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Message From The Chair



As I look to the upcoming Winter Meeting in Anaheim and 2015 Annual Meeting in San Antonio, I am very pleased to see a wide variety of sessions sponsored or co-sponsored by

FCWMD. We are participating in twenty sessions alone at the Winter meeting. This includes a FCWMD sponsored Technical Track on the thorium fuel cycle and multiple sessions co-sponsored with NNTG and RPD. The schedule of sessions is listed later in the newsletter. Also, thirteen FCWMD sponsored or Co-sponsored sessions are planned for the 2015 Annual Meeting.

This excellent representation of FCWMD at the Annual and Winter Meetings is a result of FCWMD members getting involved in the Division activities and taking the time and putting forth the effort required to organize sessions and present their research. Keep it up! It also reflects the large amount of fuel cycle and waste management research being performed in the US and abroad, as well as the on-going collaboration among ANS Divisions. We will soon be planning for the 2015 Winter Meeting Program so please contact me or our Program Chair, Jef Lucchini, if you are interested in organizing a session.

The second topic I would like to address is FCWMD awards. We are now in the second year of our new division sponsored awards. Please consider recognizing your colleagues who you believe to be deserving of being recipients. There certainly is not a shortage of good candidates, we just need to put forth the effort to nominate them. Nominations for the Lifetime Achievement award, Distinguished Service on Behalf of the FCWMD award, and Significant Contribution to the FCWMD Mission award are due April 1, 2015. More details are provided in this newsletter.

As always, all members are welcome to contact our division officers and to attend the FCWMD Executive and Program Committee meetings on Sunday at each national meeting. We need your participation and input. Our next meetings are on Sunday November 9 at the Disneyland Hotel in Anaheim starting at noon.

Your feedback on this newsletter, current topics in fuel cycle and FCWMD activities is always most welcome. Please send short articles on your field of work to share with all of our members.

Hope to see you in November in Anaheim and June in San Antonio,

Jack Law
FCWMD Chair



Randall Scholar

This award, supported by the Fuel Cycle and Waste Management division, is in honor of Dr. John D. Randall. It is awarded yearly to a

“student pursuing graduate studies in the areas of science and engineering related to the nuclear fuel cycle and radioactive waste management.”

Dr. Randall was the Deputy Commission and the Executive Director of the Low-Level Radioactive Waste Program for the state of New York, and was a professor of nuclear engineering at Texas A&M, where he directed the Nuclear Science Center from 1958 to 1983.

He was a fellow of the American Nuclear Society and a recipient of the Society's Exceptional Service Award. During 1991-1992, Dr. Randall served as national chairman of the Society's Fuel Cycle & Waste Management Division and its Honors & Awards Committee.

Danny Permar – University of Florida

Danny Permar, the 2014 Randall Scholar, has completed a Masters and Bachelor's Degree in Nuclear Engineering at the University of Florida, and is an active member of the American Nuclear Society, Health Physics Society, and a past Vice President of Internal Affairs for ANS at UF. He has worked as a research assistant at the University of Florida's Laboratory for the Development of Advanced

Nuclear Fuels, where he performed research & development of spark plasma sintering for UO_2 fuels for improvement of the nuclear fuel cycle, and designed, modeled and manufactured advanced UO_2 fuel types for AREVA Federal Services for placement in the Advanced Test Reactor.

Additionally, he led a multi-disciplinary team of mechanical, material, and nuclear engineers that sought to develop an innovative accident tolerant Light Water Reactor (LWR) fuel using new methods of fabrication. He has handled special nuclear materials for input into the Advanced Test Reactor and is familiar with industry standards and regulations of manufacturing nuclear fuels/materials.



Computationally, he has constructed multiple models using industry standard codes for the simulation of advanced fuels for reactor performance and transient analysis and was involved in the economic feasibility study on high-throughput SPS processing for nuclear fuel.

His presentations and proceedings include *Enhanced Accident Tolerant UO_2 -Diamond Composite Fuel Pellets Prepared by SPS*,



Innovative Accident Tolerant UO₂ Composite Fuel for use in LWRs; presented at the 2013 American Nuclear Society National Conference in Washington DC, and *FRAPCON 3.4 to determine Enhanced Performance of UO₂ Composite Fuel Fabricated by SPS*; presented at the 2013 American Nuclear Society Student Conference in Boston.

