Curriculum Vitae for Michael Evan Webber

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Professional Experience and Academic Positions:

- John J. McKetta Centennial Energy Chair in Engineering, Department of Mechanical Engineering, The University of Texas at Austin, 2023–present
 - Engineering Co-Director, Kay Bailey Hutchison Energy Center, UT Austin, 2023-present
 - Josey Centennial Professor in Energy Resources, Department of Mechanical Engineering, The University of Texas at Austin, 2016–2023
 - Deputy Director, Energy Institute, UT Austin, 2013–2018
 - Co-Director, Clean Energy Incubator, UT Austin, 2009–2018
 - Associate Professor, Mechanical Engineering, UT Austin, 2012–2016
 - Assistant Professor, Mechanical Engineering, UT Austin, 2007–2012
 - Assoc. Director, Center for International Energy & Environmental Policy, 2006–2012
- Chief Technology Officer, Energy Impact Partners, 2021–present
- Chief Science & Technology Officer, ENGIE Group, Paris, France 2018–2021
- Associate Engineer, RAND Corporation, Santa Monica, CA, 2004–2006
- Senior Scientist, Pranalytica, Inc., Santa Monica, CA, 2000–2004
- Graduate Research Assistant, Mechanical Engineering, Stanford University, 1995–2000
- Undergraduate Research Asst., Applied Research Laboratories, UT Austin, 1994 1995
- Undergraduate Research Asst., Nuclear Engineering Teaching Laboratory, UT Austin, 1994
- Summer Undergraduate Research Fellow, NASA Ames Research Center, 1992 & 1993

Education:

- Ph.D., Mechanical Engineering (Minor, Electrical Engineering), 2001, Stanford University (Advisor: Professor Ron K. Hanson, NAE)
- M.S., Mechanical Engineering, 1996, Stanford University
- B.S. with High Honors, Aerospace Engineering, 1995, The University of Texas at Austin
- B.A. with High Honors & Special Honors, Plan II Liberal Arts, 1995, The University of Texas at Austin

Peer-Reviewed Journal Articles

- 141. H. Daigle, J.D. Rhodes, **M.E. Webber**, and A. Pyrcz , "Optimal timing for power plant maintenance in the Electricity Reliability Council of Texas in a changing climate," *JOULE (In Review)*.
- 140. N. Alhajeri, A.S. Reimers, **M.E. Webber**, F. Al-Fadhli, and A. Aly, "The use of a unitcommitment dispatch model to assess the economic and environmental costs of power generation and desalination systems for various mitigation scenarios," *Energy (In Review)*.
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- 135. E.A. Beagle, J.D. Rhodes, and M.E. Webber, "Economic and Environmental Impacts of Renewable Energy and Energy Storage in Texas," Oil, Gas & Energy Resources Law, Volume 47, Number 1, January 2023.
- 134. S. Castellanos, J. Potts, H. Tiedmann, S. Alverson, Y.R. Glazer, A. Robison, S. Russo, D. Harmon, B. Ken-Opurum, M. Weisz, F. Acuna, K. Stephens, K. Faust, and M.E. Webber, "A Synthesis and Review of Exacerbated Inequities from the February 2021 Winter Storm (Uri) in Texas and the Risks Moving Forward," *Progress in Energy* 5 (2023) 012003. https://doi.org/10.1088/2516-1083/aca9b4
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- 91. J.D. Rhodes, C.W. King, G. Gulen, S. Olmstead, J. Dyer, R.E. Hebner, F.C. Beach, T.F. Edgar, and M.E. Webber, "A geographically-resolved method to estimate levelized power plant costs with environmental externalities," *Energy Policy*, Volume 102, March 2017, Pages 491–499.
- 90. R.L. Fares and M.E. Webber, "The impacts of storing solar energy in the home to reduce reliance on the utility," *Nature Energy* 2 Article Number: 17001 (2017). https://doi.org/10.1038/nenergy.2017.1
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- C.M. Beal, F.T. Davidson, M.E. Webber and J.C. Quinn, "Flare Gas Recovery for Algal Protein Production," *Algal Research* 20 (2016) 142–152.
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- 9. B.A. Eisterhold and **M.E. Webber**, "Oil: Is Now the Time to Fill the Strategic Petroleum Reserve?" *Geotimes*, March 2008.
- 8. M.E. Webber, "Texas has what it takes to combat climate change," Austin American-Statesman, October 26, 2007.
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- 4. M.E. Webber, "Webber: The U.S. lacks direction in climate change fight," Austin American-Statesman, June 6, 2007.
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- 1. M.E. Webber, "We have a new opportunity for sensible energy policy: Here's how Republicans and Democrats can come together, *Dallas Morning News*, November 27, 2006.

Select Technical Reports and White Papers

- J. Beard, B. Jones, D. Cohan, B. Dindoruk, S. Kapusta, T. Lines, S. Livescu, R. Schulz, B. Sebree, J. Tackett, M.E. Webber, K. Wisian, M. Young, "The Future of Geothermal in Texas: The Coming Century of Growth & Prosperity in the Lone Star State," The University of Texas at Austin, January 2023. [https://doi.org/10.26153/tsw/44084]
- J.D. Rhodes, M. Skiles, E.A. Beagle, D. A. Kassel, J. Shih, M.E. Webber, M.A. Cook, D. Nabaloga, G. Dillingham, L. Liu, and F. Ganji, "Energy Efficiency & Resilience in Extreme Weather Events," August 2022. [https://www.me.utexas.edu/news/1683-energy-efficiency-resilience-in-extreme-weather-events]
- I.M. Gee, Y.R. Glazer, J.D. Rhodes, T.A. Deetjen, M.E. Webber, A. Choukulkar, B. Cote, C. Clack, and B. Lewandowski, "Don't Mess With Texas: Getting the Lone Star State to Net-Zero by 2050," April 2022. [https://cockrell.utexas.edu/tx-net-zero-2050]
- 16. J. Coleman, S. Bragg-Sitton, E. Dufek, S.C. Johnson, J.D. Rhodes, F.T. Davidson, and M.E. Webber, "An Evaluation of Energy Storage Options for Nuclear Power," INL/EXT-17-42420, Prepared with the Idaho National Laboratory for the U.S. Department of Energy Office of Nuclear Energy Under DOE Idaho Operations Office Contract DE-AC07-05ID14517, June 2017.
- 15. F.C. Beach, Joseph Casola, Meg Crawford, Daniel Huber, Janet Peace, Michael Tubman, Doug Vine and M.E. Webber, "Leveraging Natural Gas to Reduce Greenhouse Gas Emissions," C2ES (Center for Climate and Energy Solutions), Washington, DC, June 2013.
- 14. F.C. Beach, J.D. Rhodes, K.T. Sanders, M.E. Webber, "An Analysis of the Potential for Expanded Use of Natural Gas in the U.S. Residential Sector," UT Austin, March 18, 2013.
- J.R. Fyffe, A.C. Breckel, A.K. Townsend and M.E. Webber, "Residue-Derived Solid Recovered Fuel for Use in Cement Kilns: Final Report," The University of Texas at Austin, Austin, TX, July 2012.
- F.C. Beach, M.S. Gonzalez, J.C. Butler, M.E. Webber, "An Analysis of the Potential for Expanded Use of Natural Gas in Electrical Power Generation, Transportation, and Direct Use: Texas as a Case Study," UT Austin, March 17, 2012.
- 11. C.W. King, K.M. Twomey, A.S. Stillwell, and M.E. Webber, "Clean Energy and Water: Assessment of Mexico for improved water services with renewable energy," Prepared for the International Development Research Centre, Ottawa, Ontario, Canada, December 2011.
- 10. C.W. King, A.S. Stillwell, K.M. Twomey, and M.E. Webber, "Coherence between water and energy policies," Prepared for the OECD, Paris, France December 2010.
- C.F. Murphy, M.J. O'Donnell, E. McDonald-Buller, S. Strank, M.H-P. Liu, M.E. Webber, D.T. Allen, and R.E. Hebner, "Analysis of Innovative Feedstock Sources and Production Technologies for Renewable Fuels," EPA Project Number XA-83379501-0, 2010.
- 8. J.B. Garrison, C.R. Upshaw, and **M.E. Webber**, "Review of 'The Preliminary Feasibility Study of Hydrogen Hubs' authored by the Northwest Hydrogen Alliance," April 2010.

