

Dean N. Williams

Supported Projects: AIMS, ESGF, UV-CDAT, ACME, PCMDI, DREAM, and ASCAC

Quarterly Report for October 1, 2016 – December 31, 2016

Quarter Accomplishments:

AIMS:

- Led and participated in daily, weekly, and monthly meetings and teleconferences for the following projects: ESGF, ACME, CDAT, PCMDI, WIP, DREAM, and ASCAC **[October – December 2016]**.
- Led the hiring process for post-doc candidate and paperwork and involved in the potential hiring of diversity summer students and interns, to work within the AIMS group on the ACME, ESGF, PCMDI, and DREAM projects. The successfully chosen candidates select as new hires for the CASC post-doc and GS-CAD summer student/intern job postings and their mentors are **[October – December 2016]**:

Student Name	Mentor	Current School	Comments
Sandi Samuel	Matthew Harris	MS in CS from Norfolk State University, graduating May, looking for 6-month co-op	**Planned start date is January 16, 2017**
Ishtar Nyawira	Charles Doutriaux	BS in CS from University of Pittsburgh (junior)	
Damon Alcorn	Sam Fries	MS in CS from Naval Postgraduate School	Army Ranger veteran
Shadouches Reed	William Hill	MS in CS from Georgia Institute of Technology	Has other potential job offers, beside LLNL
Kendra Kuivenhoven	Sterling Baldwin	BS in CS from California State University, Chico (junior)	
Soo Kyung Kim	Dean N. Williams	PhD in Material Science and Engineering from Georgia Institute of Technology	** Planned start date is January 17, 2017** Researching Machining Learning (ML) for LLNL climate projects
James Crean	Dean N. Williams	BS in CS from California State University, Chico	**Planned start date is June 1, 2017** Graduates in May 2017

- Represented LLNL at the *Chico State University Career and Information Fair for underrepresented minorities and women*. This event was hosted by CSU, Chico’s Educational Opportunity Program. Over 200 students attended the LLNL booth. Also met with the CSU, Chico’s Math, CS and EE schools **[October 2016]**.
- Working with members of *Livermore Computing (LC)* to purchase long-term compute cluster required for ACME, PCMDI, UV-CDAT, and DREAM project development and production **[September 2016]**.
- Attended the *American Geophysical Union (AGU) 2016 Fall Meetings* where I chaired two sessions, presented “Climate Science’s Globally Distributed Infrastructure”, which includes the Earth System Grid Federation (ESGF) and the DREAM:

Distributed Resource for Earth System Grid Federation (ESGF) Advanced Management projects, and three posters **[December 2016]**.

- As a member of the *Environmental System Science (ESS) data committee*, I participated in DOE's BER ESS Working Group: Data Management and Modeling Frameworks discussions and workshop report entitled, "Towards a Shared ESS Cyber-infrastructure: Vision and First Steps" **[October – November 2016]**.
- As a committee member of the *DOE Advanced Scientific Computing Advisory Board (ASCAC)*, I participated in the 2016 fall meeting held in Washington D.C. The meeting reviewed the DOE Office of Science Computational and Data science needs and presented an update on state of the Office of Science in regards to the continuing resolution (i.e., U.S. budget) and the incoming President-elect of the United States **[December 2016]**.
- Continue to participate in a series of *AIMS white papers and mini proposals* for DOE BER program managers **[October – December 2016]**.
- Led *renewal subcontracts* for NASA JPL, Kitware and DOE ANL/University of Chicago. These contracts provide software for the ESGF, ACME and PCMDI projects **[October - December 2016]**.

ESGF:

- As a member of the *ESS Executive Committee*, I attended the ESS Executive Committee Workshop on Data Infrastructure that was held at DOE Headquarters in Germantown, MD, August 29-30, 2016. I participated in the workshop report. **[October – December 2016]**.
- As a member of the writing team, I participated in the "*Request for White Papers for the ESS Data Archive*" announcement where we presented the "ESSDAP: Environmental System Science Data Access Portal" to help address DOE BER's domain-specific data needs for Carbon Dioxide Information Center (CDIAC) observational data hosted at ORNL **[November 2016]**.
- Wrote up the "*ESGF User Satisfaction Survey*" results to be included in the 6th Annual ESGF F2F Conference Report. The survey responses helped improve the ESGF Executive Committee planning and prioritization of software developed for the communities' needs **[November 2016]**.
- *Planned and hosted the 6th Annual ESGF F2F Conference* that was held in Washington, D.C. from December 5th through 9th. This includes soliciting and collecting abstracts for presentations and posters and developing the conference agenda **[October – December 2016]**.
- Leading the development and writing of the *6th Annual ESGF F2F Conference Report*, which should be released sometime in late February or March 2017 **[October – December 2016]**.

ACME:

- Led the writing of the "*Ultra-scale Visualization Climate Data Analysis Tools (UV-CDAT)*" brochure/white paper, which captures the usefulness of this project for the DOE BER Accelerated Climate Modeling for Energy (ACME) project. **[October 2016]**.
- Contributed to the "*Exascale Requirements Review for Biological and Environmental Research: Workshop Report*". Specifically, I led the "Large-Scale Heterogeneous Data Management" section of the report and assisted with other sections **[November – December 2016]**.

DREAM:

- Worked on the “*2016 Distributed Resources for the Earth System Grid Advanced Management (DREAM) Annual Report*”. This report covers the over-arching goal of the project and the projected tasks for 2017 **[November – December 2016]**.

Papers:

- S. Fiore, M. Płóciennik, C. Doutriaux, C. Palazzo, J. Boutte, T. Żok, D. Elia, M. Owsiak, A. D’Anca, Z. Shaheen, R. Bruno, M Fargetta, M. Caballer, G. Moltó, I. Blanquer, R. Barbera, M. David, G. Donvito, D. N. Williams, V. Anantharaj, D. Salomoni, and G. Aloisio, “*Distributed and cloud-based multi-model analytics experiments on large volumes of climate change data in the Earth System Grid Federation eco-system*”, 2016 *IEEE International Conference on Big Data, Washington, D.C* **[December 2016]**.

Next Quarter’s Roadmap

- My main focus will be to complete the “*6th Annual ESGF F2F Conference Report*” and the “*ESGF Triennial Review Report*”, both by the end of March **[January - March 2017]**.
- I will attend several meetings and workshops in D.C., including the “*Federal Workshop on Measuring the Impact of Digital Repositories*”, to be held in Arlington, VA **[January - March 2017]**.
- I will continue to lead and/or participate in several *daily, weekly and monthly meetings and teleconferences* for the ESGF, ACME, CDAT, PCMDI, WIP, DREAM, and ASCAC projects **[January - March 2017]**.
- I will continue to lead ESGF, CDAT, ACME Workflow, DREAM, and other AIMS *software development efforts* **[January - March 2017]**.
- I will continue chair and participate on several review and *advisory committees and boards* **[January - March 2017]**.
- I will continue to push the AIMS leadership team to develop *strategic and implementation plans* for stakeholders and the community at large **[January - March 2017]**.

Resources Required to Achieve Goals

- *Clusters* are needed for visualization development and server-side (remote) computing.