

July 30, 2008

"History of the Research and New Technology Committee (RANTC)"

Original compilation by Jim Lowes with improvements via RANTCIDS

The Research and New Technology Committee (RANTC) was formed via a merger of the New Technology Committee and the Research Committee in April of 1994. The following is a brief discussion

AICHE formed the Research Committee (RC) in 1950 to advise the Institute on research matters and to advance the profession through activities related to research. In the early 1990's the Research Committee had many professors including those with the Institution of Mechanical Engineers and the Institution of Chemical Engineers. The RC was formed to make the annual meeting more relevant to industry.

In 1993 Council informed both the NTC and RC that they were underperforming and that they might look for ways to improve including combining or disbanding. The NTC had begun strategic planning with a goal of completion by November of 1993. During 1993 the NTC and RC worked together to examine differences and overlap between the two committees and their two strategic plans. The result of this work was that Council agreed to merge the two committees and at the April 18, 1994, spring meeting in Atlanta the two committees merged to form the Research and New Technology Committee. There were 35 people

1994

Chair: Dr. Paul Wieber

Vice – Chair: Dr. Jack Watson

Chair: Dr. Jack Watson
Vice – Chair: Dr. Bob Hoch

Dr. Jack Watson reported that the World Congress of Chemical engineering (held summer of 1996 in San Diego) was successful and the session sponsored by RANTC (sustainable technologies) had standing room only attendance.

The information received from AIChE Council was that they had been focused on the Institute's strategic plan, including long range planning which was appropriate since the budget did not look good.

Dr. John Forgac discussed the progress of the database analysis subcommittee and noted that several different data sets (new patents, papers/presentations at AIChE meeting, etc.) had been investigated. However since this is a volunteer organization and money is limited so is our effectiveness. To remedy that a questionnaire was created that was to be published in AIChEXTRA. The Institute for Scientific Information was contacted and asked to provide a quote for their services by the Spring of 1997.

We discussed RANTC programming plans including: objectives of programming, types of sessions that would be most helpful to identify areas of new technologies for chemical engineers, and topical conferences and how to develop and promote them. We agreed that one of the keys to RANTC programming success is to identify a person who is extremely interested in the new technology area and help that person succeed with the area/idea. This year a couple of our successful topics were miniaturization and computational chemistry in industrial applications.

Dr. Henry Shaw led a discussion concerning the Engineering Foundation and the fact that they would move from the RIG projects to projects with SEED money to support very early topics related to engineering.

1997

Chair: Dr. Jack Watson
Vice – Chair: Dr. Bob Hoch

Dr. Earl Beaver discussed Vision 2020 and noted that the chemical science and engineering priorities for DOE are: Chemical Synthesis, Catalysis, Bioprocesses, Separations, Computational Fluid Dynamics, and Thermochemical Conversion of Waste Polymers. We agreed that RANTC should become involved in Vision 2020 workshop activities.

The AIChEXTRA

The Institute lost money in 1999 and efforts to increase advertising revenue in Chemical Engineering Progress were initiated. Throughout the Institute's economic hard times meeting programming was always profitable.

As to RANTC impact on programming: computational chemistry became a forum, bioinformatics will be a topical conference, IMRET IV was heavily attended with a particularly strong contingent of European visitors, and the Air Force/Environmental topical was well attended. Dr. Galen Suppes expects to lead a fuel cell topical in 2001.

There was strong interest in the topic of sustainability but it was unclear what role RANTC could fill while moving this idea to the forefront.

We discussed the lessons learned report and liked the idea of creating "technology subcommittees" to monitor emerging technologies and report to RANTC as needed.

2001

Chair: Dr. John Forgac
Vice – Chair: Mr. Jim Lowes

AIChE recognized Dr. Bob Hoch (past chair) with the George Lappin National Program Committee Service Award.

Dr. Jack Watson announced that RANTC has been identified within AIChE with the following formal role: "To be the centralized point to identify and nurture new technology into the Institute." Also, we have representatives on the Executive Board of the Programming Committee (EBPC) to help assure that "session space" will not limit our efforts. Due to a committee brainstorming session several new programming areas were identified for our committee to get programmed in subsequent national AIChE meetings.

Dr. Gil Lee reported that the "Nanotechnology" topical was successful and should be repeated. Bioinformatics has been adopted by Division 15c.

