



# Fuel Cycle & Waste Management Division Newsletter Spring 2012

## Message from the Chair

Have you ever wondered, “What is it that ANS Divisions *do*?” Well, in fact, Divisions don’t do anything! A Division is its members, and members *do*. Fuel Cycle and Waste Management Division (FCWMD) members do things well.

The FCWMD has relevant roles in all aspects of the nuclear fuel cycle including mining, enrichment, fuel fabrication, fuel design, reprocessing, used fuel storage, repository design, waste processing, waste form testing, fuel cycle evaluations, fissile material management, and national fuel cycle policy. Activities of Division members reflect all of these aspects.

In 2011, the Division sponsored sessions on current topics and ongoing developments at the bi-annual national meetings of the ANS. Addressing the stalemate in developing a high level waste repository in the U.S., session topics at the Annual Meeting in June included Very Long-Term Dry Storage of Spent Nuclear Fuel and The Future of the Nuclear Fuel Cycle and Waste Management. Experts from research, regulatory, industry and academic organizations discussed the current challenges and efforts toward surmounting them.

In Washington, D.C. in November, topics were a bit more policy-oriented. The Division’s Special Committee on Nuclear Nonproliferation organized sessions on Treaty Verification and Arms Control Policy & Technologies, Nonproliferation Risk Assessment and Safeguards – Next Generation Technology Applications Nuclear Fuel Resources and Sustainability and the Helium-3 Alternative Shortage.

At both 2011 meetings, several FCWMD sessions offered insight to new research in separations, recycle and stabilization of nuclear fuel and associated waste products.

On the minds of many members early this year was the final report of President Obama’s Blue Ribbon Commission on America’s Nuclear Future released in January. ANS (including FCWMD) provided input to this report via comments submitted in response to the BRC’s draft report that was released in July of 2011. Based on their technical expertise, our members provided meaningful comments to inform the ANS statement. In addition, the Division sponsored at the November Washington meeting an informative panel

discussion entitled, “Path Forward for Spent Nuclear Fuel Management: Blue Ribbon Commission and the Next Step.”

You can read more about FCWMD activities in this newsletter, including the latest on our Division (Randall) scholarship, Division sponsored meetings and support of (ANS) Presidential efforts.

As a reminder, all members are welcome to attend the FCWMD Executive and Program Committee meetings on Sunday at each national meeting. These meetings are a good venue through which to keep abreast of FCWMD activities and to identify opportunities for involvement. Our next meetings are June 24<sup>th</sup> at the Hyatt Regency Chicago. Check the Final Program of the 2012 ANS Annual Meeting for location details.

Your feedback on this newsletter, current topics in fuel cycle and FCWMD activities is always most welcome. National meeting attendance is not necessary to be involved and to support Division objectives.

Hope to see you in June in Chicago!

Mary Lou Dunzik-Gougar  
FCWMD Chair  
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## Executive Committee

The members of the FCWMD executive committee for **June 2011 to June 2012** are:

Chair: Mary Lou Dunzik-Gougar  
Vice Chair: Paul Wilson  
Secretary/Treasurer: Pamela Longmire  
Program Chair: Guillermo (Bill) D. DelCul

Members:

Samuel E. Bays	Dominique Greneche
Jeffery L. Binder	Jack D. Law
Amanda J. Casella	Alan D. Pasternak
Emory D. Collins	Mark T. Peters
Matthew L. Dennis	Daniel P. Stout
Charles W. Forsberg	Ruth F. Weiner

Board Liaison: Michaele C. Brady-Raap  
Ex Officio: Barry Spencer



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Results of the FCWMD election are in and we thank all who participated. Thanks also to Executive Committee member, Matt Dennis, whose term ends in June and welcome to newly elected members Denise Lee, Leah Spradley-Parks and Maryanne Stasko.

*If you're interested . . .* nominations for Executive Committee positions are accepted in the fall of each year. The previous chair of the Division heads a Nominating Committee to create the ballot of candidates. Current and past members of the Executive Committee typically make most nominations, but self-nominations are welcome. Please contact Mary Lou Dunzik-Gougar, who will serve as the next Nominating Committee Chair to contribute your name or suggest others. Nominees must provide by late October a 100-word biography describing their education, experience, and activities in the ANS. The Nominating Committee will use these to make the slate of Nominees for approval by the Executive Committee at the Winter Meeting. Typically 8-10 Nominees are included on the slate for the five open positions.

