Michelle Burns, M.S., PMP

Senior Engineering Project Manager
Burns & Wimer Consulting, LLC
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Burns & Wimer Consulting

Summary

Michelle Burns is a mechanical engineer and certified Project Management Professional (PMP) specializing in fluid and environmental systems. As co-founder and lead project manager of Burns & Wimer Consulting, she manages hydrology investigations and litigation-support projects, combining site assessments, technical analysis, and coordination across engineering disciplines. Her industry experience spans renewable-energy project development, engineering consulting, and multidisciplinary design for utility-scale solar and energy-storage systems. She has managed technical teams, client requirements, schedules, and budgets, with responsibilities ranging from design review to field testing and commissioning. Her research experience includes offshore wind-turbine load analysis and solar performance modeling, supported by technical work in mechanical engineering and high honors in physics.

Education

2013–2015 **M.S. Mechanical Engineering**, *University of Colorado Boulder*, Boulder, CO
Independent study in Experimental Fluid Mechanics with Peter E. Hamlington (Spring 2014).

2010–2013 **B.E. Mechanical Engineering**, *Thayer School of Engineering*, Dartmouth College, Hanover, NH

2008–2012 **A.B. Physics**, *Bowdoin College*, Brunswick, ME, High Honors in Physics

Professional Certifications

2026–current **Project Management Professional (PMP)**, *Project Management Institute*

Professional Experience

2024–current **Burns & Wimer Consulting, LLC**, Co-founder and Senior Engineering Project Manager, Redlands, CA
Manages hydrology investigations and litigation-support projects, combining site assessments, technical analysis, and coordination across engineering disciplines.

2025–current **Tory R. Walker Engineering**, Independent Hydrology Consultant, Vista, CA
Provides hydrology consulting and project support for surface-water analyses.

2022–2025 **Hromadka & Associates**, Senior Engineering Project Manager, Rancho Santa Margarita, CA
Managed hydrology consulting projects; coordinated client requirements, site inspections, field testing, and technical analyses supporting surface-water and groundwater modeling.

2021–2022 **Revamp Engineering**, Project Manager, Remote, CA
Coordinated multidisciplinary design teams and external consultants, managing engineering schedules, budgets, and site constraints. Improved design tools, templates, and project workflows.

2017–2020 **WSP**, Senior Engineer, Boulder, CO
Managed solar and energy-storage engineering projects, including a cumulative photovoltaic portfolio exceeding 500 MW. Coordinated electrical, civil, and structural design; performed owner's-engineer reviews, site visits, vendor evaluations, and wind-energy inspections. Developed engineering tools for the renewable-energy group.

2015–2017 **juwi Solar**, Systems Engineer, Boulder, CO
Designed and evaluated utility-scale photovoltaic systems; analyzed irradiance and SCADA data, validated performance models, and supported energy-yield and commissioning assessments.

2014–2015 **National Renewable Energy Laboratory**, Research Assistant, Boulder, CO
Developed software to evaluate offshore wind-turbine IEC design load cases using FAST 7.0.

2013–2014 **Professor Emeritus Frank Kreith**, Research Assistant
Provided editorial and technical assistance on book manuscripts and heat-transfer problem solutions.

2012 **Brayton Energy, LLC**, Mechanical Engineering Intern

Litigation Support Experience

Practice Project management and engineering support for litigation involving precipitation events, surface runoff, flooding, groundwater movement, and landslide causation.

Role Project manager and engineering consultant supporting designated experts and retaining counsel: Burns & Wimer Consulting, LLC (2024–present); Hromadka & Associates (2022–2025); Tory R. Walker Engineering (2025–present).

Work Engagement coordination and scheduling; site inspections and field testing; data collection and document management; coordination of technical analyses across engineering disciplines; preparation of figures and exhibits.

Matters Supported 19 litigation matters (2022–present) involving flooding, groundwater, landslide, and water-infrastructure issues.

Selected Engineering Projects

2020 **Morris Ridge Solar Energy Center**, *WSP / EDF Renewables*, Senior Engineer
Named preparer of the *Preliminary Glare Analysis* supporting the project's public application. Report.

