

# William W. Braham, PhD, FAIA

## Curriculum Vitae

### Education

PhD Architecture. University of Pennsylvania, Philadelphia, PA. 1995

Dissertation: "The Heart of Whiteness: The Discussion of Color in American Architectural Journals around 1930." Supervisor: Joseph Rykwert

Master of Architecture. University of Pennsylvania, Philadelphia, PA. 1983

Thesis: "Newtown." Advisor: Marco Frascari

B.S.E. Civil & Environmental Engineering. Magna Cum Laude, Princeton University. 1979

Thesis: "Dynamic Indices of Building Thermal Performance." Advisor: Dan Nall

Certificate, History of Chinese Architecture. Tsinghua University, Beijing, China. 1982

### Academic Appointments

Professor. Department of Architecture, University of Pennsylvania. 2015

Director. TC Chan Center for Building Simulation and Energy Studies, University of Pennsylvania. 2013-

Director. Master of Environmental Building Design, University of Pennsylvania. 2010-

Interim Chair. Department of Architecture, University of Pennsylvania. 2008-11

Executive Committee, Master of Integrated Product Design, Departments of Architecture and Mechanical Engineering and Applied Science, University of Pennsylvania. 2007-

Director. Certificate in Ecological Architecture, Department of Architecture, University of Pennsylvania. 2007-

Associate Chair. Department of Architecture, University of Pennsylvania. 2003-08

Paul L. Cejas Scholar. Master Class, Florida International University, Miami. 2007

Associate Professor (with tenure). Department of Architecture, University of Pennsylvania. 2001

Assistant Professor. Department of Architecture, University of Pennsylvania. 1995-2001

Lecturer. Department of Architecture, GSFA, University of Pennsylvania. 1988-95

### Books

*Energy Accounts: Architectural Representations of Energy, Climate, and the Future.*  
Co-Editor (Routledge, 2016)

*Architecture and Systems Ecology: Thermodynamic Principles for Environmental Building Design, in three parts.* (Routledge, 2015)

Excerpt published in "Form Follows Energy: Thermodynamics as the Engine of Architectural Design," Special Issue, *Time + Architecture Journal*, Shanghai (2015-2)

Excerpt published in *Energy Matters: Building, Thermodynamics, Climate*, special issue of *Arquitectura Viva* 178 (10/2015).

*Architecture and Energy: Performance, and Design*. Co-Editor (London: Routledge, 2013)

Review by Eduardo Prieto, *Arquitectura Viva* 149 (2013):

[www.arquitecturaviva.com/en/Info/News/Details/6745](http://www.arquitecturaviva.com/en/Info/News/Details/6745)

*Rethinking Technology: A Reader in Architectural Theory*. Co-Editor (London: Routledge, 2006)

Review by Patrick Harrop, *Journal of Architectural Education*, (2011): 140-41

Review by Adrian Forty, "Building Processes," *Architectural Review* (June, 2007): 17

Review by Stephen Gage, "For the enthusiast and the cynic alike," *Architects Journal* 19 (April, 2007)

*Modern Color/Modern Architecture: Amédée Ozenfant and the genealogy of color in modern architecture* (London: Ashgate, 2002)

Review by Timothy Parker, *Studies in the Decorative Arts* 12 (Fall 2004/Winter 2005): 145-7

Review by Louisa Hutton, *Architectural Research Quarterly* 7, 1 (2003)

Review by M. Jablonski. *APT Bulletin*, 34 (2003), 77-78

## Chapters or Essays in Books

"The Power of Plasticity," in Billie Faircloth, Ed.. *Plastics now: On architecture's relationship to a continuously emerging material* (New York: Routledge, 2015).

"Waste, Work, and Worth," in *The Terrain of Water*, Anu Mathur, Ed. (2014)

"Architecture, Style, and Power: The Work of Civilization," in *Architecture and Energy: Performance and Design* (London: Routledge, 2013)

"Household Power: How Much is Enough?" in *Design and Construction of High Performance Homes: Solar Technology, Innovative Materials and Integrated Practice*, Franca Trubiano, Ed. (Routledge, 2012)

"Household Conditioning (if you are cold, put on a sweater)," in *Building Systems: Technology, Design & Society*. Ryan E. Smith & Kiel Moe, Eds. (Routledge, 2012)

"The Century of Modern Color in Architecture," *La conservazione delle policromie nell'architettura del XX secolo. Conservation of color in 20th Century architecture*. Ed. Giacinta Jean. (Lugano: SUPSI, 2012)

"Building Technology: 'Steel as required'," *Schooling the Architect: Two Centuries of Architecture Education in North America*, J. Ockman, Ed. (ACSA, 2011)

"Waste and Dirt: Notes on the Architecture of Compost," *VIA: Dirt* (Philadelphia, 2011)

"OfficeLand: History, Ecology, and the Plant-in-the-office." *VIA: On Occupation* (Philadelphia, 2007)

"Biotechniques: Remarks on the Intensity of Conditioning." in *Performative Architecture*. Ali Malkawi and Branko Kolarevic, Eds. (Spon Press, 2004)

"Upright or Flexible? Exercising Posture in Modern Architecture." (with Paul Emmons), in *Body and Building: Essays on the changing relationship of body to architecture*. George Dodds and Robert Tavernor, Eds. (MIT Press, 2002)

- "After Typology: The Suffering of Diagrams." *Contemporary Processes in Architecture*, AD 70, Ali Rahim, Ed. (June, 2000): 9-11
- "Siegfried Giedion and the Fascination of the Tub." *Plumbing: Sounding Modern Architecture*. D.S. Friedman & Nadir Lahiji, Eds. (New York: Princeton Architectural Press, 1997)
- "Undressing (Kiesler's Knot)." In *Conviviality: Flirtation, Displeasure and Hospitable in the Visual Arts*, Hirsch Farm Project Publication, (Winter, 1995)

