### UNIVERSITY OF COLORADO
### CEAE DEPARTMENT
### FACULTY AND STAFF MEETING MINUTES

<table>
<thead>
<tr>
<th>Date</th>
<th>March 5, 2014</th>
<th>Time</th>
<th>12:00 PM – 1:00 PM</th>
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</thead>
<tbody>
<tr>
<td>Facilitator</td>
<td>R. Balaji</td>
<td>Scribe</td>
<td>Wil Srubar</td>
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<tr>
<td>Location</td>
<td>ECCE 1B41</td>
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<tr>
<td>Subject</td>
<td>Department Chair Nominee: Vision of CEAE</td>
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#### Attendees

#### Key Points discussed

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<tr>
<th>No.</th>
<th>Topic</th>
<th>Highlights</th>
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<tbody>
<tr>
<td>1</td>
<td>Visit Day Recap</td>
<td>• John Crimaldi gave a brief summary of visit day and gave a special thank you to Ross, his students, Paul Chinowsky, Pamela, and the rest of the Graduate Committee.</td>
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<td>2</td>
<td>Internship Director</td>
<td>• Keith announced that David DeCook has provided the final $40,000 donation to reach the $200,000 needed to hire our Director of Student Enrichment and Internships. The search for a director will begin immediately.</td>
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<td>3</td>
<td>Vision of CEAE</td>
<td>• Balaji gave a presentation on his vision for CEAE as the sole nominee for the department chair position.</td>
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<td>• The presentation highlighted Balaji’s diverse background, experience, and research interests.</td>
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<td>• His vision was presented through a lens of “Multi-Objective Constraint Optimization”</td>
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<td>• He advocated for strengthening current departmental policies, including evaluation metrics and the involvement of the Executive Committee.</td>
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<td>• He expressed interest in increasing research interactions through reorganization around themes (e.g., sustainable infrastructure, energy, water quality/quantity).</td>
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<td>• He expressed no interest in splitting CEAE into sub-departments.</td>
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<td>• In terms of teaching, he is in favor of faculty’s abilities to teach courses outside of their main area.</td>
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<td>• He communicated his campaign slogan, “If you elect me, you elect yourself,” and elaborated on his plans to create frequent feedback-loops to monitor his own effectiveness.</td>
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<td>• A brief discussion followed on courses, quality research metrics, and instructors’ pivotal role in the department.</td>
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Ideas for The Next Chapter of CEAE Story

R. Balaji
Background

B. Tech. National Institute of Technology, 1989 Kurukshetra, India, Civil Engineering


PhD Utah State University, Logan, UT 1995 Civil and Environmental Engg.

Postdoc Lamont-Doherty Earth Observatory (LDEO) Columbia University, NY 1995-97

Associate Research Scientist LDEO 1997-2000

2000 ~ Assistant Professor, CEAE 2010 ~ Professor, CEAE
Experience

2010-12 Associate Chair, CEAE
2012- Faculty Director, CEAE
2011- Member, Executive Committee, CEAE
2006 – 2008 Member, Executive Committee, CIRES
2001-10 Member, Curriculum Committee, CEAE

Research Interests: Hydrology; Climate Variability – seasonal to millennia – water quality, public health; Water Resources Management; Statistical methods for multivariate data - applications to a variety of fields – Building Systems, Construction safety, Glacier mass loss
Research Diversity

• Published articles, proposals and on-going collaboration with colleagues from 5 of the 6 groups

• **Structures:** Victor, Ross, Yunping

• **Geotech:** Tad

• **Construction:** Keith, Matt

• **Building Systems:** Gregor

• **Water:** Edie, Roseanna, Hari, Joe

• **Environment:** Scott, JoAnn, Karl

Rich and varied research portfolio, fully appreciate the academic diversity, culture, efforts and breadth of the Dept.
Broad View of the Job

