
- Waste Management,
- Journal of Physical Chemistry A,
- Journal of Physical Chemistry B,
- Bioremediation Journal,
- Journal of Environmental Engineering (ASCE),
- Chemosphere.
- AIChE Journal,
- Experiments in Fluids,
- Journal of the Air and Waste Management Association,
- Journal of Colloid and Interface Science,
- ASME Journal of Energy Resources Technology,
- Journal of the American Chemical Society,
- Bioresource Technology,
- Process Safety and Environmental Protection Part B: Transactions of the Institution of Chemical Engineers (UK),
- Journal of Photochemistry and Photobiology,
- Ecological Modeling,
- Mathematical and Computer Modeling Journal,
- Advances in Water Resources,
- The Science of the Total Environment,
- Environmental Management,
- Colloids and Surfaces, Part A,
- Journal of the American Ceramic Society,
- Analytica Chimica Acta,
- Materials Chemistry and Physics,
- Chemical Engineering Science,
- Chemical Engineering Journal.
- Journal of Geophysical Research Atmospheres.

- Journal of Physical Chemistry Letters.
- International Journal of Chemical Reactor Engineering.
- Pure and Applied Geophysics.
- Journal of Inorganic Materials.
- Open Journal of Physical Chemistry.
- Applied Catalysis B: Environmental.
- ISRN Chemical Engineering
- Open Electrochemistry Journal.
- Ozone: Science and Engineering (The Journal of the International Ozone Association).
- Journal of Environmental Quality.
- Aerosol and Air Quality Research.
- Physical Chemistry and Chemical Physics.
- Nanoscale, a Royal Society of Chemistry Journal.
- ACS Earth & Space Chemistry.

Books:

- John Wiley & Sons.
- Springer Verlag,
- Environmental Progress, AIChE.
- Plenum Press.
- SERDP/ESTCP Remediation Technology Monograph Series.
- Taylor and Francis Publishers.
- AIChE Journal (Wiley).

Research Proposals:

- U.S. National Science Foundation;
- U.S. Environmental Protection Agency;
- Natural Sciences and Engineering Research Council of Canada (NSERC);
- National Sea Grant College Program, Wisconsin;
- Strategic Environmental Research and Development Program U.S. Department of Defense;
- Research Council, University Grants Committee, Hong Kong, China;
- The Cooperative Institute of Coastal and Estuarine Environmental Technology, University of New Hampshire;
- NASA Science Division Directorate Atmospheric Chemistry program;
- U.S. Department of Defense Army Research Office;
- The Petroleum Research Fund American Chemical Society;
- University of California, Irvine, Office of Research;
- National Research Foundation of South Africa (International Research Grants):
- National Foundation for Science, Higher Education and Technological Development, Republic of Croatia.
- Coastal Response Research Center, University of New Hampshire.
- Indo-US Science and Technology Forum (IUSSTF) established in 2000 by the US Government and Government of India for science collaborations.
- Danish Council for Independent Research.
- Qatar National Research Foundation.

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External Examiner of PhD Theses:

- The University of Sydney, NSW, Australia: PhD thesis of Mr. Peter Holt entitled "Electrocoagulation: Unraveling and Synthesizing the mechanisms behind a water treatment process", January 8, 2003.
- Indian Institute of Technology, Delhi: PhD Thesis of Mr. Prabhat Pandit entitled "Removal of organic dyes from water by liquid-liquid extraction using reverse micelles, March, 2003.
- National Institute of Technology, Jalandhar, India: PhD Thesis of Mr. Tarun K Roy entitled "Numerical prediction of oil dispersion in the coastal and ocean region", November 2006.
- Punjab Technical University, Jalandhar, India: Ph.D. Thesis of Mr. Gopal Krishan Sharma entitled" Study on refining of used lubricating oils", January 2008.
- Jadavpur University, Kolkata, India: Ph.D. Thesis of Mr. Goutam Mukhopadhyay entitled "Separation and removal of protein from whey waste by adsorptive bubble separation method", May 2011.
- University of Pune, Pune, India: Ph.D. Thesis of Mohammad Reza Rohini entitled "The investigation of shrinkage control in unsaturated polyester composites", May 2011.
- University of Calicut, Kerala, India: Ph.D. Thesis of N Anu entitled "Evaluation of Holistic Approach and Coupled Receptor-Dispersion model in Air Quality Data Analysis", 2014.
- BR Ambedkar University, India: PhD Thesis of Lokeswari Nallballi entitled "Bioconversion of tannins into trimethoprim", June 2015.
- National Institute of Technology Calicut, India: PhD Thesis of Rahul Antony entitled "Experimental and numerical investigations over liquid-liquid mass transfer in microchannel devices", December 2015.
- National Institute of Technology, Calicut, India: Ph.D. Thesis of T Hariharan entitled "Preparation and characterization of activated carbon from distinct agro-wastes and its applications in dye removal", October 2016.
- National Institute of Technology, Calicut, India. Thesis of E Suganya entitled "Hexavalent chromium removal from aqueous solutions using novel plant-based lignocellulosic biosorbents Equilibrium, kinetic and thermodynamic studies", April 2017.
- Indian Institute of Technology, Guwahati. PhD. Thesis of Abhishek Ajmani entitled "Biosorption of hexavalent Cr (VI) from synthetic waste solutions by modified and raw lignocellulosic biosorbents", July 2019.

