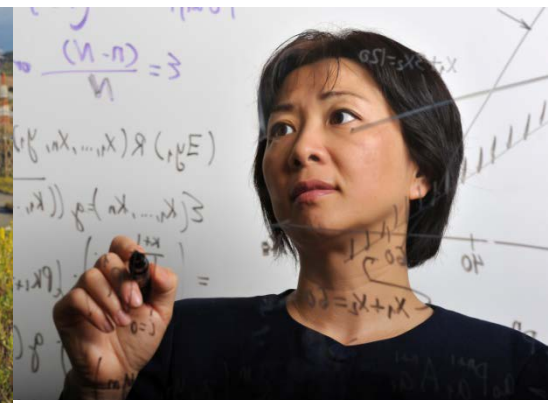
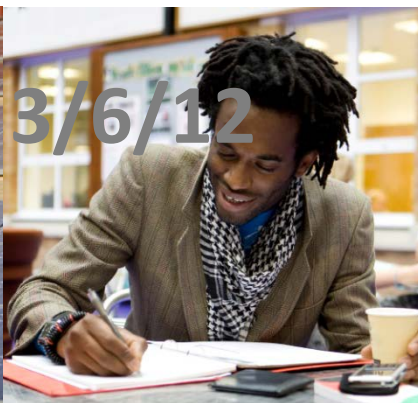


Community College and Employer Partnerships: Real Jobs in the Clean Economy

Webinar March 2012



Attendee List (2)

Hosts (1)

- Gary Gonzalez

Presenters (0)

Participants (1)

- Jerry Gonzalez

Chat (Everyone)

Everyone



Community College and Employer Partnerships: Real Jobs in the Clean Economy

Webinar March 2012



Submitting Questions: Open Chat

Drop-Down Menu



- To submit a question, type the question in the **text field** and press your **Enter/Return** key.

– Please enter the name to whom the question is directed.

■ To send questions only to the presenters, select **Presenters** from the **drop-down menu** before pressing your **Enter/Return** key.

- Change **Text Size** and **Chat Color**...