• “Multi-objective Constrained Optimization”
  • Collectively & Transparently formulate objectives
    • Values, Priorities, Growth - short term/long term Tradeoffs
      • Soften constraints, persuade/articulate, Interpersonal navigation, Expand the solution space
  • Defend, promote, highlight and educate College and campus – of our success, values,
• Recruit You to help me serve You better – move towards a more perfect state/solution
Ideas for Future

- Strengthen several current policies
- Modify evaluation metrics
- Strengthen Research Interactions
- Enhanced role of ExComm & Personnel
- Strategic in our Growth
- No split of CEAE

Our program should be known for rigor and well rounded
Strengthen

- ICR Return
- AY Salary Return
- Dissertation Completion Fellowship
- Student Travel Support
- Distinguished Seminar Support
- Awards Committee
- External Advisory Board
- Leadership structure
- Recruitment efforts
- Internship
• A major problem with metrics is the well-charted tendency for people to distort their own behaviour to optimize whatever is being measured … It cannot quantify the attributes that society values most in a university researcher — originality of thinking and the ability to nurture students. Which is not the same as scoring highly in increasingly ubiquitous student questionnaires.

• Halt the avalanche of performance metrics - *Nature*
• At the Massachusetts Institute of Technology in Cambridge, Claude Canizares, vice-president for research and associate provost, says that "we pay very little attention, almost zero, to citation indices and counting numbers of publications". But, he says, "if someone has multiple publications in a higher-impact journal, it's like getting another set of letters — the peers that reviewed that paper gave it high marks".

• Do Metrics Matter? — *Nature*

• “Metrics are the Shortest Route to Mediocrity” — Peter Molnar, CIRES Fellow

University of Colorado Boulder
Metrics - Research

• Needs changes to reflect Quality and Diversity

• Normalize by
  • Research impact, Efforts, Culture in the field
  • Modest extensions vs new and significant advances

• Far Exceeds Expectations – weigh quality significantly
  • Read/Review significant papers by colleagues

• Encourage/Reward Quality over Quantity
Incorporate

• **Course Difficulty, Preparation Efforts**

• **Class size**

• **Quality of graduate teaching and mentoring**
Research

• Organize under broad themes
  
  • For Example - Energy; Sustainable Infrastructure; Water – quantity, quality; Fluids Mechanics; Materials and Mechanics, etc.

• Robust seminar series - Graduate Student led

• Groups/themes

• Communication – Enhance existing efforts
  
  • Aggressive web/online dissemination

  • Show case faculty publications on the group/theme pages
Research / Teaching

• Use faculty meetings for *research and teaching seminars*
  
  • Faculty Research
  
  • Updates from themes
  
  • Teaching tools
  
• Each one of us should try to develop skill at teaching a course outside of our areas
  
  • Expand capacity / bandwidth
  
• Reduce Adjunct load, Increase resources
Administrational

• Executive Committee – more involved
  • Hires, Offers, Retention,..

• Personnel Committee – Reappointment/Promotion/Tenure
  • Presentations must describe:
    • Importance of problems, major issues, research contributions
  • Department letters will highlight research contributions

• Evaluate/Feedback Chair’s Performance Annually
Campus Representation

• Fellows in major institutes – major initiatives
  • CIRES (one of the largest research units on campus), INSTAAR, RASEI

• Meet with these Directors regularly
  • Potential positions; joint hires; proposals

• Served on College blue ribbon commission – better interaction

School of Environmental Sciences

• Hari/Scott involved in curriculum development

• Exploit these connections to strategically represent CEAE
College Representation

• Continue education of College/Dean
  • Broad/diverse research activities
  • Research culture/funding
  • Values
  • Industry needs
• Senior faculty will be recruited to represent Dept. at College and Campus levels to promote our visibility
In Parting

- Curiosity

- Think Outside the Box, Options, *Expand Solution Space*

- Ask uncomfortable questions
  - Call out hypocrisy, narrow mindedness

- First to accept mistakes

- Seek out *noble thoughts from everyone/everywhere*
If you elect me you elect yourself