External Reviewer for Promotion & Tenure and Awards at U.S. and International Institutions:

National:

- University of Houston
- University of Alabama
- Prairie View A&M University, Prairie View, Texas
- University of Iowa.
- Florida International University.
- Texas Tech University.
- University of Oklahoma
- University of Wisconsin
- Florida State University
- Mississippi State University
- Texas Tech University

International:

• Pontifica Universidade Catolica de Rio de Janeiro, Brazil.

Organizer, Chair or Co-Chair of Symposia, Meetings or Sessions:

- Organizer and chair of two sessions on "Application of Surfactants for Remediation of Contaminated Soils" for the Symposium entitled Emerging Technologies in Hazardous Waste Management VIII of the American Chemical Society, I&EC Division, held in Birmingham, Alabama, September 9-12 (1996).
- Co -chair of a session on "Thermodynamic and Transport Properties for Environmental Applications", for the AIChE National Meeting, to be held in Houston, TX, March 9-13 (1997).
- Chaired a session entitled "Transport Processes Applied to Environmental Remediation and Emission Control" at the 5th World Congress of Chemical Engineering, San Diego, CA, July 14-18, 1996.
- Chaired two sessions entitled "Air Pollution and its Control" and "Remediation or Natural Attenuation" at the WERC/HSRC '97 Conference on the Environment held in Albuquerque, New Mexico from April 22 through 24, 1997.
- Organizer and co-chair of a session on "Surfactant Enhanced Site Remediation" for the Symposium entitled Emerging Technologies in Hazardous Waste Management IX of the American Chemical Society, I&EC Division, to be held in Pittsburgh, PA, September 15-17 (1997).
- Chair of a session on "Adsorption" for the 1999 Conference on Hazardous Waste Research, Regal Riverfront Hotel, St. Louis, Missouri, May 24-27, 1999.
- Chair of a session on "Prediction and Correlation of Transport Properties" 2002 Spring National Meeting of AIChE, New Orleans, LA.
- Co-chair of a session on the "Symposium on the Gulf Coast Environment", National ACS meeting, March 23-26, 2003.
- Chair of a session on "Fate and Transport of Contaminants following Dredging and Placement", National SETAC meeting, Baltimore, MD, November, 2005.
- Chair of the Plenary Session 2 for the 28th annual meeting of the Council of Chemical Research, New Orleans, La, April 15-19, 2007.
- Member of the executive committee for the planning of the 28th annual meeting of the Council of Chemical Research, New Orleans, La, April 15-19, 2007.
- Chair of the session on "Atmospheric Aerosol Processes", Joint Assembly of the American Geophysical Union, Acapulco, Mexico, May 22-25, 2007.
- Chair of the special symposium on "Atmospheric Aerosol Processes", Division of environmental chemistry, American Chemical Society, National meeting, Boston, MA, August 19-23, 2007.
- Chair of the special symposium on "Persistent Organic Pollutants in the Environment", Division of environmental chemistry, American Chemical Society national meeting, San Francisco, April, 2010
- Chair of the special symposium on "Dispersants for Deep Sea Oil Spill Remediation Applications"
 2012 Southwest Regional meeting of the American Chemical Society, Baton Rouge, LA, November 4-7, 2012.
- Co-chair of the symposium (with John W Finley) on "Post-disaster Chemistry" at the 245th National American Chemical Society meeting, New Orleans, LA on April 7-11, 2013.
- Organizing committee member for the OMICS "World Congress on Petrochemistry and Chemical Engineering", November 18-20, 2013 San Antonio, USA.
- Organizer and Chair, Third Anniversary of the Deepwater Horizon Incident Conference on "Louisiana Research Perspectives on the Deepwater Horizon 2010 Spill: The Good, the Bad, and the Ugly", Lod Cook Conference Center, Louisiana State University, Baton Rouge, April 21-22, 2013.
- Organizing committee member, QUEST for Research Excellence (Q4RE 2017) symposium, Office of Research Integrity, Washington, DC (2017).
- Chair of the Executive Planning Committee for the 2019 national conference of the National Academy of Inventors, in Houston, Texas, April 2019.

