JOCELYN ELYA

Formerly Jocelyn Mandalou

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COMPUTER SKILLS

- Proficient in Python, SQL, MySQL, MariaDB, phpMyAdmin, Git version control system, Perl, FORTRAN, IDL, netCDF data format, cron jobs, IMMA marine data format, Wiki documentation
- Experience with C#, C, C++, PHP, HTML, Visual Studio, Linux shell scripting, Java, XML, RDF, SPARQL, Android API, ISO Metadata

PROFESSIONAL EXPERIENCE

Center for Ocean-Atmospheric Prediction Studies (COAPS), Florida State University*, Tallahassee, FL*

Assistant in Research   *July 2015 – Present*

- Engineer and develop robust software and data management solutions to process, store, and distribute satellite and in situ marine meteorological and oceanographic data in support of Earth science research
- Administrate and develop MySQL and MariaDB databases to store marine observations, metadata, data processing lineage, quality control flags, personnel and funding involvement, and meeting registration
- Conduct informatics research with a focus on creating efficient ways to deliver data in well-organized, metadata-rich, and interoperable formats
- Lead Marine Data Center programming team by soliciting requirements, designing projects, mentoring undergraduate programmers, and participating in data management working groups
- Chair Marine Data Cluster in the Federation of Earth Science Information Partners, connecting members to explore topic areas such as data analytics, interoperability, and cloud computing
- Represent COAPS at outreach events to engage and educate members of the public on marine research using interactive demonstrations on software development and data storage

Computer Research Specialist   *July 2013 – June 2015*

- Developed and maintained software which processes and serves marine data
- Provided scientists with formatted data to meet the needs of their specific research projects by writing customized processing codes and download scripts
- Managed Marine Data Center programmers by designing and overseeing programming projects

Undergraduate Research Programmer   *September 2012 – June 2013*

- Facilitated data transmission to end users via web pages and formatted files by developing original data processing scripts and enhancing existing programs
- Promoted longevity and usability of large data set manipulation code by accounting for format consistency, code organization and versioning, and detailed documentation
- Collaborated with colleagues and other research groups to implement multiple projects concurrently

Florida Institute of Technology*, Melbourne, FL*

Astrophysics Graduate Research Assistant   *August 2011 - April 2012*

- Analyzed Hubble Space Telescope data using the astronomical data reduction software IRAF
- Assisted in operations of the largest research-quality telescope in Florida, the Ortega 0.8-meter telescope
- Remotely operated Southeastern Association for Research in Astronomy telescopes in Chile and Arizona

Florida State University*, Tallahassee, FL*

Astrophysics Undergraduate Research Assistant   *January 2008 - April 2011*

- Examined supernova light curves in search of secondary parameters
- Taught children astrophysics and programming skills as part of a physics department outreach program

EDUCATION

Florida State University*, Tallahassee, FL*
Bachelor of Science, Computer Science*, magna cum laude*   *May 2015*
Florida State University*, Tallahassee, FL*
Bachelor of Science, Physics and Astrophysics, Minor in Mathematics   *April 2011*

PROFESSIONAL RECOGNITION

Federation of Earth Science Information Partners Marine Data Cluster - Chair

HONORS / AWARDS

- Dean's List: Fall 2008, Spring 2010, Spring 2012, Fall 2012
- Women in Math, Science, and Engineering (WIMSE) Research Achievement Award Recipient 2009, 2011

REFEREED PUBLICATIONS

Smith, S. R., K. Briggs, M. A. Bourassa, **J. Elya**, and C. Paver, 2018: Shipboard automated meteorological and oceanographic system data archive: 2005–2017. Geosci Data J. 2018;5:73–86. https://doi.org/10.1002/gdj3.59

Smith, S. R., M. A. Bourassa, **J. Elya**, T. Huang, K. M. Gill, F. R. Greguska, N. Quach, V. Tsontos, B. Holt, S. Worley, and Z. Ji, 2018: The Distributed Oceanographic Match-Up Service. Big Earth Data Analytics in Earth, Atmospheric, and Ocean Sciences, T. Vance, T. Huang, C. Lynnes, and C. Yang, Eds., Wiley, in press.

D. Batcheldor, D. Axon, M. Valluri, **J. Mandalou**, D. Merrit, 2013: An STIS Atlas of Ca II Triplet Absorption Line Kinematics in Galactic Nuclei. The Astronomical Journal, Volume 146, Issue 3, article id 67, 10 pp, doi: 10.1088/0004-6256/146/3/67.

OTHER PUBLICATIONS

Stallard, A., S. R. Smith, **J. Elya**, 2017: Distributed Oceanographic Match-up Service (DOMS) Translation Specification: SAMOS In Situ Data. Available from Center for Ocean-Atmospheric Prediction Studies, Florida State University, Tallahassee, Florida, 32306-2840, USA and online at https://mdc.coaps.fsu.edu/images/doms/documents/TranslationSpecification_SAMOS-DOMS.pdf.