### Journal Articles (sole author)

- "Thermodynamic Narratives: The Social Construction of Sustainable Design," Invited Letter, *Architectural Research Quarterly* 17 (Cambridge, 2013)
- "Color. Power. Velocity," *New Geographies* 3 (Harvard Graduate School of Design and Harvard University Press, 2010)
- "Solidity of the Mask: Color Contrasts in Modern Architecture." *RES: Journal of Anthropology and Aesthetics* 39 (Harvard, Spring, 2001)
- "Erasing the Face: Solar Control and Shading in Post-War Architecture." *Interstices* 5 (New Zealand: University of Auckland, 2000): 104-113
- "A Wall of Books: The Gender of Natural Colors in Modern Architecture." *Journal of Architectural Education* 53 (ACSA, September, 1999): 4-14  
Reprinted in: *Interior Design Theory Reader*. Edited by Mark Taylor and Julieanna Preston. John Wiley & Sons, Ltd., Chichester, West Sussex, England, 2006
- "Correalism and Equipoise: Observations on the Sustainable." *ARQ, Architectural Research Quarterly* 3 (Cambridge, 1999): 57-64
- "What's Hecuba to Him? On Kiesler and the Knot." *Assemblage* 36 (August, 1998): 6-23
- "Eyes That Do Not See: The Practice of Sustainable Architecture." *Practices: Magazine of the Center for Practice* (Winter, 1994/95)

### Journal Articles (multiple author)

- Braham, William W., Luke Butcher, Jill Somson Kurtz, Mostapha Sadeghipour Roudsari, Janki Vyas. "The New Chautauqua Game: Designing the renewable city and region using e[m]ergy accounting." *Journal of Environmental Accounting and Management* 4(2) (2016) 200-212.
- Hwang Yi, William W. Braham, "Uncertainty characterization of building energy analysis (BEmA)," *Building and Environment* 92 (2015): 538-558 .
- Hwang Yi, Ravi S. Srinivasan, William W. Braham, "An integrated energy-emergy approach to building form optimization: Use of EnergyPlus, emergy analysis and Taguchi-regression method," *Building and Environment* 84 (2015) 89-104.
- Ravi S Srinivasan; William W Braham; Daniel E Campbell; Charlie, D Curcija, "Building Envelope Optimization Using Emergy Analysis," *Energy and Buildings* (under review, 2014).

Ravi S Srinivasan; William W Braham; Daniel E Campbell; Charlie, D Curcija, "Re(de)fining Net Zero Energy: Renewable Energy Balance in Environmental Building Design," *Building and Environment* (Elsevier, 2011)

## Refereed Conferences & Proceedings

"Build-Em: An integrated energy and environmental accounting tool for buildings." Ravi Srinivasan, Utsav Parakh, Daniel Campbell, Joseph Burget, Jiaxuan Li, William Braham, Jaskaran Nagi. *Ninth Biennial Energy Research Conference*, University of Florida, 2016.

"The varieties of building E[m]ergy Intensity." *Ninth Biennial Energy Research Conference*, University of Florida, 2016.

"Form of information: Power, efficiency, and the resilience of building form." Hwang Yi, William Braham. *Ninth Biennial Energy Research Conference*, University of Florida, 2016.

"The New Chautauqua Game: Designing the renewable city and region with e[m]ergy accounting," William W. Braham, Luke Butcher, Jill Sornson Kurtz, Mostapha Sadeghipour Roudsari, *Biennial International Workshop Advances in Energy Studies: ENERGY AND URBAN SYSTEMS*, Stockholm, May 5, 2015

"Thermodynamics of the Building as Shelter," 9th ENERGY FORUM on Advanced Building Skins, Bressanone, Italy October 28-29, 2014

"Hierarchies of production in a contemporary residence," *Eighth Biennial Energy Research Conference*, University of Florida, 2014

"A Case Study in Energy Based Building Retrofits," Hwang Yi, William W. Braham, *Eighth Biennial Energy Research Conference*, University of Florida, 2014

"Discovery-Performance-Design," Jihun Kim, William W. Braham, Brian Phillips, *International Building Performance Simulation Association*, Chambéry, France, 2013

"Sustainability Assessment Frameworks, Evaluation Tools and Metrics for Building and Environment – A Review." Ravi S Srinivasan; William W Braham; Daniel E Campbell; Charlie, D Curcija, In *Proceedings of the Twelfth International Building Performance Simulation Association (IBPSA) Conference*, Sydney, Australia, 2012

"Forms of Energy: Architecture and Power," *Proceedings, Seventh Biennial Energy Research Conference*, University of Florida, 2012

"Rethinking Environmental Technology: What do systems want?" *ARCC/EAAE Conference Proceedings*, May, 2007

"Active Glass Walls: A Typological and Historical Account." *AIA Convention*, Las Vegas, 2005  
Review: "Two Walls in One: Double-Skinned Glass Walls," *USGlass News Network*, 2005

"Biotechniques: Form Follows Flow?" *Greenbuild*, USGBC Conference, Pittsburgh, PA, November, 2003

"Do Houses Evolve? Neo-Biology at House\_n." *Proceedings, ACSA Technology Conference*, Portland, OR, October, 2002

"Emergence-cy! Notes on the Flow of Information in Architecture." *Proceedings, ACSA Annual Conference*, New Orleans, LA, April, 2002