- M.C. Lott, A.S. Stillwell, S.M. Cohen, C.W. King, M.E. Webber, "Power Generation for the 21st Century," Clean TX Forum, Austin, TX, May 20, 2009
- 6. "Energy Depletion Risks Task Force Report," City of Austin, May 15, 2009.
- 5. D.M. Wogan, A.K. da Silva, **M.E. Webber**, and E. Stautberg, "Algae: Pond Powered Biofuels," Clean TX Forum, Austin, TX, November 19, 2008.
- 4. C.W. King, I.J. Duncan and M.E. Webber, "Water Demand Projections for Power Generation in Texas," prepared for the Texas Water Development Board, August 31, 2008.
- M.E. Webber, D.T. Allen, K. Ferland, C.W. King, G. McGaughey, S.J. Goldman and Y. Kimura, "A Clean Energy Plan for Texas," prepared for the Texas Commission on Environmental Quality, August 31, 2008.
- C. Telenko, M. Nippert, C.C. Seepersad and M.E. Webber, "Symposium on Sustainable Design — Greening the Technology Industry," March 2008.
- A.R. Broadfoot, A.D. Cuellar, M.J. O'Donnell, C.H. Smith, and M.E. Webber, "Next Generation Biofuels - Trends In Global Innovation and Finance: The Tools of Biotechnology Meet the World's Energy Challenge," October 2007.

Patents

- Optimally Placing Photovoltaic Arrays To Maximize Value Of Energy Production Based On Peak Power Production, Local Solar Radiation, Weather, Electricity Market Prices And Rate Structures, #10,255,393 (2019) (J.D. Rhodes, C.R. Upshaw, and M.E. Webber)
- Reducing Peak Electrical Demand By Air Conditioning Systems And Reducing Water Consumption By Implementing An Integrated Thermal Energy And Rainwater Storage System, #9,989,270 (2018) (C.R. Upshaw, J.D. Rhodes, and M.E. Webber)
- 4. System and Method for High Sensitivity Optical Detection of Gases, #7,502,115 (2009)
- 3. Method of Analyzing Components of Alveolar Breath, #7,473,229 (2009)
- 2. Amplifier-Enhanced Optical Analysis System and Method, #7,064,329 (2006)
- 1. Gas Sensor for Ammonia, Carbon Dioxide and Water, Patent #6,787,776 (2004)

Entrepreneurship Experience

Entrepreneurial Ventures

Webber is a consulting CTO of Energy Impact Partners, a cleantech venture fund with \$3 billion of assets under management for the energy transition. In addition he is a founding partner or advisor of the following start-ups, which were founded by members of his research group at UT Austin or students in his classes:

- Founding Partner, IdeaSmiths LLC, Founded 2013 (clients such as BP, Dell, GE, 3M, etc.)
- Advisor, ResilientGrid, founded by former PhD student Michael Legatt, 2016–present
- Advisor, RePower Holdings, Founded by former student Chad Blevins 2021 (acquired in 2023)
- Advisor and Investor, Low Carbon Beef and Beal Cattle Co., founded by former PhD student Colin Beal, 2016–present (acquired in 2022)
- Co-Founder, DISCO Learning Media, Inc, Founded 2015 (acquired in 2018)
- Co-Founder, UVC UltraClean (equipment & services for COVID disinfection), Founded 2020, Disbanded 2021.

Teaching

Webber co-created a course ENTREPRENEURSHIP in 2015 and has taught it almost yearly through 2023. This multidisciplinary freshman signature course is offered in seminar style, with 18–30 students, and introduces students to the concepts of entrepreneurship while giving them the skills to create their own company. This course includes guest lectures from dozens of entrepreneurs and will give the students a chance to actually create a company. Assignments include creating a pitch deck for their company and analyzing whether an investor should participate in the buy-side of an IPO (Initial Public Offering). Webber is also part of a team helping to create and administer a new graduate course titled Energy Ventures together with the Energy Institute, McCombs School, MIT and Greentown Labs.

Administrative

Webber served as co-director of UT Austin's Clean Energy Incubator (CEI) from 2009 through 2018. Founded in 2001, CEI is one of the longest-established energy and cleantech incubators in the United States. CEI is part of the Austin Technology Incubator, which is the startup incubator at UT Austin. A program of the University's IC^2 Institute, ATI has a 30-year track record of helping founding teams achieve success. ATI focuses on helping startups compete successfully in the capital markets to get funded. Both ATI and CEI have won national recognition for excellence in incubation in academic settings.

Advisory, Consulting and Industrial Collaborations

Corporate Advisory Positions and Professional Affiliations:

- Scientific Advisory Council, ENGIE (global energy & infrastructure company) (2021–present)
- ESG Advisory Council, Crescent Energy (upstream oil and gas company) (2021–present)
- Board of Directors, GTI Energy (formerly known as Gas Technology Institute) (2019–present)
- Distinguished Associate, Energy Futures Initiative (founded by former Secretary of Energy Ernest Moniz) (2017–present)
- Founding Partner, IdeaSmiths LLC (an engineering consultancy), July 2013-present
- Board Observer, Goodnight Midstream (midstream water solutions company) (2019–2023)
- Member, Electric Utility Commission, Austin Energy, City of Austin (2008–2013)
- Member, AT&T Sustainability Advisory Council (2009–2012)

Webber has conducted independent consulting projects for the following entities:

- UNESCO, United Nations, Colombella, Perugia, Italy
- International Research and Development Centre, Ottawa, Canada
- Power Across Texas, Austin, Texas
- Organization for Economic Cooperation and Development (OECD), Paris, France
- Northwest Hydrogen Alliance, Seattle, Washington
- ExxonMobil Corporate Strategic Research, Clinton, NJ
- Tikkun Investing, Chattanooga, TN
- Ferrazzi Greenlight, Los Angeles, CA

In addition, Webber has taught short-courses for the following companies and organizations through executive education programs at the University of Texas at Austin:

- GE Vernova
- Bank of Montréal
- ExxonMobil
- Petrobras
- CNOOC
- Sinopec
- Tailwater Capital

Honors, Awards, and Fellowships

Individual Awards and Recognition

- 21. Selected for the Rockefeller Foundation's Writer's Residency Program (2022) [Link]
- 20. Silver Telly Award, Series Television, Power Trip: The Story of Energy (2021) [Link]
- 19. Silver Telly Award, General Non-Broadcast, Thirst for Power (2021) [Link]
- Selected as a member of the 4th class of the Presidential Leadership Scholars, which is a leadership training program organized by Presidents George W. Bush and William J. Clinton (2018) [Link]
- 17. Honorary Mechanical Engineer Award, Mechanical Engineering Academy of Distinguished Alumni, UT Austin (2018)
- 16. Hamilton Book Award, Runner Up, for Thirst for Power: Energy, Water and Human Survival (2017)
- 15. Frank Kreith Energy Award, American Society of Mechanical Engineers (2015)
- 14. Josey Centennial Professor in Energy Resources (endowed position), UT Austin (2012–present)
- 13. Fellow of ASME (American Society of Mechanical Engineers) (2014)
- 12. Bronze Winner, 35th Annual Telly Awards for educational PBS television program *Energy at the Movies* (2014)
- 11. "Best of Austin" (Best Way to Plug In Without Frying Your Brain), Austin Chronicle (2014)
- 10. Harrington Fellowship, UT Austin (2014).
- 9. Inaugural recipient of the John S. Butler Distinguished Alumni Award, Austin Technology Incubator, UT Austin (2014).
- 8. Senior Fellow, Energy and Climate Partnership of the Americas, Science & Technology Adviser's Office, US State Department (2011–2013) (1 of 5 people selected nationally)
- 7. Environmental Forum Scholar, Aspen Institute (2010)
- 6. APEX Award for Publication Excellence in the Green Writing category (2010)
- 5. Finalist, White House Fellowship (2009)
- 4. AT&T Industrial Ecology Fellow (2009)
- 3. Marshall Memorial Fellow, German Marshall Fund (2007)
- 2. Outstanding Young Engineering Graduate, UT-Austin (2005)
- 1. National Science Foundation Graduate Research Fellowship (1995–1998)

Teaching Awards

- 6. Member, Academy of Distinguished Teachers, The University of Texas System (2014–present)
- 5. Provost Teaching "Senior" Fellow, The University of Texas at Austin (2015–2016)
- 4. Signature Course Essential Elements Award for Excellence in Teaching Interdisciplinary Approaches, School of Undergraduate Studies, UT Austin (2014).
- 3. Regents' Outstanding Teaching Award, UT System (2011–2012)
- 2. Cockrell School of Engineering Award, Outstanding Teaching by an Asst. Prof. (2011–2012)
- 1. Dad's Association Centennial Teaching Fellowship, UT Austin (2010–2011)

Paper Awards and Recognition

- Exceptional Plan II Thesis Award (for Will Gorman's undergraduate thesis at UT Austin) (2014).
- 5. American Water Works Association's (AWWA's) Second Place Academic Achievement Award for the best Master's Thesis (for supervising Ashlynn Stillwell's EWRE thesis) (2011)
- 4. Honorable Mention, *Transformative Research Along Multi-Disciplinary Boundaries* poster session, ASME 2011 International Mechanical Engineering Congress & Exposition (2011) (Garrison & Webber, "A Dynamic Model of an Energy Storage Scheme for Solar & Wind")
- 3. Best Student Paper Award, ASME 4th International Conference on Energy Sustainability (2010) (Twomey & Webber, "The Cost of Food in a Carbon Constrained Economy")
- 2. Best Student Paper Award, ASME 2nd International Conference on Energy Sustainability (2008) (Smith, et al., "Conversion of Wet Ethanol to Syngas and Hydrogen")
- 1. Outstanding Paper Award for the best paper of the year (measurement science category) in *Measurement Science & Technology* (2005) (Webber, *et al.*, "Agricultural ammonia sensor using diode lasers and photoacoustic spectroscopy")