Text Field

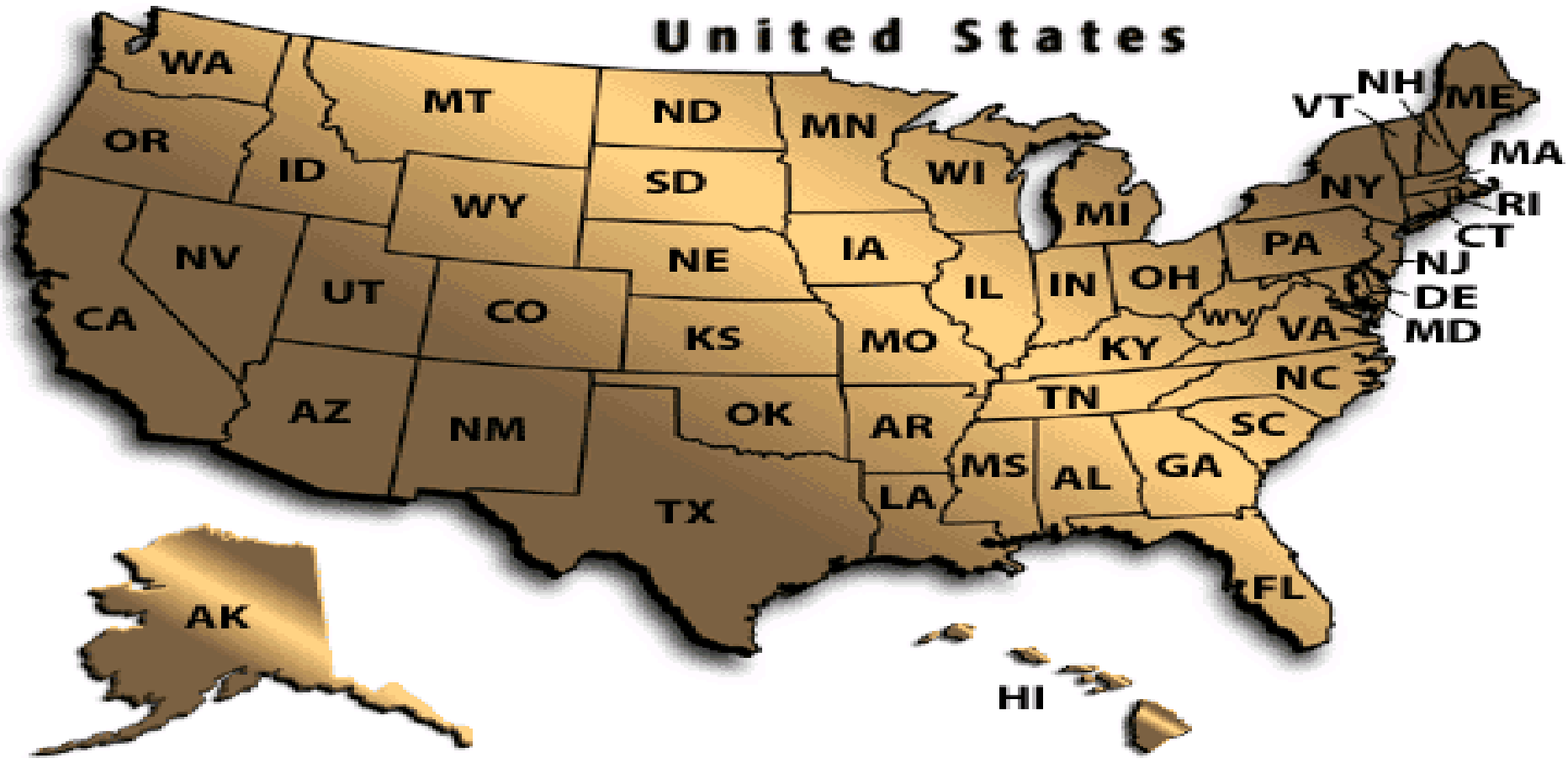
Submitting Questions: Closed Chat



- To submit a question, type the question in the **text field** and press your **Enter/Return** key.
 - Please enter the name to whom the question is directed.
- Your name and your question will appear on your screen, indicating successful submission.
- Questions are directly transmitted to presenters—no other participants will see your questions.

Practice

In the **Chat Room**, please type the name of your organization, your location, and how many people are attending with you today.



College to Career
Fund, Skills for
America's Future, TAA
Grants— focus is on
employer engagement
and partnerships



- Georgia Piedmont Technical College, Kele Corporation...and a host of Fortune 500, small suppliers in the building automation & controls industry
- Model
 - Continuous employer engagement (large and small)
 - College as *convener*
 - Green
 - Outcomes for students, employers, and college
 - Adaptable

- Brian Lovell, Director, Green Technology Academy, Georgia Piedmont Technical College
- Dave Weigel, Kele Corporation

Building Automation Systems

Georgia Piedmont Technical College



What is Building Automation?

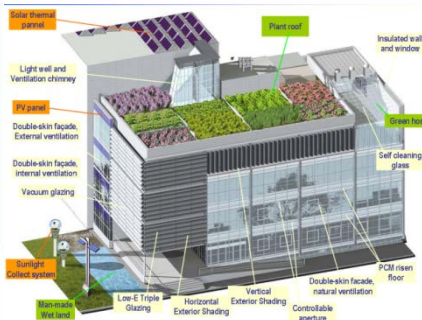
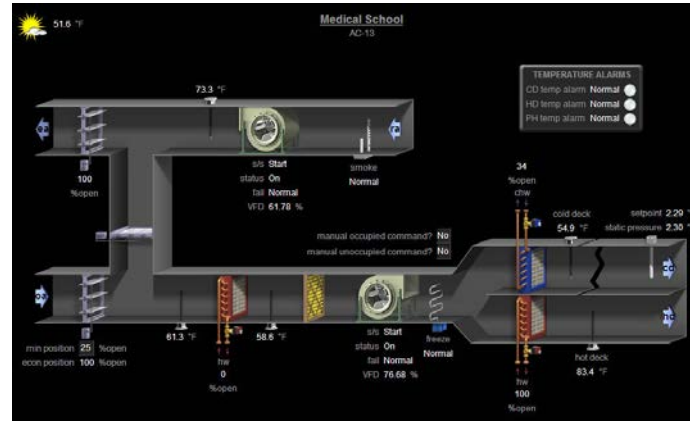
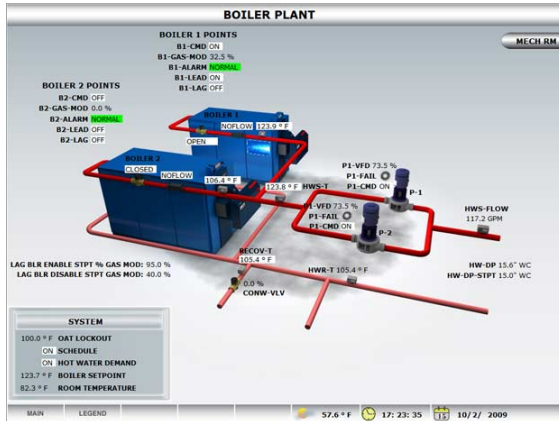


Image: Architecture Power Saving Research Center of Tsinghua University

- HVAC Systems
- Lighting Systems
- Security Systems
- Access Control Systems
- Fire Alarm / Life Safety Systems
- Energy Monitoring Systems
- Renewable Energy Systems

What is Building Automation?





