

TERRENCE L. CHAMBERS, PH.D., P.E.

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1. Academic Rank

Professor of Mechanical Engineering
Tenured Fall 2003, Associate Professor in Fall 2005, Full Professor Fall 2017
Donald and Janice Mosing BORSF Endowed Chair in Mechanical Engineering

2. Education

B.S. Mechanical Engineering
Brigham Young University, August 1986
Ph.D. Mechanical Engineering
Brigham Young University, August 1994

3. Engineering Registration

Registered P.E. in Louisiana (PE.0029746, issued 9/18/2001) and Texas (83889 – inactive status)

4. Areas of Interest

Areas of interest include: solar energy, renewable energy, engineering design and optimization, virtual reality, artificial intelligence, genetic algorithms and genetic programming, engineering software development (Python, C/C++, Visual Basic, Java, Fortran, HTML, JavaScript, VBScript), CAE, numeric and symbolic solutions to engineering problems.

5. Engineering Experience

Director, EDA green Hydrogen Center of Excellence, Lafayette, LA (2022 – present)

Leading a group of faculty and students in the study of all forms of green hydrogen generation, storage, and utilization. Promoting joint research projects across disciplines and departments.

Director, Energy Efficiency and Sustainable Energy Center, Lafayette, LA (2016 – 2024)

Leading a group of faculty and students in the study of all forms of energy efficiency and sustainable energy technologies. Promoting joint research projects across disciplines and departments. Responsible for attracting over \$20 M in externally-funded projects through center-related proposals. Promoting new technology development, workforce development, education, and outreach.

Interim Department Head, Mechanical Engineering,
University of Louisiana at Lafayette (Jan 2018 – Aug 2018)

Served as Interim Department Head, which involved taking the lead in all areas of the MCHE Department, including: ABET, curriculum development, class scheduling, transfer students, and faculty development

Professor of Mechanical Engineering, Fall 2017 – present

Donald and Janice Mosing BORSF Endowed Chair in Mechanical Engineering
(Fall 2017 – present)

Promoting and facilitating multi-disciplinary research into sustainable power production and energy efficiency methods across campus. Promoting economic development by partnering with industry to either save energy or to develop or use alternative energy techniques. Performing education and outreach to inspire the next generation of alternative energy engineers and technologists.

Director of Undergraduate Research
University of Louisiana at Lafayette (July 2015 – December 2020)

Coordinating the undergraduate research efforts of the university, including chairing the Undergraduate Research Council, managing the university's undergraduate research mini-grant program, and helping to organize the yearly Undergraduate Research Conference.

Director, Louisiana Solar Technology Applied Research and Testing (START)
Laboratory (Crowley, LA), and Louisiana Solar Energy Laboratory (LaSEL,
Lafayette, LA)

University of Louisiana at Lafayette (October 2010 – present)

Investigating all aspects of solar energy technology, including PV, concentrating solar thermal, concentrating photovoltaic, thermal energy storage, solar energy systems design, and operational testing. Design, installation and operation of the first solar thermal power plant in Louisiana, and the first university-owned solar thermal power plant in the nation.

Associate Dean, College of Engineering

University of Louisiana at Lafayette (December 2008 – December 2014)

Overseeing for the College of Engineering most issues surrounding undergraduate affairs, administration and finance, accreditation, and faculty development. Also involved in graduate program development.

Interim Department Head, Mechanical Engineering,

University of Louisiana at Lafayette (Spring 2008 – Fall 2008)

Served as Interim Department Head, which involved taking the lead in all areas of the MCHE Department, including: ABET, curriculum development, class scheduling, transfer students, and faculty development.

Assistant/Associate Professor, Mechanical Engineering,

University of Louisiana at Lafayette, (Fall 1997 – Summer 2005, Promoted Fall 2005 – 8-2017)

Teaching and advising both undergraduate and graduate students. Courses include Intro to Mechanical Engineering, Engineering Graphics, Finite Element Analysis, Engineering Analysis, Design Optimization, Engineering Applications of Artificial Intelligence, and Senior Projects. Currently performing research in virtual reality, alternative energy, and design optimization.

Assistant Professor, Mechanical Engineering, Lamar University (1995 - 1997)

Taught a wide variety of undergraduate and graduate level classes (see list below), advised Masters and Doctoral students, served as faculty advisor for Pi Tau Sigma, served as the Novell system administrator for the department computer lab and as a computer resource for entire department, performed research on artificially intelligent design optimization algorithms, uni-pedal robots, and ultra-lightweight reflux boiler tubes.

Adjunct Assistant Professor, Brigham Young University (1994 - 1995)

Taught a graduate level engineering optimization course, a graduate level engineering software development class, and an introductory computer-aided engineering class.

President, Design Synthesis, Inc. (1993 - 1995)

Experience at Design Synthesis covered all areas of engineering management, including sales, marketing, personnel and engineering. The company is primarily concerned with the development and marketing of an engineering optimization software package. While at Design Synthesis, Dr. Chambers supervised a team of software developers and engineers, and provided technical support to the software development team and to end users.

Research Associate, Brigham Young University (1989 - 1994)

Performed research on symbolic and numeric optimization techniques. Developed and implemented methods for the use of multiple knowledge representations in the rapid prototyping and validation of engineering expert systems. Developed a Large-Scale Sequential Quadratic Programming (SQP) algorithm for the numeric optimization of very large models.

Mechanical Engineer, Naval Undersea Warfare Engineering Station (1986 - 1989)

NUWES responsibilities included conducting performance and reliability studies on Navy torpedoes, and employing the principles of software engineering to the design and Navy-wide deployment of a technical and logistical support database. In the course of these activities it was necessary to write user requirements documents, functional specifications, and interactive computer programs in a 4th generation computer language.

6. Funded Research Grants

1. Zappi, M., Chambers, T., Revellame, E., Stewart, G., Gopu, V., Yin, P., Sharp, W., Ferdowsi, F., Barnes, S., 2025 – 2028, “State of Louisiana’s Clean Ports Program: Pollution Reduction, Economic Development, and Regional Enhancement Planning Initiative,” EPA/Louisiana Department of Transportation and Development, University of Louisiana at Lafayette, Lafayette, LA (\$2,999,870).
2. Yin, P., Chambers, T. L., Raush, J. R., 2024 – 2027, “Rural Energy Network for Equitable Workforce and Economic Development (RENEWED),” USD Department of Labor, University of Louisiana at Lafayette, Lafayette, LA (\$1,499,784).
3. Raush, J. R., Chambers, T.L., 2024, “Louisiana First Solar Force: Solar Module Manufacturing Workforce Training and Education in Louisiana,” U.S. Department of Energy, America Made Challenges: Upskill Prize for the Solar Manufacturing Workforce, University of Louisiana at Lafayette, Lafayette, LA (\$494,601).

