

Delivering AIChE's Future RANTC

AIChE's Research and New Technology Committee (RANTC)

Presentation to NPC/Retreat

Jeff Perl Chair

John Forgac, Jim Lowes & the RANTCIDS

Fall Meeting

November 13, 2006

San Francisco CA

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RANTC v. Divisions

DIVISIONS (Technical Societies & Forums)

- Lifeblood of AIChE
- Cover Relevant Discipline Areas
- Traditional Chemical Engineering Practice
- Appropriately Rigid and Firm

RANTC

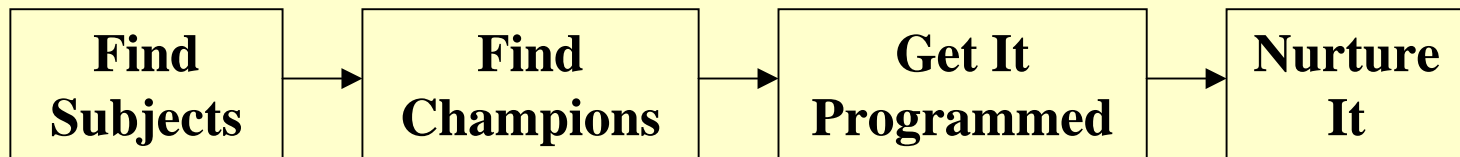
- Take The Point Outside Perimeter
- Vet New Areas for Member Relevance
- Identify Complimentary Organizations
- Insertion to Divisions or Release
- Start all Over

Vision

RANTC is the entity in AIChE that quickly succeeds or fails in identifying, nurturing, and deploying professionally relevant technologies that strengthen AIChE by attracting and retaining practicing professionals involved in those technologies

RANTC's Role

- Identify, introduce, integrate “fresh” areas
- Success through action and stewardship



Successes

➤ Topicals and Sessions

- *Bioinformatics, Nano-, Microreactions, Fuel Cells, Sensors, Fast Pharma, Plant Security, New Technologies in ChE Education, Pharmaceutical Water, USAF Remedial Process Optimization, Sustainability Forum, IMRET*

➤ Offline Events

- *Military, Financing, Process Intensification*

➤ Pipeline of ideas

- *Surveys, Individual Networking*

➤ Growth of seed efforts

- *Sustainability, Nanotechnology*

➤ Sustained effort and participation

➤ Energy and enthusiasm

RANTC Activities

- Finding “fresh” subjects & champions
- Co-Sponsoring Events
- Programming as Group 18j
- Working with the entities and stakeholders
such as the EBPC, MPCs, Chairs, etc.
- Getting subjects into the program

Organization, Structure, Operation

- Leadership - RANTCIDS
- Network of Diverse Interests
- Action Oriented
- Experimental in Approach
- Informal but Disciplined Style

Organization, Structure, Operation

➤ RANTC Organization

➤ Jeff Perl - Chair

➤ Sharon Robinson - Vice-Chair

➤ Bob Hoch

➤ Jim Lowes

➤ John Forgac

➤ Knowledge Stewards <---- **NEW**

➤ Bond Calloway – Energy

➤ Marco Castaldi - Green

rānt se? ➤ Joe Cramer – Staff Liaison

New RANTC Elements

- Broaden Group Participation
- Knowledge Stewards
 - Energy – Requested by John Chen
 - Green Manufacturing/Sustainability
 - Other Overarching Steward Areas?
 - Avoid Conflicts
- Website

RANTC's Objectives

- Implement our pipeline of topics
- Expand active RANTC membership
- Integrate successful RANTC programs
- Keep the pipeline full of “fresh” ideas
- Strengthen communications

RANTC's Program Pipeline

Delivered

- Microreactions/ IMRET
- Bioinformatics
- Air Force Program
- Computational Chemistry
- Sustainability/ Life Cycle
- Information Databases
- Fuel Cells
- Nanotechnology
- Secure Plant Design and Operation

In Progress

- Financing New Ventures/ Nanotechnology
- Sensors Topical
- Information Technology in Chemical Engineering Topical
- Green Chemical Engineering Topical
- Process Intensification and Microreactions Topical
- Electrodeposition of CU for Microelectronics Topical
- Molecular Computing Topical
- Modelling of crystallization processes
- Incorporating New Technologies into ChemE Education
- Commercializing New ChemE Enterprise Topical
- Virtual experiments
- Polyfunctional Ligands for high reaction and separation

Future

- Electronic Materials
 - Bio-microelectronics
 - Bioseparations
 - Mammalian Cells and Scale Up
 - Medical Implant Materials
 - Endocrine Disruptors
 - Energy **NEW !**
- Get Involved

What does RANTC want/need?

