



Workflows for Data Science Center of Excellence

WorDS Provides Workflow Solutions for Industry and Academia

Are you interested in learning new computational tools and techniques for your scientific computing and data science applications?

Interested in saving time, optimizing and scaling up your computations to produce results faster or communicating your research results more effectively?

Often, valuable information gets buried in voluminous amounts of data. This is where scientific workflows – a software application comprised of computational steps and data tools that scale up to run on high-performance computers, distributed environments, or commercial cloud systems – can make the critical difference. Workflows give you confidence in the accuracy of your results. They are *science accelerators* because they reduce the time to those results.

The Workflows for Data Science (WorDS) Center of Excellence, based at the San Diego Supercomputer Center at the University of California, San Diego, is dedicated to solving practical scientific problems through the adoption of scientific workflows. WorDS will help you focus on scientific questions and the *end-to-end process*, from data generation to journal publication or preparing for clinical trials.

The highly acclaimed WorDS Boot Camps are two-day workshops that focus on teaching methodologies to create efficient, scientifically rigorous, scalable workflow applications. Participants will also learn about Kepler, a comprehensive environment of reusable and extensible components to support distributed analysis of large-scale data.

WorDS Boot Camps are followed by a one-day 'Hackathon' that covers scientific computing, scalable applications, and data science while showing you how to build a *customized* workflow based on your specific application requirements.

"The developers at the WorDS Center are among our best scientific partners. The work we've done with the center is revolutionizing our approach to complex computational experiments, leading us to discoveries faster, while facilitating reproducibility and the teaching of our methods."

*-- Rommie Amaro, Ph.D.
Associate Professor, Department
of Chemistry and Biochemistry,
UC San Diego
Director, National Biomedical
Computation Resource*

2015 Schedule of Events

INTRODUCTION to WorDS

Join us at one of our no-cost quarterly briefings to learn why workflows can help manage your data processing needs.
Tuesdays 3:00 – 5:00PM; March 3, May 5, Sept 1, and Dec 1

SCIENTIFIC COMPUTING WORKFLOWS

Boot Camp: February 25-26
Hackathon: April 2

SCALABLE BIOINFORMATICS

Boot Camp: May 20-21
Hackathon: June 4

DATA SCIENCE THINKING

Boot Camp: September 23-24
Hackathon: October 22

Location: The San Diego Supercomputer Center at UC San Diego

Boot Camp registration: Industry \$1095, Academic \$695

Hackathon registration: Industry \$395, Academic \$250

Academic rate is available to graduate students, postdoctoral fellows, faculty, and university staff. Use institution and email when registering to qualify.

BOOT CAMPS explain how you can turn your data science applications into computationally scalable and executable workflows by analyzing available options, techniques, and tools. Learn about distributed platforms and systems, Cloud and Big Data, scalable workflow tools, making your science reproducible. Gain hands-on experience with Kepler tools to build scalable workflows in any scientific domain.

HACKATHONS are a hands-on experience based on the participant's use-cases, in which we will help you hack workflow-driven applications by building a prototype of workflows from scratch, running them on HPC/cloud/cluster resources, ensuring reproducibility via provenance tracking, and wrapping them as Web applications.

Training is available to industry and academia. Custom and on-site training is also available. Lunch and refreshments provided.

For registration and details: <http://words.sdsc.edu/events>

*The **Words Center of Excellence** builds upon more than a decade of experience building workflows for computational science, data science, and engineering at the intersection of distributed computing, big data analysis, and reproducible science.*

Words offers expertise and services to support data-driven applications, and analysis, for data scientists and software engineers.

<http://words.sdsc.edu>

"I wanted to take a moment to thank you for hosting the Kepler Hackathon. It was a fantastic experience where 15 minutes with Dan probably saved me weeks of struggling on my own."

*--David Lee, Ph.D
National Center for Microscopy
and Imaging Research,
UC San Diego*

"Our WorDS center partners, who helped develop our applications using the free and open source Kepler scientific workflow, are of tremendous help in quickly transforming our Gateway Social Science XSEDE application into a Kepler workflow system that is much easier to assemble and modify from our existing R code for rapid discoveries and teaching applications. We're looking to partner to include phylogenetic modeling in our workflows."

*--- Douglas White, Ph.D.
Emeritus Professor, Institute for
Mathematical Behavioral
Sciences, UCI, External
Faculty, Santa Fe Institute
Editor, Wiley Companion to the
Transformation of Cross-
Cultural Research*



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