His previous awards for work in the fuel cycle and waste management field include the ANS Student Design Competition 1st Place Award in 2013, and the Innovations in Fuel Cycle Research Award presented by the Department of Energy in 2013.

He is currently consulting for URS Professional Solutions/AECOM at the Savannah River Site's Liquid Waste Farm in South Carolina while preparing for the CHP and FE exams to become a licensed engineer and certified health physicist.

Danny will be attending the ANS Winter Meeting in Anaheim, so please take the opportunity to extend a welcome to him on behalf of the division and communicate to him our congratulations!

Award Nominations Due April 1

An important activity of the Fuel Cycle and Waste Management Division is sponsoring awards to acknowledge the contributions of members to the field. To this end, FCWMD recently established four new division awards in 2014. Additional details can be found at fcwmd.ans.org/awards.html along with nomination forms. These awards each have an annual nomination deadline of April 1, so please start considering possible nominees!

Significant Contribution to the FCWMD Mission

The [Fuel Cycle And Waste Management Significant Contribution Award](#) [1] recognizes “individuals or teams for a successful accomplishment that significantly advanced the scientific, engineering, societal, or regulatory aspects of the nuclear fuel cycle and/or the nuclear waste management.” Awards may be given to an individual or collectively to a team for success on a single project, activity, contribution, or sustained initiative related to the nuclear fuel cycle and/or nuclear waste management.

Lifetime Achievement Award

The [Fuel Cycle and Waste Management Division Lifetime Achievement Award](#) [2] recognizes “individuals who have made major lifetime contributions that significantly advanced the scientific, engineering, societal,



or regulatory aspects of the nuclear fuel cycle and/or the nuclear waste management mission.”

Distinguished Service on Behalf of the FCWMD Mission

The [Fuel Cycle and Waste Management Award for Distinguished Service on Behalf of the FCWMD Mission](#) [3] recognizes “outstanding participation in the leadership of the Division or in public outreach activities representing the division.”

This award for distinguished service is intended for active members of the FCWMD and will, accordingly, be presented at the FCWMD Committee Meeting within the ANS National Meeting.

Outstanding Published Work

The [FCWMD Award for Outstanding Published Work](#) [4] recognizes “individuals or teams for a combination of best full-length paper and oral presentation in a FCWMD sponsored topical meeting/session.” In addition to other benefits, this distinction includes a monetary award of \$250 to be presented at the FCWMD Program Committee Meeting.

Michael J. Lineberry Memorial Scholarship



This spring, FCWMD was saddened to lose one of its most devoted and long-standing members, Prof. Michael J. Lineberry.

He was a lively and enthusiastic contributor to nuclear fuel cycle and waste management research, a champion for education, and will be missed by all who knew him.

This summer, FCWMD was pleased for the opportunity to contribute \$3000 to a scholarship fund in his memory that has been established.

The Michael Lineberry Memorial Scholarship Fund will seek to reach a funding goal of \$60,000, appropriate for a \$3000 annual scholarship.

Once fully funded, this scholarship will be awarded annually to a graduate student in nuclear, chemical, or mechanical engineering. Successful PhD candidates will display the ability to advance the technology associated with the enhancements of advanced reactors and/or improvements in the nuclear fuel cycle.

Additional information on Mike’s passing can be found at his online obituary [3].



2015 International High Level Radioactive Waste Management (IHLRWM) Conference

Charleston, SC, USA
April 12-16, 2015



General Chair:

Lake Barrett (L. Barrett Consulting, LLC)

Program Chairs:

Andrew Sowder (EPRI)
Ruth Weiner (SNL)

The IHLRWM conference is a forum for the discussion of the scientific, technical, social and regulatory aspects of the “back end” of the nuclear fuel cycle. While the call for papers is now closed, registration remains open. As paraphrased from their website:

This year’s theme, “Real World Solutions for Achieving Disposal of Used Fuel and HLW through Integrated Management” is intended to counter the popular perception that used fuel and HLW management is an intractable problem by highlighting solutions that are being implemented internationally. This forward-looking narrative requires active participation from industry, government, academia, policy-makers, and the interested public. In addition, student participation is strongly encouraged as the conference anticipates special focus on the historical context for the current state of international used fuel and HLW management.