4. Chambers, T.L., 2024, “Louisiana Solar Energy Lab (LaSEL): Creating Jobs and Supporting Economic Growth in Louisiana,” Louisiana Department of Energy and Natural Resources, University of Louisiana at Lafayette, Lafayette, LA (Funded amount: \$1.25M).
5. Chambers, T.L., 2024 – 2026, “Securing Solar Technologies through Optimization, Resilience and Modeled Systems (SSTORMS),” US Department of Energy and Sandia National Laboratory, University of Louisiana at Lafayette, Lafayette, LA (UL Lafayette is a subrecipient under Sandia National Labs with Chambers as PI, \$150,000).
6. Chambers, T. L., Yin, P., Ferdowsi, F., Raush, J., Strother, S., Gottumukkala, R., Zappi, M., Villinger, F., 2024 – 2032, “Hubs for Energy Resilient Operations (HERO), US Department of Energy, University of Louisiana at Lafayette, Lafayette, LA, (LA DNR prime recipient funded for \$500M, UL Lafayette portion with Chambers as PI, \$56,420,000, of which \$28,210,000 is DOE funding and \$28,210,000 is match. In contract negotiations.)
7. Yin, P., Chambers, T. L., 2024 – 2026, “Louisiana Building Training and Assessment Center: A Statewide Consortium for Workforce Development in Building Sustainability and Decarbonization,” US Department of Energy, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount: \$900K).
8. Chambers, T. L., Gottumukkala, R., Vanicor, G., Darby, P., Raush, J., 2024 – 2024, “Improving the Electric Vehicle Charging Infrastructure in Louisiana to Offset NOx Production and Promote the Wider Adoption of Electric Vehicles,” *Louisiana Department of Environmental Quality*, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount: \$120,000. In contract negotiations.).
9. Chambers, T. L., Raush, J., 2024 – 2027, “Louisiana Solar Corps (LSC): Building the Clean Energy Careers of the Future around Justice, Labor and Community Resilience,” US Department of Energy, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount \$1M).
10. Quiroz, Z., Chambers, T. L., 2024 – 2025, “Collaborative Research and Knowledge Exchange in Sustainable Energy (CRKESE),” 100,000 Strong in the Americas (100K) Innovation Fund team at Partners of the Americas and the Bureau of Western Hemisphere Affairs of the U.S. Department of State (WHA/DOS), University of Louisiana at Lafayette, Lafayette, LA, (Funded amount: \$100,000, of which \$50,000 is match).
11. Yin, P., Chambers, T. L., 2023 – 2026, “Energy Efficiency and Renewable Energy Technical Assistance on Louisiana Agricultural Producers and Rural

Small Businesses,” USDA, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount: \$166,668).

12. Gottumukkala, R., Chambers, T.L., 2023 – 2025, “Cybersecurity Analysis of SCADA System for Solar Power Plants,” OMCO, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount \$ 59,950).
13. Chambers, T. L., Ritter, K., “Development of a Solar Hybrid Dryer for Water Hyacinth,” 2022 – 2025, In-Between International, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount \$182,000).
14. Chambers, T. L., Zappi, M., Zhou, X.D., Hernandez, R., Raush, J., Yin, Peng, Ritter, K., Buchiredy, P., Revellame, E., Sharp, W., 2022 – 2025, “H2 the Future, Energy Transformation in South Louisiana,” US Department of Commerce EDA Build Back Better Program, State of Louisiana LED, GNO, Inc., University of Louisiana at Lafayette, Lafayette, LA, (Funded amount: \$6M total: \$2.4M EDA, \$2.4M LED match, \$1.2M GNO, Inc.).
15. Chambers, T. L., Ferdowsi, F., Ritter, K. R., 2022 - 2024, “Improved Grid Resiliency Using Microgrids and Renewable Energy,” Board of Regents Support Fund ITRS Program, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount: \$200,000).
16. Chambers, T. L., Gottumukkala, R., 2022 - 2025, “Technical Assistance for Solar Projects,” Power Strategies, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount: \$135,000 for 2022 and \$282,000 for 2023 – 2024, \$75,000 for 2025).
17. Williams, D., Barber, A., Chambers, T., Genung, M., 2022 - 2023, Improving Engineering Education and the Pipeline of Engineering Majors Through a Preservice Teacher Bioinspired Engineering Maker Space and Curricular Enhancements. Board of Regents Support Fund, Departmental Enhancement - Targeted. University of Louisiana at Lafayette, Lafayette, LA, (Funded amount: \$94,476).
18. Chambers, T. L., 2021 – 2025, “Cleco Grid Test Facility: Investigating the Grid Impact of Emerging Technologies in Louisiana,” Cleco Power, LLC, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount: \$816,000).
19. Chambers, T. L., Zappi, M., 2022 - 2024, “Operation and Maintenance of the Cleco Alternative Energy Center,” Cleco Power, LLC, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount: \$203,201 for 2022, \$203,201 for 2023, \$203,201 for 2024, \$203,201 for 2025).

20. Ferdowsi, F., Fekih, A., Chambers, T. L., Moktari, M., 2021 – 2026, “Affirmative Scientific Support for Scholars in Energy Technologies (ASSSET), NSF STEM, Louisiana at Lafayette, Lafayette, LA, (Funded amount: \$649,825).
21. Chambers, T. L., Gottumukkala, R., Ferdowsi, F., 2021 - 2022, “Digital Image Standards for Use With AI,” Entergy University Research Selection Board, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount: \$37,000).
22. Chambers, T. L., Zappi, M., 2020 – 2021, “Operation and Maintenance of the Cleco Alternative Energy Center,” Cleco Power, LLC, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount: \$406,402).
23. Ferdowsi, F., Bayoumi, M., Chambers, T. L., 2021 – 2022, “Enhanced Laboratory for Research/Educational Endeavors in Smart Grids,” Board of Regents Departmental Enhancement Grant, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount: \$71,048).
24. Chambers, T. L., 2021, “Solar Energy Program of Excellence,” George and Martha Antoun, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount: \$1,000,000).
25. Raush, J. R., Chambers, T. L., Ritter, K. R., 2021 – 2022, “Behind-the-Meter, Distributed Scale CSP System Enabled by Very Low-cost Working Fluid and Thermal Storage,” *Norwich Technologies/U.S. Department of Energy/DOE SBIR Phase II*, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount \$336,278).
26. Yin, P., Chambers, T. L., 2018 - 2025, “A Funding Renewal: Energy Audit on Louisiana Agricultural Producers and Rural Small Business,” USDA Rural Development Rural Energy for America Program, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount: \$99,816, renewal for \$100,000 for 2021, renewal for \$86,459).
27. Chambers, T. L., 2019 – 2021, “Planning Grant: Engineering Research Center for Communication-Free Autonomous Renewable Electrical Systems (CARE),” *National Science Foundation*, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount: \$100,000. Consortium of Illinois Institute of Technology, Texas Tech University and UL Lafayette. UL Lafayette share with Chambers as PI: \$24,000).
28. Raush, J. R., Chambers, T. L., Ritter, K. R., 2018 – 2018, “START Lab Field Test of Sun Trap Receiver,” *Norwich Technologies/U.S. Department of Energy/DOE SunShot Solar Manufacturing Technology (SolarMat) 2*,

University of Louisiana at Lafayette, Lafayette, LA, (Funded amount \$50,228).