Members of the Executive Committee are elected for a period of three years and meet two times a year at the national meetings to address the business of the FCWMD. FCWMD business and actions include organizing national meetings and topical meetings, developing plans to increase membership, overseeing division finances, nominating candidates for various awards, managing the Randall scholarship, developing strategic plans, supporting RadWaste magazine with articles and financing, contributing to other ANS activities (public outreach, etc.), maintaining the website, and mentoring and providing outreach to young members and students. Members of the Executive Committee volunteer for smaller teams to work on the actions required to accomplish the FCWMD objectives in these areas. Executive Committee membership is typically the path to become an FCWMD Officer.

It is a rewarding experience to serve as an executive of FCWMD. Contact the Chair or any other officer or Executive Committee member if you are interested in division leadership.

A neutron walked into a bar and asked, "How much for a drink?" The bartender replied, "for you, no charge." ☺

### FCWM Meetings

(<http://www.new.ans.org/meetings/>)

#### National General Meetings

The FCWMD has been, and continues to be, an effective contributor of technical sessions and panels at the semi-annual National meetings. At the 2011 Annual meeting in Hollywood, Florida, the Division and the Special Committee on Nuclear Nonproliferation organized a total of 9 paper sessions (2 co-sponsored with the Reactor Physics Division) and 5 panels. At the 2011 Winter Meeting in Washington, D.C., the Division (including SCNN) organized 8 paper sessions and 6 panel sessions.

For next month in Chicago, FCWMD has organized 6 paper sessions and 2 panels.

#### Topical Meetings

A significant role of FCWMD is to choose a group to organize and host each of several recurring topical meetings sponsored by the Division. Active local sections often compete to host a given meeting, because a profitable meeting is a major source of funds for local section activities.

#### IHLRWM 2013

The International High-Level Radioactive Waste Management Conference focuses on the technology and science of geological repositories throughout the world with more than half the papers originating outside the US. The technical scope includes high-level waste characterization, packaging, modeling and performance as well as repository modeling and performance. Until 2011 ANS staff managed this conference in part as a service to the Department of Energy. Beginning with the 2013 meeting, IHLRWM is formally a (Class I) topical meeting of FCWMD.

IHLRWM 2013 is scheduled for April 28 – May 2, 2013 in Albuquerque, NM.

#### TOP Fuel 2013

This conference series focuses on the latest developments in LWR fuel performance, including improved fuel designs and in-core management schemes. The meeting now alternates with the European Top Fuel conference, which is held in odd-numbered years. FCWMD alternates with the Materials Science and



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Technology Division as the primary sponsor of the LWR Fuel Performance Conference.

TOP Fuel 2013 takes place September 15-19 in Charlotte, NC.

### GLOBAL 2013

GLOBAL is the series of international conferences that covers future nuclear energy systems with emphasis on their associated fuel cycles. The conferences focus on new nuclear systems that are in various stages of conceptualization, research and development, demonstration, and early application.

The GLOBAL meeting occurs every two years and rotates among the US, Asia, and Europe. Sponsorship comes from various nuclear energy professional societies and companies throughout the world.

GLOBAL 2011 was originally scheduled for September 4–9, 2011 at Nagoya, Japan. It was rescheduled to Dec.11–16, at Makuhari Messe, Japan, after the March earthquake and tsunami.

Planning for GLOBAL 2013 is underway. The site selected for the conference is Salt Lake City, Utah. The dates are September 29 through October 3, 2013.

## Randall Scholarship

The FCWM Division awards the John Randall Scholarship for graduate studies in the areas of science and engineering related to the nuclear fuel cycle and radioactive waste management. John D. Randall was a Professor of Nuclear Engineering at Texas A&M and directed the Nuclear Science Center from 1958-1983. He was an ANS Fellow that received the Society’s Exceptional Service Award and was chair of FCWM in 1991–1992.

The recipient of the 2011 award was Robert Steinbock, a Ph.D. candidate at the University of Michigan. In 2012, the scholarship will be awarded to PhD candidate Lauren Bolden who is attending the School of Mechanical, Aerospace, and Nuclear Engineering at Rensselaer Polytechnic Institute. Randall scholarship awardees are invited to attend the Winter Meeting of their award year and to introduce themselves at the FCWMD Executive Committee Meeting.