Government Testimony and Briefings

Testimony by Dr. Webber for U.S. Congress

- "The Energy Water Nexus: Drier Watts and Cheaper Drops," M.E. Webber, U.S. House of Representatives Committee on Science, Space and Technology (Energy Sub-committee), March 7, 2019.
- 4. "How Climate Change Affects Texas," M.E. Webber, U.S. House of Representatives Committee on Science, Space, and Technology, Field Hearing, Dallas, TX, March 31, 2014.
- 3. "Effect of Drought on the Energy Sector," M.E. Webber, Senate Energy & Natural Resources Committee Hearing, U.S. Congress, April 25, 2013.
- 2. "Trends and Policy Issues For The Nexus of Energy and Water," M.E. Webber, Senate Energy & Natural Resources Committee Hearing, U.S. Congress, March 31, 2011.
- 1. "Trends and Policy Issues For The Nexus of Energy and Water," M.E. Webber, Senate Energy & Natural Resources Committee Hearing, U.S. Congress, March 10, 2009.

Briefings by Dr. Webber for U.S. Congress and Federal Agencies

- 15. "Hydrogen101," M.E. Webber, U.S. Department of State, June 3, 2021.
- 14. "Global Energy Trends and Transition," M.E. Webber, U.S. Department of State executive short course, September 17, 2018.
- 13. "Introduction to Renewable Energy," M.E. Webber, U.S. Department of State executive short course, September 11, 2017.
- 12. "The Full Cost of Electricity," **M.E. Webber** and C.W. King, Senator Cornyn's field office with other members of the Texas delegation, Austin, TX, May 12, 2017.
- 11. "Thirst for Power: Energy, Water and Human Survival," M.E. Webber, Aspen Institute Congressional Breakfast Briefing, Washington, DC, April 28, 2016.
- 10. "Global Energy Trends," M.E. Webber, U.S. Department of State Foreign Correspondents Visit, Austin, TX, April 7, 2014.
- 9. "Challenges and Opportunities at the Energy-Water Nexus," M.E. Webber, U.S. Department of Energy, Office of Fossil Energy, Washington, DC, December 12, 2013.
- "Challenges and Opportunities at the Energy-Water Nexus," M.E. Webber, U.S. Department of Energy, Office of Energy Policy and Systems Analysis, Washington, DC, November 8, 2013.
- "An Energy-Water Nexus Research Agenda," M.E. Webber, Opening Remarks for a Workshop on Developing a Research Agenda for the Energy Water Nexus, National Science Foundation, Arlington, VA, June 10, 2013.

- 6. "Energy Water Nexus," U.S. Department of Energy, Washington, DC, Office of Policy and International Affairs, November 13, 2012.
- 5. "From Chemistry to Energy," M.E. Webber, American Chemistry Council Briefing for Congress, Washington, DC, June 28, 2012.
- 4. "The Nexus of Energy and Water," Congressional Briefing, House Science and Technology Committee, Washington, DC, December 16, 2009.
- 3. "The Nexus of Energy and Water," M.E. Webber, ACS Briefings for Congress (House Science and Technology Committee), Washington, DC, December 8, 2009.
- 2. "Trends and Policy Issues For The Nexus of Energy and Water," M.E. Webber, Senate Energy & Natural Resources Committee staffer briefing, U.S. Congress, March 6, 2009.
- 1. "Energy & National Security," M.E. Webber, Asst. to the Secretary of Defense, June 2006.

Testimony by Dr. Webber for Texas Legislature

- "One Year Later: Winter Storm Uri," M.E. Webber, Committee Hearing, Texas House of Representatives, February 15, 2022.
- 8. "Integrating Renewables for Brackish Groundwater Desalination," M.E. Webber, Committee on Agriculture, Water & Rural Affairs, Texas Senate, April 13, 2015.
- 7. "The Role of Massive Open Online Courses (MOOCs) In Higher Education," M.E. Webber, Committee on Higher Education, Texas House of Representatives, September 9, 2014.
- "Some Thoughts On Texas' Economic Impacts From Drought and Economic Opportunities In A Carbon-Constrained World," M.E. Webber, Committee on International Trade and Intergovernmental Affairs, Texas House of Representatives, April 22, 2013.
- "Drought Impacts on Electricity Generation in Texas: Challenges and Opportunities," M.E. Webber, Senate Business & Commerce Committee Hearing, Texas Senate, January 10, 2012.
- 4. "The Good News and Bad News about Electric Vehicles in Texas," M.E. Webber, Business and Commerce Committee, Texas Senate, August 24, 2010
- 3. "The Impacts of Carbon Legislation on Texas," M.E. Webber, Carbon Summit (A Joint Hearing of the Public Utilities Commission, Railroad Commission, and Commission on Environmental Quality), Texas State Capitol, September 22, 2009.
- 2. "High Performance Buildings," M.E. Webber, Senate Committee on Government Organization, Texas Legislature, Austin, TX, April 24, 2008.
- "The Nexus of Energy and Water in Texas," M.E. Webber, Joint Interim Hearing Senate Committee on Business and Commerce and Senate Committee on Natural Resources, Texas Legislature, April 15, 2008.

Testimony by Dr. Webber's Staff and Students for State and Local Government

- "Some Comments on Using Renewable Power to Desalinate Brackish Groundwater on State Lands," F.T. Davidson, Committee on Agriculture, Water & Rural Affairs, Texas Senate, April 24, 2017.
- "The Energy-Water Nexus in Texas," Dr. Carey King, House Natural Resources Committee Hearing, Texas Legislature, June 28, 2012.
- 3. "The Energy-Water Nexus," Ashlynn Stillwell, Senate Natural Resources Committee Hearing, Texas Legislature, September 30, 2008.
- "Water and Nuclear Power," Ashlynn (Holman) Stillwell, Brazos River Authority Public Meeting, June 4, 2008.
- "An Assessment and Comparison of Installed Solar and Wind Capacity in Texas: A Regional Case Study," Erin Keys, Senate Committee on Government Organization, Texas Legislature, Austin, TX, April 24, 2008.

Briefings by Dr. Webber for State and Local Government

- "Water Policy in Texas," Texas Senate Committee on Agriculture, Water & Rural Affairs, Austin, TX, September 10, 2018.
- "Thirst for Power: Energy, Water and Human Survival," M.E. Webber, Texas Legislative Briefing, Austin, TX, August 16, 2016.
- "Energy Water Nexus," M.E. Webber, Texas House and Senate Energy Caucus Briefing, August 28, 2014.
- "Renewables and Brackish Groundwater Desalination in Texas," Texas Water Development Board Roundtable, Austin, TX, February 28, 2013.
- "The Energy Water Nexus in Texas," Texas Water Day at the Capitol, Texas Legislature, Austin, TX, April 27, 2011.
- 5. "The Energy-Water Nexus," Metropolitan Planning Council, Chicago, IL, August, 3, 2010
- 4. "The Nexus of Energy & Water," M.E. Webber, LCRA Board of Directors, Austin, TX, February 16, 2010.
- "The Nexus of Energy & Water," M.E. Webber, Hearing of the Great Lakes Commission, Erie, PA, September 30, 2009.
- 2. "Energy Tradeoffs for Texas," M.E. Webber, Texas Legislative Energy Staffers, Fall 2008
- 1. "Energy Policy," M.E. Webber, Texas Legislative Energy Staffers, Spring 2008

Service to the Profession

Professional, Industrial and Governmental Committee Participation:

- National Academy Committees
 - Member, Roundtable on Science and Technology for Sustainability, The National Academies (2012–2018)
 - Member, Committee on Transitions to Alternative Vehicles and Fuels, National Research Council, National Academies of Sciences & Engineering (2011–2012)
- Editorial Positions
 - Board of Advisers, *Scientific American* (2009–present)
 - Editorial Board, Progress in Energy, Institute of Physics (2018–present)
 - Editorial Board, Environmental Research Letters, Institute of Physics (2008–2020)
 - Editor in Chief, Current Sustainable/Renewable Energy Reports, Springer (2013–2018)
 - Contributing Editor, Earth Magazine (2007–2018)
- Non-Profit Board Positions and Other Committees
 - Member, Technical Review Panel, Energy Systems Integration Division, National Renewable Energy Lab (2021–present)
 - Board Member, Sustainable America (2013–present)
 - Board Member, Pecan Street Inc. (2018–2022)
 - Board Member, Engineering One Planet (2020–2022)
 - Board Member, Houston Advanced Research Center (HARC) (2013–2018)
 - Board of Advisors, Fuel Freedom Foundation (2014–2018)
 - Judge, Platt's Energy Industry Awards (2010–2011, 2013)
 - Vice-Chair, Energy-Water Nexus Interdisciplinary Council, American Society of Mechanical Engineers (ASME) (2010–2013)
 - Founding Board Member, CleanTX Foundation, Austin, Texas (2008–2012)
 - Scientific Advisory Committee, Energy & Water in a Warming World, Union of Concerned Scientists (2011–2013)
 - Steering Committee Member, Power Across Texas, a 501(c)3 non-profit (2007–2012)
 - Executive Committee, Clean Energy Venture Summit (2008–2011), Austin, Texas
 - Member of the Renewable & Sustainable Energy Team with the Texas Workforce Commission as a part of Gov. Perry's Industry Cluster Initiative (2006–2007)
 - Board Member, Hope Street Group, a national 501(c)3 non-profit (2004–2006)

Teaching

Webber has created 1 new online course and 8 new in-person courses for a range of technical and non-technical students from freshmen to Ph.D. candidates. These are in addition to teaching duties for core engineering classes (described below).