29. Yin, P., Chambers, T. L., 2018 – 2019, “Energy Audit on Agricultural Producers and Rural Small Businesses in Louisiana for Energy Demand Reduction and Efficiency Improvement,” USDA EA-REDA, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount: \$99,887).
30. Stone, Heather, Ritter, Kenneth R. III, Chambers, Terrence L., 2018, “Virtual Reality Ecoliteracy Curriculum,” Mozilla Foundation, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount: \$10,000).
31. Stone, H., Chambers, T. L. Ritter, K., 2017 – 2018, “Empowering through Knowledge: Exploring Social, Economic, and Environmental Sustainability in Louisiana through Oral History and Virtual Reality,” *Board of Regents Support Fund*, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount: \$120,000).
32. Chambers, T. L., 2016 – 2018, “Applied Research and Testing of Commercial-Scale Photovoltaic Power Production in Louisiana,” *Louisiana Generating/NRG Renew*, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount \$4,015,000).
33. Borst, C. W., Chambers, T. L., 2015 – 2017, “Equipment for Virtual and Augmented Reality Research for Education and Training Systems,” *Board of Regents Support Fund*, Grant No: LEQSF(2015-16)-ENH-TR-30, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount: \$95,688).
34. Chambers, T. L., Gottumukkala, R., Darby, P., McInerney, S. A., 2014 – 2017, “Smart and Secure Energy Assessment,” *Louisiana Department of Natural Resources*, DNR Contract No. 2031-14-03, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount \$230,000).
35. Borst, C. W., Chambers, T. L., Gottumukkala, R., 2014 – 2017, “Collaborative Exploration in Networked VR Environments, and Application to Remotely-Guided Classroom,” *NSF-EAGER, US Ignite Subprogram*, Grant No: 1451833, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount \$297,767).
36. Chambers, T. L., 2014 – 2014, “Powering a Better Tomorrow by Introducing Young Women to Careers in STEM,” *Girl Scouts of Louisiana - Pines to the Gulf*, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount \$5,699).
37. Liu, Y., Chambers, T. L., 2013 – 2014, “Build a Scale Model of the Hydroelectricity Barge and Evaluate its Electrical Generation Ability through

Experimental Validation and Computer Simulation,” *NSF EPSCOR OPT-IN Program*, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount \$20,000).

38. Liu, Y., Chambers, T. L., 2012, “Student Participation in 4th IEEE Region Annual Green Technologies Conference,” *ARPA-E/DOE CONNECT Program*, University of Louisiana at Lafayette, (Funded amount: \$6,890).
39. Chambers, T. L., Raush, J. R., 2011 – 2019, “UL Lafayette/CLECO Solar Thermal Power Plant and Supplements,” *CLECO Power LLC*, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount \$2,286,228).
40. Chambers, T. L., Simon, W. E., Liu, Y., Massiha, G. H., 2011 – 2012, “Pilot Solar Thermal Power Plant Installation,” *US Department of Energy, through the Louisiana Department of Natural Resources, Empower Louisiana – Renewable Energy Program*, RE-06, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount \$1,000,000).
41. Chambers, T. L., 2011, “Minority Research Scholarship,” *NASA, through the LaSpace MRS Program*, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount \$5,000).
42. Chambers, T. L., Kozman, T., Lee, J., 2010 - 2016, “LUS Smart Grid Project,” *DOE Smart Grid Investment Program*, Lafayette Utilities System and University of Louisiana at Lafayette, Lafayette, LA, (Total funded amount: \$11.63 million. UL Lafayette share with Chambers PI: \$50,000).
43. Chambers, T. L., Emblom, W. J., 2010 – 2014, “Alliance to Promote Sustainability of the Environment through Energy Efficiency Across NAFTA,” *US Department of Education, FIPSE Subprogram, Program for North American Mobility in Higher Education*, Grant No: P116N100006, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount \$190,000).
44. Chambers, T. L., 2009 - 2010, “Expanding Space Related Activity at UL Lafayette and the Surrounding Area,” *NASA, through the LaSpace CSG Program*, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount \$9,981).
45. Chambers, T. L., 2009 - 2010, “Minority Research Scholarship,” *NASA, through the LaSpace MRS Program*, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount \$5,000).
46. Chambers, T. L., 2009 - 2010, “Hosting the LaSpace Annual Meeting,” *NASA, through the LaSpace URP Program*, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount \$1,500).

47. Dwivedi, S. Chambers, T. L., 2009 - 2011, "Development of Multidisciplinary Lean Manufacturing Course Through Virtual Reality and Inquiry-Based Learning," *Board of Regents Support Fund*, (Funded amount: \$139,957).
48. Reiners, D., Borst, C. W., Chambers, T. L., Cruz-Neira, C., 2007 – 2009, "Accelerated Welder Training Using Virtual Reality," *Louisiana Workforce Commission, and Lafayette Economic Development Authority and Lafayette Economic Development Authority*, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount \$471,322).
49. Simon, W. W., Guillory, J. G., Chambers, T. L., 2000 – 2003, "Fuel Cell Power Generation with Waste Heat Recovery for Residential and Commercial Applications," *Louisiana Department of Natural Resources, PVE 29-01-07*, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount \$230,000).
50. Dwivedi, S. Chambers, T. L., 2000 – 2003, "Development of Intelligent Knowledge-Based Engineering Modules for Injection-Molded Plastic Parts," *LEQSF (2000-03)-RD-B-09*, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount \$153,000).
51. Chambers, T. L., 2000 – 2002, "Intelligent Symbolic Regression for Engineering Optimization Models," *NASA (2000-01)-DGAP-12*, University of Louisiana at Lafayette, Lafayette, LA, (Funded amount \$19,216).
52. Chambers, T. L., 1996, "Development of an Artificially Intelligent Optimization Algorithm," *Lamar University-Beaumont Research Enhancement Grant*, Lamar University, Beaumont, TX, April 8, 1996. (Funded Amount \$5,000).
53. Simon, W. E., Chambers, T. L., 1996, "Analysis and Optimization of a Low-Gravity Two-Phase Heat Rejection Device for Planetary Thermal Energy Management," *NASA Grant NAG9-928*, Lamar University, Beaumont, TX, LA, (Funded Amount \$16,763).
54. Simon, W. E., Chambers, T. L., 1996, "Analytical Investigation of a Reflux Boiler," *NASA Grant NAG9-839*, Lamar University, College of Engineering, Beaumont, TX, (Funded Amount \$40,651).

7. Peer Reviewed Journal Articles

1. Yankson, S., Sheida, K., Ferdowsi, F., Chambers, T. Mehereen, S., 2025, Strategic Investments for Enhancing Power System Resilience through Zonal Microgrids, *Energy Nexus*. Available at:

<https://www.sciencedirect.com/science/article/pii/S2772427125001469?via%3Dihub>

2. Rahaman, M. A., dos Santos, F. R., Centenaro, S. H., Fekih, A., Wiecheteck, G., Chambers, T. L., 2025, Sustainability Assessment of Floating Photovoltaic (FPV) System: A Multidimensional Comprehensive Analysis Across the Water-Energy Nexus. *Journal of Cleaner Production*, Available online 8 April 2025, 145468. Available at: <https://doi.org/10.1016/j.jclepro.2025.145468>
3. Guillory, S., Barhorst, A. , Lee, J. , Gottumukkala, R. , Raush, J. and Chambers, T. (2025) Robust Sensitivity Design Optimization to Generalized Systems-Based Theoretical Kinematic Inverse/Regular Wedge Cam Theory for Three-Point Diametral Self-Centering Motion. *Journal of Applied Mathematics and Physics*, 13, No. 4, April 2025. Available at: <https://www.scirp.org/journal/paperinformation?paperid=142267>
4. Guillory, S., Barhorst, A. , Lee, J. , Gottumukkala, R. , Raush, J. and Chambers, T. (2025) Generalized Robust Systems-Based Theoretical Kinematic Inverse/Regular Wedge Cam Theory for Three-Point Diametral Self-Centering Motion. *Journal of Applied Mathematics and Physics*, 13, No. 3, March 2025. Available at: <https://www.scirp.org/journal/paperinformation?paperid=141322>
5. Deville, L., Hansen, C. W., Anderson, K. S., Chambers, T. L., Theritsis, M., 2025, "Parameter Translation for Photovoltaic Single-Diode Models," *IEEE Journal of Photovoltaics*, <https://ieeexplore.ieee.org/document/10893713>
6. Kumar, D., Ritter, K., III, Raush, J., Ferdowsi, F., Gottumukkala, R. and Chambers, T. (2025), Optimizing Photovoltaic Soiling Loss Predictions in Louisiana: A Comparative Study of Measured and Modeled Data Using a Novel Approach. *Prog Photovolt Res Appl*. <https://onlinelibrary.wiley.com/doi/10.1002/pip.3891>
7. Ullah, SM. S., Yankson, S. Ebrahimi, S., Ferdowsi, F., Chambers, T.L., 2024, "Smart Investment Framework for Energy Resilience: A Case Study of a Campus Microgrid Research Facility," *Next Energy*, Available at: <https://society.org/articles/activity/10.31224/3614>
8. Ullah, SM Safayet, Farzad Ferdowsi, and Terrence Chambers. 2024, "Cost-Aware Strategies for Enhancing Energy Resilience in Microgrids via Stationary and Mobile Resources," *Journal of Safety Science and Resilience*. Available online at: <https://www.sciencedirect.com/science/article/pii/S2666449624000811?via%3Dihub>

9. Yankson, Samuel, Kouhyar Sheida, Farzad Ferdowsi, Terrence Chambers, and Shahab Mehraeen. 2024. "Strategic Investments for Enhancing Power System Resilience through Zonal Microgrids.", Elsevier Electricity Journal, Preprint available online at: <https://engrxiv.org/preprint/view/3646/6486>
10. Deville L, Theristis M, King BH, Chambers TL, Stein JS. Open-source photovoltaic model pipeline validation against well-characterized system data. *Prog Photovolt Res Appl*. 2023; 1-13. doi:10.1002/pip.3763
<https://doi.org/10.1002/pip.3763>
11. Md Atiqur Rahaman, Terrence L. Chambers, Afef Fekih, Giovana Wiecheteck, Gabriel Carranza, Gustavo Rafael Collere Possetti, "Floating photovoltaic module temperature estimation: Modeling and comparison," *Renewable Energy*, Volume 208, 2023, Pages 162-180, ISSN 0960-1481, <https://doi.org/10.1016/j.renene.2023.03.076>.
12. Santos, Fernando Roberto dos, Giovana Katie Wiecheteck, Jorim Sousa das Virgens Filho, Gabriel Alfredo Carranza, Terrence Lynn Chambers, and Afef Fekih. 2022. "Effects of a Floating Photovoltaic System on the Water Evaporation Rate in the Passaúna Reservoir, Brazil" *Energies* 15, no. 17: 6274. <https://doi.org/10.3390/en15176274>
13. Veerendra Kumar, D.J.; DeVille, L.; Ritter, K.A., III; Raush, J.R.; Ferdowsi, F.; Gottumukkala, R.; Chambers, T.L., 2022, "Performance Evaluation of 1.1 MW Grid-Connected Solar Photovoltaic Power Plant in Louisiana," *Energies* 2022, 15, 3420. <https://doi.org/10.3390/en15093420>
14. Ritter, K.R., III; McBride, A.; Chambers, T., 2021, "Soiling Comparison of Mirror Film and Glass Concentrating Solar Power Reflectors in Southwest Louisiana," *Sustainability*, 2021, 13, 5727.
<https://doi.org/10.3390/su13105727>
15. Ritter, K.A., III, Chambers, T. L., 2021, "Three-dimensional modeled environments versus 360 degree panoramas for mobile virtual reality training," *Virtual Reality*, DOI 10.1007/s10055-021-00502-9.
16. Peng Yin, Tanjebul Alam & Terrence Chambers (2021) Performance prediction of hydronic cooling coil with non-uniform air velocity (RP-1741), *Science and Technology for the Built Environment*, DOI: [10.1080/23744731.2021.1886533](https://doi.org/10.1080/23744731.2021.1886533)
17. Stone, H., Li, M., Ritter III, K. A., & Chambers, T. L. (2020). Virtual Reality: Authentic and Immersive Learning in the Science Classroom. *International Journal for Innovation Education and Research*, 8(8), 101-111. Available at: <https://ijer.net/ijer/article/view/2498>

18. Hosseini, M., Katragadda, S., Wojtkiewicz, J., Gottumukkala, R., Maida, A., Chambers, T.L., 2020, "Direct Normal Irradiance Forecasting Using Multivariate Gated Recurrent Units," *Energies* **2020**, 13, no. 15: 3194. Available at: <https://www.mdpi.com/1996-1073/13/15/3914>
19. Zappi, M.E.; Zappi, A.; Revellame, E.; Sharp, W.; Fortela, D.L.; Hernandez, R.; Chambers, T.; Ritter, K.; Gang, D., 2020, "An Assessment of the Potential to Produce Commercially Valuable Lipids on Highway Right-of-Way Land Areas Located Within the Southeastern United States," *Sustainability* 2020, 12, 5225. Available at: <https://www.mdpi.com/2071-1050/12/13/5225#>
20. Zappi, M.E.; Zappi, A.; Revellame, E.; Sharp, W.; Fortela, D.L.; Hernandez, R.; Chambers, T.; Ritter, K.; Gang, D., 2020, "An Assessment of the Potential to Produce Commercially Valuable Lipids on Highway Right-of-Way Land Areas Located Within the Southeastern United States," *Sustainability* 2020, 12, 5225. Available at: <https://www.mdpi.com/2071-1050/12/13/5225#>
21. Wojtkiewicz, Jessica, Hosseini, Martin, Gottumukkala, Raju, Chambers, Terrence L., 2019, "Hour-Ahead Solar Irradiance Forecasting Using Multivariate Gated Recurrent Units," *Energies*, 2019, Vol. 12., No. 21, 4055. Available at: <https://www.mdpi.com/1996-1073/12/21/4055>
22. Ben Hmida, J., Chambers, T., Lee, J., 2019, "Solving Constrained Optimal Power Flow With Renewables Using Hybrid Modified Imperialist Competitive Algorithm and Sequential Quadratic Programming," *Electric Power Systems Research*, 177 (2019) 105989. Available at: <https://www.sciencedirect.com/science/article/pii/S0378779619303086?dgcid=coauthor>
23. Kenneth A. Ritter III, Heather Stone, Terrence L. Chambers, 2019, "Empowering Through Knowledge: Exploring Place-based Environmental Education in Louisiana Classrooms Through Virtual Reality," *Computers in Education Journal*, Vol. 10, Issue 1, March 2019. Available at: http://asee-coed.org/index.php/coed/article/view/RitterIII_Empowering/pdf_31
24. Hmida, J. B., Morshed, M. J., Lee, J., Chambers, T.L., 2018, "Hybrid Imperialist Competitive and Grey Wolf Algorithm to Solve Multiobjective Optimal Power Flow with Wind and Solar Units," *Energies*, 2018, 11, pp. 2891. Available at: <https://www.mdpi.com/1996-1073/11/11/2891>
25. Ezeanya, E. K., Massiha, G. H., Simon, W. E., Raush, J. R., & Chambers, T. L., 2018, "System advisor model (SAM) simulation modelling of a concentrating solar thermal power plant with comparison to actual

performance data,” *Cogent Engineering*, 5(1), 1524051. Available at: <https://www.cogentoa.com/article/10.1080/23311916.2018.1524051>