- "OfficeLand: Ecology, History, and the plant-in-the-office." *Proceedings, ACSA Annual Conference*, Baltimore, MD, March, 2001
- "The Open Flame: Nostalgia and Resistance in the Healthy Modern Home." *Popular Culture Conference*, Valley Forge, PA, October, 1999
- "The Play of Light: Notes on the Modeling of Architectural Illumination." *Proceedings, ACSA Annual Conference*, Minneapolis, MN, March, 1999
- "The Candle at the Table: Work, Waste and Leisure in the Modern Home." *ACSA Northeast Regional Meeting*, Halifax, NS, October, 1998
- "Upright or Flexible? Ideologies of Posture in Modern Architecture." Co-author with Paul Emmons. *Proceedings, ACSA Southeast Regional Meeting*, Knoxville, TE, October, 1998
- "Judgment and Typology: The Culture of Technology at the University of Pennsylvania." Co-author with N. Alhasani. *Proceedings, ACSA Annual Conference*, Cleveland, OH, March, 1998
- "A Physiology of Building: Reptilian, Canine, and Monstrous." *Proceedings, ACSA Annual Conference*, Cleveland, OH, March, 1998
- "The Solidity of the Mask: Architectural Color in the Modern Era." *Proceedings, ACSA Northeast Regional Meeting*, Newport, RI, October 24-26, 1997
- "Correalism and Equipoise: Kiesler and Giedion on the Sustainable." *Proceedings, American Solar Energy Society Annual Conference*, Washington, DC, 1997
- "A Wall of Books: Natural and Applied Colors in Architecture." *Proceedings, ACSA Annual Conference*, Dallas, Texas, March, 1997
- "Registration and Concealment: Rhetoric of Architectural Illumination." *Proceedings, ACSA Technology Conference*, Dallas, Texas, March, 1997
- "The Curious Architect or the Curiosity of Critical Practice." Co-author with Marco Frascari. *Proceedings, ACSA National Conference*, Seattle, March, 1995
- "The Geomater of Architecture." Co-author with Marco Frascari. *Paradosso*. Vol. 8 (1995) 16-27
- "Therapy and Redemption: The Environmental Critique." *Proceedings ACSA National Conference*, Seattle, March, 1995.
- Critical Practice, ACSA Regional Conference, Univ. of Cincinnati, October, 1994
- "On the Mantic Paradigm in Architecture." Co-author with Marco Frascari. *Proceedings ACSA National Conference*, Montreal, 1994
- "Mies van der Rohe: A Sense of Glass." *Proceedings ACSA Southeast Regional Meeting*, NC State, Raleigh, NC, October 1993
- "Architectural Gnomonics." *Proceedings, ACSA Technology Conference*, Phoenix, AZ, January 1993
- "A Pragmatic Astrology: The Philadelphia Savings Fund Society." *Proceedings—ACSA National Conference*, Charleston, SC, March, 1993. *Proceedings—Sight Work/Site Work*, ACSA Regional Conference, University of Waterloo, October, 1992
- "The Methods (Questions) of our Time." Catalogue Introduction, *An Independent Exposition: Philadelphia, Young Architects Forum*, 1990

"Dynamic Indices of Building Thermal Performance." *Proceedings of 5th National Passive Solar Conference*, Amherst, MA, 1980

"Simplified Solar Design Guidelines Based on Modelling with Equivalent Thermal Parameters." *Proceedings of Northeast Solar Energy Center Conference*, Plymouth, MA, 1979

## Other Publications

"Getting to Green -- New Tools and Policies Boost Sustainable Building," Interview, *Knowledge@Wharton*, 2013. ([knowledge.wharton.upenn.edu/article.cfm?articleid=3246](http://knowledge.wharton.upenn.edu/article.cfm?articleid=3246))

"Lost Traits," Preface, *Homa Farjadi Hybrids*, 2012

"Temptations of Survivalism, or what do you do with your waste?" *Places: Forum of Design for the Public Realm* (10.04.2010): [places.designobserver.com/entry.html?entry=13998](http://places.designobserver.com/entry.html?entry=13998)

"Air: Recycling. Infrastructure," *Arcade, Architecture and Design in the Northwest* (Spring, 2010)

"The Business Case for Lifecycle Analysis and Building a Green Supply Chain," Interview, *Green Evolution: Managing the Risks, Reaping the Benefits*, *Knowledge@Wharton* (March 2010)

"How Much Does Your Household Weigh?" *Places: Forum of Design for the Public Realm* (9.26.2009): [places.designobserver.com/entry.html?entry=11037](http://places.designobserver.com/entry.html?entry=11037)

"Landscape within Architecture." *306090 >07* (Fall, 2004)

"Nature is Blind." *Crit: Going Beyond Green, AIAS Journal* 52 (Fall, 2001): 30-31

"The Persistence of the Candle." Op-ed, *Baltimore Sun* (October 1, 2000)

"Interview with Robert Venturi and Denise Scott Brown." (with Louise Harpman) *Practices: Magazine of the Center for Practice*, 5/6 (1997)

"Constructive Logic: The Work of Kieran Timberlake & Harris." (with George Dodds) *Werk Bauen + Wohnen* (January, 1996)

## Invited Lectures

"System Principles of Thermodynamics (Is there a 4th (or 5th) law?)" Enerfront Lecture. University of Pennsylvania. April 8, 2016.

"Thermodynamic Principles for Environmental Building Design, in three parts," Pratt University, December 4, 2016

"Thermodynamic Principles for Environmental Building Design, in three parts," Andlinger Center for Energy and Environment, Princeton University, November 16, 2016

"Thermodynamic Principles for Environmental Building Design, in three parts," Graduate School of Design, Harvard University, November 13, 2016

"Why (day)Light Matters," Franklin Institute, Philadelphia, October 27, 2015

"Intelligence of Building Envelopes," *Digital Intelligence: Conversations on Artificial Intelligence, Sensing, and Simulation*. CityTECH, Brooklyn, NY, May 29, 2015.