Online Courses

Webber's MOOC (Massive Online Open Course) titled "Energy 101" was launched in Fall 2013 to an enrolled student body of more than 44,000 students globally. The class was issued over 10 weeks, with three modules released each week. Each module was comprised of 1) a filmed lecture that was given before a live audience and subsequently edited with animations and custom graphics, 2) interactive web-based exercises, and 3) quizzes. Approximately 13% of the students completed the course.

Electives Taught at UT Austin

- 1. ENERGY TECHNOLOGY & POLICY: a graduate level multidisciplinary, survey course for 66– 113 students (about 1–2 dozen slots are set aside for undergraduate engineers) that covers a wide range of technical, economic, policy, and cultural perspectives of energy. Topics include energy production (by fuel and technology), energy use (by sector and application), and the intersection of energy with water, food, waste, the environment, the economy, domestic policy, and international affairs. Each student is required to write a research paper and create a multimedia video. Videos from this course were featured in the "Educational Technology" section of *ITunes* and a few select papers from this course have since been published.
- 2. ENTREPRENEURSHIP: a multidisciplinary freshman signature course in seminar style, with 15–30 students that introduces students to the concepts of entrepreneurship while giving them the skills to create their own company. This course includes guest lectures from dozens of entrepreneurs and will give the students a chance to actually create a company. Assignments include creating a pitch deck for their company and writing a case study of an entrepreneur whom they will interview.
- 3. WATER AND SOCIETY: a discussion-oriented Tutorial Course in seminar-format for 15 upperdivision Plan II Honors students and others admitted by permission. Topics focus on critically examining the role of water in society, including religion, popular culture, war, foreign policy, the economy and local government. Students each write a long individual research paper.
- 4. INTRODUCTION TO ENERGY AND SOCIETY: a multidisciplinary freshman signature course in large-format lecture style with 250 students and weekly discussion sections led by TAs. Topics cover a survey of energy, including the basics of energy (such as thermodynamics), energy production (by fuel and technology), energy use (by sector and application), and cross-cutting elements the intersection of energy with water, food, waste, the environment, the economy, domestic policy, and international affairs. Each student is required to write a research paper and create a multimedia video.
- 5. ENERGY & INFRASTRUCTURE SYSTEMS FIELD LABORATORY: a multidisciplinary freshman signature course in seminar style, with 15–18 students that introduces non-engineers and

engineers to the world of energy and infrastructure from a hands-on and engineering perspective. Rather than relying exclusively on lectures, this class conducts a weekly field lab that includes site visits to relevant energy and infrastructure sites such as: water and wastewater treatment plants; power plants (natural gas and coal); dam; solar panel manufacturing factory; coal mine; steel mill; nuclear reactor; UT algae library and experimental growth ponds; cement quarry and rotary kiln; semiconductor fab; wind turbine factory; large-scale data center; and recycling facility. Because of the small-format, the class is very discussion-oriented and interactive. Assignments include written field reports and presentations, field trip videos, blogging, group composition (for a class handbook), and an exam.

- 6. ENERGY AT THE MOVIES: a discussion-oriented Tutorial Course in seminar-format for 15 upper-division Plan II Honors students. Topics focus on critically examining how energy is portrayed in popular culture, and students were each assigned a long individual research paper.
- 7. THE ENGINEERED WORLD: ENERGY: a multidisciplinary freshman signature course in seminar style, with 15–18 students in an interactive, discussion-oriented format that includes project-oriented assignments, individual research papers and regular blogging. Topics cover the basics of energy production, use and impacts.
- 8. ENERGY, ENVIRONMENT AND SOCIETY: a multidisciplinary freshman signature course in large-format lecture style with 70–100 students and weekly discussion sections led by TAs. Topics cover the basics of energy production, use and impacts, and assignments include writing research papers and op-eds.
- 9. HOW THINGS WORK: a multidisciplinary freshman signature course in large-format lecture style with 102 students and weekly discussion sections led by TAs. This course is intended to serve as an introduction to mechanical engineering principles and concepts while also revealing how engineering fits into a modern, globalized society. The course covers five main sections: 1) The language of engineering: how things are described; 2) Machines: how things work; 3) Manufacturing: how things are made; 4) Energy: how things are powered; and 5) Transportation: how things move. Lectures include an introduction to quantitative concepts in engineering, along with societal aspects such as culture, economics, and policy. The class includes a semester-long project to build a catapult-based water balloon launcher.

Core Engineering Courses Taught at UT Austin

In addition to the new courses Webber developed, he has also taught core engineering classes: undergraduate thermodynamics for sophomore engineers and thermal fluids systems for juniors. These are described below:

- 1. THERMODYNAMICS: An introduction to the fundamentals of thermodynamics with an emphasis on engineering applications for sophomore mechanical engineering students. Typical class size is 75–90 students, though it is sometimes offered in double-section up to 160 students. Topics include properties, first law, second law, and cycles.
- 2. APPLIED THERMODYNAMICS: An introduction to the fundamentals of thermodynamics with an emphasis on engineering applications for freshman or sophomore non-mechanical engineering students. Typical class size is 100–160 students. Topics include properties, first law,

second law, and cycles, with an emphasis on HVAC systems, power cycles, and aerospace cycles.

3. THERMAL FLUIDS SYSTEMS: This course integrates thermodynamics, fluid mechanics and heat transfer with an emphasis on engineering applications for junior mechanical engineering students. It is a project-based course. Typical class size is 30–40 students.

Course Summary and Evaluations

Course Title	Enrollment	Course Listing	Semester	Overall Course Rating	Overall Instructor Rating
Applied Thermodynamics	118	ME 310 T	S22	4.1	4.4
Applied Thermodynamics	130	ME 310 T	S23	TBD	TBD
Thermodynamics	92	ME 326	F07	4.0	4.0
Thermodynamics	97	ME 326	F08	4.2	4.3
Thermodynamics	81	ME 326	F09	4.0	4.2
Thermodynamics (double section)	155	ME 326	F10	3.9	4.0
Thermodynamics	76	ME 326	F15	4.2	4.2
Thermal Fluid Systems	33	ME 343	S12	3.9	4.2
The Engineered World—Energy	16	FS 301	F07	4.1	4.6
The Engineered World—Energy	17	UGS 302	F08	4.0	4.6
The Engineered World—Energy	15	UGS 302	F09	4.4	4.7
The Engineered World—Energy	18	UGS 302	F10	4.5	4.8
Energy & Infrastructure Systems Field Laboratory	19	UGS 302	S13	4.5	4.7
Energy, Environment & Society	76	UGS 303	S09	3.9	4.2
Energy, Environment & Society	91	UGS 303	S10	3.9	4.3
Entrepreneurship	19	UGS 302	S15	3.9	3.9
Entrepreneurship	18	UGS 302	S16	4.3	4.5
Entrepreneurship	22	UGS 303	F17	4.1	4.1
Entrepreneurship	22	UGS 303	F18	4.9	4.9
Entrepreneurship	27	UGS 303	S21	4.3	4.7
Entrepreneurship	30	UGS 303	F21	4.1	4.4
Entrepreneurship	29	UGS 303	S23	TBD	TBD
How Things Work	102	UGS 303	F13	3.8	4.4
Energy Technology & Policy	66	ME 397, CHE, EER, PA, MAN	S08	4.4	4.6
Energy Technology & Policy	85	ME 397, CHE, EER, PA, MAN	S09	4.6	4.7
Energy Technology & Policy	113	ME 397, CHE, EER, PA, MAN	S10	4.2	4.4
Energy Technology & Policy	86	ME 397, CHE, EER, PA, MAN	S12	4.4	4.6
Energy Technology & Policy	90	ME 382Q, CHE, EER, PA, MAN	S13	4.6	4.8
Energy Technology & Policy	85	ME 382Q, CHE, EER, PA, MAN	S15	4.6	4.8
Energy Technology & Policy	77	ME 382Q, CHE, EER, PA, MAN	S16	4.7	4.6
Energy Technology & Policy	64	ME 382Q, CHE, EER, PA, MAN	S17	4.8	4.9
Energy Technology & Policy	85	ME 382Q, CHE, EER, PA, MAN	S23	TBD	TBD
Energy at the Movies	12	TC 357	S10	4.6	4.7
Energy at the Movies	15	TC 357	S11	4.2	4.5
Energy at the Movies	15	TC 358	F23	TBD	TBD
Water & Society	14	TC 357	S12	4.6	4.7
	>2000	Total Enrollment	Average	4.2	4.5

Student and Post-Doctoral Supervision

Webber has advised or co-advised dozens of undergraduate and graduate students since joining the faculty of UT Austin. These students are organized by those who have completed their degree and those who are in progress.

