



AWS/CSU Research in the Cloud Series

Today's Agenda

- Amie Carobrese/ Varun Pole – Introductions
- Michael Berman - AWS Credits for CSU
- Michael Soltys - Chair of Department of Computer Science, Channel Islands
- Darren Kraker - Representing Laura Cacciamani, Department of Psychology, Cal Poly
- Kevin Jorissen - Research & Technical Computing AWS

AWS/CSU Research in the Cloud Series:

Dates/ Topics:

October 24, 2018 - Introduction to Research in the Cloud on AWS

November 14, 2018 - Building a Data Lake for Analytics & Machine Learning

December 5, 2018 - Machine Learning on AWS with SageMaker

December 19, 2018 @ 12:00pm - AWS SPOT: Cost Effectively Add More Compute Resources (tentative)

Introduction to Research in the Cloud on AWS:

Hear from your colleagues about how they have used AWS to support their research. Learn about core AWS services for compute, storage, database and networking. We will also do a hands-on lab where you will be able to launch AWS virtual machines (EC2 instances) and create your first S3 storage bucket. You will learn how to use the AWS calculator to price out a cloud project.

Time: 3.0 hours

Michael Soltys, Professor & Chair Department of Computer Science

Channel Islands



Michael's Blog:

<http://soltys.cs.csuci.edu/blog/?tag=aws>

Laura Cacciamani, Department of Psychology

Cal Poly, SLO



Laura is an Assistant Professor in the Department of Psychology & Child Development. Her research focuses on multisensory perception and memory, using cognitive neuroscience methods such as fMRI and neurostimulation.

Laura Cacciamani, Department of Psychology



ADDRESSING AN ISSUE WITH THE CURRENT SYSTEM:

"My research requires processing hundreds of large, high-resolution brain scans. Using AWS I ran 30 subjects at once, all up in the cloud and it took days instead of months. Now that I know I can use AWS, I can run more subjects in my studies, and potentially run more studies." — *Dr. Laura Cacciamani, Assistant Professor of Psychology*

BEFORE AWS



large files sent one by one

.....file2.DCM.....file3.DCM.....file4.DCM



...still processing



- delayed results
- stalled experiment
- unreliable system



AFTER AWS



multiple files sent simultaneously

.....file2.DCM
.....file3.DCM
.....file4.DCM
.....file5.DCM
.....file6.DCM

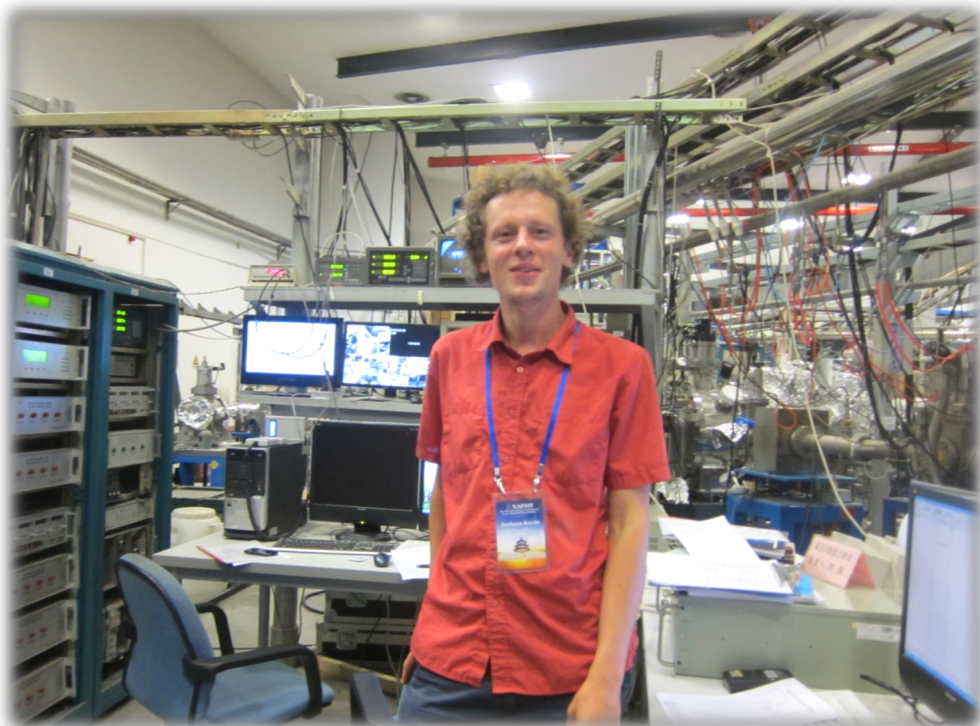


all files processed in 3 days!



- time saved
- can proceed with experiment
- no worries about system reliability





Kevin Jorissen

Seattle

Kevin has 10 years of experience in computational science, and holds a Ph.D. in **Physics**. He developed codes solving the quantum physics equations for light absorption by materials, taught workshops to scientists worldwide, and wrote about high performance computing in the cloud before it was fashionable. He worked as a **postdoctoral researcher** in Antwerp, Lausanne, Seattle, and Zurich. He contributed to the WIEN2k code (Density Functional Theory calculations of material properties, www.wien2k.at) and the FEFF code (X-ray and Electron absorption spectra, www.fefferproject.org).

Kevin joined **Amazon** in 2015 to help accelerate the adoption of cloud computing in the scientific community globally.