



Nancy Ryan Gray, Ph.D.
Director and President

GORDON RESEARCH CONFERENCES

Radiation Chemistry - 2014

FINAL PROGRESS REPORT

Department of Energy
Grant Number DE-SC0011700

The Gordon Research Conference on Radiation Chemistry was held at Proctor Academy, Andover, New Hampshire, July 13-18, 2014. The Conference was well-attended with 102 participants (attendees list attached). The attendees represented the spectrum of endeavor in this field coming from academia, industry, and government laboratories, both U.S. and foreign scientists, senior researchers, young investigators, and students. Of the 102 attendees, 25 voluntarily responded to a general inquiry regarding ethnicity which appears on our registration forms. Of the 25 respondents, 16% were Minorities – 0% Hispanic, 16% Asian and 0% African American. Approximately 28% of the participants at the 2014 meeting were women.

The Gordon Research Seminar on Radiation Chemistry was held at Proctor Academy, Andover, New Hampshire, July 12-13, 2014. The Conference was well-attended with 51 participants (attendees list attached). The attendees represented the spectrum of endeavor in this field coming from academia, industry, and government laboratories, both U.S. and foreign scientists, senior researchers, young investigators, and students. Of the 51 attendees, 10 voluntarily responded to a general inquiry regarding ethnicity which appears on our registration forms. Of the 10 respondents, 10% were Minorities – 0% Hispanic, 10% Asian and 0% African American. Approximately 35% of the participants at the 2014 meeting were women.

In designing the formal speakers program, emphasis was placed on current unpublished research and discussion of the future target areas in this field. There was a conscious effort to stimulate lively discussion about the key issues in the field today. Time for formal presentations was limited in the interest of group discussions. In order that more scientists could communicate their most recent results, poster presentation time was scheduled. Attached is a copy of the formal schedule and speaker program and the poster program. In addition to these formal interactions, "free time" was scheduled to allow informal discussions. Such discussions are fostering new collaborations and joint efforts in the field.

Thank you for your support of this Conference. As you know, in the interest of promoting the presentation of unpublished and frontier-breaking research, Gordon Research Conferences does not permit publication of meeting proceedings. If you wish any further details, please feel free to contact me. Thank you.

Sincerely,
Jay Laverne, Conference Chairperson
University of Notre Dame

Sarah Reiff, Seminar Chairperson
University of Notre Dame

Radiation Chemistry

Radiation Driven Processes in Physics, Chemistry, Biology, and Industry

July 13-18, 2014

Proctor Academy

Andover, NH

Chair:

Jay A. Laverne

Vice Chair:

James F. Wishart

The Gordon Research Seminar (GRS) and Gordon Research Conference (GRC) on Radiation Chemistry: Radiation Driven Processes in Physics, Chemistry, Biology, and Industry focus on the fundamental chemical and physical science of ionizing radiation and their applications. The primary objective of this conference is to catalyze the interchange of new ideas and recent discoveries within the basic radiation sciences of physics, chemistry, and biology, and to facilitate translating this knowledge to applications in medicine and industry.

Capitalizing on its traditional interdisciplinary platform, a major goal of this GRS/GRC is to both educate and promote the next generation of scientists interested in radiation-driven processes. The newly added GRS provides an opportunity for graduate students and postdoctoral fellows to independently organize a meeting that will foster interactions between the young investigators. The GRS, thereby, establishes a camaraderie that extends into the GRC and increases opportunities for young investigators to interact with leaders in all of the radiation science fields. To promote this interaction, the GRC features a "Young Investigators Session" that is designed to showcase early career scientists by giving them an opportunity to present and discuss their work with a diverse audience populated with leaders in fields that span all of the radiation sciences.

The GRS is held 1 day prior to the GRC and will have 4 sessions that encompass a minimum of 4 topics selected from the proffered abstracts to complement and augment the topics presented during the GRC. The GRC will cover 9 general topics: Challenges in the Nuclear Power Industry, Nanoparticles and Radiation, Track Structure and Modeling, Low Energy Electron Radiolysis, Heavy Ion Therapy and Protection, Polymer and Composites Radiolysis, Fast Kinetics in Radiation Chemistry, Radiolysis of Macromolecules, and the "Young Investigator" session.