Doctoral Placements

PhD students under Dr. Webber's supervision have found jobs in academia, national laboratories, government, and industry.

- 31. Dr. Anna Schleifer, Mechanical Engineering, November 2021
 - Argonne National Laboratory, Chicago, IL
- 30. Dr. Philip White, Mechanical Engineering, August 2021
 - National Renewable Energy Laboratory, Golden, CO
- 29. Dr. Neal Mann, Mechanical Engineering, November 2020
 - Argonne National Laboratory, Chicago, IL
- 28. Dr. Arkasama Bandyopadhyay, Mechanical Engineering, August 2020
 - Texas A&M University, College Station, TX
- 27. Dr. Sam Johnson, Mechanical Engineering, September 2019
 - Shell, Houston, TX
- 26. Dr. Catherine Birney, Civil, Architectural and Environmental Engineering, August 2019
 - The Environmental Protection Agency, Washington DC
- 25. Dr. Bruk Berhanu, Civil, Architectural and Environmental Engineering, August 2019
 - Austin Water, Austin, TX
- 24. Dr. Isabella Gee, Civil, Architectural and Environmental Engineering, May 2019
 - Sloan Foundation, New York, NY
- 23. Dr. Sam Aminfard, Mechanical Engineering, Dec 2018
 - ExxonMobil, The Woodlands, TX
- 22. Dr. Margaret A. Cook, Civil, Architectural and Environmental Engineering, Aug 2018
 - Houston Advanced Research Center, Houston, TX
- 21. Dr. Kazunori Nagasawa, Mechanical Engineering, Aug 2018
 - National Renewable Energy Laboratory, Golden, CO

- 20. Dr. Yael R. Glazer, Civil, Architectural and Environmental Engineering, Aug 2018
 - Research Associate, UT Austin
- 19. Dr. Andrew S. Reimers, Mechanical Engineering, May 2018
 - Lancium, Austin, TX
- 18. Dr. Carlos Galdeano, Civil, Architectural and Environmental Engineering, May 2018
 - ExxonMobil, The Woodlands, TX
- 17. Dr. J. Scott Vitter, Mechanical Engineering, May 2018
 - Bain Consulting, Chicago, IL
- 16. Dr. Thomas A. Deetjen, Mechanical Engineering, May 2018
 - RWE Americas
- 15. Dr. Corey M. James, Chemical Engineering, May 2017
 - Academy Professor, U.S. Military Academy, West Point, NY
- 14. Dr. Bonnie C. Roberts, Mechanical Engineering, May 2017
 - Lecturer, Colorado State University, Ft. Collins, CO
- 13. Dr. Michael E. Legatt, Electrical and Computer Engineering, December 2016
 - CEO and Founder, ResilientGrid
- 12. Dr. Charles R. Upshaw, Mechanical Engineering, May 2016
 - CEO and Co-Founder, IdeaSmiths LLC, Austin, TX
- 11. Dr. Robert L. Fares, Mechanical Engineering, August 2015
 - FERC (Federal Energy Regulatory Commission), Washington, D.C.
- 10. Dr. Jared B. Garrison, Mechanical Engineering, December 2014
 - Post-Doctoral Fellow, ETH, Zurich, Switzerland
- 9. Dr. Joshua D. Rhodes, Civil, Architectural and Environmental Engineering, April 2014
 - Research Scientist, UT Austin
- 8. Dr. Chioke B. Harris, Mechanical Engineering, October 2013
 - National Renewable Energy Laboratory, Golden, CO
- 7. Dr. Kelly Twomey Sanders, Civil, Architectural and Environmental Engineering, Oct 2013
 - Associate Professor, Civil Engineering, University of Southern California

- 6. Dr. Ashlynn S. Stillwell, Civil, Architectural and Environmental Engineering, May 2013
 - Associate Professor, Civil and Environmental Engineering, University of Illinois, Urbana-Champaign, IL
- 5. Dr. Aaron K. Townsend, Mechanical Engineering, January 2013.
 - NextEra, Austin, TX
- 4. Dr. Ben H. Gully, Mechanical Engineering, August 2012,
 - Research Engineer, Det Norske Veritas (DNV), Norway
- 3. Dr. Stuart M. Cohen, Mechanical Engineering, August 2012
 - National Renewable Energy Laboratory, Golden, CO
- 2. Dr. Nathan H. Putnam, Mechanical Engineering, August 2012
 - Research Industrial Engineer, Army Corps of Engineers, Urbana-Champaign, IL
- 1. Dr. Colin M. Beal, Mechanical Engineering, May 2011
 - CEO and Founder, Low Carbon Beef, Lander, WY.

Ph.D. Supervisions Completed

- Advisor/Co-Advisor:
 - 1. Dr. Anna Schleifer, Mechanical Engineering, November 2021 , "A Method for Investigating the Value Evolution of Utility-Scale PV-plus-Battery Hybrid Systems"
 - 2. Dr. Philip White, Mechanical Engineering, August 2021 , "A Method to Model the System-Wide Impacts of Residential Heating Electrification Under Various Future Load Scenarios in Texas"
 - 3. Dr. Neal Mann, Mechanical Engineering, November 2020, "Technoeconomic Modeling of Nuclear Hybrid Energy Systems with Heat Storage" (Co-Advisor: Sheldon Landsberger)
 - 4. Dr. Arkasama Bandyopadhyay, Mechanical Engineering, August 2020, "Techno-Economic Methods for Analyzing the Energetic and Economic Effects of Solar, Storage, and Demand Response"
 - 5. Dr. Sam Johnson, Mechanical Engineering, September 2019, "A Method for Evaluating Grid Stability with High Penetrations of Renewable Energy and Energy Storage"
 - 6. Dr. Catherine Birney, Civil, Architectural and Environmental Engineering, August 2019 "A Framework for Evaluating Energy Embedded in the United States' Food System Including Trade-Offs Between Refrigeration and Food Waste"
 - 7. Dr. Bruk Berhanu, Civil, Architectural and Environmental Engineering, August 2019, "Investigating the Role of Decentralized Water Systems as Strategies for Urban Water and Wastewater Management"

- 8. Dr. Isabella Gee, Civil, Architectural and Environmental Engineering, May 2019, "Deliver Me from Waste: Impacts of E-Commerce on Food Supply Chain Energy Use"
- 9. Dr. Sam Aminfard, Mechanical Engineering, Dec 2018, "Methods for Evaluating the Potential to Power Industrial Processes with Geospatially and Temporally Varying Renewable Energy Resources"
- Dr. Margaret A. Cook, Civil, Architectural and Environmental Engineering, Aug 2018, "A techno-economic and policy analysis of integrated, cross-sectoral water management and conservation"
- 11. Dr. Kazunori Nagasawa, Mechanical Engineering, Aug 2018, "Optimizing Integrated Renewable and Gaseous Systems for Grid and Residential Applications"
- 12. Dr. Yael R. Glazer, Civil, Architectural and Environmental Engineering, Aug 2018, "A Techno-Economic Framework for Mitigating Environmental Liabilities from Unconventional Oil and Gas Operations in the United States"
- 13. Dr. Andrew S. Reimers, Mechanical Engineering, May 2018, "Interactions between Power Generation and Desalination Systems"
- 14. Dr. Carlos Galdeano, Civil, Architectural and Environmental Engineering, May 2018
- 15. Dr. J. Scott Vitter, Mechanical Engineering, May 2018, "Opportunities for Urban Water Systems to Deliver Demand-Side Benefits to the Electric Grid"
- 16. Dr. Thomas A. Deetjen, Mechanical Engineering, May 2018, "The benefits and challenges of renewables on the electric grid and opportunities for systems integration and demand side management"
- Corey James, Chemical Engineering, May 2017, "Reducing the Cost of Operational Water on Military Bases Through Modeling, Optimization, and Control" (Co-Advisor: Tom Edgar)
- Bonnie Roberts, Mechanical Engineering, May 2017, "Fire Safety in Sustainable Buildings: Status, Options, Alternatives" (Co-Advisor: DK Ezekoye)
- 19. Michael E. Legatt, Electrical and Computer Engineering, December 2016, "An Experimental and Analytical Method for Assessing the Integration of Electric Vehicles into the Bulk Power System"
- 20. Charles R. Upshaw, Mechanical Engineering, May 2016, "Peak Load Reduction and Water Savings Potential of Integrated Thermal Energy and Auxiliary Water Storage Systems for Residential Buildings in Austin, Texas"
- 21. Robert L. Fares, Mechanical Engineering, August 2015, "A Framework to Model and Optimize the Operation of Lithium-Ion Energy Storage in Electricity Markets, and an Assessment of Lithium-Ion Energy Storage in Texas"
- 22. Jared B. Garrison, Mechanical Engineering, December 2014, "A Grid-Level Unit Commitment Assessment of High Wind Penetration and Utilization of Compressed Air Energy Storage in ERCOT"
- 23. Joshua D. Rhodes, Civil, Architectural and Environmental Engineering, April 2014, "Impacts of Big Data on Optimal Residential Energy Consumption Prediction and Analysis"

