

What Can the Schools Do?

Green Architecture and Urbanism Council

Congress for the New Urbanism

Washington, DC, Dec. 1, 2007

Ellen Dunham-Jones

Director, Architecture Program

Georgia Institute of Technology

Reasons for Optimism

Student interest in green architecture and in urban design is very high and curricula are responding

- this generation is interested both from an ethicist and a trendsetter perspective
- the Solar Decathlon excited them enormously
- 90% of the applicants to city planning want urban design as their area of concentration
- the number of dual-degree architecture/city planning students has doubled



Reasons for Optimism

Student interest in green architecture and in urban design is very high and curricula are responding

- this generation is interested both from an ethicist and a trendsetter perspective
- the Solar Decathlon excited them enormously
- 90% of the applicants to city planning want urban design as their area of concentration
- the number of dual-degree architecture/city planning students has doubled

But

- the **gap** between the urban design students and the green architecture students remains substantial, somewhat for stylistic reasons
- sustainable urbanism is **BARELY** on the radar of faculty and researchers passionate about green.



Reasons for Optimism

Architectural theory's academic reign has waned.

- the excesses of post-structuralist critique and disdain for practice and everyday life is over.
- the paramount importance of representation has been eclipsed by an interest in performance - be it urban, sustainable, material, or digital.
- students and faculty are VERY interested in making things/places again and engaging with communities and practice



Reasons for Optimism

Architectural theory's academic reign has waned.

- the excesses of post-structuralist critique and disdain for practice and everyday life is over.
- the paramount importance of representation has been eclipsed by an interest in performance - be it urban, sustainable, material, or digital.
- students and faculty are VERY interested in making things/places again and engaging with communities and practice

BUT

- with good reason, faculty remain highly **suspicious of metanarratives** - like sustainability

“The trouble with virtue is; virtue means you already know the answer...For a school which is dedicated to finding the next question, the last thing we need is virtue. By not being virtuous, but instead being open to the most important innovators in our field, the school then takes up its responsibility... We must never assume we know the answer, never assume that we know what's correct.”

Mark Wigley, when asked about Columbia University's pursuit of green design

Metropolis 11/07

Reasons for Optimism

Interdisciplinarity and collaboration are on the rise

at Georgia Tech:

- interdisciplinary activity is third item on cv format

- new Research Centers:

 - Center for Biologically Inspired Design

 - Center for Quality Growth and Regional Development

 - Institute for Sustainable Systems

 - Institute for Sustainable Technology

- new post-professional degrees:

 - MS in Building Ecology and Emerging Technologies

 - MS in Classical Design

 - MS in Urban Design

- faculty search for new joint hire in City Planning and Architecture**



BeltLine:22-mile transit/park loop begun as dual-degre GT thesis

Academic Initiatives for systemically greening teaching and research

- ACSA proposal to create a **National Academy for the Built Environment**
 - fundamental to increasing the sponsored research funding necessary for evidence-based policy changes
- AIA/ACSA joint conferences, publications (**Sustainability Summit**)
 - Designing the curriculum on the BIM model of integration where designers, contractors, and consultants all collaborate upfront and synthesize
- Increased Urban and green requirements proposed for the **NAAB criteria**
- Major **Student Design Competitions** such as the Solar Decathlon and the ULI/Hines competition

Continuing Challenges

Educating engineers to care about buildings

Raising funding for sponsored research in general and specifically in order to increase collaboration with engineers

-the schools could and should be playing a much bigger role advancing CNU and sustainability through research (POE of CU and LEED projects, regional particularization of standards, visioning, etc.)

Educating architects and architectural educators about sustainable urbanism, not only high performance buildings

*Implementing and teaching what we know now while **continuing to incubate new ideas and knowledge**, (distinguishing between principles and prescriptions.)*

What CNU Can Do:

Embrace green explicitly and communicate that message effectively

Greatly expand the research archive on the CNU website. Elevate the standards of urban design scholarship.

Support more research on the performance of new urbanist communities and buildings. Develop a CNU Research Institute?

Expand scholarships for students to attend CNU events - and include faculty.