"Thermodynamic Principles of Environmental Building Design," The Saudi International Conference for Building and Construction Technologies, Riyadh, Saudi Arabia, May 10, 2015

"Designing for the Renewable City," Healthy Urban Infrastructures, Kleinman Center / Penn IUR, March 15, 2015

"Environmental Building Design, in three parts," AIA NYC, Edge Sustainability, March 10, 2015

"Sustainable Cities" *Lutron Sustainability Forum*, April 25, 2014

*Cities as Concentrators of Energy (wealth)*, The 5,000 lb Life, The Architecture League, NY, May 10, 2014

*Environmental Building Design: Thermodynamic Principles*, University of Texas, San Antonio, October 2, 2013

*Environmental Building Design: Energy Quality*, University of Texas, Austin, October 1, 2013

*Building Energy Codes and Standards*, Building Energy Efficiency: Seeking Strategies that Work, IGEL/EEB Hub/SAP, Newtown Square, May 8, 2013

*Sidewalks and Waste*, The City That Never Was, Architecture League, New York, February 2, 2013

*Household Power: How Much Is Enough?* Convocation Lecture, Drury University, March 1, 2012

*Manifesto: Environmental Building Design*, ACSA Administrators Conference, Hollywood, CA, November 11, 2011

*Household Power: How Much is Enough?* Washington-Alexandria Architectural Center, April 20, 2011

*Maximum Power: Modeling the Ecology of Buildings*, Imminent Ecologies, Cornell University, April 15, 2011

*Work and Waste*, Terrain of Water, University of Pennsylvania, April 1-2, 2011

*Maximum Power*, Marywood School of Architecture, March 12, 2010

*Sustainability and Carbon Reduction at the University of Pennsylvania*, EEK Architects, September 26, 2009

*Total Environmental Accounting*, Integrative Thinking About Life Cycle Analysis: Promises & Limitations, Initiative for Global Environmental Leadership (IGEL) Penn/Wharton, March 27 & 28, 2009

*Oekonomics: Scale and Measure*, Urban Design After the Age of Oil, University of Pennsylvania, November 6-8, 2008

*NET ZERO: Climate Neutrality at the University of Pennsylvania*, Symposium: Campus Carbon Emissions – Measuring and Planning, Drexel University, April 22, 2008

*Ecology – Technology*, Ewing Cole Architects, April 18, 2008

*Ecology, Technology, and Architecture*, Virginia Polytechnic Institute, Blacksburg, January 29, 2008

*Ecology, Technology, and Design*, Pratt Institute, November 1, 2007

*Ecology, Technology, and Design*, School of Design, Louisiana State University, October 15, 2007

*NET ZERO: Climate Neutrality at the University of Pennsylvania*, Design on the Delaware, AIA Philadelphia, October 9, 2007

*NET ZERO: Climate Neutrality at the University of Pennsylvania*, School of Design, University of Pennsylvania, October 8, 2007

*Ethics of Integrated Practice*, Cranbrook 2007: Integrated Practice and the twenty-first century, ACSA/AIA summer institute, June 28, 2007

*Modern Color/Modern Architecture*, Renaissance Society, University of Chicago, June 10, 2007

*Rethinking Technology: What do systems want?* Virginia Polytechnic University Alexandria Center, February 19, 2007

*Rethinking the Technology of Lighting*, University of the Arts, Philadelphia, PA. October 27, 2006

*Rethinking the Technology of Bathing*, Ritual Architecture, Dornbracht, New York, NY, October 5, 2006

*Rethinking Environmental Technology*, Florida International University, September 28, 2006

*Rethinking Environmental Technology*, ARCC/EAAE International Conference: Emerging Research, Temple University, June 1, 2006

*What Do Systems Want? Notes on the autonomy of environmental conditioning*, Penn State University, What do Buildings Want? March 31, 2006

*Modern Color/Modern Architecture*, School of Architecture, Politecnico, Puerto Rico, December 2, 2004

*Theories of Color*, School of Architecture, Politecnico, Puerto Rico, December 3, 2004

*Modern Color/Modern Architecture*, School of Architecture, University of Arkansas, February 9, 2004

*Conditioned Space*, L'Eredita d'Ivan Illich, International Seminar, Bologna, Italy, June 14, 2003

*Modern Color/Modern Architecture*, School of Architecture, University of Tennessee-Knoxville, April 11, 2003

*Modern Color/Modern Architecture*, School of Architecture, Pennsylvania State University, February 4, 2003

*Modern Color/Modern Architecture: The continuing authority of natural colors in contemporary architecture*, School of Architecture, University of Washington, Seattle, April 24, 2002

*Architectural Fabrications*, Advanced Textile And Composites (ATAC) seminar series, Philadelphia University, February 1, 2001

*OfficeLand: The Natural Ecology of the Cubicle Dweller*, The Oakland Table at the Mayor's Institute, organized by Jerry Brown and Ivan Illich, Oakland, CA. September 29, 2000

*Authority of the Natural: Post-War Color Palettes*, Preserving the Recent Past, Philadelphia, October 13, 2000

*Bürolandschaft: Working in the Forest*, Virginia Polytechnic Institute, Alexandria, VA, May 12-14, 2000

*The Hygienic City: Habits, Inhabitants, and Habitats*, Growth and Spatial Organization of the City, Bryn Mawr College, Bryn Mawr, PA, March, 1997

*Kiesler's Knots*, Conviviality: Flirtation, Displeasure and Hospitable in the Visual Arts, Hirsch Farm Project, Wisconsin. Summer, 1995



*Eyes That Do Not See: A Physiology of Building*, Georgia Institute of Technology, May, 1995

## Other Presentations

*Beyond the Traditional Credentials: Future of the March II*, ACSA Administrators Conference, November, 2012