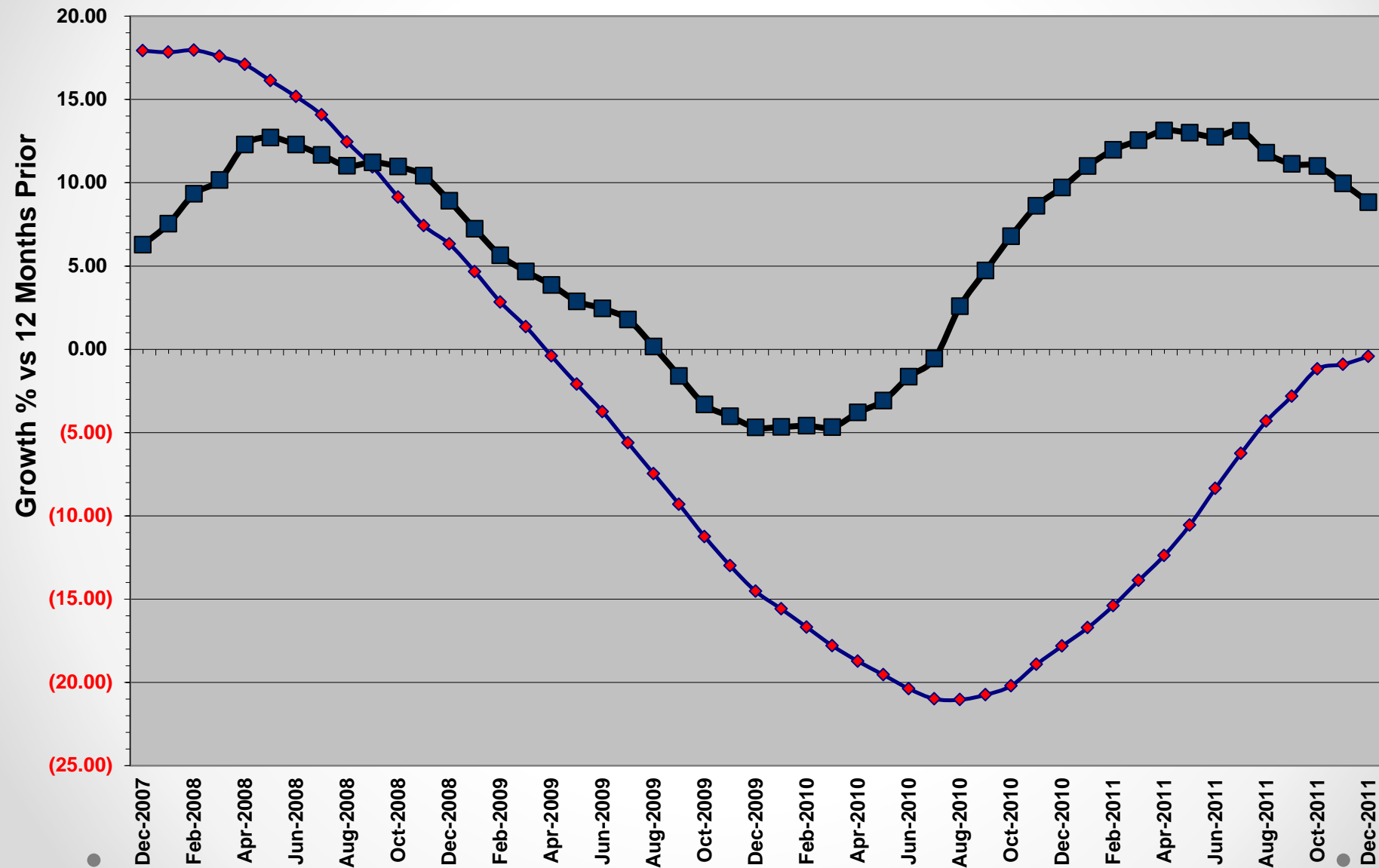
- **Dave Weigel, P.E.**
 - Chief Engineer / Consultant
- **Building Automation Peripherals Supplier**
 - Largest In the Industry
- **Hub of the Building Automation Industry**
- **Brief History of Company**



- **Industry Outlook – Green Jobs? Yes!**
- **Internal Estimates**
 - U.S. Market - \$5 Billion 2012
 - World Market - \$15 Billion 2012
- **Recession Resistant**
 - 2002 Recession – Plus 1 % vs. Construction Down 15%
 - 2008 Recession – Down 5% vs. Construction Down 23%
 - Forward – Double-Digit Annual Growth, Starting Now

Building Automation Market Growth Versus Non-Residential Construction Growth

◆ US Non-residential Construction
 ■ North American BAS Market



Drivers

- Energy Costs
- Environmental Awareness
 - LEED / Energy Star / Others
- Building Codes
 - International Energy Code
 - ASHRAE 90.1-2010 / ASHRAE 189.1-2011



Employment

- Demand Matches Industry
- Specialized Construction
- No Labor Economies of Scale
- No Trained People to Hire...