SUNDAY

2:00 pm - 9:00 pm Arrival and Check-in

6:00 pm Dinner

7:30 pm - 7:40 pm Welcome / Introductory Comments by GRC Site Staff

Challenges in the Nuclear Power Industry

Discussion Leader: **Clara Wren** (Western University, Canada)

7:40 pm - 8:20 pm **David Shoesmith** (Western University, Canada)

"The Radiolytic Corrosion of Nuclear Fuel Inside a Failed Waste Container"

8:20 pm - 8:35 pm Discussion

8:35 pm - 9:15 pm **Melissa Denecke** (University of Manchester, England)

9:15 pm - 9:30 pm Discussion

MONDAY

7:30 am - 8:30 am Breakfast

Low Energy Electron Radiolysis

Discussion Leader: **Stephen Mezyk** (California State University Long Beach, USA)

9:00 am - 9:40 am **David Grills** (Brookhaven National Laboratory, USA)

"Mechanistic Details of CO₂ Reduction Processes Revealed by Pulse Radiolysis with IR Detection"

9:40 am - 10:00 am Discussion

10:00 am Coffee Break

10:30 am - 11:10 am **Sylwia Ptasinska** (University of Notre Dame, USA)

"Selective Bond Dissociation in Gas-Phase Molecules Induced by Low Energy Electrons"

11:10 am - 11:30 am Discussion

11:30 am - 12:10 pm **Bernd Winter** (Helmholtz-Zentrum Berlin, Germany)

"Proton Dynamics and Electron Scattering in Liquid Water Studied by Photoelectron Spectroscopy"

11:30 am - 12:10 pm Discussion

12:30 pm Lunch

1:30 pm - 4:00 pm Free Time

4:00 pm - 6:00 pm Poster Session

6:00 pm Dinner

Young Investigator Presentations

Discussion Leader: **James Wishart** (Brookhaven National Laboratory, USA)

7:30 pm - 7:45 pm **Srabanti Ghosh** (University of Paris-Sud, France)

"One-Dimensional Conducting Polymer Nanostructures and Hybrid Composites Synthesized in Swollen Hexagonal Mesophases for Energy Applications"

7:45 pm - 7:50 pm Discussion

7:50 pm - 8:05 pm **Sylvain Massey** (University of Sherbrooke, Canada)

"Oxygen Effect' on DNA Studied by Low-Energy Electron Stimulated Desorption"

8:05 pm - 8:10 pm Discussion

8:10 pm - 8:25 pm **Pierre-Olivier Lahaie** (University of Sherbrooke, Canada)

"Desorption and Polymerisation Induced by Low Energy Electron (Less-Than 50 eV) Quantification in Films of DNA Building Blocks"

8:25 pm - 8:30 pm Discussion

8:30 pm - 8:45 pm **Natasia Grimaldi** (Università degli Studi di Palermo, Italy)

"E-Beam Crosslinked PVP-Based Nanogels as Building Blocks for the Assembly of

| | |
|-------------------|---|
| | Tumor-Target Nanodevices" |
| 8:45 pm - 8:50 pm | Discussion |
| 8:50 pm - 9:05 pm | Michele Dawley (Notre Dame Radiation Laboratory, USA) "Dissociative Electron Attachment to Gas Phase N-Methylformamide" |
| 9:05 pm - 9:10 pm | Discussion |
| 9:10 pm - 9:25 pm | Suraj Dev Prakash Dhiman (Brookhaven National Laboratroy, USA) "Gamma and Heavy Ion Radiolysis of Ionic Liquids: A Comparative Study" |
| 9:25 pm - 9:30 pm | Discussion |