26. Raush, J. R., Ritter, K., Prilliman, Matthew, Hebert, Myles, Pan, Z., Chambers, T.L., 2018, “Numerical Model and Performance Validation of a Small-Scale Concentrating Solar Thermal Power Plant in Louisiana,” *Journal of Power and Energy Engineering*, 2018, 6, 112-140. Available at: http://file.scirp.org/Html/8-1770440_87674.htm
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45. Chambers, T. L., 2008, "Teaching Engineering Analysis Using VBA for Excel," *Computers in Education Journal*, Vol. 18, No. 1, April – June, 2008, pp. 71 – 81.
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8. Peer Reviewed Conference Publications

1. L Deville, M Theristis, BH King, TL Chambers, JS Stein, 2023, "Comparison of Open-Source Photovoltaic Performance Models Against Multi-Year Field Data," 2023 IEEE 50th Photovoltaic Specialists Conference (PVSC), 1-3.
2. Brambles, O., Ritter, K., Johnson, L. McBride, T., Snyder, S., Stettenheim, J., Chambers, T., Raush, J., "Field Testing of Manufacturable Advanced Low-Cost Receiver for Parabolic Trough Solar Power," *2019 IEEE Green Technologies Conference (GreenTech)*, April, 2019, Lafayette, LA.

DOI: 10.1109/GreenTech.2019.8767118. Available
at: <https://ieeexplore.ieee.org/document/8767118>

3. Ekong, S., Borst, C. W., Woodworth, J., Chambers, T.L., 2016, "Teacher-Student VR Telepresence with Networked Depth Camera Mesh and Heterogeneous Displays," *Advances in Visual Computing, Vol. 10073 of the series Lecture Notes in Computer Science*, pp. 246 – 258. *Proceedings of the 12th International Symposium, ISVC 2016, Las Vegas, NV, USA, December 12-14, 2016, Proceedings, Part II*, Springer International Publishing, Available at: http://link.springer.com/chapter/10.1007/978-3-319-50832-0_24
4. Ritter, K.A., Chambers, T.L., Borst, C.W., 2016, "Work in Progress: Networked Virtual Reality Environment for Teaching Concentrating Solar Power Technology," *Proceedings of the ASEE Gulf-southwest Annual Conference*, Texas Christian University, Fort Worth, TX, March 6 - 8, 2016.
5. Ritter, K.A., Chambers, T.L., Borst, C.W., 2016, "Work in Progress: Networked Virtual Reality Environment for Teaching Concentrating Solar Power Technology," *Proceedings of the ASEE Annual Conference*, New Orleans, LA, June 26 - 29, 2016.
6. Borst, C.W., Ritter, K.A., Chambers, T.L., 2016, "Virtual energy center for teaching alternative energy technologies," *Proceedings of the 2016 IEEE Virtual Reality (VR) Conference*, 157-158.
7. Chambers, T. L., Corder, P., Friedman, J., Roy, G., 2014, "Creation of an International Engineering Student Exchange Program," *Proceedings of the ASEE Gulf-southwest Annual Conference*, Tulane University, New Orleans, LA, April 2 – 4, 2014.
8. Chambers, T. L., Raush, J. R., Russo, B., 2013, "Installation and Operation of Parabolic Trough Organic Cycle Solar Thermal Power Plant in South Louisiana," *Proceedings of the 2013 SolarPACES International Conference*, Las Vegas, NV, Sept. 17 - 20.
9. Chambers, T. L., 2012, "Reduced Credit Hours and Engineering Licensure: A Proposal to Break the Impasse," *Proceedings of the ASEE Annual Conference*, Paper No. AC 2012-3121, San Antonio, TX, June 10 – 13, 2012.
10. Artigue, A., Chambers, T. L., and Liu, Yucheng, 2010, "Achieve Objectives of Engineering Design Course Through Theo Jansen Project and A Design Sample," *Proceedings of ASEE Southeastern Annual Conference*, Virginia Polytechnic Institute and State University, Blacksburg, VA, USA, April 18 – 20, 2010.

11. Chambers, T., Simon, W. E., 2010, "A Proposed Set of Rubrics for Program Educational Objectives," *Proceedings of the ASEE Gulf-Southwest Annual Conference*, McNeese State University, Lake Charles, LA, March 24 - 26, 2010.
12. White, S., Reiners, D., Borst, C., Chambers, T., Prachyabrued, M., 2010, "Virtual Reality Welder Training," in SPIE Electronic Imaging, *Proceedings of SPIE Volume 7525, The Engineering Reality of Virtual Reality*, January 2010.
13. Chambers, T., Simon, W. E., 2007, "Closing the Loop: Demonstrating Positive Program Changes as Part of the Continuous Improvement Process," *Proceedings of the ASEE Gulf-Southwest Annual Conference*, University of Texas, Pan-Am, TX, March 28 - 30, 2007.
14. Chambers, T., 2006, "Teaching Engineering Analysis Using VBA for Excel," *Proceedings of the ASEE Gulf-Southwest Annual Conference*, Southern University, Baton Rouge, LA, March 15 – 17, 2006. (Note: this paper won the "Best Paper Award" at the above-named conference.)
15. Thota, R., Chambers, T. L., 2006, "An Enhanced Natural Language Interface for Engineering Expert Systems," *Proceedings of the ASEE Gulf-Southwest Annual Conference*, Southern University, Baton Rouge, LA, March 15 – 17, 2006.
16. Simon, W.E., Chambers, T.L., Guillory, J.L., Ventrapragada, V., Angelle, J. R., Gulati, T., "Fuel Cell Integrated Energy System for Residential and Commercial Applications," *Proceedings of the 2005 ASME International Engineering Congress and Exposition*, Nov. 2005, Orlando FL., Paper No. IMECE2005-81784.
17. Bhatia, P., Chambers, T. L., 2004, "Use of the Genetic Algorithm to Solve Large Transshipment-Location Problems," *Proceedings of the ASEE Gulf-Southwest Annual Conference*, Texas Tech University, Lubbock, TX, March 10 - 12, 2004.
18. Bhatia, P., Chambers, T. L., 2004, "Computer-Aided Process Planning Revolutionize Manufacturing," *Proceedings of the ASEE Gulf-Southwest Annual Conference*, Texas Tech University, Lubbock, TX, March 10 - 12, 2004.
19. Simon, W. E., Chambers, T. L., 2004, "Building the Assessment and Measurement Foundation for Continuous Improvement in Engineering Programs," *Proceedings of the ASEE Gulf-Southwest Annual Conference*, Texas Tech University, Lubbock, TX, March 10 - 12, 2004.