Kele[®]

The logo features the word "Kele" in a bold, green, italicized sans-serif font. A light blue swoosh underline starts under the 'e' and loops back under the 'l'. A registered trademark symbol (®) is located to the right of the 'e'.

**GEORGIA
PIEDMONT**
TECHNICAL COLLEGE
Formerly DeKalb Technical College

Georgia Piedmont Technical College



- **Brian Lovell**
 - Director – Green Technologies Academy
Building Automation Systems Program
- **Career Spent in BAS Industry**
 - Founder – Synergy Automation, Inc. (1998)
 - Dearth of Trained BAS Technicians
- **Joined GPTC Summer, 2007**



Georgia Piedmont Technical College



- Founded 1961
- 13,000 students / 5,000 Degree–Seeking Students
- Technical College System of GA (TCSG)
- Serves 4 Metro Atlanta Counties
- Acting President: Mr. Larry Teems

BAS Program Development @ GPTC



How?

- Partnered with a Former Instructor
 - Mr. Jeryll McWhorter
 - Co-Developed Supermarket Refrigeration Program in 2007
 - Vision
 - Research for TCSG
 - Developed Curricular Skeleton (4 courses)
 - Established Industry Advisory Board
 - Acquired Institutional Buy-In with Vision Meetings
 - Model for BAS Program Development

BAS Program Development @ GPTC



How?

- Development of BAS Program – 2008
 - Steps
 - Vision
 - Research Need (Difficult for BAS)
 - Develop Skeleton of Program
 - Gain TCSG Approval for Program (Fall, '08)
 - Initially 7 courses – Now 11 courses
 - **Establish Active Advisory Board (Key)**
 - Goal was to Engage all Major BAS Companies
 - Maintain Institutional / Adv. Board Interest
 - **Balance of Interests**
 - **Vision & Credibility**

Active Advisory Board is Key



- Curricular Review / Feedback
- Critique of Recent Graduates
- Donations
- Publicity
- Higher Placement Rates
- Training of Students / Faculty
- Administration / Industry Balance

BALANCE OF INTERESTS



ADMINISTRATION

Student Count
Placement Rates
Publicity / Look Good
Bragging Rights
Donations

INDUSTRY

Trained Prospects
Corporate Branding
Don't Leave Me Out
Give Back
Sales / Marketing

FACULTY

Student Count
Placement Rates
Look Good
Bragging Rights
Job Security

VISION & CREDIBILITY



- **Must Have Vision & Credibility – Especially with Admin. & Industry**
- **In the Case of BAS @ GPTC**
 - **Brian L. – Vision / Credible with Industry**
 - **Dave W. & Other Industry Partners – Great Credibility with Industry & Administration**
 - **Jeryll M. – Credible with Administration & Faculty**
- **Once Credibility Established – Need a Closer Who Can Complete the Task & Infuse Interest**
- **Train Has Left the Station...**

What Was Accomplished?



- 1st Associate's of Applied Science Degree Program for BAS in U.S.
- True Industry / Education Partnership
- Multi-Million Dollar Laboratory (Majority of Equipment Donated by Industry)
- Use of Facilities as Living Laboratories
- Collaborations with Other Colleges
 - Articulation with 4-year College
- New Revenue Stream for College

INDUSTRY PARTNERS

Alerton Controls	Hart & Cooley
Arkema	HEATCRAFT
Atlanta Refrigeration Service	Hill/Phoenix
Automated Logic Controls	International Comfort Products
Bally Coolers	Johnson Controls
Bitzer Compressors	Kele
Bohn	Laboratory & Biosafety Systems, Inc.
Carlyle Compressors	Larkin
Commercial Controls of Georgia	Mueller Industries
/Mingledorf's	Parker / Sporlan
Daikin Americas	Rexel Electrical & Datacom Supplies
Danfoss	Scotsman
Delta Controls	Siemens
DHR Mechanical & Electrical	Southern Controls
Distech Controls	Trenton Coils
Emerson Electric	Triatek, L.L.C.
Fastenal	Unico Systems
Ferris State University	United Refrigeration
Forane Refrigerants	Vacuum Plumbing Systems
Georg Fischer ABS Piping	Viconics
Georgia Perimeter College	Waypoint Systems
Georgia Power	Wolverine Joining Technologies
Georgia State University	Wright Brothers
Georgia Trane	