TUESDAY

| | |
|---------------------|---|
| 7:30 am - 8:30 am | Breakfast |
| 8:30 am | Group Photo |
| 9:00 am - 12:30 pm | Radiolysis of Macromolecules |
| | Discussion Leader: Amanda Bryant-Friedrich (University of Toledo, USA) |
| 9:00 am - 9:40 am | Krzysztof Bobrowski (Institute of Nuclear Chemistry and Technology, Warsaw, Poland) "Oxidation of Peptides Containing Sulfur Amino Acids" |
| 9:40 am - 10:00 am | Discussion |
| 10:00 am | Coffee Break |
| 10:30 am - 11:10 am | Peter O'Neill (Oxford University, England) "Radiation-Induced DNA Damage in Living Cells - Watching the Repair Proteins Come and Go in Real Time" |
| 11:10 am - 11:30 am | Discussion |
| 11:30 am - 12:10 pm | Amit Adhikary (Oakland University, USA) "Effect of Base and Backbone Modifications on Radiation-Induced Damage in DNA" |
| 11:30 am - 12:10 pm | Discussion |
| 12:30 pm | Lunch |
| 1:30 pm - 4:00 pm | Free Time |
| 4:00 pm - 6:00 pm | <u>Poster Session</u> |
| 6:00 pm | Dinner |
| 7:30 pm - 9:30 pm | Track Structure and Modeling |
| | Discussion Leader: Simon Pimblott (Manchester University, England) |
| 7:30 pm - 8:10 pm | Zdenka Kuncic (University of Sydney, Australia) "Computational Radiation Biophysics: Challenges and Opportunities" |
| 8:10 pm - 8:30 pm | Discussion |
| 8:30 pm - 9:10 pm | Mathieu Karamitros (Université Bordeaux, France) "Overview and Recent Developments of the Geant4-DNA Project" |
| 9:10 pm - 9:30 pm | Discussion |

WEDNESDAY

| | |
|---------------------|--|
| 7:30 am - 8:30 am | Breakfast |
| 9:00 am - 12:30 pm | Nanoparticles and Radiation |
| | Discussion Leader: Mats Jonsson (KTH, Sweden) |
| 9:00 am - 9:40 am | Hynd Remita (University of Paris-Sud, France) |
| | "Nanomaterials Induced in Mesophases by Radiolysis: Synthesis and Applications" |
| 9:40 am - 10:00 am | Discussion |
| 10:00 am | Coffee Break |
| 10:30 am - 11:10 am | Sudipta Seal (University of Central Florida, USA) |
| | "Role of Nanotechnology in Radiation Research" |
| 11:10 am - 11:30 am | Discussion |
| 11:30 am - 12:10 pm | Fred J. Currell (Queens University Belfast, Northern Ireland) |
| | "Radiation Chemistry of Gold Nanoparticles in Aqueous Environments" |
| 11:30 am - 12:10 pm | Discussion |
| 12:30 pm | Lunch |
| 1:30 pm - 4:00 pm | Free Time |
| 4:00 pm - 6:00 pm | <u>Poster Session</u> |
| 6:00 pm | Dinner |
| 7:00 pm - 7:30 pm | <u>Business Meeting</u> |
| | <i>Nominations for the Next Vice Chair; Fill in Conference Evaluation Forms; Discuss Future Site and Scheduling Preferences; Election of the Next Vice Chair</i> |
| 7:30 pm - 9:30 pm | Hadron Therapy and Protection |
| | Discussion Leader: Jorge Kohanoff (Queen's University Belfast) |
| 7:30 pm - 8:10 pm | Karen Kirkby (University of Surry, England) |
| | "Ion Beams and Cancer - From Bench to Bedside" |
| 8:10 pm - 8:30 pm | Discussion |
| 8:30 pm - 9:10 pm | Gerard Baldacchino (CEA Saclay, France) |
| | "Extreme Conditions of T and LET in Water Radiolysis. Implications in Nuclear Industry and Hadrontherapy" |
| 9:10 pm - 9:30 pm | Discussion |

THURSDAY

| | |
|--------------------|---|
| 7:30 am - 8:30 am | Breakfast |
| 9:00 am - 12:30 pm | Fast Kinetics in Radiation Chemistry |
| | Discussion Leader: Andrew Cook (Brookhaven National Laboratory, USA) |
| 9:00 am - 9:40 am | Yosuke Katsumura (University of Tokyo, Japan) |
| | "A Pulse Radiolysis Study on High Temperature Liquids" |