A committee of FCWMD members typically is created at the Winter Meeting to evaluate the applicants for the

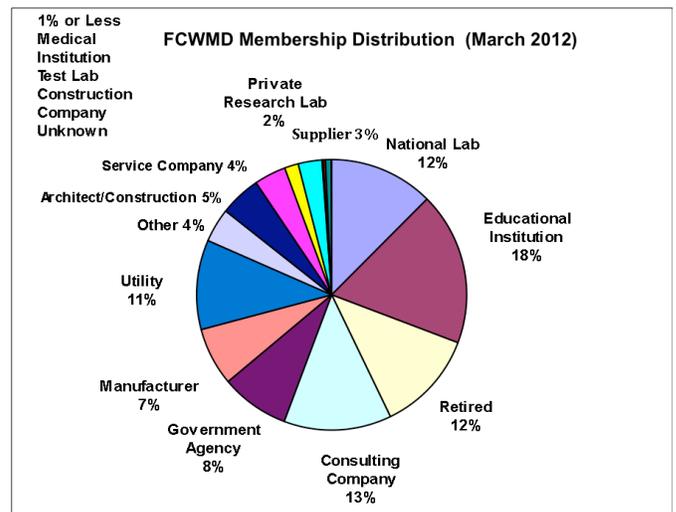
following year’s award. Members who would like to help with evaluation of the applicants but cannot attend the meeting are encouraged to contact the Division Chair prior to meeting dates to volunteer. Students with interest in the FCWMD Randall Scholarship should apply using the instructions at (<http://www.ans.org/honors/scholarships/>).

## Did you know . . . ?

The FCWMD is the second largest (after Operations and Power) in the Society. Our membership accounts for about 25% of total ANS members.



The nuclear fuel cycle incorporates many disciplines and organizational structures. Affiliations of our members are indicative of the wide and varied nature of fuel cycle activities.



Students have comprised about 12% of our membership for the past several years.



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## The Blue Ribbon Commission

The Blue Ribbon Commission on America's Nuclear Future was chartered by the executive branch of the U.S. federal government in 2010 to "provide advice, evaluate alternatives, and make recommendations" for "a new plan" to manage the back end of the nuclear fuel cycle in the United States. Nuclear News reported on the BRC in the September 2011 edition (Volume 54, Number 10).

Between the time of BRC formation and issuance of its final report (in January of this year), there were numerous opportunities for public input for BRC consideration. ANS seized the opportunity to offer well-informed and insightful comments on the Commission's draft report, issued 29 July 2011. Divisions (including FCWM) and Committees of ANS prepared comments according to their areas of expertise. ANS President Eric Loewen presided over compilation of the contributed comments to prepare the final input from ANS. (The compiled comments on the BRC Draft Report and the ANS Cover Letter are posted on the ANS website (at <http://www.ans.org/members/>, member password required. On the far left hand side at bottom is a text box with the heading Blue Ribbon Commission with links to the letter and the report.) The BRC report and associated documents can be found at <http://brc.gov>.

## \$ Money, Money, Money \$

Our Division coffer is filled largely via sponsorship of topical meetings (discussed above). As such, the account balance fluctuates with the schedule and success of those meetings. Fortunately, FCWMD sponsored meetings have been successful as a whole. From 2006 to 2012, our balance has ranged from \$75,000 to \$135,000, while average annual expenditure over the same time period has been about \$20,000. The account reserves allow for expenditures in years with no topical meeting income.

On what do we spend these hard earned dollars? Very roughly, Division expenditures break down into four quarters: (1) student support (including scholarships, student conference, and student travel to national meetings); (2) support of *Radwaste Solutions* magazine, an ANS publication; (3) support of the Congressional

Fellow; and (4) National Meeting expenses (e.g. room and AV rental and Program Committee lunch).

## Congratulations to SCNN!



ANS's Special Committee on Nuclear Nonproliferation has been very active since its inception in 1993. This prolific group has organized many national meeting sessions for which FCWMD has been pleased to act as Division sponsor. With a vote of the Board of Directors in 2011, the SCNN's request for Technical Group status was granted. Congratulations to the group and thanks for the many contributions to FCWMD sessions during the past 19 years.

## You're invited . . .

To organize and/or chair a session at a national meeting.

*Have you got a good idea for a FCWM topic paper session? Or maybe you really want to present a paper that doesn't quite fit into the usual session topics. So, organize a session!*

Here's how:

1. Write a ~100-word summary description (a paragraph) of the intended session/topic.
2. Submit the summary at the FCWMD Program Committee meeting (or in advance to the Division Chair or Division Program Committee Chair) for approval by the Committee for inclusion at the National meeting 1 year hence (e.g. in June '12 we choose sessions for the June '13 meeting.)
3. Solicit topical experts to submit summaries by the deadline (usually about 6 mos. in advance) for the meeting in which the session will occur.
4. Inform the Program Chair if you are planning to attend the meeting and chair the session or not.

To review summaries submitted for FCWMD sessions at national meetings.

*All summaries are reviewed by FCWMD members. Your areas of expertise and interest will dictate which summaries you choose to review via the online summary management system. Paper review is a great way to support FCWMD efforts. Contact Program Chair Bill DelCul to volunteer.*

**. . . and appreciated.**