*Ethics of Integrated Product Design*, IPD Lecture Series, April 5, 2011

*Urbanism Now*, University of Pennsylvania, November, 2010

*Performance*, Architecture PhD Talks, October 15, 2010

*Ecology of Architecture*, Penn Alumni Women, April 3, 2009

*Ecology of Architecture*, Penn Environmental Group (PEG): Green Week, January 27, 2009

*Seeking Sustainability: Penn confronts the local and global challenge*, A Conversation with Scholars from Across the University. Moderator: Amy Gutmann, President. January 16, 2009

*Ecological Architecture*, Energy & Its Impacts, School of Engineering, University of Pennsylvania, 2007, 2008, 2009, 2011, 2013

*Sustainability Plan: University of Pennsylvania*, Environmental Studies Program, September 5, 2007

*Sustainability Plan: University of Pennsylvania*, Penn Environmental Group, March 12, 2007

*Biology and Design*, Panelist, NLSO Symposium, October, 2006

*Parametrics, Performance, Process*, AIA meeting on Integrated Practice, October 16-17, 2006

*Ant Farm*, Gallery walkthrough/Opening, ICA, Philadelphia, September 10, 2004

*In Living Color: Notes on Digital Palettes*, Symposium: Digital Translations: Emergent, Operative Potentials for Architecture, University of Pennsylvania, May 1, 1999

*Architectural Post-Modernism: Still an Issue?* Chestnut Hill Academy, January 1999

*Museums and Daylighting*, Case Studies in Architecture, University of Pennsylvania, February, 1998

*Cleanliness, healthy-mindedness, and water on every floor*, Colloquium, One Year Masters in Architecture, February 11, 1997

*Philadelphia: City of the Past, City of the Future*, Presentation: University of Waterloo, May 21, 1997

*Mechanization and the Fascinations of the Tub*, Colloquium, One Year Masters of Architecture, 1996

*The Logic of Display*, Case Studies in Architecture, University of Pennsylvania, 1995

*The Heart of Whiteness: The Discussion of Color in Early Modern Architecture*, Colloquium, Graduate Group in Architecture, November, 1995

*Historicity of Lines*, Open and Closed Representation Conference, March, 1995

*Building Physiology: The Visible and the Invisible*, Delaware AIA, 1994

*Future Trends*, Building Technology Series. Real Estate Program, Wharton School, 1989-93

*Armature and Handrails*, Selected projects, An Independent Exposition: Philadelphia, Young Architects Forum, October, 1990

*Reflected Ceiling Plan: Proud Underbelly of Contemporary Practice*, Young Architects Forum, Philadelphia, 1989

*Collective Memory of the Firm*, Information Systems Panel, AIA Convention, NY, 1988

*Fall from the Garden*, Installation/Planting, Phipps Conservatory, Pittsburgh, PA, 1985

*Passive Solar Design*, Lecture, Ramapo College, Ramapo, NJ, 1981

## Conferences & Symposia

*Energy Accounts: Designing the Future*. Co-Organizer w/ Dan Willis & Daniel Barber. DOE EEB HUB / School of Design, University of Pennsylvania, January 24, 2014

*Architecture and Energy: Influence of Climate and Region*. Co-Organizer w/ Dan Willis & Daniel Barber. DOE EEB HUB / School of Design, University of Pennsylvania, January 25, 2013

*Architecture and Energy: Questions about performance and style*. Co-Organizer w/ Dan Willis. DOE GPIC HUB / School of Design, University of Pennsylvania, January 27, 2012

*Performative Practices: Architecture and Engineering in the Twenty-First Century*. Co-Organizer w/ Kiel Moe. ACSA Pedagogy Conference, Parsons/New School, June 16-18, 2011

*NSF Workshop - Collaborative Practice: When Engineering Design Meets Architecture*. Co-Organizer w/ Franca Trubiano & Dan Willis. University of Pennsylvania, November 4-5, 2010

*New Aging: International Conference on Architecture and Aging*. Co-Organizer w/ Matthias Hollwich. University of Pennsylvania, October 1-2, 2010

*Scarcity and Excess: Ecology, Biology, and Design*. Evening Symposium. Organizer. University of Pennsylvania, March, 2005

*Digital Translations*. Symposium. Co-Organizer w/ Ali Rahim. University of Pennsylvania, 1999

*Body and Building*, A 2 day Symposium in Honor of Joseph Rykwert, Co-Organizer w/ George Dodds & David Leatherbarrow. University of Pennsylvania, 1995-96

## Funded Research and Consulting Projects

*Gaming the Sustainable City (and Region)*. Co-PI. Kleinman Center for Energy Policy. \$15,000

*Building Energy Reporting and Performance Analysis*, University of Pennsylvania, 2015-16. PI. Penn FRES. TC Chan Center. School of Design. University of Pennsylvania. \$300,000

*Carbon Footprint*, New Bolton Center, University of Pennsylvania, 2015-16. PI. TC Chan Center. School of Design. University of Pennsylvania. \$15,000

*Carbon Footprint*, Morris Arboretum, University of Pennsylvania, 2014-15. PI. TC Chan Center. School of Design. University of Pennsylvania. \$10,000

*Carbon Footprint*, University of Pennsylvania Health System (UPHS), 2014-15. PI. TC Chan Center. School of Design. University of Pennsylvania. \$20,000

*Energy and Carbon Accounting*, University of Pennsylvania, 2014-15. PI. Penn FRES. TC Chan Center. School of Design. University of Pennsylvania. \$210,000

*Consortium for Building Energy Innovation (formerly EEB Hub), 2014-15. PI, Upenn. US DOE/Penn State. \$1,180,000.*

