**Joseph Dahmen**

**Education**
Master of Architecture
Massachusetts Institute of Technology

Bachelor of Arts
College of Letters
(with honors) 1997
Wesleyan University,
Middletown, Connecticut

**Links**
www.joedahmen.com
www.bodegaalgae.com
web.mit.edu/masonry/Rammed/

Joe Dahmen is a designer whose work engages resource consumption in architecture and the infrastructure that supports it. Dahmen is currently Assistant Professor of Design and Sustainability Integration at the University of British Columbia School of Architecture and Landscape Architecture. He is a co-founder of Terratech, a startup company using advances in nanotechnology to provide the global construction industry with low-carbon replacements for conventional masonry materials. He was recently Chief Executive Officer at Bodega Algae LLC, an alternative energy startup funded by the National Science Foundation to develop technology for advanced biofuels, and has consulted on rammed earth globally.

Dahmen has presented his projects at MIT, the Graduate School of Design at Harvard, New York Academy of Sciences, Lund University (Sweden), Bigelow Laboratory for Oceanographic Research, the Federal Highway Administration, and area architecture firms. He has published scholarly articles on the unreinforced masonry bridges of Anadalusia, Spain, and has contributed to articles on covered bridges in the Northeastern United States. Dahmen received a Master of Architecture from MIT in 2006, where his work with 2008 MacArthur Fellow John Ochsendorf focused on the intersection of design and sustainable building technology.

**PUBLICATIONS, LECTURES, AWARDS, EXHIBITIONS**

2010

Dahmen, J and Ochsendorf, J. "Earth masonry structures: vaults, domes and arches" *Contemporary earth buildings; materials, engineering, construction and applications*, Matthew R Hall, Rick Lindsay, and Meror Krayenhoff, eds, Woodhead Publishing, Cambridge UK (forthcoming)

*BiodiverCity,* Embassy of Australia, Washington DC, curated by Natalie Jeremijenko

*Deep Cycle,* Incident Report, Hudson, NY, curated by Max Goldfarb

*Site Strategies,* lecture, Savannah College of Art and Design

2009

$150,000 National Science Foundation Small Business Innovation Research Grant, Bodega Algae

*Bodega Algae LLC,* presentation, New Energy Symposium, New York Academy of Sciences

*Contemporary Rammed Earth Design and Method*, lecture, Lund University, Sweden

*Renewable Systems and Built Space*, lecture, "Collision: Science, Technology and Contemporary Art," MIT Visual Arts Lecture Series curated by Ute Meta Bauer and Amber Frid-Jiminez

*Sustainability and Design Integration,* lecture, University of British Columbia School of Architecture and Landscape Architecture

*Rammed Earth*, lecture, Harvard Graduate School of Design, Department of Landscape Architecture, Cambridge, MA

2008

*The Current Affair,* exhibition in collaboration with Amber Frid-Jimenez and Burak Arikan, Tehran Biennial, Istanbul, Turkey

*Socially Responsible Design,* panel discussion, Center for Architecture, NY

*Micro Algae: Commercial Applications*, lecture, Bigelow Laboratory for Ocean Sciences, ME

*Rammed Earth in China*, lecture, Moshe Safdie and Associates, Somerville, MA

*Climate Linked Individual (CLI-mate)*, with Mel Chin and Amber Frid-Jimenez, finalist, San Jose Climate Clock Initiative, San Jose, CA

2007

*New Developments in Rammed Earth and Site Aggregates*, lecture, Sasaki Associates, Inc., MA

*Digging for the Truth,* television appearance, History Channel. Beijing, China

2006

Dahmen, J. "Moorish Bridges of Andalusia", *Proceedings of the 2nd International Congress on Construction History,* M. Dunkeld, ed. Cambridge, UK: Construction History Society, 2006.

Marvin E. Goody Prize for Thesis, MIT

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Boston Society of Architects Research Grant, Boston, MA
Robert Bradford Newman Student Medal for Merit in Architectural Acoustics
*Place*, moderated discussion with Azra Aksamija, Graduate Arts Forum, MIT
*Rammed Earth Sound Barrier*, lecture, Turner Fairbank Highway Research Center, VA
*Rammed Earth as Highway Sound Barrier*, lecture, Massachusetts Highway Dept., Boston, MA
*COLLISIONnine*, Art Interactive, Cambridge, MA. curated by Jack Bachrach
*BOTbits,* exhibition, Jewett Art Center, Wellesley College, curated by Jack Bachrach

2005
Deborah J. Norden Fellowship, Architectural League of New York
Boston Society of Architects Research Grant, Boston, MA
Schlossman Research Fellow, MIT
Aga Khan Program for Islamic Architecture Travel Grant, MIT
Council for the Arts Grant, MIT
Arts Scholar, MIT
*Rammed Earth at MIT*, lecture, Sasaki and Associates, Watertown, MA
*Moorish Bridges of Andalucia*, lecture, Aga Khan Program from Islamic Architecture, MIT

2004
Council for the Arts Grant, MIT
Japan Workshop Fellowship, MIT

2003
AIA Merit Scholarship, MIT

**TEACHING EXPERIENCE**

**Assistant Professor of Design and Sustainability Integration, University of British Columbia School of Architecture and Landscape Architecture (joint appointment) 2011-**
Employing design as a research methodology to explore the ways energy and resource flows inform architecture. Research areas include advanced algal biofuels, low-carbon construction systems, and the design implications of these leading edge sustainable technologies. Teaching graduate-level core curriculum courses and designing advanced design studios.