BAS A.A.S. Program @ GPTC



Core Classes

BUAS 1010 – BAS Fundamentals

BUAS 1020 – BAS Electrical Concepts I

BUAS 1030 – BAS Electrical Concepts II

BUAS 1040 – BAS Devices

BUAS 1050 – BAS Networking

BUAS 1060 – BAS Adv. Electrical Concepts

BUAS 2010 – BAS HVAC Systems & Controls

BUAS 2020 – BAS Logic & Programming

BUAS 2030 – BAS Design & Installation

BUAS 2040 – BAS Integration

BUAS 2050 – BAS Internship

BAS Program at GPTC



- Pedagogy
 - Focus on Project-Based Learning



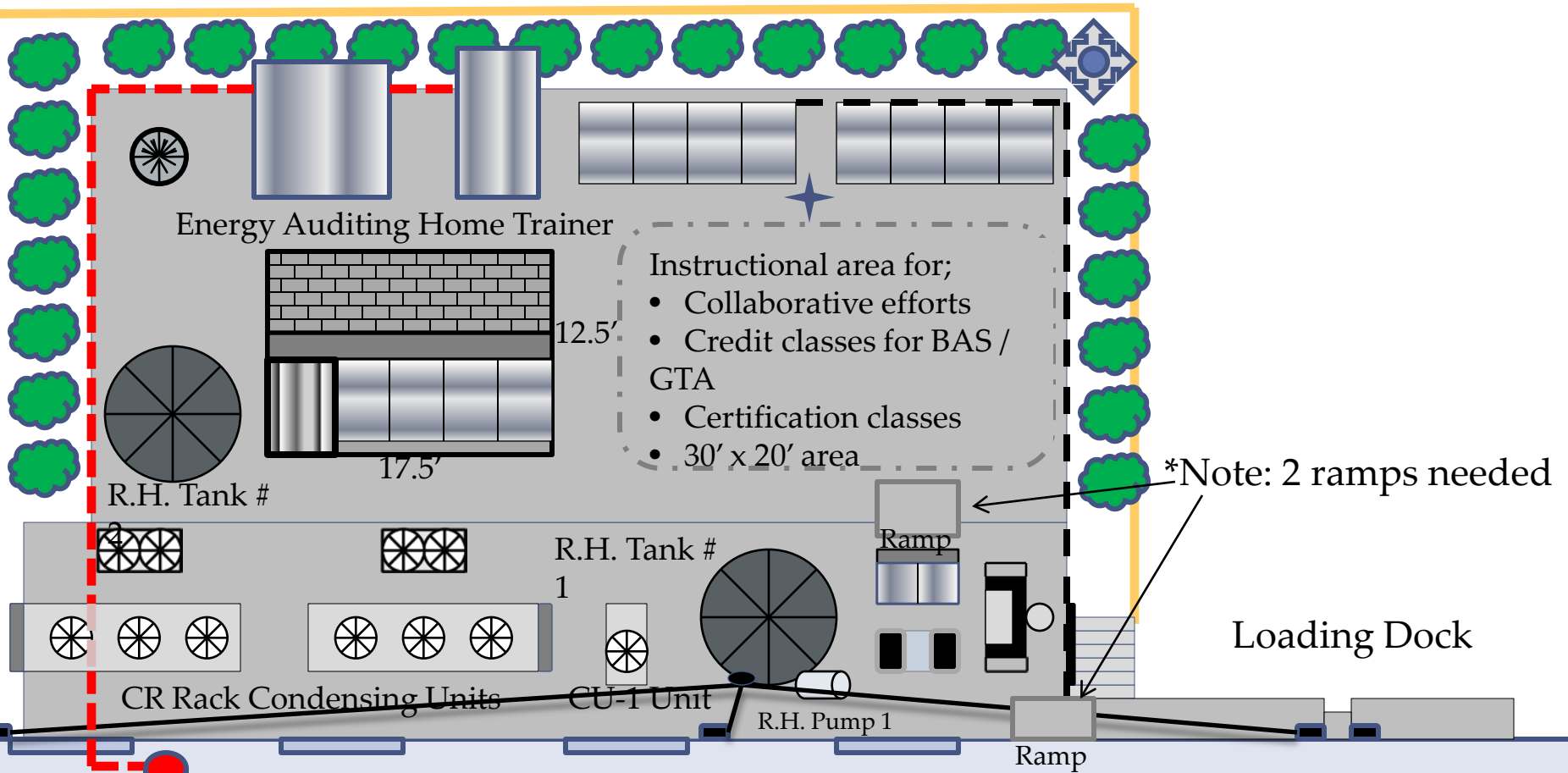






Future Pad & New Equipment

*Note: Green space surrounds pad and is irrigated by rainwater harvesting system overflow.