Smith, S. R., **J. Elya**: 2015. *Procedure for placing hourly super-observations from the Shipboard Automated Meteorological and Oceanographic System (SAMOS) Initiative into ICOADS*. COAPS, Tallahassee, FL, USA, 34 pp. Available from Center for Ocean-Atmospheric Prediction Studies, Florida State University, Tallahassee, Florida, 32306-2840, USA and online at http://icoads.noaa.gov/e-doc/other/transpec/samos/SAMOS_RVtoIMMAprocedure_v2p1.pdf.

PRESENTATIONS

Elya, J., S. R. Smith, H. McMillan, D. Clark, S. O'Hara, 2019: Cruise Data Reciprocal Linking Between SAMOS and R2R, 2019 ESIP Winter Meeting, Bethesda, MD, 16 January 2019

Smith, S. R., **J. Elya**, H. McMillan, T. Huang, V. Tsontos, E. Armstrong, E. Yam, M. DeBellis, N. Quach, F. Greguska, J. Joseph, S. Worley, T. Cram, Z. Ji, 2019: In Situ Quality Flags in the Distributed Oceanographic Match-Up Service, 2019 ESIP Winter Meeting, Bethesda, MD, 16 January 2019

DeBellis, M., E. Armstrong, M. A. Bourassa, T. Cram, **J. Elya**, F. Greguska, T. Huang, J. Joseph, S. R. Smith, V. Tsontos, S. J. Worley, E. Yam, 2019: Standardized Output File Specifications for Match Up Data, 2019 ESIP Winter Meeting, Bethesda, MD, 16 January 2019

Elya, J., C. Berys-Gonzalez, S. Diggs, J. Gum, C. Olson, K. Stocks, 2019: ESIP's Marine Data Cluster – Introduction and Development of Focus Areas, 2019 ESIP Winter Meeting, Bethesda, MD, 15 January 2019

Jacob, J. C., E. M. Armstrong, M. A. Bourassa, T. Cram, **J. L. Elya**, F. R. Greguska III, T. Huang, Z. Ji, Y. Jiang, Y. Li, L. J. McGibbney, N. Quach, S. R. Smith, V. M. Tsontos, B. D. Wilson, S. J. Worley, C. P. Yang, 2018: OceanWorks: Enabling Interactive Oceanographic Analysis in the Cloud with Multivariate Data, American Geophysical Union Fall Meeting, Washington, D.C., 10-14 December 2018

O'Hara, S, R. Arko, D. Clark, C. Chandler, **J. Elya**, V. Ferrini, K. McLain, C. Olson, C.Sellers, S. Smith, K. Stocks, L. Stolp, S. Carbotte, 2018: Rolling Deck to Repository (R2R) program data services for the oceanographic research community, American Geophysical Union Fall Meeting, Washington, D.C., 10-14 December 2018

Armstrong, E., M. A. Bourassa, T. Cram, **J. Elya**, F. Greguska, T. Huang, J. Jacob, Z. Ji, Y. Jiang, Y. Li, L. McGibbney, N. Quach, S. Smith, V. Tsontos, B. Wilson, S. J. Worley, C. Yang, 2018: An information technology foundation for fostering interdisciplinary oceanographic research and analysis, American Geophysical Union Fall Meeting, Washington, D.C., 10-14 December 2018

Smith, S. R., **J. Elya**, M. A. Bourassa, T. Huang, V. Tsontos, B. Holt, F. R. Greguska, N. Quach, S. Worley, and Z. Ji, 2018: Integrating the Distributed Oceanographic Match-Up Service into OceanWorks. Poster, Ocean Sciences 2018, Portland, OR, 12-16 February 2018

Smith, S. R., J. J. Rolph, K. Briggs, **J. Elya**, and M. A. Bourassa, 2018: Shipboard Automated Meteorological and Oceanographic System. Presentation, Ocean Sciences 2018, Portland, OR, 12-16 February 2018

Smith, S. R., **J. Elya**, M. A. Bourassa, T. Huang, V. Tsontos, B. Holt, N. Quach, K. Gill, F. Greguska, S. Worley, and Z Ji, 2018: The Distributed Oceanographic Match-Up Service: A Key Component of the OceanWorks Data Analysis Platform. Poster, Winter 2018 ESIP Meeting, Bethesda, MD, 12 January 2018. figshare. doi:10.6084/m9.figshare.5783472.v1

Smith, S. R., J. J. Rolph, K. Briggs, **J. Elya**, and M. A. Bourassa, SAMOS - Entering a Second Decade of Successful Data Stewardship, 10th Ocean Observing and Monitoring Division Community Workshop, Silver Spring, MD, 9 - 11 May 2017

Bourassa, M., **J. Elya**, A. Kemmer, S. R. Smith, and A. Valery Uzcategui, Daily Scatterometer Datasets in a Near Uniform Format, International Ocean Vector Winds Science Team Meeting, San Diego, CA, 2 May 2017