**Visiting Assistant Professor, University at Buffalo (SUNY), Fall 2009**
Taught undergraduate architecture studio introducing interdisciplinary sustainable research and its relationship to contemporary architectural practice.

**Rammed Earth Workshop, Lund University, Sweden, Spring 2009**
With Jane Philbrick, directed 35 students in month-long design and construction of the Rammed Earth Sculpture Garden, a permanent earth installation for *Everything Trembles,* Philbrick's solo exhibition at the Skissernas Museum.

**Instructor, Boston Architectural College (BAC), Spring 2008**
Developed syllabus and taught "Green Machine: Designing the BAC of the Future," a design studio integrating sustainability with architecture and engineering in the Bachelor of Design Studies, a new interdisciplinary program at the BAC.

**Instructor, Boston Architectural College, Spring 2007**
Taught "Museum for the Atlas," graduate design studio for museum to display Gerhard Richter's Atlas, the extensive archive of works collected by the artist that he used to create his own work. Emphasis on conceptual development.

**Teaching Assistant, MIT Visual Arts Program, Spring 2006**
Assisted professor Wendy Jacob with "Introduction to the Visual Arts", undergraduate course focusing on interpretation and audience interaction to public art projects.

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**Teaching Assistant, MIT Visual Arts Program, Spring 2004**
Developed course materials, syllabus, and schedule with instructor Sanjit Sethi for "Introduction to Sculpture," undergraduates course focussed on contemporary concepts in sculpture.

**Technical Instructor, MIT Dept. of Architecture Woodshop, Spring 2003–Fall 2006**
Instructed students in wood and metal shops and supervised student staff of 15.

**PROFESSIONAL EXPERIENCE**

**Co-Founder, Terratech 2010- Present**
Terratech is an early-stage startup company using advances in nano-technology to provide the global construction industry with low-carbon replacements for conventional masonry materials. Co-founded with David Easton, a global leader in rammed earth construction, and Nathan Glasgow, Principal in the Office of the Chief Scientist at Rocky Mountain Institute.

**CEO, Bodega Algae LLC, 2007– 2010**
www.bodegaalgae.com
Renewable energy startup awarded $150K SBIR grant by the National Science Foundation in 2009. Founded with colleagues from MIT and Harvard designing and developing cultivation systems for microalgae for in the production of biofuel, wastewater treatment, and greenhouse gas remediation.

**Consultant, Rammed Earth Works, Boston, MA, Sept. 2006–2009**
Developing innovative sustainable techniques enabling clients to utilize materials on site for residential and commercial projects with David Easton, national expert on rammed earth construction.

**Intern Architect, Moshe Safdie and Associates, Cambridge, MA, 2007–2009**
Worked with principal and project team on design, structural coordination and documentation of Crystal Bridges Museum of American Art, a $240M arts complex, and Marina Bay Sands, an urban development of 1.2M square feet and a budget of $5B. Travelled to project site in Singapore for meetings with consultants and project architect.

**Designer, Rose Luna House, Marfa, Texas, February–August 2002,**
Researched traditional methods and constructed new buildings blending traditional adobe construction with contemporary architectural expression in restoration of abandoned historic adobe dwelling.

**Designer, Cannada Design, Washington, D.C., August 2000–December 2002**
Architectural design for residential and commercial renovations and new construction.

**RESEARCH**

**Principal Investigator, Rammed Earth N51, MIT Dept. of Architecture, 2005**
Initiated original research investigating rammed earth as an environmentally sustainable substitute for concrete. Visited project sites in US and Europe, raised $40K and supervised construction of full-scale prototype on MIT campus by team of students and staff.

**Moorish Bridges of Andalucia, MIT, October 2004- February 2005**
Initiated original research in Spain on the contribution of Moorish builders to medieval masonry bridge design and construction. Results published in Proceedings of the Second International Conference on Construction History (UK).

**Research Assistant, Historic American Engineering Record (HAER), Summer 2004**
Performed original research on the history of construction technology in the United States supervised by MIT professor John Ochsendorf. Published in Library of Congress.

**CAD/CAM Fabricator, Decoi Architects, Cambridge, MA, Spring 2004**
Built physical models of parametric digital building designed by DeCoi Architects using CAD/CAM and rapid prototyping for *Non-Standard Architecture*, Centre Georg Pompidou, Paris.

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