BAS / CR Interior Laboratory Space (C-13)









BAS Program at GPTC



- Pedagogy
 - Focus on Project-Based Learning
 - Communication Skills





BAS Program at GPTC

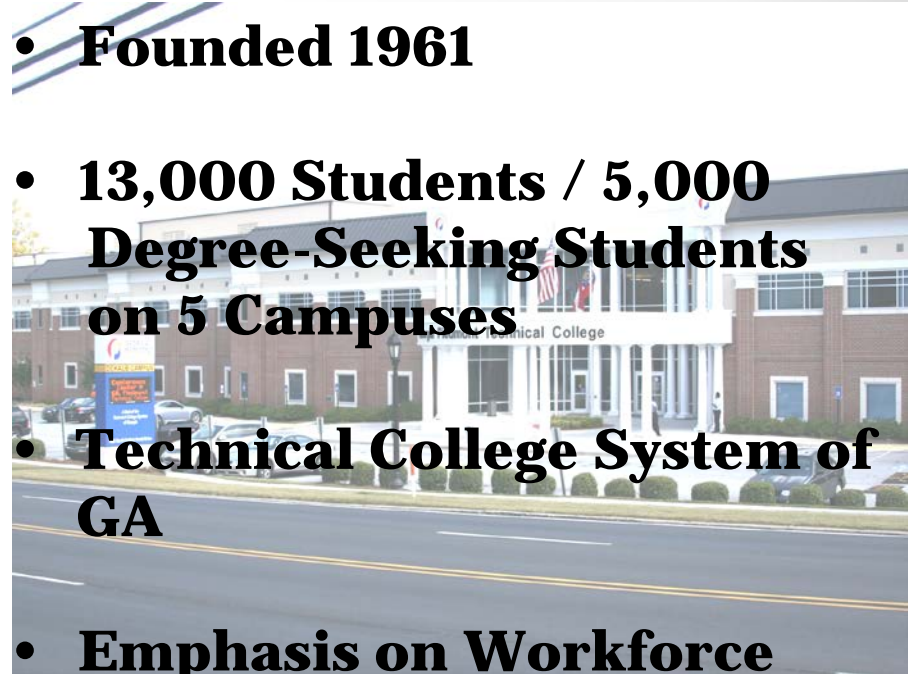


- Pedagogy
 - Focus on Project-Based Learning
 - Communication Skills
 - Inter-Institutional Collaborations
 - Georgia Perimeter College, Atlanta
 - Laney College, San Francisco
 - Ferris State University, Michigan
 - Agnes Scott College, Atlanta

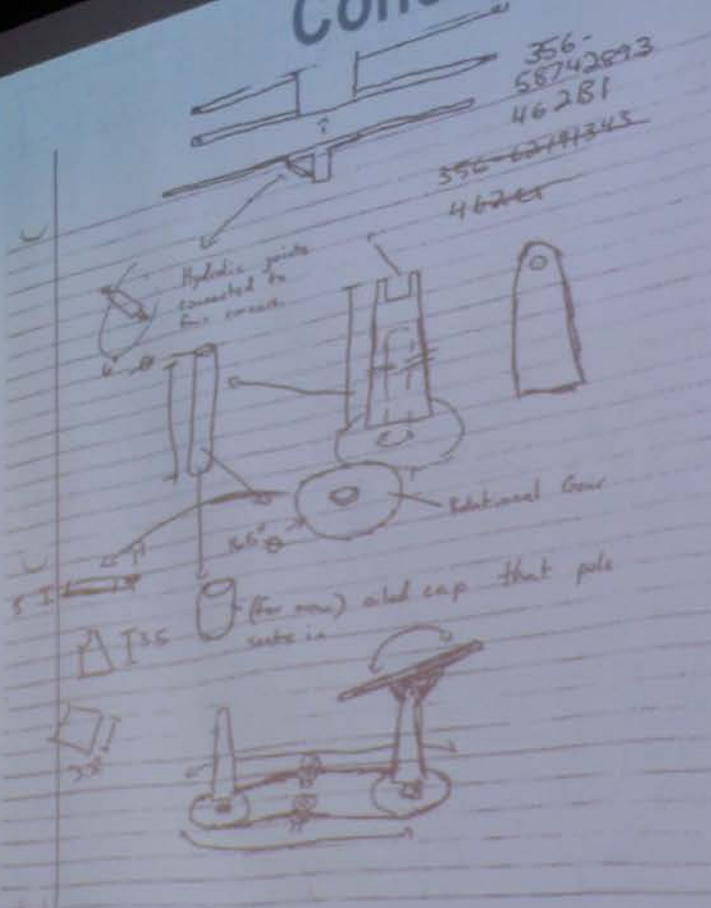
- **Founded 1964**
- **27,000+ Students / Rapid Growth under Dr. Tricoli's Leadership**
- **Largest Community College in State of GA / 2nd Largest Public Institution in State**
- **46 Transfer Admission Guarantee (TAG) Agreements with 4-year Institutions**



