

JOSHUA MOREJOHN, PE, CEM

EXECUTIVE DIRECTOR, UTILITIES & ENGINEERING
FACILITIES MANAGEMENT | UNIVERSITY OF CALIFORNIA, DAVIS
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Proven leader and innovative engineering manager with 15 years' experience in campus utilities and infrastructure operations. Specializes in utility systems planning, district energy optimization, and building energy efficiency.

University of California, Davis – Facilities

Davis, CA

Executive Director of Utilities & Engineering

2022 – Present

Leadership of the Utilities Operations and Engineering teams in Facilities. Responsible for the efficient management, operations and maintenance of our large-scale utility infrastructure for the campus, including engineering & controls support.

- Utilities (75 FTE) – Operates and maintains campus utility infrastructure including:
 - Three thermal plants and their district energy systems
 - A renewable energy anaerobic digester plant
 - A campus substation and its high voltage distribution system, emergency generators & outdoor lighting
 - Domestic, utility and agricultural water wells and storage tanks and their distribution systems
 - A wastewater treatment plant and the sewer and storm water collection systems
 - Solid waste collection and transportation
- Engineering (25 FTE) – Planning, managing and optimizing campus utility systems and building energy systems to support the campus mission and practice sustainable stewardship. Includes planning, installation, operation and management of instrumentation, controls and metering systems and infrastructure.

University of California, Davis – Facilities

Davis, CA

Director of Energy & Engineering, Energy Manager

2012 – 2022

Leadership of the Facilities Energy & Engineering team in the development, management, coordination, and implementation of numerous energy initiatives across campus.

- Managed numerous initiatives during COVID pandemic response related to HVAC systems including testing air exchanges in classrooms, procuring and deploying purifiers, building, publishing, and updating the campus HVAC system database, and investigating and answering questions from campus faculty and staff.
- Led development and successful implementation of self-funded ongoing commissioning program, building an in-house engineering team and an award-winning program, and achieving \$6.6M savings over the first 5 years.
- Initiated and maintained close ongoing collaborations with teams from Building Maintenance Services and Utilities to solve problems and improve processes, customer service and system efficiencies.
- Brought in-house, custom-built, energy-centric web apps for the campus community from concept to full production, including the Campus Energy Education Dashboard and TherMOOstat, and related educational sites.
- Formed academic partnerships across campus and collaborations with campus energy teams around the world, co-founding the Global Energy Manager's Workshop held every fall. Expanded student internship program to include graduate student researcher positions for Energy Graduate Group.
- Built a Controls Engineering team to manage campus HVAC control systems and provide engineering oversight for system planning and development, including management of campus standards and new building commissioning.

University of California, Davis – Utilities

Davis, CA

Project Engineer

2007 – 2012

- Energy engineering project work for Utilities and technical support for other campus departments, including development and management of projects for Strategic Energy Program on utility systems including steam & chilled water from central plant to buildings, and domestic & agricultural water system wells, pumps, and controls.

R&A Engineering Solutions, Inc.

Sacramento, CA

Mechanical Engineer

2003 – 2007

- Management & design of mechanical HVAC & plumbing system projects for projects ranging from a 3-story classroom building to hospital linear accelerator imaging rooms to a 270,00 sq ft medical office building.
- Evaluation of existing district heating and cooling systems for optimization opportunities through field survey, data collection and system analysis with energy, economics, and hydraulic modeling software programs.

GE Power Systems, Optimization Software

Davis, CA

Application Engineer & Technical Sales Support Engineer

2002 – 2003

- Engineering thermodynamic software models of power plants for performance monitoring and optimization as Delivery Process Lead. Earned GE Power Systems Power Award for outstanding performance, March 2003.
- Short-term technical support for Latin America sales team, including presentations to power plant operational staff.

CERTIFICATIONS

Professional Engineer License, Mechanical, California (M33210)
Certified Energy Manager, Association of Energy Engineers (21061)

since 2005
since 2014

SKILLS

- Strategic planning for operations
- Utility & buildings systems design & review
- Construction and project management
- System optimization and commissioning
- Interpersonal skills & conflict-management
- Data analytics & visualization
- 10+ years of teaching experience and collaboration with university faculty
- 20 years presenting to large & diverse audiences
- Bilingual (English & Spanish)

EDUCATION

University of California, Davis, Bachelor of Science, Mechanical Engineering & Bachelor of Arts, Spanish (2002)

SELECTED PRESENTATIONS, PAPERS & AWARDS

Global Energy Manager's Workshop (Davis, CA) 2019-2021
Organizer, Presenter & Moderator for annual workshop (with Dr. Kurt Kornbluth and the Energy & Efficiency Institute)

2020 International District Energy Association Campus Energy Conference (Denver, CO) February 2020
Integrating Solar Thermal and Biogas into an Innovative District Energy System Replacement (with David Trombly & Joe Yonkoski)
UC Davis Chilled Water, Thermal Storage and Building Integrated Optimization Project (with Joe Yonkoski)

2019 Energy Manager of the Year & Excellence in Energy Efficiency Awards June 2019
Association of Energy Engineers, NorCal Chapter

Renewable Energy, Volume 130 June 2018
Pathways to carbon neutral energy systems at the University of California, Davis (with Steve Wiryadinata & Dr. Kurt Kornbluth)

2018 International District Energy Association Annual Conference (Vancouver, BC) June 2018
Converting UC Davis Campus Steam to Carbon-Neutral Heating Water System (with Colin Moyer & Mike Bove)

2017 APPA Conference (San Francisco, CA) July 2017
Road to a Sustainable Energy Supply: How Steam-to-Hot-Water Conversion and other Transformational Changes Lead the Way

2017 California Higher Education Sustainability Conference (Santa Barbara, CA) June 2017
Making Net Zero a Reality with New Construction, Retrofits and PPA's (with Nicolas Fauchier-Magnan)

2017 Intelligent Buildings Conference Campus Summit (San Diego, CA) June 2017
Co-chair for Higher Education Summit: Developing a Campuswide Smart Strategy

Energy and Buildings, Volume 144 June 2017
Occupant thermal feedback for improved efficiency in university buildings (with Marco Pritoni et al)

2017 International District Energy Association Campus Energy Conference (Orlando, FL) February 2017
Solar Thermal Optimization for District Hot Water through Energy Modeling

2016 ACEEE Summer Study on Energy Efficiency in Buildings (Pacific Grove, CA) August 2016
Using occupant feedback to drive energy efficiency across an entire university campus (with Angela Sanguinetti)
How to design an energy dashboard that helps people drive their buildings (with Kiernan Salmon)

2016 California Higher Education Sustainability Conference (Fullerton, CA) June 2016
Teaching Energy the Way I Never Learned it in school (with Kiernan Salmon)
Transforming Occupants into a Low-Cost & High Accuracy Sensor System (with Kiernan Salmon)

2016 AEE West Coast Energy Management Congress (Seattle, WA) May 2016
Building an energy dashboard that helps people drive their buildings

2015 California Higher Education Sustainability Conference (San Francisco, CA) July 2015
Campus Dashboards: Balancing Public Shame and Healthy Peer Pressure (with David Trombly)

2014 International Institute for Sustainable Laboratories Annual Conference (Orlando, FL) September 2014
Justifying Lab Retrofits thru Mechanical Masterplanning (with David Leever)

2014 California Higher Education Sustainability Conference (San Diego, CA) June 2014
Best Practices in HVAC Design/Retrofit; Case Studies in Large-scale, Strategic Energy Efficiency Efforts (Moderator)