20. Chambers, T. L., Simon, W. E., 2003, "An Extension Service Approach to Industry-Sponsored Senior Design Projects," *Proceedings of the ASEE Gulf-Southwest Annual Conference*, University of Texas at Arlington, Arlington, TX, March 19 - 21, 2003.
21. Shahbazuddin, M., Chambers, T. L., 2003, "Supply Chain Management Simulation Model," *Proceedings of the ASEE Gulf-Southwest Annual Conference*, University of Texas at Arlington, Arlington, TX, March 19 - 21, 2003.
22. Simon, W. E., Chambers, T. L., 2003, "Continuous Improvement of the Assessment and Measurement Process for Engineering Education," *Proceedings of the ASEE Gulf-Southwest Annual Conference*, University of Texas at Arlington, Arlington, TX, March 19 - 21, 2003.
23. Dwivedi, S.N., Kumbakonam, A., Yammada, J., Tadikonda, V., Chambers, T.L., 2003, "Intelligent Knowledge Based Engineering Modules for Producing Plastic Injection Molded Parts," *CE: The Vision for the Future Generation in Research and Applications*, J. Cha et al., editors, Swets and Zeitlinger, Lisse, ISBN 90 5809 622 X.
24. Gaudet E., Chambers, T. L., Simon, W. E., 2002, "Continuous Parameters in Dreamy Genetic Algorithms," *Proceedings of the ASEE Gulf-Southwest Annual Conference*, Lafayette, LA, March 20 - 22, 2002.
25. Yammada, J., Chambers, T. L., Dwivedi, S. N., 2002, "Intelligent Mold Design Tool for Plastic Injection Molding," *Proceedings of the ASEE Gulf-Southwest Annual Conference*, Lafayette, LA, March 20 - 22, 2002.
26. Nallamottu, U. B., Chambers, T. L., Simon, W. E., 2002, "Comparison of Genetic Algorithms to Simulated Annealing in Solving Transportation-Location Problems with Euclidean Distances," *Proceedings of the ASEE Gulf-Southwest Annual Conference*, Lafayette, LA, March 20 - 22, 2002.
27. Kumbakonam, A., Chambers, T. L., Dwivedi, S. N., 2002, "Intelligent Manufacturing Process Tool for Plastic Injection Molding," *Proceedings of the ASEE Gulf-Southwest Annual Conference*, Lafayette, LA, March 20 - 22, 2002.
28. Venugopal, T., Dwivedi, S. N., Chambers, T. L., 2002, "Identifying Features of a CAD Model from a Part Feature Database," *Proceedings of the ASEE Gulf-Southwest Annual Conference*, Lafayette, LA, March 20 - 22, 2002.

29. Simon, W. E., Chambers, T. L., 2002, "Curricular Analysis in the Assessment of Program Outcomes for ABET Criteria EC-2000," *Proceedings of the ASEE Gulf-Southwest Annual Conference*, Lafayette, LA, March 20 - 22, 2002.
30. Simon, W. E., Chambers, T. L., 2002, "Assessment and Measurement Innovations for Continuous Improvement in Engineering Education," *Proceedings of the ASEE Gulf-Southwest Annual Conference*, Lafayette, LA, March 20 - 22, 2002.
31. Chowdhury, H. I., Chambers, T. L., Zaloom, V., 2001, "The Use of Simulated Annealing to Solve Large Transportation-Location Problems With Euclidean Distances," *Proceedings of the International Conference on Computers and Industrial Engineering (29th ICC&IE)*, Montreal, Canada, October 31 - November 3, 2001.
32. Chowdhury, H. I., Chambers, T. L., and Haque, A. K. M. Anwarul, 2001, "Optimization of Plant Location Problems Using Simulated Annealing - A Heuristic Approach," *Proceedings of the International Conference on Mechanical Engineering (4th ICME 2001)*, Dhaka, Bangladesh, Dec. 26 - Dec. 28, 2001.
33. Wang, G., Zaloom, V., Chambers, T. L., 2001, "Application of Genetic Programming and Artificial Neural Networks to Improve Engineering Optimization," *Proceedings of the International Conference on Computers and Industrial Engineering (28th ICC&IE), and the International Conference on Industry, Engineering, Management Systems (IEMS)*, Cocoa Beach, Florida, March 5-7, 2001, pp 36 - 40.
34. Chambers, T. L., 2001, "The Benefits of Integrating Research into the Undergraduate Program," invited paper, *Proceedings of the ASEE Gulf-Southwest Annual Conference*, College Station, TX, March 28 - 30, 2001.
35. Martin, J. W., Chambers, T. L., 2001, "Infusing a Service Learning Component into Engineering and Construction Courses," *Proceedings of the ASEE Gulf-Southwest Annual Conference*, College Station, TX, March 28 - 30, 2001.
36. Simon, W. E., Young, F. M., Chambers, T. L., 2000, "Optimization of a Low-Gravity Reflux Boiler system for Lunar Surface Thermal Control," *Proceedings of the 35th Intersociety Energy Conversion Engineering Conference and Exhibit*, Las Vegas, Nevada, July 26 - 28, 2000, vol. 2, pp. 1184 - 1189.
37. Kolluru, R., Smith, S., Loganantharaj, R., Chambers, T., Seetharaman, G., D'Souza, T., 2000, "A Framework for the Development of Agile Manufacturing Enterprises," *Proceedings of the International Conference on*

Robotics and Automation (ICRA 2000), San Francisco, CA, April 24 - 28, 2000.

38. Chambers, T. L., Manning, A. D., Theriot, L. J., 2000, "A New Theory for the Assignment of Members to Engineering Design Teams," *Proceedings of the ASEE Gulf-Southwest Annual Conference*, Las Cruces, New Mexico, April 5 - 8, 2000.
39. Chambers, T. L., Simon, W. E., 2000, "Community Outreach in the Recruiting and Retention of Freshmen Engineering Students," *Proceedings of the ASEE Gulf-Southwest Annual Conference*, Las Cruces, New Mexico, April 5 - 8, 2000.
40. Kolluru, R., Smith, S., Loganantharaj, R., Chambers, T., Gracanin, D., Seetharaman, G., 1999, "An Information Framework for Integrated Agile Manufacturing Systems," *The 5th International Conference on Information Systems Analysis and Synthesis (ISAS 1999)*, Sheraton World Resort, Orlando, Florida, July 31 - August 4, 1999.
41. Zhang, W., Wang, G., Chambers, T., Simon, W. E., 1997, "Toward a Folding-Legged Uniped Robot That Can Learn to Jump," *Proceedings of the 1997 IEEE International Conference on Systems, Man, and Cybernetics*, Hyatt Orlando, Orlando, Florida, USA, October 12 - 15, 1997, Vol. 5, pp. 4315 - 4319.
42. Chambers, T. L., Parkinson, A. R., 1995, "Knowledge Representation and Conversion for Hybrid Expert Systems," *DE-Vol. 82, 1995 Design Engineering Technical Conferences*, Vol. 1, ASME 1995, pp 9 - 16.

9. Other Publications

1. Leger, J., Raush, J.R., Chambers, T.L., 2012, "Parametric Study of Solar Thermal Power Plant Configuration Considering Effects of Solar Multiple, Thermal Storage, Plant Size, and Plant Location Utilizing System Advisor Model (SAM)," *SAM Virtual User Conference*, Hosted by the National Renewable Energy Laboratory, June 20, 2012. Available online at: <https://sam.nrel.gov/content/sam-virtual-conference-june-20-2012>.
2. Simon, W. E., Young, F. M., Chambers, T. L., Nolan, S. L., 1999, "Analysis of a Low-Gravity Reflux Boiler System for Lunar Surface Thermal Management," *Proceedings of the American Institute of Aeronautics and Astronautics 37th Aerospace Science Meeting and Exhibit*, Reno, NV, January 10 - 14, 1999.