- **Founded 1961**
- **13,000 Students / 5,000 Degree-Seeking Students on 5 Campuses**
- **Technical College System of GA**
- **Emphasis on Workforce Development**



Concept



EXIT





BAS Program at GPTC



- Pedagogy
 - Focus on Project-Based Learning
 - Communication Skills
 - Inter-Institutional Collaborations
 - Industry Speakers / Guest Lecturers

Joint Lecture Series

Sponsored by:



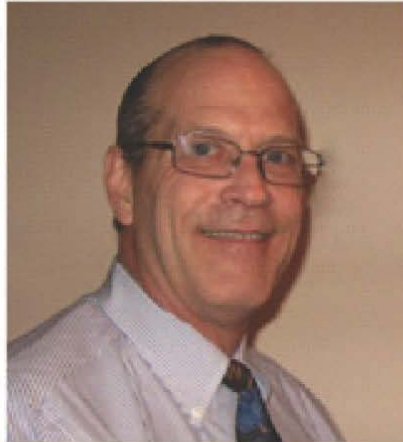
GPTC Green Technologies
Academy

GPC Office of Sustainable Living
& Environmental Studies

Wastewater Treatment Plants

GPTC / GPC Joint Lecture Series

Most people don't often consider what happens to wastewater once it leaves their home. It is sent to wastewater treatment plants where physical, chemical, and biological processes are employed to remove contaminants. The wastewater is eventually converted into an environmentally-safe fluid and a solid waste which can be disposed of or reused as a fertilizer. Many control processes are involved in the proper treatment of wastewater.



Guest Speaker;
Mr. Dave Weigel, P.E.
Consultant, Kele, Inc.

Presented by: Dave Weigel, P.E.
Hosted by: GPTC / GPC
Date: Wednesday, December 7, 2011
Place: Georgia Piedmont Technical College
Clarkston Campus Conference Center
495 N. Indian Creek Drive
Clarkston, GA 30021-239
Time: 6:00 - 7:30pm
Cost: No charge



Dave Weigel has amassed over 30 years of in-depth experience in energy conservation analysis, building automation, technical training, and analysis of renewable energy systems. In addition, as a registered professional engineer, he has designed electrical, mechanical, and control systems for new construction, renovation, and conservation-driven retrofit. He has been a part of the green, sustainable building movement since long before those terms became popular. Dave holds an M.B.A. and is presently a consulting engineer and trainer.



RSVP Today!

Confirm your attendance today by

Calling: Mr. Brian Lovell

404-297-9522 ext. 1265 / email: lovellb@gptc.edu

Upcoming JLS Presenters!

1/25/2012 - Mr. Bob Drew, P.E. - "Water Harvesting in ATL"

2/21/2012 - Mr. Leonard Lowe, P.E. - "Georgia Aquarium"