2013 **Concentrating-Solar Receiver Design**, *Thayer School of Engineering, Dartmouth College*, B.E. capstone project
Worked on a six-student team developing a solar receiver, including design, high-temperature materials selection, and optical and thermal modeling. Faculty adviser: Jifeng Liu.

Awards and Honors

2012 **Noel C. Little Prize in Experimental Physics**, *Bowdoin College*

2010 **Edwin Herbert Hall Prize in Physics**, *Bowdoin College*

Publications

Conference Proceedings

[1] Owen Westbrook and Michelle Burns. Improvement and validation of diffuse irradiance shading models. In *2016 IEEE 43rd Photovoltaic Specialists Conference (PVSC)*, pages 285–290. IEEE, 2016. DOI: 10.1109/PVSC.2016.7749595.

Reports and Theses

[2] M. Burns, F. Driscoll, S. Sirnivas, A. Platt, B. Skaare, and F. G. Nielsen. Loads Analysis of a 6 MW Wind Turbine on a Floating Spar Platform. Technical report, National Renewable Energy Laboratory, 2015. Cited in *Hywind Maine Project, Part 1*, p. 8.

[3] Michelle Burns. Design, Construction and Calibration of a System to Precisely Measure Mechanical Properties of Mutable Collagenous Tissue and Connecting to Models of Viscoelastic Materials. Undergraduate honors thesis, Physics, Bowdoin College, 2012. Departmental record.

Acknowledged Research Contributions

2015 **Budget Period 2 Summary Report, Part 1: Hywind Maine Project**, *National Renewable Energy Laboratory / Statoil*, Public report
Credited with preparing technical material for the design and analysis work package: IEC ultimate and fatigue load assessment. DOI: 10.2172/1247164.

2015 **Budget Period 2 Summary Report, Part 2: Hywind Maine Project**, *National Renewable Energy Laboratory / Statoil*, Public report
Credited with preparing technical material for the wake-modeling work package. DOI: 10.2172/1247165.

2015 **Coalescing Wind Turbine Wakes**, *S. Lee et al.*, Journal of Physics: Conference Series, 625, 012023
Acknowledged as a CU Boulder project-team member for research discussions. DOI: 10.1088/1742-6596/625/1/012023.

2013 **Advanced Low-Cost Receivers for Parabolic Troughs**, *Norwich Technologies / Dartmouth College*, DOE final report
Named member of the engineering capstone team contributing to solar-receiver development. DOE award DE-EE0005803. DOI: 10.2172/1113252.

Panels, Professional Service, and Outreach

2015–2019 Panelist on multiple **University of Colorado Boulder** panels; participant in **Women in STEM** activities.

2015–2017 Engineering advisory-board participation, **University of Colorado Boulder**.

2015–2017 **American Society of Mechanical Engineers (ASME)** advisory-board participation, University of Colorado Boulder.

2013 **Society of Women Engineers (SWE)** affiliation.

2012 **Elementary-School Science Outreach**, *Bowdoin College / Harriet Beecher Stowe Elementary School*, Brunswick, ME
Helped fifth-grade students explore electrical circuits and conductivity through hands-on LED and play-dough light-sculpture activities. News coverage.

Book Editing and Technical Contributions

2014 **Sunrise Delayed: A Personal History of Solar Energy**, *Frank Kreith*, Autobiography
Provided editorial assistance for the manuscript.

2014 **Principles of Heat Transfer**, *Frank Kreith and coauthors*
Contributed to textbook answers and problem solutions.

2013 **Introduction to Turbulence and Turbulent Flows**, *Werner J. A. Dahm and Peter E. Hamlington*
Edited the text and improved figures and examples.

Technical Skills

Engineering and Project Management

PVsyst, SAM, Helios3D, PVCASE, Microsoft Project, Procore, ProjectWise, Bluebeam, QuickBooks.

Programming Languages

Python, C, HTML, MATLAB.

Software Packages

HEC-RAS, LaTeX, Adobe InDesign, Excel, PowerPoint, Word.