3. Chambers, T. L., Simon, W. E., 1999, "Engineering Curriculum Reduction in an Era of Expanding Technology," *Proceedings of the ASEE Gulf-Southwest Annual Conference*, Dallas, Texas, March 7 - 9, 1999.
4. Simon, W. E., Theriot, L. J., Chambers, T. L., 1999, "Senior Design Projects at the University of Southwestern Louisiana," *Proceedings of the ASEE Gulf-Southwest Annual Conference*, Dallas, Texas, March 7 - 9, 1999.
5. Balling, R., Borup, L., Busaker, B., Chambers, T., Davidson, D., Gritton, G., Free, J., Parkinson, A., Talbert, J., Warren, D., 1998 "OptdesX: A Software System for Optimal Design, Users Manual, release 2.0.4," Design synthesis, Inc., Provo, UT.
6. Chambers, T. L., Smith, S. A. Jr., 1997, "Towards an Intelligent Tutor for the Fundamentals of Engineering Exam," *Proceedings of the Ninth Annual Conference of the Technology-Based Engineering Education Consortium*, Vanderbilt University School of Engineering, Nashville, TN, November 19 - 22, 1997.
7. Smith, S. A. Jr., Chambers T. L., 1997, "Putting Design into a Machine Elements Course," *Proceedings of the Ninth Annual Conference of the Technology-Based Engineering Education Consortium*, Vanderbilt University School of Engineering, Nashville, TN, November 19 - 22, 1997.
8. Chambers, T. L., Habetz, D. K., 1997, "In Search of the Ideal Senior Capstone Project," *Proceedings of the ASEE Gulf-Southwest Section Meeting*, The University of Houston, March 23 - 25, 1997, pp. 97 - 102.
9. Habetz, D. K., Chambers, T. L., 1997, "Cooperative Learning in Engineering Science Classes," *Proceedings of the ASEE Gulf-Southwest Section Meeting*, The University of Houston, March 23 - 25, 1997, pp. 68 - 72.
10. Wang, G. T., Chambers, T. L., 1997, "Oriental-Based American Education for Engineering Students," *Proceedings of the ASEE Gulf-Southwest Section Meeting*, The University of Houston, March 23 - 25, 1997, pp. 542 - 545.
11. Chambers, T. L., Simon, W. E., 1996, "Using the Internet in the Engineering Design Classroom," *Proceedings of the ASEE Gulf-Southwest Section Meeting*, The University of Texas at San Antonio, March 27 - 29, 1996, pp. 476 - 481.
12. Parkinson, A. R., Balling, R., Chambers, T. L., 1990, "A Modular Design Environment Integrating Symbolic and Numeric Search," *Third Air Force/NASA Symposium on Recent Advances in Multidisciplinary Analysis and Optimization*, San Francisco, CA, Sept 24 - 26, 1990.

10. Graduate Students

1. Rahaman, Atiqur, "Performance Modeling of Floating Solar Power Plants," PhD in Systems Engineering, Expected, May, 2024.
2. Veerendra Kumar, Deepak, "Albedo Effect on Bi-Facial Solar Modules," *University of Louisiana at Lafayette, University of Louisiana at Lafayette*, Co-Advisor, PhD in Systems Engineering, Expected, May, 2024.
3. Vidrine, Amy, "Integrated System Reliability Model for Aniline Production," *University of Louisiana at Lafayette*, Co-Advisor, PhD in Systems Engineering, Expected, May, 2025.
4. Deville, Lelia, "Characterization and Performance Evaluation of Perovskite PV Cells," Master of Science in Mechanical Engineering, Expected May, 2025.
5. Okoronkwo, Juliette, "Display of Real-Time Data in a VR environment for Solar Energy Education," Master of Science in Mechanical Engineering, Dec, 2022.
6. Mahmoud, Mounirat, "Day Ahead Forecasting of Net Energy Consumption for a MW-Scale Solar Facility at a University Campus," Master of Science in Mechanical Engineering, May, 2019.
7. Ben Hmida, Jalel, "A Hybrid Metaheuristics to Solve Multi-Objective Optimal Power Flow Problem with Renewable Energy Sources," *University of Louisiana at Lafayette*, Co-Advisor, PhD in Systems Engineering, May, 2019.
8. Mann, Michael, "Wind Power Potential in Louisiana – a Parametric Study of Wind Farm Simulations for Louisiana," *University of Louisiana at Lafayette*, Master of Science in Mechanical Engineering, Non-Thesis Option, December, 2017.
9. Gossen, William, "A Case Study Using Thermal Energy Storage and Smart Meter Data in a University setting to Reduce Utility Costs Using a Day-Ahead Time-of-Use Pricing Model," *University of Louisiana at Lafayette*, Master of Science in Mechanical Engineering, Non-Thesis Option, December, 2017.
10. Mayur Srinath, Suthesan, "Augmented Reality for Explaining Alternative Energy Technologies," *University of Louisiana at Lafayette*, Master of Science in Mechanical Engineering, Expected August, 2018.
11. Ezeanya, Kelvin Emeka, "System Advisor Model (SAM) Simulation Modeling of a Concentrating Solar Thermal Power Plant, with Comparison to

- Actual Performance Data,” *University of Louisiana at Lafayette*, Master of Science in Mechanical Engineering, December, 2017.
12. Domec, Brennen, “Borochromizing of AISI 8620 Alloy Steel: Process Optimization and Resulting Properties,” *University of Louisiana at Lafayette*, PhD in Systems Engineering, May, 2017.
 13. Hebert, Myles, “Simulation Modeling of a Concentrating Solar Thermal Power Plant, with Comparison to Actual Performance Data,” Master of Science in Mechanical Engineering, Non-thesis Option, December, 2016.
 14. Ritter, Kenneth III, “Virtual Solar Energy Center: A Case Study of the Use of Advanced Visualization Techniques for the Comprehension of Complex Engineering Products and Processes,” PhD in Systems Engineering, Graduated, August, 2016. Dissertation available at: <http://search.proquest.com/docview/1844988461?pq-origsite=gscholar>
 15. Akinsoyinu, Batunde., “Design of a Wave Energy Converter for the Gulf of Mexico,” *University of Louisiana at Lafayette*, Master of Science in Mechanical Engineering, Non-thesis Option, December, 2015.
 16. Akinyemi, Oladapo, “Similitude and Computational Fluid Dynamics (CFD) Simulation of the Model of a Hydropower System for Generating Clean Electricity from Water Flow,” *University of Louisiana at Lafayette*, Master of Science in Mechanical Engineering, August, 2015.
 17. Sampath, Sushajith, “Development of New Beam Element for Impact and Crash Analysis,” *University of Louisiana at Lafayette*, Master of Science in Mechanical Engineering, Non-thesis Option, December, 2014.
 18. Azad, Sudhendu, “Development of Phase Diagrams Showing Possible Phase Regions through Application of an Optimization Based Approach with a Focus on Solving the Vapor-Vapor-Liquid-Liquid Equilibrium Problem,” *University of Louisiana at Lafayette*, Master of Science in Mechanical Engineering, May, 2013.
 19. White, Steven, “Impact of Visualization Augmentation on Welder Training: a Case Study with the Simulated Welder Lab,” *University of Louisiana at Lafayette*, Co-Advisor, Ph.D. in Computer Engineering, 2013.
 20. Mehare, H., “Technology Assessment for Solar Thermal Cooling,” *University of Louisiana at Lafayette*, Master of Science in Mechanical Engineering, Non-thesis Option, December, 2012.