9:40 am - 10:00 am Discussion

10:00 am Coffee Break

10:30 am - 11:10 am **Mehran Mostafavi** (University of Paris-Sud, France)

"New Findings About the Short Lived and Powerful Oxidizing Species: $\text{H}_2\text{O}^{\bullet+}$ "

11:10 am - 11:30 am Discussion

11:30 am - 12:10 pm **Kenji Takahashi** (Kanazawa University, Japan)

"Excess Electron in Ionic Liquids - Kinetics, Spectra and Dynamics"

11:30 am - 12:10 pm Discussion

12:30 pm Lunch

1:30 pm - 4:00 pm Free Time

4:00 pm - 6:00 pm Poster Session

6:00 pm Dinner

7:30 pm - 9:30 pm **Polymer and Composite Radiolysis**

Discussion Leader: **Clelia Dispenza** (Università degli Studi di Palermo, Italy)

7:30 pm - 8:10 pm **Mohamad Al-Sheikhly** (University of Maryland, USA)

"Radiolytic Synthesis of Absorbent-Grafted Polymers for Extraction of Uranium from Seawater"

8:10 pm - 8:30 pm Discussion

8:30 pm - 9:10 pm **Marie-Claude Clochard** (Ecole Polytech, France)

"Ion Track Polymer Membrane, a Versatile Tool for Research and Applications"

9:10 pm - 9:30 pm Discussion

FRIDAY

7:30 am - 8:30 am Breakfast

9:00 am Departure

Radiation Chemistry (GRS)

Gordon Research Seminar

Radiation Driven Processes in Physics, Chemistry, Biology and Industry

July 12-13, 2014

Proctor Academy

Andover, NH

Chair:

Sarah C. Reiff

The Gordon Research Seminar on Radiation Chemistry is a unique forum for graduate students, post-docs, and other scientists with comparable levels of experience and education to present and exchange new data and cutting edge ideas.

The focus of this meeting is to promote the exchange of new ideas and recent discoveries within the basic sciences of physics, chemistry, and biology with regards to radiation driven processes. Applied research with applications in medicine and industry will also be emphasized.

SATURDAY

1:00 pm - 5:00 pm Arrival and Check-in

3:30 pm - 3:45 pm Introductory Comments by GRC Site Staff / Welcome by the GRS Conference Chair

Keynote Session

Discussion Leader: **Sarah Reiff** (Notre Dame Radiation Laboratory)

3:45 pm - 4:15 pm **Jay LaVerne** (Notre Dame Radiation Laboratory) and **James Wishart** (Brookhaven National Laboratory)

"Radiation Chemistry in Everyday Life"

4:15 pm - 4:30 pm Discussion

4:30 pm - 6:00 pm Poster Session I

6:00 pm Dinner

Applications of Radiation Chemistry in Industry

Discussion Leader: **Jennifer Schofield** (University of Manchester)

7:30 pm - 7:50 pm **Gregory Horne** (University of Manchester)

"Investigation into the Radiolysis of the PUREX Solvent Systems"

7:50 pm - 8:00 pm Discussion

8:00 pm - 8:20 pm **Daniel Ortiz** (CEA Saclay)

"Analytical Investigation on Electrolyte Degradation Products After Irradiation in Lithium Ion Batteries"

8:20 pm - 8:30 pm Discussion

8:30 pm - 8:50 pm **Eleonora Pellizzi** (CEA Saclay)

"Linear Energy Transfer and Temperature Influence on the Gas Radiolytic Yields of Polymers: The Case of PVC, PE, and Cellulose"

8:50 pm - 9:00 pm Discussion

| | |
|-------------------|--|
| 9:00 pm - 9:20 pm | Andrew Palm (State University of New York College of Environmental Science and Forestry) "Mechanical Properties of a Wood-Plastic Composite Crosslinked with Ionizing Radiation" |
| 9:20 pm - 9:30 pm | Discussion |