• Co-chair of a session on "NSB Science and Engineering Statistics 2018" at the APLU Council on Research annual meeting, Montana State University, Bozeman, MT, July 30-31, 2019.

Service on Review Panels:

- Member of the Peer Review Panel for Strategic Environmental Research and Development Program, DoD/DoE/EPA Partnership in Environmental Research (2000).
- Member of the Peer Review Panel for Proposals to the New Technologies for the Environment, NSF BES Division, (2000).
- Member of the Peer Review Panel for EPA STAR Graduate Fellowship program for the U.S. EPA, ORD, Washington, DC (2002).
- Member of the Peer Review Panel for Proposals to the New Technologies for the Environment, NSF BES Division, (2003).
- Member, Review Panel for the Experts Workshop for Estimating Emissions Uncertainties for Benzene and 1,3-butadiene in the Houston Domain, API/ EPA Workshop, August 26-28, 2003.
- Member of the Peer Review Panel for Strategic Environmental Research and Development Program, DoD/DoE/EPA Partnership in Environmental Research (2004).
- Member of review panel for the NASA Science Division Directorate Atmospheric Chemistry Program (2005).
- Member of Peer Review Panel for Proposals to the Environmental Engineering & Technology Programs, NSF BES Division, (2006).
- Member of Peer Review Panel for proposals to the Catalysis and Biocatalysis Division, Chemical and Transport Systems Division, NSF, June (2008).
- Member, Nature Readers' Panel, 2008-09.
- Member, Best Ph.D. Dissertation Evaluation Panel, Education Committee, Air and Waste Management Association, April 2009.
- Member, Symposium Proposals Review Panel for 2011 AAAS meeting, May (2010).
- Member, Review Panel for 2013 AAAS Session Proposals, May (2012).

Public Service / Outreach Activities:

- Letter to the Editor, The Morning Advocate, Baton Rouge: "Reformulated Gas, Bad Science", July 12, 2004.
- Interview for Cover Story "Ready to Pay at the Pump", Katrina Donica, The Tiger Weekly, March 3-9, 2004.
- News item in LSU Research "The Air We Breathe", Summer 2006.
- News item in Baton Rouge newspaper The Morning Advocate "Researching the Foggiest Idea", December 4, 2006.
- Saturday Science Talk, LSU on "Fog and Air Pollution", February 16, 2008.
- Panel participant "What to Expect in College: A Professor's Perspective", LA-STEM/HHMI program, LSU, July 13, 2009.
- Letter to the Editor, "Budget Cuts at LSU will lead to Mediocrity", The Morning Advocate, Baton Rouge, January 15th, 2010.
- News item in the Baton Rouge newspaper The Sunday Advocate "Soapy Bubbles Wash Out Hazardous Wastes", June 19, 1994.
- Science Seminar for Journalists: Impacts of Deepwater Horizon Oil Spill sponsored by the Metcalf Institute for Marine and Environmental Reporting, University of Rhode Island, "Dispersant Design and Efficacy for BP Oil Spill", conducted at the Louisiana Universities Marine Consortium (LUMCON), DeFelice Marine Center, Cocodrie, LA, April, 6-8, 2011.