*Architecture and Energy: Accounts, 2013-14. Co-PI. DOE: Energy-Efficient Building Hub (EEB Hub), \$406,000*

*Carbon Action Plan 2.0, University of Pennsylvania, 2013-14. PI. Penn FRES. TC Chan Center. School of Design. University of Pennsylvania. \$200,000*

*Architecture and Energy: Influence of Climate and Region, 2012-13. Co-PI. DOE: Energy-Efficient Building Hub (EEB Hub), \$250,000*

*Revised Action Plan for Carbon Reduction, University of Pennsylvania, 2012-13. Co-PI. Penn FRES. TC Chan Center. School of Design. University of Pennsylvania. \$190,000*

*Assessment of Integrated Design and Retrofit Technology processes in the building industry, 2011. Co-PI. DOE Hub: Greater Philadelphia Innovation Cluster (GPIC), \$212,000*

*Architecture and Energy: Style, Performance, and Design, 2011-12. Co-PI. DOE Hub: Greater Philadelphia Innovation Cluster (GPIC), \$200,000*

*Action Plan for Carbon Reduction, University of Pennsylvania, 2009. Co-PI. Penn FRES. TC Chan Center. School of Design. University of Pennsylvania. \$55,000*

*Scenarios for Carbon Neutrality, University of Pennsylvania, 2008. Co-PI. Penn FRES. TC Chan Center. School of Design. University of Pennsylvania. \$90,000*

*Carbon Footprint, University of Pennsylvania, 2007. Co-PI. Penn FRES. TC Chan Center. School of Design. University of Pennsylvania. \$20,000*

*Penn Sustainability Plan and Campus Audit, Phase III, 2007. Co-PI. Penn FRES, TC Chan Center. School of Design. University of Pennsylvania. \$150,000*

*Penn Sustainability Plan and Campus Audit, Phase II, 2006-2007. Co-PI. Penn FRES, TC Chan Center. School of Design. University of Pennsylvania. \$125,000*

*Penn Sustainability Plan, Phase I, 2005-2006. Co-PI. University of Pennsylvania: Facilities and Real Estate Services (Penn FRES), TC Chan Center/Building Simulation Group. School of Design. University of Pennsylvania. \$100,000*

*Dynamic Architectural Daylighting, 2005. PI, Lutron Foundation, \$13,600*

*McNeill Atrium Renovations, 2002. PI, University of Pennsylvania, Facilities and Real Estate Services. Penn Praxis. \$10,650*

*Color for Architecture: The London Project of Amédée Ozenfant, 1936-38. 1998. Graham Foundation for Advanced Study in the Fine Arts, Chicago. \$10,000*

*Colors of Architecture: Twentieth-Century Material Palettes, 1997. Research Foundation, University of Pennsylvania. \$2,350*

*Teaching Passive Design in Architecture, 1980-82. Editor/Research Assistant. PI: Harrison Fraker and Donald Prowler. Funded by US Department of Energy. \$500,000*

## Professional Practice

- 2007-12 Design Consultant. Lutron Electronics, Coopersburg, PA  
Quantum, Total light management
- 1999-07 Design Consultant. Ivalo Lighting, Willow Grove, PA  
*Daedalus*, Designer: Audi Design Center California, 2007  
*L'Alé*, Designer: Bill Pedersen, KPF, 2006  
*Silvus*, Designer: Roger Duffy, SOM, 2005  
*Inflection*, Designer: Winka Dubbeldam, Archi-tectonics, 2004  
*Rotare*, Designer: Lewis Tsurumaki Lewis, 2003  
*Aliante*, Designer: Stefano Casciani, 2002
- 1995-06 Principal. Studio Luxe: Architecture and Illumination, Philadelphia, PA  
One Rittenhouse, Exterior/Lobby lighting, Philadelphia, Studio Intramuros, NY, NY, 2006  
Von Morris Headquarters and Warehouse, Camden. Studio Intramuros, NY, NY, 2004  
Siu Loft, New York. Studio Intramuros, NY, NY, 2003  
Fleisher-Ollman Gallery, Philadelphia. Studio Intramuros, NY, NY, 2002  
West Seattle & Greenlake Libraries, Snyder Hartung Kane Strauss, Seattle, 2002  
Metzner-Gallant Apartment, NY, NY. Joel Sanders Architect, NY, NY, 2001  
Limerick Environmental Education Center, Tim Smith, Architect, 2001  
BigChalk.Com offices, NY, NY. Studio Intramuros, NY, NY, 2000  
Finney Barn and Studio, Philadelphia, PA, 2000  
Walden Recital Hall, Seattle, WA. Snyder Hartung Kane Strauss, Seattle, 2000  
MovieQ.Com offices, NY, NY. Piranha Pictures, NY, NY, 2000  
Morelli Jewelry Studio. Studio Intramuros, Philadelphia, PA, 1999  
Korman House by Louis Kahn. Renovations by Studio Intramuros, 1999  
Duggal MAX Studio. Architectonics, New York, NY, 1999  
Suzzallo Library, University of Washington. Cardwell/Thomas, Seattle, 1998-02  
Artists@Work, Philadelphia, PA. Studio Intramuros, Philadelphia, PA, 1997  
Koock Multimedia Offices, Seoul, Korea. Studio Intramuros, Philadelphia, 1996  
Laser Design Offices, Boston, MA. Flavin Architects, Boston, MA, 1995
- 1991-94 Design Consultant. Buttrick White & Burtis Architects, NY, NY  
Designer. Ground Floor and Lobby, 666 Fifth Avenue, NY. 1993/94  
Designer. The Pub, Sarah Lawrence College, Bronxville, NY. 1993/94  
Designer. Pool Room. Seabrook Farms, Vermont. 1992  
Designer. Atwood-Richards. 15,000 Offices, NY, NY. 1991
- 1989-91 Director. Center for Environmental Design and Planning, GSFA, University of Pennsylvania  
*Lancaster County Planning Study: Sustainable Growth*, 1991. PEO Urban/Rural Interface  
Project: Tim Smith, PI. Research contract: Pennsylvania Energy Development Authority.  
\$25,000