What CNU Members Can Do:

Sponsor classes at local architecture schools to design, if not also build, structures in new urbanist communities

Donate funds to schools to support public lectures, Visiting Scholars, or endowed professorships

Teach! Apply for the position at Georgia Tech

College of Architecture

Georgia Institute of Technology

Academic Units

Architecture

Building Construction

City and Regional Planning

Industrial Design

Music

PhD

Research Centers

Advanced Wood Products Lab

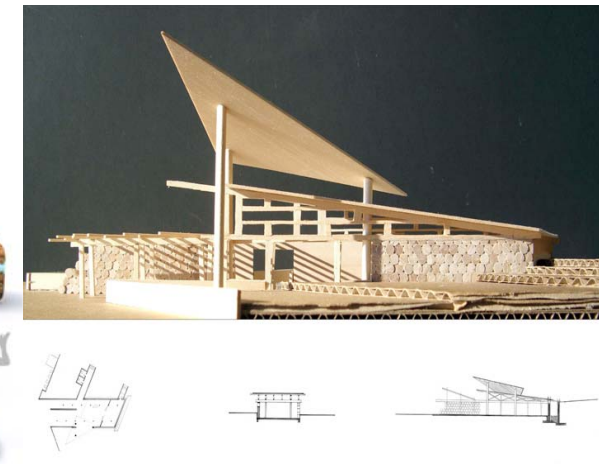
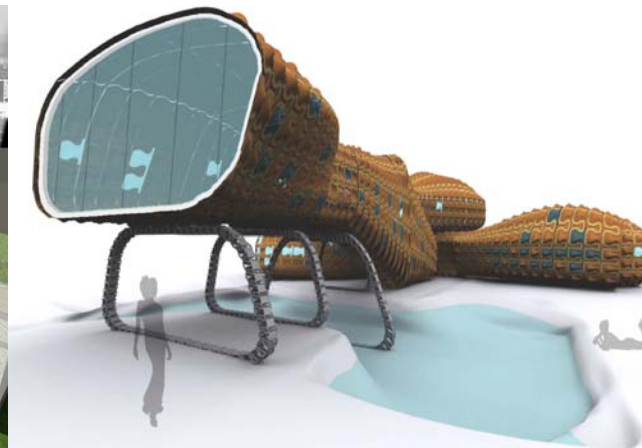
Construction Research Center

Ctr for Quality Growth and Regional Devel

Ctr for Assistive Tech. and Envir'l Access

IMAGINE LAB

Ctr for Geographic Information Systems



Greening the curricula at Georgia Tech

New post-professional specialized degrees:

- MS in Building Ecologies and Emerging Technologies
 - Solar Decathlon, 6th place*
 - Materials Lab*
 - Building Performance Simulation Lab*
- MS in Urban Design
 - Sustainable Dubai Urban Design, 1st place*
- MS in Classical Design
 - Using the facilities and faculty of the ICA

New Electives:

- Green Construction
- Eco-Tectonics
- High Performance Green School Buildings
- Natural Systems
- Community Design and Development
- Design, Development, and Implementation: Atlantic Station
- Threading sustainability through the required courses in the BS.Arch and M.Arch

Sponsored Studios and Outreach opportunities:

- the BeltLine, Serenbe, Hedgewood Properties, Green Habitats, Georgia Conservancy, Viva Studio, Echo Project, AIAS and NOMAS, LEED lecture series, Project Locus.



Solar Decathlon 2007

Greening the curricula at Georgia Tech

New post-professional specialized degrees:

- MS in Building Ecologies and Emerging Technologies
 - Solar Decathlon, 6th place*
 - Materials Lab*
 - Building Performance Simulation Lab*
- MS in Urban Design
 - Sustainable Dubai Urban Design, 1st place*
- MS in Classical Design
 - Using the facilities and faculty of the ICA

New Electives:

- Green Construction
- Eco-Tectonics
- High Performance Green School Buildings
- Natural Systems
- Community Design and Development
- Design, Development, and Implementation: Atlantic Station
- Threading sustainability through the required courses in the BS.Arch and M.Arch

Sponsored Studios and Outreach opportunities:

- the BeltLine, Serenbe, Hedgewood Properties, Green Habitats, Georgia Conservancy, Viva Studio, Echo Project, AIAS and NOMAS, LEED lecture series, Project Locus.



aerogel translucent ceiling

Greening the curricula at Georgia Tech

New post-professional specialized degrees:

- MS in Building Ecologies and Emerging Technologies
 - Solar Decathlon, 6th place*
 - Materials Lab*
 - Building Performance Simulation Lab*
- MS in Urban Design
 - Sustainable Dubai Urban Design, 1st place*
- MS in Classical Design
 - Using the facilities and faculty of the ICA

New Electives:

- Green Construction
- Eco-Tectonics
- High Performance Green School Buildings
- Natural Systems
- Community Design and Development
- Design, Development, and Implementation: Atlantic Station
- Threading sustainability through the required courses in the BS.Arch and M.Arch
- Sponsored Studios and Outreach opportunities:**
 - the BeltLine, Serenbe, Hedgewood Properties, Green Habitats, Georgia Conservancy, Viva Studio, Echo Project, AIAS and NOMAS, LEED lecture series, Project Locus.



vertical pv rain screen and louvered aerogel walls

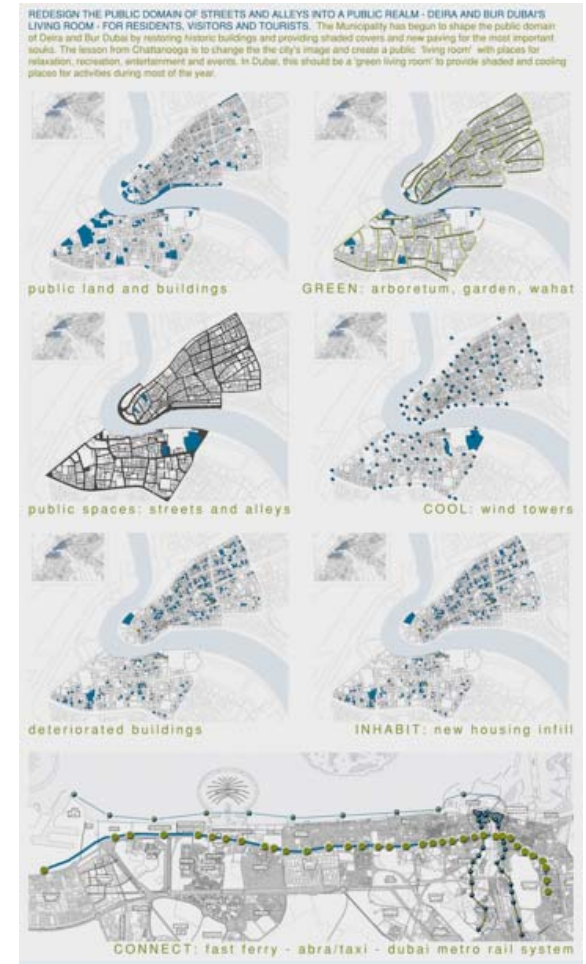
Greening the curricula at Georgia Tech

New post-professional specialized degrees:

- MS in Building Ecologies and Emerging Technologies
 - Solar Decathlon, 6th place*
 - Materials Lab*
 - Building Performance Simulation Lab*
- MS in Urban Design
 - Dubai Sustainable Urban Development, 1st place*
- MS in Classical Design
 - Using the facilities and faculty of the ICA

New Electives:

- Green Construction
 - Eco-Tectonics
 - High Performance Green School Buildings
 - Natural Systems
 - Community Design and Development
 - Design, Development, and Implementation: Atlantic Station
- Threading sustainability through the required courses in the BS.Arch and M.Arch
- Sponsored Studios and Outreach opportunities:**
- the BeltLine, Serenbe, Hedgewood Properties, Green Habitats, Georgia Conservancy, Viva Studio, Echo Project, AIAS and NOMAS, LEED lecture series, Project Locus.