SUNDAY

| | |
|---------------------|--|
| 7:30 am - 8:30 am | Breakfast |
| 9:00 am - 11:00 am | Radiation Processes in Biological Materials |
| | Discussion Leader: Xu Han (Notre Dame Radiation Laboratory) |
| 9:00 am - 9:20 am | Konrad Skotnicki (Institute of Nuclear Chemistry and Technology) "Radiation-Induced Radical Processes Involving Amino Acids and Quinoxalin-2-One Derivatives Relevant to Their Pharmacological Applications" |
| 9:20 am - 9:30 am | Discussion |
| 9:30 am - 9:50 am | Matthew Bird (Brookhaven National Laboratory) "Mobility of Holes on Oligo- and Polyfluorenes of Defined Lengths Measured by Pulse Radiolysis Time Resolved Microwave Conductivity (PR-TRMC)" |
| 9:50 am - 10:00 am | Discussion |
| 10:00 am - 10:20 am | Soumen Das (University of Central Florida) "Engineered Mixed Valence State Cerium Oxide Nanoparticles Ameliorate Radiation Induced DNA Damage to Male Germ Cells" |
| 10:20 am - 10:30 am | Discussion |
| 10:30 am - 10:50 am | Saloua Sahbani (University of Sherbrooke) "Low Energy Electrons Induce Lethal Lesions in DNA as Measured by the Loss of Plasmid Functionality" |
| 10:50 am - 11:00 am | Discussion |
| 11:00 am - 12:30 pm | <u>Poster Session II</u> |
| | <i>Coffee will be served in the poster area from 11:00 am - 11:30 am</i> |
| 12:30 pm | Lunch |
| 1:30 pm - 2:30 pm | Fundamental Radiation Chemistry Research |
| | Discussion Leader: Ana Laura Luna (University of Paris-Sud) |
| 1:30 pm - 1:50 pm | Sergey Ryazantsev (Lomonosov Moscow State University) "Dynamics and Reactions of the Radiation-Induced Oxygen Atoms in Rare-Gas Solids" |
| 1:50 pm - 2:00 pm | Discussion |
| 2:00 pm - 2:20 pm | Mina Mozafari (Simon Fraser University) "Investigation of H Atom and Free Radical Behavior in Gas Hydrates" |
| 2:20 pm - 2:30 pm | Discussion |
| 2:30 pm - 3:00 pm | <u>Evaluation Period</u> |

Fill in GRS Evaluation Forms

3:00 pm

Seminar Concludes

Radiation Chemistry (2014)