- 24. Kelly Twomey Sanders, Civil, Architectural and Environmental Engineering, October 2013, "Analytical methods and strategies for using the energy-water nexus to achieve cross-cutting efficiency gains"
- 25. Chioke B. Harris, Mechanical Engineering, October 2013, "An Assessment of the System Costs and Operational Benefits of Vehicle-to-Grid Schemes"
- 26. Ashlynn S. Stillwell, Civil, Architectural and Environmental Engineering, April 2013, "Water Impacts on Thermoelectric Generation"
- 27. Aaron K. Townsend, Mechanical Engineering, January 2013, "A Grid-Level Assessment of Compressed Air Energy Storage in ERCOT"
- 28. Stuart M. Cohen, Mechanical Engineering, August 2012, "A Techno-economic Plantand Grid-Level Assessment of Flexible CO₂ Capture" (Co-Advisor: Gary Rochelle)
- 29. Nathan Putnam, Mechanical Engineering, August 2012, "Computer Tools for Designing Self-Sufficient Military Base Camps" (Co-Advisor: Carolyn Conner Seepersad)
- 30. Ben Gully, Mechanical Engineering, August 2012, "Hybrid Powertrain Design for Naval and Commercial Ocean-Going Vessels" (Co-Advisor: Carolyn Conner Seepersad)
- 31. Colin M. Beal, Mechanical Engineering, May 2011, "Constraints on algal biofuel production" (Co-Advisors: Dr. Rod Ruoff, Dr. Bob Hebner)
- Committee Member:
 - 1. Christina Wirsching, Architecture, Fall 2019
 - 2. Kristina Tjachman, Architecture, Spring 2019
 - 3. Julia O'Rourke, Mechanical Engineering, Fall 2017
 - 4. Austin Anderson, Mechanical Engineering, Spring 2017
 - 5. Amanda Cuellar, Civil, Architectural and Environmental Engineering, Spring 2016
 - 6. Krystian Perez, Chemical Engineering, Spring 2016
 - 7. Kyle Chavez, Mechanical Engineering, Spring 2016
 - 8. Sean DeRosa, Chemical Engineering, Spring 2016
 - 9. Jeremy Mayo, Education, Spring 2015
 - 10. Brady Stoll, Mechanical Engineering, Spring 2015
 - 11. Kristen Cetin, Civil, Architectural and Environmental Engineering, Spring 2015
 - 12. Duehee Lee, Electrical and Computer Engineering, Spring 2015
 - 13. Daniel Zavala, Chemical Engineering, August 2014.
 - 14. Elena Nirlo, Civil, Architectural and Environmental Engineering, April 2014
 - 15. Felix Gutierrez, Electrical and Computer Engineering, Fall 2013
 - 16. Jakub Felkl, Mechanical Engineering, Fall 2013
 - 17. Marwa Zataari, Civil, Architectural and Environmental Engineering, Fall 2013
 - 18. Robert Crawford, Mechanical Engineering, Spring 2013
 - 19. Cassandra Telenko, Mechanical Engineering, Fall 2012

- 20. Ian Partridge, LBJ School of Public Affairs, Fall 2012
- 21. Nawaf Alhajeri, Civil Engineering, Summer 2012
- 22. Todd Davidson, Mechanical Engineering, Spring 2012
- 23. Meryl Stoller, Mechanical Engineering, Fall 2011
- 24. Jason Albert, Mechanical Engineering, Spring 2011
- 25. Mariana Dionisio, Chemical Engineering, Spring 2010
- 26. Ross Dugas, Chemical Engineering, Fall 2009
- 27. Tammy Thompson, Chemical Engineering, Fall 2008
- 28. Taylor Green, Mechanical Engineering, Spring 2008

M.S./M.A./M.P.Aff/M.G.P.S./M.B.A. Supervisions Completed

- Advisor/Co-Advisor:
 - 1. Sarah Dodamead, Energy & Earth Resources and LBJ School of Public Affairs, May 2022
 - 2. Heather S. Rose, Energy & Earth Resources, August 2020
 - 3. Brittany L. Speetles, Mechanical Engineering, May 2020, "Representative Day Selection in Capacity Expansion Modeling: An Accelerated Energy Transition for Texas"
 - 4. Faith S. Martinez Smith, Energy & Earth Resources and LBJ School of Public Affairs, May 2016, "Does Coal Mining in West Virginia Produce or Consume Water? A net water balance of seven coal mines in Logan County, West Virginia, an aquifer assessment, and the policies determining water quantities"
 - 5. Andrew S. Reimers, Mechanical Engineering, August 2015, "Low Temperature Heat and Water Recovery from Super-critical Coal Plant Flue Gas"
 - 6. Gary M. Gold, Environmental Water and Resource Engineering, May 2015, "The Energy-Water Nexus: An Analysis and Comparison of Various Configurations Integrating Desalination with Renewable Power"
 - 7. Brynjólfur V. Ólafsson, Mechanical Engineering, December 2014, "The Technical Potential of Renewable Natural Gas (RNG) in the United States, and the Economic Potential of Methanation-derived RNG in Texas"
 - 8. Margaret A. Cook, Environmental Water and Resource Engineering and LBJ School of Public Affairs, December 2014, "Mitigating the Impacts of Droughts and Heat Waves at Thermoelectric Power Plants in the United States"
 - 9. Jill B. Kjellsson, Environmental Water and Resource Engineering and LBJ School of Public Affairs, August 2014, "The Energy-Water Nexus: Energetic Analysis of Water and Wastewater Treatment, Distribution and Collection"
 - 10. Erin Keys, Mechanical Engineering, August 2014, "Variable Speed Drives for Power Factor Correction in the Water Sector"
 - 11. Jeremy R. Zaborowski, Energy & Earth Resources, August 2014, "Valuation of an Advanced Combined Cycle Power Plant and its Cost of New Entry (CONE) Into the ER-COT Market"

- 12. Yael R. Glazer, Environmental Water and Resource Engineering, May 2014, "The Potential for Using Energy from Flared Gas or Renewable Resources for On-Site Hydraulic Fracturing Wastewater Treatment"
- 13. Elizabeth Waite, Energy & Earth Resources, December 2013, "Decision Support for Project Selection in Texas Water Planning"
- 14. Colin M. Meehan, Energy & Earth Resources, December 2013, "Estimating Emissions Impacts to the Bulk Power System of Increased Electric Vehicle and Renewable Energy Usage"
- 15. Mary Clayton, Mechanical Engineering, August 2013, "The Energy Water Nexus: Increasing Water Supply By Desalination Integrated With Renewable Power and Reducing Water Demand By Corporate Water Footprinting"
- 16. Alisa Schackmann, LBJ School of Public Affairs, May 2013, Topic: Underground Transmission
- 17. Charlie Upshaw, Mechanical Engineering, May 2012, "Thermodynamic and Economic Feasibility Analysis of a 20 MW Ocean Thermal Energy Conversion (OTEC) Power Plant"
- 18. Adolfo Lozano, Mechanical Engineering, August 2011, "Analysis of a Novel Thermoelectric Generator in the Built Environment"
- Castlen Kennedy, Energy & Earth Resources and LBJ School of Public Affairs, August 2011, "Assessing the Viability of Compressed Natural Gas as a Transportation Fuel for Light-Duty Vehicles in the United States"
- 20. Emily Grubert, Environmental Water Resource Engineering, May 2011, "Freshwater on the Island of Maui: System Interactions, Supply, and Demand"
- 21. Melissa Lott, Mechanical Engineering and LBJ School of Public Affairs, December 2010, "Quantifying the Economic and Environmental Tradeoffs of Electricity Mixes in Texas, Including Energy Efficiency Potential Using the Rosenfeld Effect as a Basis for Evaluation"
- 22. David Wogan, Mechanical Engineering and LBJ School of Public Affairs, December 2010, "An Integrated Resource and Biological Growth Model for Estimating Algal Biomass Production With Geographic Resolution" (Co-Advisor: Dr. Alex da Silva)
- 23. Chioke Harris, Mechanical Engineering, August 2010, "A Mixed-Integer Model for Optimal Grid-Scale Energy Storage Allocation" (Co-Advisor: Dr. Jeremy Meyers)
- 24. Emily Grubert, Energy and Earth Resources, August 2010, "Maui's Freshwater Status, Allocation, and Management for Sustainability"
- 25. Kelly Twomey, Mechanical Engineering, May 2010, "The Energy-Water Nexus: An Examination of the Water Quality Impacts of Biofuels"
- 26. Ashlynn Stillwell, Environmental & Water Resource Engineering and LBJ School of Public Affairs, May 2010, "The Energy-Water Nexus in Texas" [Winner of the American Water Works Association's (AWWA's) Second Place Academic Achievement Award for the best Master's Thesis]
- 27. Michael O'Donnell, Mechanical Engineering, December 2009, "Barriers to a Biofuels Transition in the U.S. Liquid Fuels Sector"

