

Final Scientific/Technical Report

Support for Students and Young Scientists to Participate in the 2009 Actinides Conference to be held in San Francisco, CA, Sunday, 12 July 2009 – Friday, 17 July 2009

Professor Kenneth N. Raymond
Department of Chemistry
University of California, Berkeley
Berkeley, CA 94720
Tel.: 510.642.7219
Email: raymond@socrates.berkeley.edu

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1. Award Information

DOE Award Number: DE-FG02-09ER16051

Name of Recipient: Kenneth N. Raymond
Department of Chemistry
University of California, Berkeley
Berkeley, CA 94720

Sponsored Projects Office
2150 Shattuck Avenue, Suite 313
Berkeley, CA 94720

Project Title: Support for Students and Young Scientists to Participate in the 2009 Actinides Conference to be held in San Francisco, CA, Sunday, 12 July 2009 – Friday, 17 July 2009

Project/Director
Principal Investigator: Kenneth N. Raymond
Department of Chemistry
University of California, Berkeley
Berkeley, CA 94720

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3. Executive Summary

Early career scientist were provided support to attend and participate in the Actinides 2009 (AN2009) International Conference held in San Francisco, California from 12-17 July 2011. This is the premier conference in the field of actinide chemistry, physics, and materials science of the actinide elements. Participation in the preeminent scientific meeting in actinide science keeps the U.S at the forefront of developments in this key field. The specific involvement of early career scientists combats the loss of expertise in the aforementioned critical areas related to f-element chemistry such as energy, homeland, and environmental security. Without these trained scientists, the U.S. will not be able to properly exploit nuclear technology to its fullest and will not be able to address its energy needs in either an environmentally safe or cost-effective manner nor will it be able to provide for its national defense. Furthermore, the early career scientists added greatly to the scientific content of the

meeting and stimulates early career scientists to remain in the field of actinide science. Providing support for participation in the AN2009 Conference via registration fee waivers, hotel cost support, and travel cost support, was extremely effective in securing the participation of early career scientists that would have not otherwise been able to attend.

4. Comparison of Accomplishments Versus Objectives

The objectives of the award for the proposal entitled, *Support for Students and Young Scientists to Participate in the 2009 Actinides Conference to be held in San Francisco, CA, Sunday, 12 July 2009 – Friday, 17 July 2009*, were all met.

- 1) The financial support from DOE was translated in an efficient manner to support the participation of a maximum number of deserving early career scientists at the AN2009 Conference. This was successfully dispersed in the forms of registration fee waivers, hotel costs, and travel costs.
- 2) A new award (non-monetary) was successfully established for outstanding research by an early career and an award made at the AN2009 Conference for an early career scientist.
- 3) Meetings between the early career scientists and AN2009 participants were facilitated by the organizers on a formal and personal basis.
- 4) An assessment of the AN2009 Conference was conducted by soliciting feedback from the organizing committees, participants, and collected later in emails as well.
- 5) The AN2009 Conference Proceedings was successfully published from contributions from those participants attending the Conference.

5. Summary of Project Activities

Early career scientists were provided support to attend and participate in the Actinides 2009 (AN2009) International Conference held in San Francisco, California from 12-17 July 2011. This is the premier conference in the field of actinide chemistry, physics, and materials science of the actinide elements. The Actinide conference series is held every four years and this was the first time the Actinides Conference has been held in the U.S. since 1993. There were more than 350 participants with large and diverse international representation. Without the early career support for this conference provided by the U.S. Department of Energy, none of the individuals supported would have been able to attend. Additionally, the opportunity for support served as motivation for several early career scientists to attend the conference. Early career scientists participated in both oral and poster sessions at the AN2009 Conference. Early career scientists were provided support to cover the registration fee, travel costs, and hotel costs. The availability of conference funding for early career scientists was made known to prospective attendees well in advance of the conference by several means. Requests for financial assistance by early career scientist were judged by scientific merit and financial need. A short, one-page description of the applicant's financial need, impact of their scientific work in the context of actinide science at the AN2009 Conference, and future career goals were used by the AN2009 Conference organizer's to prioritize requests. The AN2009 Conference organizer's also conducted outreach activities to make ensure that early career actinide scientists with distinguished accomplishments, possibly unaware of the AN2009, were made aware of the special opportunity.

Several AN2009 Conference activities were designed to encourage and highlight the scientific contributions of early career scientists to the actinide science community at the conference. This was accomplished by carefully including the early career scientists in both the oral and poster sessions of the conference. Secondly, an award for the best early career student/postdoctoral fellow poster presentation was established (the first such award in the Actinide Conference series that will now be included in a future meetings) and was bestowed at the conference banquet. The AN2009 Conference organizers also met personally with early career scientists who received support to attend the AN2009 Conference and assisted them with networking during the conference.

Eight early career scientists were directly supported for participation in the AN2009 Conference and the direct support for these individuals was used to leverage support for the additional participation of several more early career scientists that would have not been able participate.

6. Products and Technology Transfer

- a) The financial assistance provided for the early career scientists did not directly support the publication of the AN2009 Conference proceedings. However, the assistance that enabled the participation of the early career scientists also made it possible for them to contribute to the AN2009 Conference Proceedings. The AN2009 Conference Proceedings were published as *Actinides 2009* in the IOP Conference Series: Materials Science and Engineering, Vol. 9 (2010) and are available on the Web at www.conferencseries.iop.org/mse. Copies of the conference proceedings CD-ROM have been provided to the relevant program managers at the U.S. DOE as part of this final report (Dr. John Miller and Dr. Larry Rahn of the U.S. DOE Division of Chemical Sciences, Geosciences and Biosciences).
- b) The AN2009 Conference Web site is no longer supported and an archival Web site with a reference to the future AN2013 will be maintained as long as feasible.
- c) The opportunity of the early career scientists to attend the AN2009 Conference provided a forum for them to network and form collaborative activities within the actinide science field.
- d) Not applicable.
- e) Not applicable
- f) None other than the AN2009 Conference proceedings mentioned in 6a that was not directly supported by this financial support.

7. Computer Modeling Information: Not applicable