The Institute did better financially in 2000 than 1999; however, we were not able to secure funding for database analysis.

Executive committee of RANTC was formed (RANTCIDS) to include chair, vice-chair, past chair, Dr. Joe Cramer, and interested previous chairs.

2002

Chair: Dr. John Forgac
Vice – Chair: Mr. Jim Lowes

During this programming year RANTC sponsored or co-sponsored 5 topicals and 44 sessions, including IMRET VI. The "Fuel Cell Technology" topical under the leadership of Dr. Godwin Igwe was a huge success. We also added two new topicals "Sensors" and "Envisioning Biorefineries- Chemical and

As part of their governance role CTOC asked RANTC to meet with them. We presented our history, our organization, operating philosophy, some of our successes, and future goals. CTOC asked RANTC (and we agreed) to provide an ex-officio liaison to their committee.

There is a need for RANTC to become involved in energy programming, but we should be a focal point for

Dr. Marco Castaldi and Mr. Bond Calloway gave presentations concerning Green and Energy Steward Activities. An energy survey was performed for the Annual meeting. Approximately, 4500 people responded to the survey since the survey was loaded into Confex, which is the conference-planning tool that AIChE uses. Energy related papers exceeded 26% of the total papers presented.

The Institute President Dr. Dale Keairns asked RANTC: What strategy should the Institute pursue to better coordinate energy?

RANTC became more of a working group at the Fall meeting and addressed two main areas. In the first working session the committee addressed the following:

Group I -- Should AIChE Consider Institutionalizing Energy? Perhaps as a technical Society or Should AIChE Energy Programming continue as is or some hybrid structure;

The working group recommended yes, but in a way that doesn't stifle the current programming efforts. Along with expansion of the "Energy Steward" concept there were several other recommendations concerning the institutionalization of energy.

Group II – Should RANTC continue to play a role in highlighting Energy programming? Or should this role be incorporated into existing efforts?

A few of the Group II recommendations:

- 1) Improve analysis of energy programming gaps – Automate Energy Survey analysis
- 2) Consider adding a forum (RANTC's mission) for advanced research topics that don't fit into current programming
- 3) Since energy topics cross cut all divisions and forums, add virtual topical to programming book to highlight programming threads

Both Groups I and II concluded that RANTC should continue to identify gaps and continue developing energy metrics via the "Energy Steward" concept

The second working session broke down into two groups to address the following:

Group A – Define RANTC' Future Objectives for 2008/09?

Proposed objectives for 2008/2009

- x Address New Research/Technology focus areas that will increase the Institute's programming or membership
- x Address what the Institute should be doing toward new research/technology programming or other relevant topics as suggested by board or President.
- x Increase membership in RANTC through PR and by attracting members from all divisions and forums

Group B – List New Technology Topics and Two Champions for RANTC to Pursue

A Fusion Energy topical. The topical was planned and programmed for the Fall 2008 meeting.

Possible new Technology Topics for RANTC to Pursue

- x Toxicology Modeling
- x Hydrogen Storage
- x International Fusion Project (ITER)
- x Solar Topical

Waste to Energy

AIChE is ok financially at this time and finances should become less of a worry to RANTC.

We also looked for additional programming ideas for the future.

2008

Chair: Dr. Sharon Robinson

Vice – Chair: Mr. Bond Calloway

RANTC Programs as Group 18j

A few of the Topicals and Sessions sponsored by RANTC over the past ten years:

Microreactions/IMRET
Bioinformatics
Air Force/Military Interaction Program
Computational Chemistry
Sustainability/Life Cycle
Sensors Topical
Information Technology in Chemical Engineering Topical
Process Intensification and Microreactions Topical
Electrodeposition of CU for Microelectronics Topical
Molecular Computing Topical
Modeling of crystallization processes
Incorporating New Technologies into ChemE Education
Commercializing New ChemE Enterprise Topical
Virtual experiments
Polyfunctional Ligands for high reaction and separation Electronic Materials
Bio-microelectronics
Bioseparations
Mammalian Cells and Scale Up
Endocrine Disruptors
Nanotechnology
Secure Plant Design and Operation
Financing New Ventures
Pharmaceutical Water
Green Chemical Engineering Topical