- 28. Jared Garrison, Mechanical Engineering, December 2009, "An Integrated Energy Storage Scheme for a Dispatchable Wind and Solar Powered Energy System"
- Cassandra Telenko, Mechanical Engineering, December 2009, "Developing Green Design Guidelines: A Formal Method and Case Study" (Co-Advisor: Dr. Carolyn Conner Seepersad)
- 30. Stuart Cohen, Mechanical Engineering, May 2009, "The Implications of Flexible CO₂ Capture on the ERCOT Electric Grid" (Co-Advisor: Dr. Gary Rochelle)
- 31. Colin Smith, Mechanical Engineering, May 2009, "Conversion of Wet Ethanol to Syngas via Filtration Combustion" (Co-Advisor: Dr. Janet Ellzey)
- 32. Ben Eisterhold, Energy & Earth Resources, May 2008, "The Geotechnical and Economic Constraints of the U.S. Strategic Petroleum Reserve"
- Committee Member or 2nd Reader:
 - 1. Tomas Fuentes–Afflick, Energy & Earth Resources, May 2022
 - 2. Julia Conger, Electrical and Computer Engineering, December 2018
 - 3. Hector Arreola, Energy & Earth Resources, May 2017
 - 4. Kayla Fenton, Energy & Earth Resources and McCombs School of Business, May 2017
 - 5. Jose D. Beceiro, Energy & Earth Resources, May 2015
 - 6. Guillermo Hernandez, Electrical Engineering, May 2014
 - 7. Julia O'Rourke, Mechanical Engineering and LBJ School of Public Affairs, May 2013
 - 8. Robert Fares, Mechanical Engineering, August 2012
 - 9. Constance McDaniel Wyman, Energy & Earth Resources, May 2011
 - 10. Claire Follete, Mechanical Engineering, May 2010
 - 11. Nate Lapierre, Energy & Earth Resources, May 2010
 - 12. Morayo Noibi, Chemical Engineering, August 2009
 - 13. Andrew Durkee, Energy & Earth Resources, May 2009
 - 14. Christopher Smith, LBJ School of Public Affairs, May 2009
 - 15. Susan Peterson, LBJ School of Public Affairs, May 2009
 - 16. Maura Nippert, Mechanical Engineering, December 2008
 - 17. Ross Johnson, Mechanical Engineering, August 2008
 - 18. Federico Pozo, Energy & Earth Resources, May 2008
 - 19. John Losinger, LBJ School of Public Affairs, May 2008
 - 20. Arash Nazhad, Energy & Earth Resources, May 2008
 - 21. In-Hul Chwang, Energy & Earth Resources, May 2008
 - Cyrus Tashakorri, McCombs School of Business and LBJ School of Public Affairs, May 2008

Research Professionals and Staff Supervisions:

 $M.E. \ Webber$

- 1. Dr. Emily Beagle, Research Associate, April 2022 present
- 2. Dr. Yael Glazer, Research Associate, March 2019 present
- 3. Dr. Joshua Rhodes, Research Scientist, May 2014 present
- 4. Mr. Jeff Phillips, Technical Illustrator, November 2012 present
- 5. Dr. Thomas Deetjen, Research Associate, May 2020 January 2022
- 6. Dr. Isabelle Gee, Post-Doctoral Fellow, October 2019 April 2022
- 7. Dr. Emily Beagle, Post-Doctoral Fellow, September 2018 December 2019
- 8. Dr. Todd Davidson, Research Associate, September 2014 August 2019
- 9. Dr. Charles Upshaw, Post-Doctoral Fellow, June 2016 June 2018
- 10. Dr. Robert Fares, Post-Doctoral Fellow, August 2015 August 2016
- 11. Ms. Marianne Shivers Gonzalez, Special Projects Coordinator, January 2011 January 2016
- 12. Ms. Griffin Gardner, Media Coordinator, August 2011 August 2016
- 13. Mr. Juan Garcia, Media Producer, November 2012 July 2015
- 14. Dr. Chioke Harris, Post-Doctoral Fellow, January 2014 August 2014
- 15. Dr. Colin M. Beal, Post-Doctoral Fellow, December 2012 August 2013
- 16. Mr. Roger Duncan, Research Analyst, September 2011 August 2013
- 17. Dr. Carey W. King, Research Associate & Post-Doctoral Fellow, Feb 2007 Aug 2013
- 18. Dr. Fred C. Beach, Research Associate & Post-Doctoral Fellow, Sep 2010 July 2013
- 19. Dr. Ben H. Gully, Post-Doctoral Fellow, September 2012 December 2012
- 20. Mr. Alex Breckel, Research Engineer, January 2012 August 2012
- 21. Ms. Sheril R. Kirshenbaum, Research Scientist, January 2010 February 2012
- 22. Ms. Melissa C. Lott, Research Scientist, January 2011 October 2011
- 23. Ms. Amanda C. Cuellar, Research Engineer, May 2009 August 2010

Ph.D./M.S. Supervisions In Progress:

- Advisor:
 - 1. Nick Laws, Mechanical Engineering
 - 2. Drew Kassel, Mechanical Engineering
 - 3. Matthew Skiles, Mechanical Engineering

- 4. Melina Katsiroumba, Mechanical Engineering
- 5. Léa Daniel, Mechanical Engineering
- 6. Leah Pretorius, Mechanical Engineering
- 7. Sarah Reynolds, Mechanical Engineering
- 8. Esther Goita, Energy & Earth Resources

Undergraduate Research Supervision:

- 1. Plan II Thesis Supervision
 - (a) Advisor on Undergraduate/Plan II Thesis:
 - i. Braden Pecora, December 2022
 - ii. Emma Laub, May 2022
 - iii. Zoe Littleton, December 2019
 - iv. Gregory Ross, May 2019
 - v. Trey Black, May 2018
 - vi. Coleman Tharpe, May 2015
 - vii. Will Gorman, May 2014 [Winner of the Model Plan II Thesis Award]
 - viii. Kevin Clegg, May 2013
 - ix. Austin Shires, May 2012
 - x. Zach Ullah, May 2012
 - xi. James Newman, May 2012
 - xii. Rob Taylor, May 2012
 - xiii. Brad Parro, May 2011
 - xiv. Will Johnson, May 2011
 - xv. Amanda Cuellar, May 2009
 - xvi. Paolo Puccini, May 2009
 - xvii. Avi Wolfson, May 2008
 - xviii. Nick Padon, December 2007
 - xix. Ben Branstetter, December 2007
 - (b) Second Reader on Plan II Thesis:
 - i. Megan Stephens, May 2011
 - ii. Ashley Powell, May 2011
 - iii. Jim Coutre, May 2008
- 2. Undergraduate Assistants
 - (a) Current
 - i. Justin Shih, Summer 2021 present
 - ii. Braden Pecora, Summer 2021 present
 - iii. Mia Moore, Summer 2021 present

