

Taking TARDIS Into New Dimensions: Results and Reflections

Steve Androulakis¹, Ulrich Felzmann², Alistair Grant⁴, Ian E Thomas³, Ryan Green⁵, Grischa R Meyer¹, Anthony Beitz¹, Paul Bonnington¹, Chris Myers², Heinz W Schmidt³ and Ashley Buckle¹

¹Monash University, Melbourne, Australia, steve.androulakis@monash.edu

²VeRSI, Melbourne, Australia

³RMIT University, Melbourne Australia

⁴Australian Synchrotron, Melbourne Australia

⁵University of South Australia, South Australia, Australia

MyTARDIS began as an automated solution for managing and sharing raw protein crystallography data. Since then, efforts from many independent projects have enhanced and evolved the central MyTARDIS product. New features such as data staging mounts, automated metadata extractors, parameter set creation and high performance computing task scheduling have been added to meet researcher needs.

With these new features in hand, MyTARDIS is currently being deployed to manage data from diverse areas of research, including microscopy / microanalysis, particle physics, next-gen sequencing in addition to expansion at the Australian Synchrotron and ANSTO to support small / wide angle x-ray scattering, infrared microspectroscopy, powder diffraction, neutron reflectometry, small-angle neutron scattering and strain scanning data. Furthermore, an initiative to capture and publish all types of research data at an institutional level has begun.

This presentation will feature speakers from individual projects working with the open source MyTARDIS code base, along with an explanation of the software's new developments and personal experiences from attempting to richly capture and manage an expanding range of research data.

About the Author(s)

Steve Androulakis is a software developer with the Monash e-Research Centre. He is the lead developer of the MyTARDIS project. His focus is on solving research data management problems, particularly in areas of structural biology.

Grischa R. Meyer was a software developer with the Monash e-Research Centre. He used to work as a post-doctoral researcher in the field of computational biophysics. In addition to data processing expertise, his background in research provided the MyTARDIS project with important feedback on what researchers want and expect.

Prof. Paul Bonnington, Director of the Monash e-Research Centre, is a member of the Go8 Digital Futures group, and on the Board of Directors for the Victorian Partnership for Advanced Computing. He is a member of the steering committees for the Victorian Life Sciences Computing Initiative (VLSCI), Victorian e-Research Strategic Initiative (VeRSI) and National Computational Infrastructure's Specialist Facility for Imaging and Visualisation (MASSIVE). Paul is also a member of CSIRO's e-Research Council, and currently serving on the National Research Infrastructure Roadmap Expert Working Group for e-Research. He recently served as the Chair of the Steering Committee for the Australian National Data Service Establishment Project. Paul is a Professor in association with the School of Mathematical Sciences at Monash University.

Ian Thomas is a software developer and system administrator at the eResearch Office of RMIT University. He was formally a post-doctoral researcher in the School of Computer Science and IT at RMIT University, investigating software engineering for real-time reliable systems and agent-based management systems for e-Health (with Monash University). His current work is in data curation for three domains: high-performance computing, microscopy data for materials

engineering, and screen media objects (films and television).