21. Pan, Z., "Modeling and Performance Analysis of a Small-Scale Concentrated Solar Thermal Power Plant in Louisiana," *University of Louisiana at Lafayette*, Master of Science in Mechanical Engineering, May, 2012.
22. Nepal, A., "Solar Water Heater for Beausoliel Home," *University of Louisiana at Lafayette*, Master of Science in Mechanical Engineering, December, 2010.
23. Ilawe, N., "An Optimization-Based Approach for Solving Vapor-Vapor-Liquid-Liquid Phase Equilibrium Problems," *University of Louisiana at Lafayette*, Master of Science in Mechanical Engineering, December, 2009.
24. Aglawe, A., "Virtual MIG Welding Simulation," *University of Louisiana at Lafayette*, Master of Science in Mechanical Engineering, December, 2009.
25. Betha, A., "Immersive Visualization Techniques for Engineering Design Optimization," , " *University of Louisiana at Lafayette*, Master of Science in Mechanical Engineering, December, 2008.
26. Thota, R., "An Enhanced Natural Language Interface for Engineering Expert Systems," *University of Louisiana at Lafayette*, Master of Science in Mechanical Engineering, December, 2006.
27. Bhatia, P., "The Use of the Genetic Algorithm to Solve Large Transshipment-Location Problems," *University of Louisiana at Lafayette*, Master of Science in Mechanical Engineering, December, 2004.
28. Shahbazuddin, M., "An Improved Genetic Algorithm Using Intelligent Symbolic Regression," *University of Louisiana at Lafayette*, Master of Science in Mechanical Engineering, May, 2004.
29. Vojjala, N., "The Use of Simulated Annealing to Solve Large Transshipment – Location Problems," *University of Louisiana at Lafayette*, Master of Science in Mechanical Engineering, May, 2004.
30. Comeaux, R., "Modified Branch and Bound Optimization Procedure for Sequencing Multiple Capital Constrained Projects with Loan Down Payment Considerations," *University of Louisiana at Lafayette*, Master of Science in Mechanical Engineering, December, 2003.
31. Tong, K. M., "Function-Based Knowledge Acquisition for Engineering Expert Systems," *University of Louisiana at Lafayette*, Master of Science in Mechanical Engineering, December, 2003.
32. Denduluri, C., "A CAD System Interface for an Intelligent Manufacturing Process System for Plastic Injection Molding," Master of Science in Mechanical Engineering, May, 2003.

33. Manda, S. K. "A Comparative Study of Genetic Algorithms for Engineering Design," *University of Louisiana at Lafayette*, Master of Science in Mechanical Engineering, May, 2002.
34. Gaudett, E. J., III, "Continuous Parameters in Dreamy Genetic Algorithms," *University of Louisiana at Lafayette*, Master of Science in Mechanical Engineering, May, 2002.
35. Nallamottu, U. B., "A Comparison of Genetic Algorithms to Simulated Annealing for Solving Transportation – Location Problems With Euclidean Distances," *University of Louisiana at Lafayette*, Master of Science in Mechanical Engineering, May, 2002.
36. Yammada, J., "An Intelligent Mold Design Tool for Plastic Injection Molding," *University of Louisiana at Lafayette*, Master of Science in Mechanical Engineering, May, 2002.
37. *Chowdhury, H., 2001, "The Use of Simulated Annealing to Solve Large Transportation-Location Problems With Euclidean Distances," *Lamar University*, Beaumont, TX, Co-Advisor, Doctor of Engineering, August, 2001.
38. *Wang, G. T., "Application of Genetic Programming and Artificial Neural Networks to Improve Engineering Optimization," *Lamar University*, Beaumont, TX, Co-Advisor, Doctor of Engineering, August, 1998.

*Note: I was the primary doctoral advisor for these students until I left Lamar University in 1997. I remained on the committees at Lamar and continued to serve as the de facto advisor even after I left, although another professor at Lamar (Dr. Victor Zaloom) was the official advisor.

11. Economic Development

I have actively supported economic development in the state of Louisiana, by providing reduced cost engineering services to clients of the Manufacturing Partnership of Louisiana (MEPoL) and in my capacity as Director of the Energy Efficiency and Sustainable Energy Center. We have worked with about 10 companies so far to help develop new alternative energy technologies.

12. Scientific and Professional Societies

American Society of Mechanical Engineers (ASME)
Past VP and Webmaster for the Acadiana Subsection of ASME
American Society of Engineering Education (ASEE)
Past Chair ASEE Gulf-Southwest Section
Past Webmaster for ASEE Gulf-Southwest Section
Past Campus Representative for UL Lafayette
National Society of Professional Engineers (NSPE)
Louisiana Engineering Society (LES)
Past Member of Engineer Selection Board for State of Louisiana

13. Courses Taught

Solar Energy System Design
Sustainable Energy Systems
Linear and Non-Linear Programming or Engineering Design Optimization
Engineering Applications of AI/Expert Systems
Computer-Aided Engineering Software Design
Engineering Analysis (Numerical Methods)
Fluid Mechanics
Finite Element Analysis
Control Systems
Computer-Aided Engineering
Engineering Design Projects
Kinematics
Thermodynamics
Dynamics
Statics and Dynamics
Engineering Graphics / Solids Modeling
Introduction to Engineering

13. Professional Recognition

Eminent Faculty Distinguished Professor Award, University of Louisiana at Lafayette, 2024.

Louisiana Clean Fuels Katry Martin Award for clean energy leadership, 2022.

Appointed by Gov. John Bel Edwards to the State of Louisiana Climate Initiatives Task Force, 2021.

Eminent Faculty Excellence in Teaching Award, University of Louisiana at Lafayette, 2021.

ACEC of Louisiana Engineering Excellence Awards, 2020, Grand Award Category Winner for Category K: Energy, for the Photovoltaic Applied Research & Testing (PART) Lab project.

Eminent Faculty Leadership Service Award, University of Louisiana at Lafayette, 2018.

Engineering Faculty Professionalism Award, 2018, Louisiana Engineering Foundation.

Mosing Endowed Chair of Energy, University of Louisiana at Lafayette, College of Engineering, 2016 to present.

Student Outreach Faculty Mentor of the Year, University of Louisiana at Lafayette, College of Engineering, 2016.

Researcher of the Year Award, University of Louisiana at Lafayette, College of Engineering, 2015.

BORSF Professor of Advanced Computer-Integrated Manufacturing, University of Louisiana at Lafayette, College of Engineering, 2014

Fellow, Computation and Visualization Enterprise (CAVE), 2010 – 2012.

Outstanding Undergraduate Research Mentor, University of Louisiana at Lafayette, College of Engineering, 2014.

Engineering Faculty Professionalism Award, 2011, Louisiana Engineering Foundation.

Favorite Teacher Award, University of Louisiana at Lafayette, Mechanical Engineering Department, 2007.

Board of Regents Professorship in Mechanical Engineering (2002 – 2007).

Best Paper Award, 2006, for the paper entitled, "Teaching Engineering Analysis Using VBA for Excel," at the ASEE Gulf-Southwest Annual Conference, Southern University, Baton Rouge, LA, March 15 – 17, 2006.

Outstanding Service Award, 2006, ASEE Gulf-Southwest Section, presented at the ASEE Gulf-Southwest Annual Conference, Southern University, Baton Rouge, LA, March 15 – 17, 2006.

Engineering Faculty Professionalism Award, 2001, Louisiana Engineering Foundation.

Best Paper Award Honorable Mention for the paper entitled, "Curriculum Reduction in an Era of Advancing Technology," at the ASEE Gulf-Southwest Annual Conference, March 7 - 9, 1999, Dallas TX.

14. References Available Upon Request