*Innovations in Affordable Housing*, 1989. PI. Research contract: CertainTeed Corp. \$5,000  
*Patterns for Growth: Swedesboro, NJ*, 1989. Daniel Friedman, PI. Research contract:  
Gloucester County, NJ. \$13,333

- 1983-89 Associate. Buttrick White & Burtis Architects, NY, NY  
Project Architect. Ballplayers' Refreshment Stand, Central Park, NY. 1989.  
Bard Award, NYAIA, 1990  
Senior Designer. St. Thomas Choir School, New York, NY. 1987. 15 Story School Complex.  
Architectural Record & Bard Award, 1987  
Designer. Carol Communications, NY, NY. 5,000 sf. offices, 1988  
Project Architect. Train, Smith Counsel, NY, NY. 11,000 sf. offices, 1987  
Designer. Benkay Japanese Restaurant, NY, NY. 3500 sf. 1986  
Designer. Tower Records: New York, Washington, Los Angeles, 1984-6
- 1982-83 Assistant. Marco Frascari Architetto, Philadelphia, PA  
Arthur Ross Gallery, University of Pennsylvania
- 1979-90 Principal. William W. Braham, Architect  
Product Design: "The Fast Lane." Endless Pools Swimming Machines, 1990  
Vahey House, Philadelphia, 1989  
337 West 35th, façade renovations, NY, 1988  
Sylvia Lachter Apartment, NY. (set for film Presumed Innocent), 1988  
Set and Lighting Design, Retold Reflections, Susan Braham, The Kitchen, 1986  
Renovations, Lyon's Apartment, NY, 1986  
Set and Lighting Design, "Viewfinders Pleasure" by Susan Braham, Danspace/St Marks,  
1985  
Schematic Design, Clancy House, PA, 1983  
Solar Greenhouse, Schenectady Community Action Program, Schenectady, NY, 1980  
Painting Studio, Connie Fox, Easthampton, 1980  
Glass Blowing Studio, Diane George, PA, 1979
- 1978-80 Designer/Analyst. Princeton Energy Group/Harrison Fraker Architects, Princeton, NJ  
Princeton Professional Park: Cooling Analysis  
HUD Solar Demonstration Program  
Butler Building Prototypes: Wall and roof cooling and heating systems  
Ritz-Carleton, Atlantic City: Reflection analysis

## Service: Editorial, Academic, and Community

### *Editorial*

Editorial Board. *JAE. Journal of Architectural Education*. 2007-2010

Manuscript Review:

JEAM - Journal of Environmental Accounting and Management, 2013-  
JAE. Journal of Architectural Education, 2007-  
Perkins + Will Research Journal, 2013  
Routledge, London, 2007-ongoing  
Building Simulation: An International Journal. 2007-2008  
University of Rochester Press, 2006  
University of Washington Press, Seattle, 2004  
John Wiley & Sons, London, 2003  
Ashgate Publishing, London, 2002

Paper Reviewer:

iiSBE Net Zero Built Environment 2014 Symposium, 17th Rinker International Conference,  
University of Florida, 2014  
Buildings (Basel): Special Issue on Tall Buildings, 2012  
ACSA Annual Conference, Boston, MA, 2012  
On Embedded Sensing Systems For Energy-Efficiency In Buildings, ACM SenSys 2009,  
Berkeley, CA, November 4-6, 2009  
ACAADIA 2008, Annual Conference, Minneapolis, MN  
SimBuild 2008. Annual Conference of IBPSA-USA: International Building Performance  
Simulation Association  
GreenBuild. Annual Conference of USGBC, 2003  
Historiography section, ACSA Annual Conference, Baltimore, 2001

Research Proposal Reviews

Research Grants Council (RGC) of Hong Kong, 2014  
US DOE, Building Technologies Office, 2014  
Canadian Research Council, May 1997, 2003, 2007

*Academic*

External Program Review:

Master of Architecture, University of Waterloo, June 27-28, 2013  
Master of Architecture, University of Cincinnati, December 7-8, 2008

Appointment Review:

University of Michigan, Taubman College of Architecture + Urban Planning, November,  
2014  
Harvard University, Graduate School of Design, January, 2014  
Carnegie Mellon University, School of Architecture, August, 2013

University of California, Berkeley, School of Architecture. March, 2013

University of Utah, School of Architecture, January, 2008

#### Promotion to Tenure Review

Tulane University, School of Architecture, November, 2014

City College of New York, School of Architecture, August, 2014

University of California, Berkeley, School of Architecture. April, 2012

Temple University, School of Architecture. September, 2012

Pennsylvania State University, Stuckeman School. October, 2011

Northeastern University, School of Architecture. September, 2010

Syracuse University, School of Architecture. November, 2009

University of Virginia, School of Architecture. August, 2009

SUNY at Buffalo, School of Architecture. December, 2007

University of Virginia, School of Architecture. October 2002

Promotion to Professor Review: Dalhousie University, School of Architecture. November, 2009

External Evaluator: Van Evera Bailey Faculty Award, University of Oregon, June, 2007

End of Year Review: University of Illinois, Chicago. May, 2006

Thesis & Studio Reviews: Harvard University, McGill University, Cornell University, University of Virginia, University of Arkansas, Columbia University, Temple University, Louisiana State University, University of Illinois-Chicago, Georgia Institute of Technology, Drexel University, University of North Carolina-Charlotte, Philadelphia University, University of Waterloo, University of Cincinnati, Florida International University