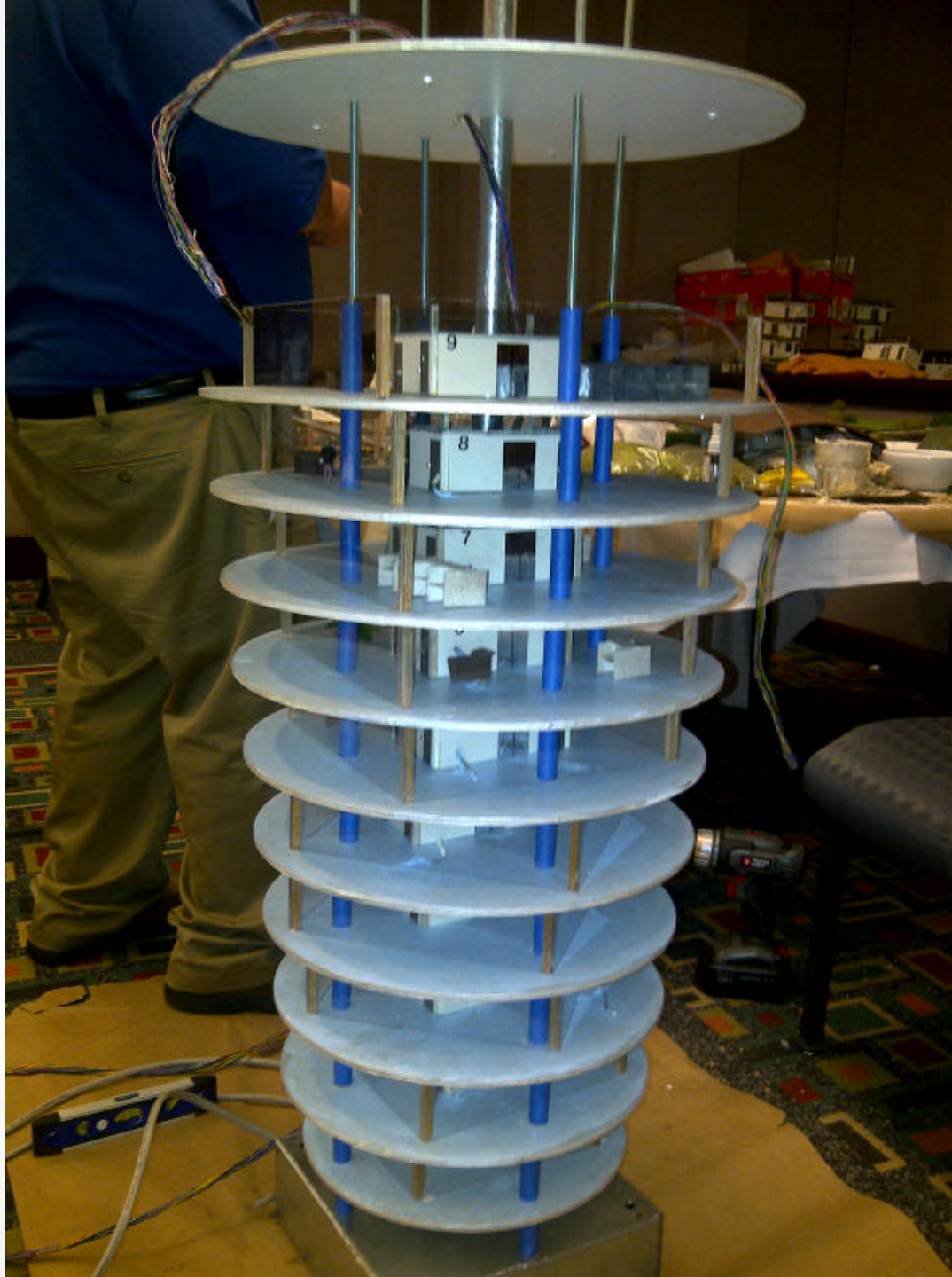
BAS Program at GPTC



- Pedagogy
 - Focus on Project-Based Learning
 - Communication Skills
 - Inter-Institutional Collaborations
 - Industry Speakers / Guest Lecturers
 - Student Club Planned Events









Results



- **Student Placement**
 - 80% in-field
 - Average over \$50,000.00 starting pay
- **400% Growth in Student Count in Program Area in 3 Years**
- **New, Innovative Collaborations Beneficial to Students**
- **Continued High Level of Industry Involvement**

Moving Forward



- **Program Development Challenges**
 - Finding Facilities for Students to Work In
 - Providing Internships for all Students as the Program Grows
 - Keeping Pace with Industry Advancements
 - Handling Interest in the Program

Moving Forward



- **On the Horizon**
 - NSF Center Grant with Laney College, San Francisco
 - Retrofit of 30,000 sq. ft. Facility
Level 3 Energy Audit / ECMs / Implementation by Students
 - Development of BAS Industry Certification Exam for Entry-Level Professionals

Special Thanks



- Entire Advisory Board – GPTC BAS Program
- Mr. Larry Teems – President, GPTC
- Mr. Jeryll McWhorter – Refrigeration, GPTC
- Dr. Tanya Gorman – VPAA, GPTC
- Mr. Leroy Daniels - Building Automation, GPTC
- Mr. Dave Weigel – Kele, Inc.
- Dr. Daisy Davis – Dean of Academics, GPTC
- Mr. Julian Wade – Dean of Operations, GPTC
- Ms. Natalie Kostas – Industrial Division Chair, GPTC
- Dr. Natoshia Anderson – Drafting Technology, GPTC
- Dr. Anthony Tricoli – President, GPC
- Dr. Joanne Chu – Sustainability, GPC
- Mr. Jay Terry – Engineering, GPC
- Dr. Anant Honkan – Engineering, GPC
- Mr. Martin Okafor – Physics, GPC
- Ms. Susan Kidd – Sustainability, Agnes Scott College



- Green Genome College Awards (\$\$\$) – look for application live end of April
- 3 stipends left for April AACCC Convention
SEED ½-day workshop: Campus Greening. Act Now! (see details at www.theseedcenter.org)

QUESTIONS?