| Name | Organization | Participation | Status |
|-----------------------------|--|-------------------|------------|
| Adhikary, Amitava | Oakland University | Speaker | Registered |
| Al-Sheikhly, Mohamad | University of Maryland | Speaker | Registered |
| Baidak, Aliaksandr | University of Manchester | Poster Presenter | Registered |
| Baldacchino, Gerard | CEA Saclay | Speaker | Registered |
| Barkam, Swetha | University of Central Florda | Poster Presenter | Registered |
| Bartels, David M | Notre Dame Radiation Laboratory | Poster Presenter | Registered |
| Behmand, Behnaz | University de Sherbrooke | Poster Presenter | Registered |
| Bird, Matt J | Brookhaven National Lab | Poster Presenter | Registered |
| Bobrowski, Krzysztof | Institute of Nuclear Chemistry and Technology | Speaker | Registered |
| Boncher, William L | Los Alamos National Lab | Poster Presenter | Registered |
| Bryant-Friedrich, Amanda | University of Toledo | Poster Presenter | Registered |
| Cabelli, Diane Esther | Brookhaven National Laboratory | Attendee | Registered |
| Cantrell, William A | Notre Dame Radiation Laboratory | Poster Presenter | Registered |
| Carmichael, Ian | Notre Dame Radiation Laboratory | Attendee | Registered |
| Clochard, Marie-Claude | CEA | Speaker | Registered |
| Close, David M | East Tennessee State University | Attendee | Registered |
| Cook, Andrew R | Brookhaven National Laboratory | Discussion Leader | Registered |
| Coqueret, Xavier | Universite de Reims Champagne Ardenne | Poster Presenter | Registered |
| Currell, Fred | Queens University Belfast | Speaker | Registered |
| Das, Soumen | University Of Central Florida | Poster Presenter | Registered |
| Dawley, M. Michele | University of Notre Dame | Poster Presenter | Registered |
| Denecke, Melissa | University of Manchester | Speaker | Registered |
| Dhiman, Suraj Dev Prakash B | Brookhaven National Laboratory | Poster Presenter | Registered |
| Dingfelder, Michael | East Carolina University | Poster Presenter | Registered |
| Dispenza, Clelia | Università degli Studi di Palermo | Attendee | Registered |
| Donocilfit, Thomas A | University of Manchester | Poster Presenter | Registered |
| Driscoll, Mark S | SUNY College of Environmental Science and Forestry | Poster Presenter | Registered |
| England, Matthew J | University of Surrey | Poster Presenter | Registered |
| Esmaili, Sasan | University of Sherbrooke | Poster Presenter | Registered |
| Farah, Jad | IRSN - Inst. Radiol Prot & Nucl Saf | Poster Presenter | Registered |
| Ghosh, Srabanti | University de Paris SUD 11 | Poster Presenter | Registered |
| Gohdo, Masao | ISIR, Osaka University | Poster Presenter | Registered |
| Grills, David C | Brookhaven National Laboratory | Poster Presenter | Registered |
| Grimaldi, Natascia | Università di Palermo | Poster Presenter | Registered |
| Han, Xu | University of Notre Dame | Poster Presenter | Registered |
| Hatomoto, Daisuke | Osaka University | Poster Presenter | Registered |
| Horne, Gregory P | University of Manchester | Poster Presenter | Registered |
| Janik, Ireneusz | University of Notre Dame | Poster Presenter | Registered |
| Jonsson, Mats | KTH Royal Institute of Technology | Poster Presenter | Registered |
| Kaddissiy, Josiane | Commissariat l'Energie Atomique, CEA-Saclay, | Poster Presenter | Registered |
| Kadlubowski, Slawomir | Lodz University of Technology | Poster Presenter | Registered |
| Kaga, Toshiki | Kanazawa University | Poster Presenter | Registered |
| Kanjana, Kotchaphan | University of Notre Dame | Poster Presenter | Registered |
| Karamitros, Mathieu | University de Bordeaux | Speaker | Registered |

