NCSU
ACI Student Chapter

Planning & Partnering for an Outstanding Educational Experience in Panama

Detroit, MI
March 27th, 2017
Planning

- Select student team members
- Get students to obtain ACI G1 CTC
- Initiate fundraiser effort
- Develop Panama partners
- Develop USA partners
- Schedule program
- Arrange travel logistics
- Secure site visits
- Organize parallel ACI G1 CTC
- Organize parallel technology transfer seminars
- Organize fun activities
Partners

• Panama
  • Apacreto
  • Universidad Tecnologica de Panama
  • Panama Canal Authority
  • CH2M Hill
  • Grupo Unidos por el Canal
  • Fall Line Testing
  • Secretaria del Metro de Panama
  • Tocumen International Airport
  • Dr. Ing. Oscar Ramirez
  • Dr. Ing. Brenda Serracin
  • Ing. Julio Davis
Partner

“Program Management for the Panama Canal Expansion Project”

• Ing. Joseph Cazares
• Cultural Impacts in a Megaproject
• Leadership and Politics
• Immigration
• Cost control
• Communication skills
Partner

“Design and Construction of High Rise Reinforced Concrete Buildings in Panama”

- Dr. Ing. Oscar Ramirez
- Chancellor, Universidad Tecnologica de Panama
- Lead Structural Consultant in Panama
Partners

- USA
  - NC State University - Civil Engineering Department
  - NC State University – Construction Extension
  - NC State University – Alumni, Faculty & Friends
  - ACI North Carolina Chapter
  - ACI NCSU Student Chapter
  - Crowder Construction Company
  - IQ Contracting, LLC
Results

<table>
<thead>
<tr>
<th>Year</th>
<th>NCSU Students</th>
<th>Faculty</th>
<th>Panama G1 CTC</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>12</td>
<td>2</td>
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<tr>
<td>2011</td>
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<td>5</td>
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<td>2016</td>
<td>14</td>
<td>4*</td>
<td>22</td>
</tr>
</tbody>
</table>

*3 Faculty + 1 ACI Director of Chapters
Technology Transfer Impacts

• “Pervious Concrete”
• “Semi-Destructive & Non-Destructive Testing”
• “Evaluation of Low Strength Events”
• “Concrete Troubleshooting & Quality Control”
• “Seismic Design of Tall Reinforced Concrete Buildings”
• “Design & Construction of Concrete Slabs on Grade”
• “Construction Safety in Accordance to OSHA”
• “Preparation for ACI G1 CTC”
• “Concrete Construction Specifications”
• “Launch ACI Panama Chapter”
Impacts

“Semi-Destructive and Non-Destructive Evaluation of Concrete”

- Ing. Roberto Nunez
- Faculty NC State University
- Director of CCEE Extension Programs
Impacts

“ACI Grade 1 Concrete Field Testing Technician Certification”

• Instructed 27 Panamanian technicians and engineers
• Conducted written and field examinations as proctors
Lessons
Thank you, NCSU!