Other Upcoming Meetings

There are many upcoming meetings in 2015 potentially of interest to FCWMD. Those include:

Waste Management Symposium 2015

Phoenix, AZ, USA
March 15 - 19, 2015

<http://www.wmsym.org/>



The call for papers is now closed, but registration is still open.

Global 2015

Paris, FRANCE
September 20-26, 2015

<https://www.sfen.fr/GLOBAL>



General Chair:

Christophe Béhar (CEA)

Program Chair:

Bernard Boullis (CEA)

The call for papers is attached.



ANS Winter Meeting in Anaheim

FCWMD sponsored sessions and division meetings occur before and during the annual ANS meeting. The executive, technical, and program committee meetings are essential to

division activities. All conference attendees are welcome to attend these meetings, so we hope you'll participate and bring others along.

On behalf of the ANS Fuel Cycle and Waste Management Division, we look forward to seeing you at these great events in Anaheim, CA.

2014 ANS Winter Meeting: FCWMD Events

Date	Event
11/09, 12:00	FCWMD Program Meeting (Congo Room)
11/09, 13:00	FCWMD Executive Meeting (Congo Room)
11/09, 14:30	FCWMD Technical and Operating Standards Committee Meeting (Congo Room)
11/10, 13:00	Progress in U.S. DOE's Fuel Cycle Research and Development Program—Panel
11/10, 13:00	Thorium Fuel Cycle—Overview
11/10, 13:00	(Advances in Fast Reactor Designs and Concepts)
11/10, 13:00	(International Safeguards for UF6 Containers)
11/11, 08:30	Fuel Cycle Options Analysis—Papers/Panel—I
11/11, 08:30	Fuel Cycle Options Analysis—II
11/11, 08:30	Thorium Resources, Recovery, Fuels and Fuel Cycles
11/11, 13:00	Fuel Cycle Options Analysis—III
11/11, 13:00	Thorium Reactors
11/11, 13:00	(Physics and Engineering Analysis of Sub-Critical Driven Systems—I)
11/11, 13:00	Factors Affecting Implementation of Industrial-Scale UNF Recycle in the US—Panel
11/12, 08:30	Storage and Transportation of Used Nuclear Fuel—I
11/12, 08:30	Update on Status on Policy Issues in Waste Management—Panel
11/12, 13:00	Storage and Transportation of Used Nuclear Fuel—II
11/12, 08:30	Thorium Fuel Reprocessing and Waste Management
11/12, 08:30	Storage and Transportation of Used Nuclear Fuel—II
11/12, 08:30	(Physics and Engineering Analysis of Sub-Criticality Driven Systems—II)
11/12, 08:30	Fuel Cycle and Waste Management: General—I
11/12, 13:00	Promising Thorium Fuel Cycles, Technology Gaps—Panel
11/13, 08:30	Fuel Cycle and Waste Management: General—II



New Member Bios

To help new members become integrated into the Division, we've begun inviting all new members of the division to submit a biosketch introducing themselves. Keep your eye out for these new members:

Yongfeng Zhang

Yongfeng Zhang (B.S., 2001, Mechanical Engineering, University of Science and Technology of China; Ph.D., 2009, Mechanical Engineering, Rensselaer Polytechnic Institute) is currently a material scientist in the Fuels Modeling and Simulation Department, Idaho National Laboratory (INL).

His expertise lies in atomic scale modeling on the microstructural evolution of nuclear fuels and materials during service and storage. Dr. Zhang has more than 8 years of experience in computational material science. He is the author or co-author of over 30 peer-reviewed journal publications and has delivered over 20 presentations at professional conferences.