Sustainable Dubai

Greening the curricula at Georgia Tech

New post-professional specialized degrees:

- MS in Building Ecologies and Emerging Technologies
 - Solar Decathlon, 6th place*
 - Materials Lab*
 - Building Performance Simulation Lab*
- MS in Urban Design
 - Dubai Sustainable Urban Development, 1st place*
- MS in Classical Design
 - Using the facilities and faculty of the ICA

New Electives:

- Green Construction
 - Eco-Tectonics
 - High Performance Green School Buildings
 - Natural Systems
 - Community Design and Development
 - Design, Development, and Implementation: Atlantic Station
- Threading sustainability through the required courses in the BS.Arch and M.Arch
- Sponsored Studios and Outreach opportunities:**

•the BeltLine, Serenbe, Hedgewood Properties, Green Habitats, Georgia Conservancy, Viva Studio, Echo Project, AIAS and NOMAS, LEED lecture series, Project Locus.



Dubai infill w/ wind tower

Greening the curricula at Georgia Tech

New post-professional specialized degrees:

- MS in Building Ecologies and Emerging Technologies
 - Solar Decathlon, 6th place*
 - Materials Lab*
 - Building Performance Simulation Lab*
- MS in Urban Design
 - Dubai Sustainable Urban Development, 1st place*
- MS in Classical Design
 - Using the facilities and faculty of the ICA

New Electives:

- Green Construction
- Eco-Tectonics
- High Performance Green School Buildings
- Natural Systems
- Community Design and Development
- Design, Development, and Implementation: Atlantic Station
- Threading sustainability through the required courses in the BS.Arch and M.Arch

•Sponsored Studios and Outreach opportunities:

- the BeltLine**, Serenbe, Hedgewood Properties, Green Habitats, Georgia Conservancy, Viva Studio, Echo Project, AIAS and NOMAS, LEED lecture series, Project Locus.



The BeltLine: 22-mile transit & park loop, begun as GT thesis

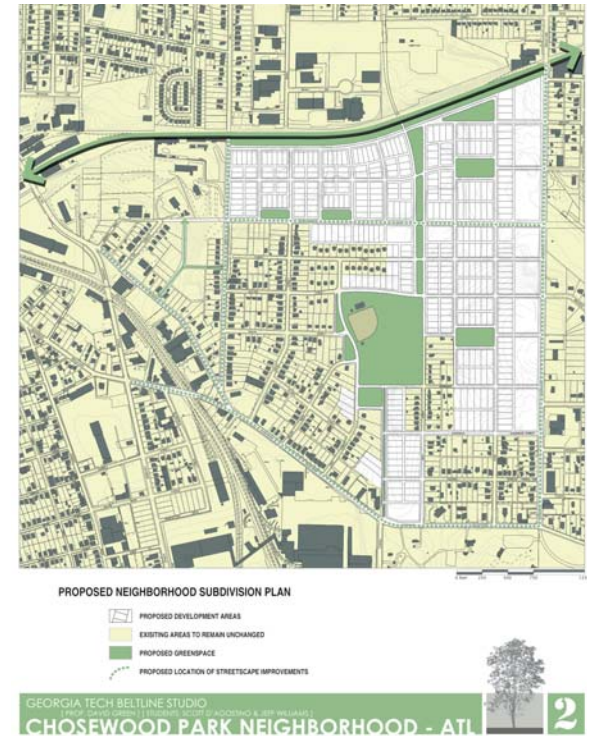
Greening the curricula at Georgia Tech

New post-professional specialized degrees:

- MS in Building Ecologies and Emerging Technologies
 - Solar Decathlon, 6th place*
 - Materials Lab*
 - Building Performance Simulation Lab*
- MS in Urban Design
 - Dubai Sustainable Urban Development, 1st place*
- MS in Classical Design
 - Using the facilities and faculty of the ICA

New Electives:

- Green Construction
- Eco-Tectonics
- High Performance Green School Buildings
- Natural Systems
- Community Design and Development
- Design, Development, and Implementation: Atlantic Station
- Threading sustainability through the required courses in the BS.Arch and M.Arch**
- Sponsored Studios and Outreach opportunities:**
 - the BeltLine**, Serenbe, Hedgewood Properties, Green Habitats, Georgia Conservancy, Viva Studio, Echo Project, AIAS and NOMAS, LEED lecture series, Project Locus.