- Enthusiastic support
- Stronger relationship with CTOC
- The opportunity to fail
- Budget – to bring in key people
- Freedom from excessive regimentation
- A process for “graduating” subject areas

Supplemental RANTC Local Section Survey Results

- Air Pollution Control
- Alternative Energy
- Biochemical Engineering
- Biotechnology
- Scale-Up Of Biomedical Advances
- Career Flexibility -- Coping With Change
- Cogeneration Of Electricity
- Dividing Wall Distillation
- Effective Supervision/Management
- **Entrepreneurism**
- Environment
- Environmental Protection And Environmental Law
- Energy **NEW**
- Food Automation And On-Line Instrumentation
- Food Processing Design And Automation
- **Fuel Cells**
- Gas Hydrates For Natural Gas Storage And Transport
- **Green Engineering**
- Heat Transfer: Impact Of Mechanical Design
- Heat Transfer: Design And Rating Of Compact HE's.
- Heat Transfer: Thermal Design Of S&T Exchangers
- High Mileage Cars
- Intellectual Property
- Career Stability, Long Term
- Management Topics
- Microreactor Use
- **Nano-Technology**
- Process Design
- **Process Intensification**
- Professional Development
- Pumping Systems
- Reactive Distillation
- Space
- Subsurface Science
- Sustainable Technology
- Rising Costs In The CPI, Impact Of
- Cost Of Production
- Water Treatment

Atlanta Spring 2005

RANTC Topicals

- Entrepreneurism
- Process Intensification & Clean Technology

TOPICAL REPEATS

- Bioinformatics & Functional Genomics
- 4th Nanoscale Science & Engineering
- Envisioning Biorefineries: Chemicals and Materials from Renewable Feedstocks Sensors
- Electrodeposition Processes in Semiconductor Device Fabrication
- Women in Management
- Fuel Cells
- IT in the CPI

Atlanta Spring 2005

RANTC Sessions


- Pharmaceutical Water Technology I & II
- Ionic Liquids
- Sensors: Real Time Sensors for Explosives and Biological Agents
- Innovation in Process Intensification I-II

Cincinnati Fall 2005

RANTC Topicals

Topical **All Repeats**

- Bioinformatics & Functional Genomics
- 4th Nanoscale Science & Engineering
- Envisioning Biorefineries: Chemicals and Materials from Renewable Feedstocks Sensors
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- Women in Management
- Fuel Cells

 RANTC
• IT in the CPI

Cincinnati Fall 2005

RANTC Sessions

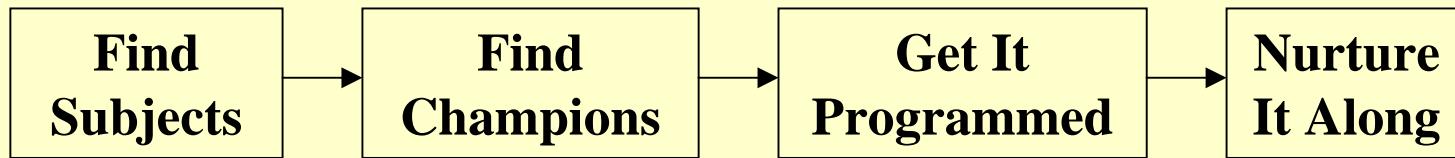
- Sessions **Repeats**
- Incorporating New Technologies into ChemE Education
- New Technologies for Experiments over the Internet

RANTC's Role

- Identify, introduce, integrate emerging topics and subject areas
 - Broad boundaries on “fresh” subjects
 - Cooperate with CTOC and the NPC
 - Practice stewardship
 - Provide a “foster home” for fresh subjects
 - Address: How to find a home?
 - Move fast, make it happen, deal with surprises

RANTC's Evolution

- Today: Action and Stewardship oriented



- At Formation: Advisory

 - *find, evaluate, recommend*

- Predecessors: Indirect Influence

 - *discuss, share viewpoints that diffuse outward*

History

- RANTC was formed after the 1993 Annual Meeting, formally at the 1994 Spring Mtg, as the merger of the R&D Committee and the New Technology Committee (NTC)
- The parent committees had been around for many years
- Strategy of NTC, meticulously developed, was adopted -- Paul Wieber's leadership a key factor

RANTC

Going Forward

- Some Divisions Have Formal Liaisons
- Looking For New RANTCIDS
- Come to RANTC Meeting
 - 1-5pm Monday November 13 Hilton
 - Union Square 11 (4th Floor)

QUESTIONS ?

See You Monday Afternoon

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