| | | | |
|---------------------------------|--|-------------------|------------|
| Katsumura, Yosuke | University of Tokyo | Speaker | Registered |
| Kim, Byungnam | Korea Atomic Energy Research Institute | Poster Presenter | Registered |
| Kirkby, Karen | University of Surry | Speaker | Registered |
| Kohanoff, Jorge | Queen's University Belfast | Poster Presenter | Registered |
| Kondoh, Takafumi | ISIR, Osaka University | Poster Presenter | Registered |
| Kumar, Anil | Oakland University | Poster Presenter | Registered |
| Kuncic, Zdenka | University of Sydney | Speaker | Registered |
| Lahaie, Pierre-Olivier | Université de Sherbrooke | Poster Presenter | Registered |
| Laverne, Jay A | University of Notre Dame | Chair | Registered |
| Luna, Ana Laura | LCP Universite Paris Sud | Poster Presenter | Registered |
| Madden, Keith P | Ivy Tech Community College | Poster Presenter | Registered |
| Maeyama, Takuya | RIKEN | Poster Presenter | Registered |
| Mani, Tomoyasu | Brookhaven National Laboratory | Poster Presenter | Registered |
| Massey, Sylvain | University of Sherbrooke | Poster Presenter | Registered |
| Mayhead, Natalie M | University of Surrey | Poster Presenter | Registered |
| Mc Allister, Maeve | Queens University Belfast | Poster Presenter | Registered |
| Meylan, Sylvain | Institut de Radioprotection et de Suret Nuclear | Poster Presenter | Registered |
| Mezyk, Stephen P | California State University | Attendee | Registered |
| Morehouse, Kim M | Food and Drug Administration | Poster Presenter | Registered |
| Mostafavi, Mehran | University Paris-sud | Speaker | Registered |
| Mozafari, Mina | Simon Fraser University | Poster Presenter | Registered |
| Muroya, Yusa Ym | ISIR, Osaka University | Poster Presenter | Registered |
| Musat, Raluca M | Kanazawa University | Poster Presenter | Registered |
| Nishii, Satoshi | ISIR, Osaka University | Poster Presenter | Registered |
| O'Neill, Peter | University of Oxford | Speaker | Registered |
| Ortiz, Daniel | Commissariat a l'Energie Atomique et Aux Energies | Attendee | Registered |
| Palm, Andrew D | SUNY College of Environmental Science and Forestry | Poster Presenter | Registered |
| Paquirissamy, Aurelie | CEA Saclay | Attendee | Registered |
| Pellizzi, Eleonora | CEA Saclay | Poster Presenter | Registered |
| Pimblott, Simon M | University of Manchester | Discussion Leader | Registered |
| Precek, Martin | Institute of Physics, AS CR | Poster Presenter | Registered |
| Ptasinska, Sylwia | University of Notre Dame | Speaker | Registered |
| Reiff, Sarah C | University of Notre Dame | Poster Presenter | Registered |
| Remita, Hynd | CNRS/ University Paris-Sud, Orsay | Speaker | Registered |
| Ryazantsev, Sergey | Lomonosov Moscow State University | Poster Presenter | Registered |
| Sahbani, Saloua | Faculty of medecine of Sherbrooke | Poster Presenter | Registered |
| Schofield, Jennifer | The University of Manchester | Poster Presenter | Registered |
| Seal, Sudipta | University of Central Florida | Speaker | Registered |
| Shoesmith, David W | Western University | Speaker | Registered |
| Skotnicki, Konrad Mr | Institute of Nuclear Chemistry and Technology | Poster Presenter | Registered |
| Smith, Marisa E | University of Manchester | Poster Presenter | Registered |
| Steele, Samantha E | SUNY Environmental Science and Forestry | Poster Presenter | Registered |
| Sterniczuk, Marcin | University of Notre Dame | Poster Presenter | Registered |
| Stuart, Craig R | Atomic Energy of Canada Limited | Attendee | Registered |
| Swarts, Steven G | University of Florida | Poster Presenter | Registered |
| Swiatla-Wojcik, Dorota M | Technical University of Lodz | Poster Presenter | Registered |
| Takahashi, Kenji | Kanazawa University | Speaker | Registered |

| | | | |
|--------------------------|--|-------------------|------------|
| Toigawa, Tomohiro | Osaka University | Poster Presenter | Registered |
| Traboulsi, Ali | SUBATECH Laboratory | Poster Presenter | Registered |
| Tweddle, Zoe L | University of Manchester | Poster Presenter | Registered |
| Ulanski, Piotr | Lodz University of Technology | Poster Presenter | Registered |
| Vyushkova, Mariya | Notre Dame Radiation Laboratory | Poster Presenter | Registered |
| Winter, Bernd | Helmholtz Zentrum Berlin | Speaker | Registered |
| Wishart, James F | Brookhaven National Laboratory | Vice Chair | Registered |
| Wren, Clara | University of Western Ontario | Discussion Leader | Registered |
| Yamaso, Suguru | ISIR, Osaka University | Poster Presenter | Registered |
| Yang, Miao | KTH, Royal Institute of Technology, Sweden | Poster Presenter | Registered |
| Yoshida, Yoichi | Osaka University | Poster Presenter | Registered |

102 Attendees

Radiation Chemistry (GRS) (2014)