The BeltLine Studios: platting the regulating plan

Greening the faculty and research at Georgia Tech

Interdisciplinary faculty hires:

- **Faculty search for tenure-track joint appointment in City Planning AND Architecture to focus on urban design**
- Tentative faculty search for tenure-track joint appointment in Architecture and Mechanical Engineering to focus on high performance buildings

Interdisciplinary Research Centers:

- Center for Quality Growth and Regional Development
 - Context-sensitive design, Incremental Urbanism along Commercial Corridors, Mega-Regions, Health Impact Assessments
- Advanced Wood Products Lab
 - Waste reducing digital manufacturing, New materials from waste wood products, new structural and formal properties inspired by biological forms and processes
- Center for Biologically Inspired Design (in the College of Sciences)
 - Biomimicry, biomimetic materials and processes, biosensors, genetically-engineered nanodevices, locomotory, systems organization
- Future Center for High Performance Buildings?
- Future Center for Healthy Places?
- Future Center for Service Learning?

Greening the faculty and research at Georgia Tech

Interdisciplinary faculty hires:

- Faculty search for tenure-track joint appointment in City Planning AND Architecture to focus on urban design
- Tentative faculty search for tenure-track joint appointment in Architecture and Mechanical Engineering to focus on high performance buildings

Interdisciplinary Research Centers:

• Center for Quality Growth and Regional Development

- Context-sensitive design, Incremental Urbanism along Commercial Corridors, Mega-Regions, Health Impact Assessments

• Advanced Wood Products Lab

- Waste reducing digital manufacturing, New materials from waste wood products, new structural and formal properties inspired by biological forms and processes

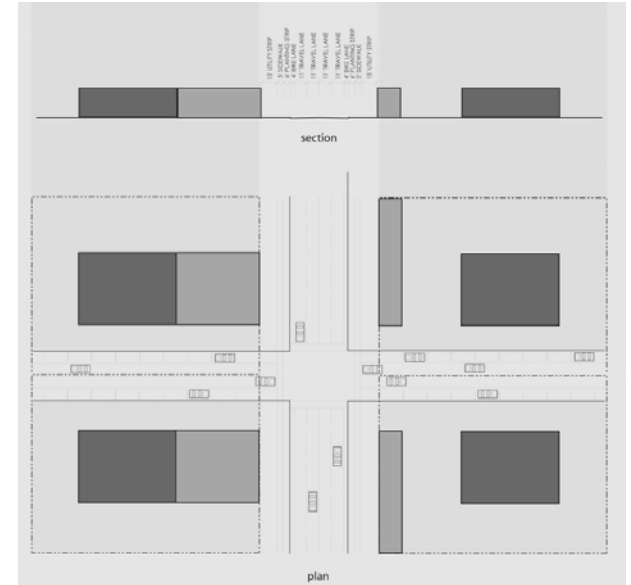
• Center for Biologically Inspired Design (in the College of Sciences)

- Biomimicry, biomimetic materials and processes, biosensors, genetically-engineered nanodevices, locomotory, systems organization

• Future Center for High Performance Buildings?

• Future Center for Healthy Places?

• Future Center for Service Learning?



re-zoning to allow liners

Greening the faculty and research at Georgia Tech

Interdisciplinary faculty hires:

- **Faculty search for tenure-track joint appointment in City Planning AND Architecture to focus on urban design**
- Tentative faculty search for tenure-track joint appointment in Architecture and Mechanical Engineering to focus on high performance buildings



Interdisciplinary Research Centers:

- Center for Quality Growth and Regional Development
 - Context-sensitive design, Incremental Urbanism along Commercial Corridors, Mega-Regions, Health Impact Assessments
- Advanced Wood Products Lab
 - digital manufacturing to reduce waste, new materials from waste wood products, new structural and formal properties inspired by biological forms and processes
- Center for Biologically Inspired Design (in the College of Sciences)
 - Biomimicry, biomimetic materials and processes, biosensors, genetically-engineered nanodevices, locomotory, systems organization
- Future Center for High Performance Buildings?
- Future Center for Healthy Places?
- Future Center for Service Learning?