#### *Community*

Facilities & Sustainability Committee. School in Rose Valley, Rose Valley, PA. 2006-2013

Faculty Supervisor and Advisory Committee Member. Architecture in Education: Teaching in Philadelphia Area Schools, AIA, 1997-2012

Competition Jury, "Gimme Shelter," Schuylkill Environmental Center, 2008

Competition Jury, Markoe Street Project, Philadelphia Housing Authority, June 16, 2008

Awards Jury: Architecture in Philadelphia, 3<sup>rd</sup> Street Gallery, January, 2005

Beaux Arts Ball Competition Jury: Philadelphia Chapter AIA, October 2004

Awards Jury, AIA Georgia Sustainable Design Awards, October, 1998

Bicycle Coalition of Delaware Valley. 1999

Drexel Dormitory Review Committee. Powelton Village Civic Association, Philadelphia, 1997-98

## Service: Department, School, and University Committee

### *Department of Architecture, School of Design, University of Pennsylvania*

Member. Faculty Search Committee, Structures and Advanced Technology, 2014-16

Chair, Technology Committee, 2014-16

Member. Faculty Search Committee, Environmental Building Design, 2011-12

Member. Executive Committee, School of Design. 2008-11

Chair. Faculty Search Committee, Construction, 2005-07

Chair. Admissions Committee, Masters of Architecture, 2003—08, 2009-10

Member. Faculty Search Committee, Theory/History, 2003-2005

Chair. Architectural Events and Lectures Committee, 1996-2002

Studio Coordinator. ARCH 601, second year graduate design studio, 1999-2006

Chair. Dales Traveling Fellowship Competition, 1998-2005

Chair. Faculty Search Committee, Technology, 2001-2002

Member. Faculty Search Committee, Department Chair, 2001-2002

Member. Faculty Search Committee, Technology, 2000-2001

Chair. Faculty Search Committee, Digital Media, 1997-99

Member. Thesis Committee, 1997-99

Member. Curriculum Committee, 1998-2001

Member. Technology Committee, 1997-2001

Member. Admissions Committee, 1995-2001

Member. Exhibition Committee, 1995-96

Faculty Advisor. Web Site, 1995-97

Faculty Supervisor. The Architectural Review, Department of Architecture, 1994-96

### *Graduate Group in Architecture, School of Design, University of Pennsylvania*

Member. Admissions Committee, 1995-

Dissertations supervised

Ravi Shankar Srinivasan, "Redefining Net Zero energy: Maximizing Renewable Resource Use Through Energy Analysis of Environmental Building Design," 2011

John Stanislav Sadar, "Unpacking the latent bodies of interwar ultraviolet health glass," 2010

Paul Emmons, "The Image of Function: Architectural Diagrams in Handbooks and Normative Practices in the Twentieth Century," 2003

### *School of Design, University of Pennsylvania*



Member. Consultative Committee for the Selection of a Dean of the School of Design. 2015-16

Member. Committee on Academic Freedom and Responsibility, 2014-16

Member. Personnel Committee, 2004-7

Board Member. Penn Praxis, GSFA center for practice and research, 2002-2005

Board Member. Executive Committee, GSFA Alumni Association, 2000-2002

Member. Curriculum Committee, 1996-2002

Member. GSFA Alumni Association, 1995-2002

### *Undergraduate Major in Architecture, University of Pennsylvania*

Academic Advisor. 1997-98

Chairman. Brochure Committee, 1997-98

Studio Coordinator. DENV 410 design studio, 1996-98

### *Department of Mechanical Engineering and Applied Science, School of Engineering and Applied Science, University of Pennsylvania*

Member. Search Committee, Associate Director, Integrated Product Design, 2011

Member. Selection Committee, Department Chairman, 2011

### *University of Pennsylvania*

Faculty Advisory Committee, Initiative for Global Environmental Leadership, Wharton School, 2008-

Co-Chair. Utilities Group, Environmental Sustainability Advisory Committee (ESAC), Facilities and Real Estate Services. 2007-2012

Member. Thought Leadership: Ad-hoc Committee on East Campus Expansion, Office of the Executive Vice-President. 2005-2006

### **Honors and Awards**

Design Intelligence "Most Admired Educators 2010," *America's Best Architecture and Design Schools*, 2010

Who's Who in America, *Marquis Who's Who*, 2010

G. Holmes Perkins Teaching Award, School of Design, University of Pennsylvania, May 2004

Samuel Huckell, Jr. Design Prize, University of Pennsylvania, 1983

E. Lewis Dales Traveling Fellowship, University of Pennsylvania, 1982

Sigma Xi Honor Society (Architectural Research), Princeton University, 1979

### **Memberships**

American Society of Heating, Refrigeration, and Air-conditioning Engineers (ASHRAE), 2003-

International Association of Lighting Designers (IALD, Educational), 1997-2004  
Society of Building Science Educators (SBSE), 1992-  
American Institute of Architects (AIA), Philadelphia Chapter, 1985-  
College of Fellows, 2006-  
Committee On The Environment (COTE). 1990-  
Awards Committee. 2000-2001  
Architectural Registration: Pennsylvania, New York (inactive), and NCARB, 1985-

## Web Sites

[www.mebd-pennndesign.info/](http://www.mebd-pennndesign.info/)  
[www.architectureandenergy.com](http://www.architectureandenergy.com)  
[Williambraham.net](http://Williambraham.net)  
[works.bepress.com/william\\_braham/](http://works.bepress.com/william_braham/)  
[www.modcolor.com](http://www.modcolor.com)

## Contact Information

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University of Pennsylvania  
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Swarthmore, PA 19081  
☎ 610 338-0455  
Cell: 215 806-2971