| Name | Organization | Participation | Status |
|------------------------------------|---|-------------------|------------|
| Baidak, Aliaksandr | University of Manchester | Poster Presenter | Registered |
| Barkam, Swetha | University of Central Florida | Poster Presenter | Registered |
| Behmand, Behnaz | University de Sherbrooke | Poster Presenter | Registered |
| Bird, Matt J | Brookhaven National Lab | Poster Presenter | Registered |
| Boncher, William L | Los Alamos National Lab | Poster Presenter | Registered |
| Cantrell, William A | Notre Dame Radiation Laboratory | Poster Presenter | Registered |
| Das, Soumen | University Of Central Florida | Poster Presenter | Registered |
| Dawley, M. Michele | University of Notre Dame | Poster Presenter | Registered |
| Dhiman, Suraj Dev Prakash B | Brookhaven National Laboratory | Discussion Leader | Registered |
| Donocilf, Thomas A | University of Manchester | Poster Presenter | Registered |
| England, Matthew J | University of Surrey | Poster Presenter | Registered |
| Esmaili, Sasan | University of Sherbrooke | Poster Presenter | Registered |
| Farah, Jad | IRSN - Inst. Radiol Prot & Nucl Saf | Poster Presenter | Registered |
| Ghosh, Srabanti | University de Paris SUD 11 | Poster Presenter | Registered |
| Grimaldi, Natascia | Università di Palermo | Poster Presenter | Registered |
| Han, Xu | University of Notre Dame | Poster Presenter | Registered |
| Horne, Gregory P | University of Manchester | Poster Presenter | Registered |
| Kaddissi, Josiane | Commissariat l'Energie Atomique, CEA-Saclay, | Poster Presenter | Registered |
| Kadlubowski, Slawomir | Lodz University of Technology | Poster Presenter | Registered |
| Kaga, Toshiki | Kanazawa University | Poster Presenter | Registered |
| Kanjana, Kotchaphan | University of Notre Dame | Poster Presenter | Registered |
| Karamitros, Mathieu | University de Bordeaux | Poster Presenter | Registered |
| Lahaie, Pierre-Olivier | Université de Sherbrooke | Poster Presenter | Registered |
| Laverne, Jay A | University of Notre Dame | Speaker | Registered |
| Luna, Ana Laura | LCP Universite Paris Sud | Poster Presenter | Registered |
| Maeyama, Takuya | RIKEN | Poster Presenter | Registered |
| Massey, Sylvain | University of Sherbrooke | Poster Presenter | Registered |
| Mayhead, Natalie M | University of Surrey | Poster Presenter | Registered |
| Mc Allister, Maeve | Queens University Belfast | Poster Presenter | Registered |
| Meylan, Sylvain | Institut de Radioprotection et de Suret Nuclear | Poster Presenter | Registered |
| Mozafari, Mina | Simon Fraser University | Poster Presenter | Registered |
| Nishii, Satoshi | ISIR, Osaka University | Poster Presenter | Registered |

| | | | |
|------------------------------|--|-------------------|------------|
| Ortiz, Daniel | Commissariat a l'Energie Atomique et Aux Energies | Poster Presenter | Registered |
| Palm, Andrew D | SUNY College of Environmental Science and Forestry | Poster Presenter | Registered |
| Paquirissamy, Aurelie | CEA Saclay | Poster Presenter | Registered |
| Pellizzi, Eleonora | CEA Saclay | Poster Presenter | Registered |
| Reiff, Sarah C | University of Notre Dame | Chair | Registered |
| Ryazantsev, Sergey | Lomonosov Moscow State University | Poster Presenter | Registered |
| Sahbani, Saloua | Faculty of medecine of Sherbrooke | Poster Presenter | Registered |
| Schofield, Jennifer | The University of Manchester | Discussion Leader | Registered |
| Skotnicki, Konrad Mr | Institute of Nuclear Chemistry and Technology | Poster Presenter | Registered |
| Smith, Marisa E | University of Manchester | Poster Presenter | Registered |
| Steele, Samantha E | SUNY Environmental Science and Forestry | Poster Presenter | Registered |
| Sterniczuk, Marcin | University of Notre Dame | Poster Presenter | Registered |
| Toigawa, Tomohiro | Osaka University | Poster Presenter | Registered |
| Traboulsi, Ali | SUBATECH Laboratory | Poster Presenter | Registered |
| Tweddle, Zoe L | University of Manchester | Poster Presenter | Registered |
| Vyushkova, Mariya | Notre Dame Radiation Laboratory | Poster Presenter | Registered |
| Wishart, James F | Brookhaven National Laboratory | Speaker | Registered |
| Yamaso, Suguru | ISIR, Osaka University | Poster Presenter | Registered |
| Yang, Miao | KTH, Royal Institute of Technology, Sweden | Poster Presenter | Registered |
| 51 Attendees | | | |