Newsletter Prepared by
Katy Huff
FCWMD Secretary-Treasurer

References

- [1] FCWMD Significant Contribution Award.
http://fcwmd.ans.org/docs/award_sig_contrib.pdf
- [2] FCWMD Lifetime Achievement Award.
http://fcwmd.ans.org/docs/award_lifetime.pdf
- [3] FCWMD Distinguished Service Award
http://fcwmd.ans.org/docs/award_dist_service.pdf
- [4] FCWMD Outstanding Published Work Award
http://fcwmd.ans.org/docs/award_best_paper.pdf



American Nuclear Society
 Fuel Cycle and Waste Management Division

Fall 2014 Newsletter

GLOBAL 2015

September
 20 - 24
 Paris, France



International Conference

Organized by **SFEN**

General Chair: Christophe Béhar, CEA
 Program Chair: Bernard Boullis, CEA

The Largest Forum for Nuclear Fuel Cycle



Palais des Congrès Paris

> Event Contact: global2015@sfn.fr
 > Program Chair: bernard.boullis@cea.fr

CALL FOR PAPERS

Abstracts Due: December 15, 2014

Nuclear Fuel Cycle for a Low-Carbon Future

Nuclear Fuel Cycle is a key issue in the perspective of sustainable nuclear systems deployment, in order to meet tomorrow's energy needs while reducing CO₂ emissions.

The GLOBAL 2015 Conference, in line with the GLOBAL Conference series, aims at addressing fuel cycle issues and challenges with a comprehensive standpoint, from mining to recycling and final disposal, today and tomorrow from a technical standpoint as well as an institutional one .

Abstracts should be proposed in diverse categories as described hereafter.

www.sfn.fr/GLOBAL



In partnership with:



GLOBAL

September
20 - 24
Paris, France



Nuclear Fuel Cycle for a Low-Carbon Future CALL FOR PAPERS

The congress will invite keynote speakers to address plenary sessions and organize a set of specialized technical sessions along the following tracks that ensured the success of previous GLOBAL meetings.

Submit your abstract by December 15, 2014 at
www.sfen.fr/GLOBAL

@ Contacts	Technical Tracks	
<p>Track 1 dominique.ochem @cea.fr</p> <p>jean-guy.devezeaux @cea.fr</p> <p>Track 2 luc.vandendurpel @areva.com</p> <p>Track 3 pierre.durante @areva.com</p> <p>Track 4 christophe.poinssot @cea.fr</p> <p>Track 5 gerald.ouzounian @andra.fr</p> <p>Track 6 pascal.chaix @cea.fr</p>	<p>1 - Nuclear Energy: Industry Outlook and Prospects 1a- Nuclear energy outlook 1b- Nuclear energy and energy market dynamics 1c- New applications of nuclear energy 1d- Natural resources 1e- Environmental and health impact</p> <p>2 - Fuel Cycle Options 2a- Current industrial practices in water-cooled reactors 2b- Advanced fuel cycle options for thermal neutron reactor systems 2c- Pu-management options 2d- Generation IV nuclear systems 2e- Partitioning and transmutation 2f- Thorium fuel cycles</p> <p>3 - Nuclear Fuel Cycle Front-end 3a- Uranium exploration 3b- Uranium mining 3c- Uranium ore processing 3d- Uranium conversion and enrichment 3e- Nuclear fuel design and fabrication 3f- Front-end markets: updates and prospects 3g- Advances in processes and technologies</p>	<p>4 - Fuel Recycling 4a- LWR used fuel processing 4b- MOX fuel manufacturing and in-pile behavior 4c- Fast neutron reactor fuel manufacturing and processing 4d- Final waste conditioning 4e- Prototype and industrial plants: updates and new projects 4f- Partitioning and transmutation: fuels and recycling processes</p> <p>5 - Decommissioning and Waste Management 5a- Policies and strategies in radioactive waste management 5b- Storage of used nuclear fuel and waste 5c- Strategic and technical development in D&D 5d- Experience in VLLW and LILW disposal 5e- Progress in geological disposal from siting to industrial implementation</p> <p>6 - Institutional and Societal Factors 6a- Nonproliferation and safeguards 6b- Public confidence 6c- Human capacity building 6d- Legal and insurance issues</p>

Program	Author Deadlines	Abstract Submission
2014	Abstracts Due Dec. 15, 2014	Authors should submit a one-page 500 words abstract (text only) with contact information & preferred track number through the SFEN website. See instructions online from September 2014.
2015	Notification Feb. 6, 2015 Draft Papers March 16, 2015 Review Notification April 27, 2015 Final Papers June 19, 2015	