- Letter to the editor, "LSU Getting noticed in Science" The Advocate, Baton Rouge, LA, December 8, 2013.
- Address to the Baton Rouge Press Club on "LSU Research", June 9, 2014. For details see The Advocate, Baton Rouge newspaper article:
 https://www.theadvocate.com/baton-rouge/news/education/article-0515a326-c726-5819-9c63-420e57508659.html
- Address to the Cajun Clickers Computer Club, Baton Rouge on "LSU and its relevance to the economic development of Louisiana" on August 7, 2014.
- Letter to the Editor, "LSU research needs state support", The Advocate, Baton Rouge, May 21, 2015. https://www.theadvocate.com/baton_rouge/opinion/letters/article_629c6735-1e7a-551b-affa-7f2d5d837956.html
- Letter to the Editor: "LSU is a safe haven for research and information today as it was 10 years ago with hurricane Katrina", The Advocate, Baton Rouge, August 27, 2015 https://www.theadvocate.com/baton rouge/opinion/letters/article-ead66344-3a64-5cdf-9624-159ad303fd1d.html
- Letter to the editor, "Research helps grow Louisiana economy", The Advocate, Baton Rouge, May 26, 2017. https://www.theadvocate.com/baton rouge/opinion/our views/article d9796588-4180-11e7-98de-5bf6e730fbd3.html
- Letter to *The Chronicle of Higher Education*, "Innovation Hubs at Universities were Long Overdue" by P Sanberg, S Panchanathan, K Valsaraj, November 20, 2018 https://www.chronicle.com/blogs/letters/innovation-hubs-at-universities-were-long-overdue/
- Letter to the editor, "Declining enrollment a wake-up call for La. Universities", The Advocate,
 Baton Rouge, June 5, 2019.
 https://www.theadvocate.com/baton-rouge/opinion/letters/article-63b149fc-86ec-11e9-b3dd-b7becoa12d7e.html
- Letter to the Editor, "Want LSU to jump in rankings? Invest more dollars in research", The Advocate, October 3, 2019.
 https://www.theadvocate.com/baton-rouge/opinion/letters/article-993bcf78-e47c-11e9-a102-2fe722cea750.html
- Local TV report on research: WVLA https://www.brproud.com/news/local-news/lsu-begins-research-on-the-impact-of-everyday-product-microplastic/
- Local TV network report on my research: WAFB
 https://www.wafb.com/2020/09/28/its-air-we-breathe-microplastic-atmosphere-prompts-new-study-lsu/

Consultant and Expert Services:

- Balsam Environmental Consultants, Salem, NH
- Part of a team of experts from the College of Engineering, Louisiana State University for the oversight of the remediation of a Superfund site (Petroprocessors Inc. site) in North Baton Rouge, LA.
- Louisiana Department of Natural Resources, Conservation Office, Baton Rouge, LA.
- Vicksburg Chemical Company, Vicksburg, MS
- Dow Chemical Company, Freeport, TX.
- Borden Chemicals and Plastics, Geismar, LA
- Louisiana State Department of Natural Resources, Baton Rouge, LA.
- Hydro Geologic, Inc, Herndon, VA.
- Fractal Solutions Inc, Safety Harbor, FL
- Triton Systems, Inc., MA
- Hailey, McNamara, Hall, Larmann & Papale (law firm), L.L.P., New Orleans, LA.

- Tyler & Possa (law firm), Baton Rouge, LA
- Shows, Cali, Berthelot and Walsh, LLP (law firm), Baton Rouge, LA
- Perkins Coie LLP (law firm), Denver, CO.
- Louisiana State Attorney General's Office, Baton Rouge, LA.
- Providence Engineering and Environmental Group, LLC, Baton Rouge, LA.
- Texas Higher Education Control Board, Evaluation of the chemical engineering program at Lamar University for the Benchmark Award process of THECB.

Service on Advisory Committees and Research Panels:

- Member, Louisiana Department of Natural Resources Exploration and Production Waste Advisory Committee (1997-2001).
- Member, Grand Bois Public Health Response Work Group ATSDR/LOPH (Sub Group 1-Environmental Characterization), (1997-2000).
- Member, Science Advisory Committee for the Integrated Petroleum Environmental Consortium (IPEC), University of Tulsa which is a U.S. EPA Research Center (1998-2009).
- Chair, External Advisory Board, Center for Energy and Environmental Sustainability (CEES), Prairie View A&M University, Prairie View, Texas, an NSF CREST Center (2011-*).
- Consultant for the Benchmark Process for Lamar University's chemical engineering program as part of the Texas Higher Education Coordinating Board (THECB), August December 2012.
- Member, Into the Blue 2050 Focus Group of the Water Institute of the Gulf, Baton Rouge, LA, October 1, 2014.
- Panel member, "Invention & Innovation in Congress: Patent legislation prospects and threats to innovation," LSU Digital Media Arts & Engineering Theater, March 2, 2018.

Delegation member:

- U.S. EPA. USA/USSR Agreement of Cooperation in the Field of Environmental Protection, Project 02.03-31 on "Forms and Mechanisms by which Pesticides and Chemicals are Transported in Soil, Water and Biota", part of the Nixon-Brezhnev accords of 1972. Symposium on "The Fate and Transport of Pesticides in the Environment" University of Iowa, October 4 18 (1997).
- Member of the U.S. delegation for the Indo-US workshop on "Emerging Issues in Energy and Environmental Security: Challenges and Research Opportunities", sponsored by the Indo-US Science and Technology Forum, National Science Foundation (USA), Department of Science and Technology, Government of India and the Ministry of New and Renewable Energy, Government of India held in New Delhi, December 12-15, 2010.
- Member of the Louisiana Governor's trade delegation to Cuba, October 16-21, 2016