iv. Jena Medina, Spring 2023 – present

v. Riley Robinson, Spring 2023 – present

vi. Vardhan Koripally, Spring 2023-present

(b) Former

- i. Emma Laub, Summer 2019 May 2022
- ii. Aaron Nisman, Summer 2020 May 2022
- iii. William Wade, Summer 2020 May 2022
- iv. Carson Reed, Summer 2019 December 2021
- v. Kelsey Richardson, Summer 2018 May 2021
- vi. Carolina Muñoz Castillo, Spring 2020–Spring 2021
- vii. Hannah Fawcett, Summer 2017 Fall 2019
- viii. Gregory Ross, Summer 2016 Spring 2018
- ix. Nicholas Behling, Fall 2017–Summer 2018
- x. Julia Conger, Fall 2017 Summer 2018
- xi. Gordon Tsai, Summer 2016 Summer 2018
- xii. Heather Rose, Summer 2016 Summer 2018
- xiii. Brittany Speetles, Fall 2016 Summer 2018
- xiv. Laura Rivera Gomez, Fall 2016 Fall 2017
- xv. Yuval Edrey, Summer 2015 Spring 2017
- xvi. Jamie Lee, Spring 2015 Spring 2016
- xvii. Betsy Martinez, Spring 2015 Spring 2016
- xviii. Marisa Ballard, Spring 2015 Spring 2016
- xix. Breanna Granzow, Spring 2013 Summer 2015
- xx. Coleman Tharpe, Spring 2013 Summer 2015
- xxi. Kody Jones, Mechanical Engineering, Spring 2014 Fall 2014
- xxii. Robert Kennedy, Mechanical Engineering, Spring 2014
- xxiii. Will Gorman, Chemical Engineering and Plan II, Spring 2012 Spring 2014
- xxiv. Zach Wilhoit, Mechanical Engineering, Fall 2012 Summer 2013
- xxv. Blake Sandoval, Mechanical Engineering, Fall 2012 Spring 2013
- xxvi. Vineet Raman, Electrical Engineering, Fall 2012 Spring 2013
- xxvii. Isaac Sanchez, Mechanical Engineering, Summer 2012 Spring 2013
- xxviii. Richard North, Mechanical Engineering, Fall 2011 Fall 2012
- xxix. Susan Conover, Mechanical Engineering, Fall 2011 Spring 2012
- xxx. Neil Barbaria, Electrical and Computer Engineering, Fall 2011
- xxxi. James Newman, Mechanical Engineering and Plan II, Fall 2010 May 2012
- xxxii. John Fyffe, Mechanical Engineering, Fall 2008 Summer 2011
- xxxiii. Mary Clayton, Mechanical Engineering, Fall 2009 May 2011
- xxxiv. Courtney Grosvenor, Mechanical Engineering, Summer 2010 May 2011
- xxxv. Veronica Pulido, Mechanical Engineering, Fall 2009 Fall 2010
- xxxvi. Lauren Ayers, Liberal Arts, Spring 2010 August 2010
xxxvii. Charlie Upshaw, Mechanical Engineering, Fall 2009 – Spring 2010

xxxviii. Christopher Mayer, Mechanical Engineering, Summer 2010 - Fall 2010

xxxix. Royce Chang, Mechanical Engineering and Plan II, Fall 2009

- xl. Adam Petri, Mechanical Engineering, Fall 2009
- xli. Alix Broadfoot, Civil Engineering, Spring 2007 Spring 2009
- xlii. Amanda Cuellar, Chemical Engineering and Plan II, Spring 2007 Spring 2009
- xliii. Alex Levy, Mechanical Engineering, Spring 2009
- xliv. Tommy Browder, Mechanical Engineering, Summer 2008 Fall 2008
- xlv. Scott McNally, Chemical Engineering, Summer 2008–Fall 2008
- xlvi. Andrew King, Mechanical Engineering, Spring 2008–Summer 2008
- xlvii. Alison Whitt, Mechanical Engineering, Spring 2008
- xlviii. Erin Keys, Mechanical Engineering, Fall 2007–Spring 2008
- xlix. Afolabi Ogunnaike, Chemical Engineering, Fall 2007–Spring 2008
 - l. Avi Wolfson, Mechanical Engineering and Plan II, Fall 2007–Spring 2008
 - li. Henri Kjellberg, Aerospace Engineering, Spring 2007 Summer 2007
 - lii. Andrea Pearlman, Mechanical Engineering, Spring 2007

Sponsors: September 2007–December 2022

Between September 2007 and December 2022, Dr. Webber has helped develop over \$40 million of support for over 100 different projects. Of that amount, approximately \$18.6 million is for projects that Webber supervises (over \$1.2 million per year, on average). That support came from different categories of sponsors as noted in the table. Each institutional sponsor is listed below.

Funder Category	Amount (Rounded to the nearest \$1000s)
Foundations and Non-Profits	\$7,031,000
State Government	\$4,342,000
Federal Government	\$3,634,000
Industry (Contracts and Gifts)	\$2,858,000
Local Government	\$595,000
Gifts from Individuals	\$199,000
Total	\$18,660,000

Federal Government Sponsors:

- U.S. Army Corps of Engineers
- National Science Foundation
- U.S. Environmental Protection Agency
- U.S. Department of Energy
- Idaho National Laboratory
- Oak Ridge National Laboratory
- Pacific Northwest National Laboratory
- Sandia National Laboratory
- Canada Pension Plan Investment Board

State Government Sponsors:

- ERCOT (Electric Reliability Council of Texas)
- Texas State Energy Conservation Office
- Texas Air Research Center
- Texas Commission on Environmental Quality
- Texas Water Development Board
- Texas Emerging Technology Fund
- Texas General Land Office

• The University of Texas at Austin

• Harrington Fellows Program at UT Austin

Local Government Sponsors:

- Austin Energy
- Austin Water Utility
- Lower Colorado River Authority
- Pedernales Electric Cooperative
- Tarrant Regional Water District

Foundations and Non-Profits:

- 308 Grace Street
- Alfred P. Sloan Foundation
- American Clean Skies Foundation
- Aspen Institute
- Bake Family Trust
- BQuest Foundation
- Catena Foundation
- Center for Climate and Energy Solutions
- Charities Aid Foundation

- CleanTX Foundation
- Cynthia and George Mitchell Foundation
- Doris Duke Foundation (via Pecan Street, Inc.)
- EcoRise Youth Innovations
- Education Foundation of America
- Energy Foundation
- Environmental Defense Fund
- Hawaii Community Foundation
- Hewlett Foundation
- Intel Foundation
- Jewish Community Fund
- Kuwait Foundation for the Advancement of Science
- Lemelson Foundation
- Markle Foundation
- Meadows Foundation
- Pecan Street, Inc.
- Power Across Texas
- Ray C. Anderson Foundation
- Rockefeller Foundation
- Roy A. Hunt Foundation
- San Antonio Area Foundation
- Sloan Foundation

- Sustainable America
- Texas Environmental Grantmakers Group
- Tiller Family Foundation
- Ulopono Initiative
- Watereuse Foundation
- Webber Family Foundation
- Winkler Family Foundation

Industry:

- 1804 Operating
- 27 Ventures
- Aethon Energy
- Air Liquide
- AMD
- American Chemistry Council
- Apache
- APEX
- Arena Energy
- AT&T
- BP
- CB&I

- Centerpoint
- Chesapeake Energy
- Chevron
- Crescent Energy
- Crescent Point Resources
- Deloitte
- El Paso
- Enchanted Rock
- ENGIE North America
- ExxonMobil
- First Republic Private Wealth Management
- First Solar
- GDS Associates
- Goodnight Midstream
- Grid United
- Hewlett Packard Labs
- InnerHarbor Advisors
- Invenergy
- Itron
- Johnson Controls
- Luminant

- Meta
- National Instruments
- Northern Star Generation
- Omega Nine Corporation
- OpenAlgae
- OWL
- Proctor and Gamble
- Quicksilver
- Rockland Capital
- Shell
- Southwestern
- Spears Abacus Advisors
- Specific Energy
- Statoil
- Texas Gas Service
- Total Petrochemical
- TPS Power Holdings LLC
- U.S. Dairy Association
- Vitol
- WateReuse Texas
- WoodGroup Mustang
- YarCom

University Committee Assignments

- The University of Texas System
 - Member, UT System Academy of Distinguished Teachers (2014–present)
- The University of Texas at Austin
 - Chair, Search Committee, Senior Vice Provost for Curriculum & Enrollment and Dean of Undergraduate Studies (2021–2022)
 - Interim Director, Energy Institute (2018)
 - Deputy Director, Energy Institute (2013–2018)
 - Co-Director, Clean Energy Incubator (2009–2018)
 - Member, Plan II Advisory Council (2014–2018)
 - Member, Technology-Enhanced Educational Oversight Committee (2014–2018)
 - Member, Information Technology Committee (2014–2018)
 - Member, Regents' Outstanding Teaching Awards committee (2013)
 - Faculty panel, Bridging Disciplines Program in International Studies (2007–2009)
 - Associate Director, Center for International Energy & Environmental Policy (2006–2012)
 - Member, Working Group on Energy and Water Systems of the President's Task Force on Sustainability (Summer 2008)
- Cockrell School of Engineering, LBJ School of Public Affairs, Jackson School of Geosciences
 - Graduate Studies Committee, Mechanical Engineering (2007–present)
 - Graduate Studies Committee, Civil, Architectural & Environmental Eng. (2010–present)
 - Graduate Studies Committee, Energy and Earth Resources (2007–present)
 - Graduate Studies Committee, LBJ School of Public Affairs (2009 present)
 - Member, Engineering Public Affairs Advisory Committee, Cockrell School (2007–2008)
 - Member, OYEG Selection Committee, Cockrell School (2008)
- Department of Mechanical Engineering
 - Member, Diversity, Equity & Inclusion Committee (2022–present)
 - Member, Building Committee (2022–present)
 - Member, Comprehensive Periodic (Post-Tenure) Reviews Committee (2021–2022)
 - Member, Quals Committee (Jan 2007–Spring 2009)