Smith, S. R., **J. Elya**, A. Stallard, M. A. Bourassa, T. Huang, V. Tsontos, B. Holt, N. Quach, K. Gill, F. Greguska, S. Worley, and Z. Ji, 2017: DOMS: A prototype service to match satellite and in situ observations. Poster, ESIP 2017 Winter Meeting, Bathesda, MD, 11 January 2017

Smith, S. R., A. Stallard, and **J. L. Elya**, 2016: Enhancing SAMOS data access in DOMS via a Neo4j property graph database. Poster, 2016 AGU Fall Meeting, San Francisco, CA, 12 December 2016

Elya, J., S. R. Smith, T. Huang, S. Worley, V. Tsontos, B. Holt, Z. Ji, A. Stallard, and M. A. Bourassa, 2016: A demonstration of the Distributed Oceanographic Match-Up Service. Poster, SciDataCon, Denver, CO, 12 September 2016

Elya, J., S. R. Smith, A. Stallard, M. A. Bourassa, T. Huang, V. Tsontos, B. Holt, N. Quach, K. Gill, F. Greguska, S. Worley, and Z. Ji, A Schematic of The Distributed Oceanographic Match-Up Service, Federation of Earth Science Information Partners Summer Meeting, Durham, NC, 20 July 2016

Smith, S. R., J. Rolph, K. Briggs, **J. Elya**, and M. Bourassa, The SAMOS Initiative – A Decade of Successful Data Stewardship, Fourth International Workshop on the Advances in the Use of Historical Marine Climate Data, Southampton, UK, 18 July 2016

Smith, S. R., T. Huang, S. Worley, V. Tsontos, B. Holt, M. Bourassa, **J. Elya**, Z. Ji, A. Stallard, N. Quach, The Distributed Oceanographic Match-Up Service, Fourth International Workshop on the Advances in the Use of Historical Marine Climate Data, Southamption, UK, 18 July 2016

Elya, J., Vocabulary Mapping for the Distributed Oceanographic Match-Up Service, Ocean Data Interoperability Platform II 2nd Workshop, Boulder, CO, 4 May 2016

Tsontos, V., S. Smith, T. Huang, S. Worley, B. Holt, **J. Elya**, Z. Ji, A. Stallard, M. Bourassa, A Generalized Distributed Data Match-Up Service in Support of Oceanographic Application, Oceanographic Data from Research Vessels, Ocean Sciences Meeting, New Orleans, LA, 21 February 2016

Smith, S. R., J. Rolph, K. Briggs, **J. Elya**, M. Bourassa, A Decade of High-Quality, Underway Meteorological and Oceanographic Data from Research Vessels, Ocean Sciences Meeting, New Orleans, LA, 21 February 2016

Smith, S. R., **J. Elya**, A. Stallard, M. A. Bourassa, T. Huang, V. Tsontos, B. Holt, N. Quach, K. Gill, F. Greguska, S. Worley, and Z. Ji, DOMS: A prototype service to match satellite and in situ datasets, Federation of Earth Science Information Partners Winter Meeting, Washington, DC, 6 January 2016

Elya, J., S. Smith, T. Huang, S. Worley, V. Tsontos, B. Holt, Z. Ji, A. Stallard, M. Bourassa, The Distributed Oceanographic Match-up Service, Federation of Earth Science Information Partners Summer Meeting, Pacific Grove, CA, 15 July 2015

Smith, S. R., J. Rolph, K. Briggs, **J. Elya**, M. Bourassa, The Shipboard Automated Meteorological and Oceanographic System (SAMOS) Initiative, NOAA Climate Observation Division 9th COD Community Workshop, College Park, MD, 15 June 2014

Stocks, K., Y. Chen, A. Shepherd, C. Chandler, N. Dockery, **J. Elya**, S. Smith, R. Ferreira, L. Fu, R. Arko, Facilitating Semantic Interoperability Among Ocean Data Systems: ODIP-R2R Student Outcomes, American Geophysical Union Fall Meeting, San Francisco, CA, 17 December 2014

Elya, J., N. Dockery, S. Smith, SAMOS Vocabulary Mapping, 3rd Ocean Data Interoperability Platform Workshop, Townsville, Australia, 6 August 2014

Elya, J., S. Smith, COAPS Modifications to rwimma, First ICOADS Value-Added Database Workshop, Asheville, NC, 13 June 2014

Dockery, N., **J. Elya**, S. Smith, Exposing SAMOS Data and Vocabularies within the Semantic Web: An ODIP Prototype, European Geosciences Union General Assembly, Vienna, Austria, 30 April 2014

Mandalou, J., P. Hoeflich, Secondary Parameters of Type 1a Supernova Light Curves, Florida State University Department of Physics Undergraduate Research Poster Session, Tallahassee, FL, 14 April 2011

Mandalou, J., D. Ernst, Neutrino Oscillations: Modeling the CDHSW Experiment, Women in Math, Science, and Engineering Research Symposium, Tallahassee, FL, 5 April 2011

Mandalou, J., D. Ernst, Analysis of the CDHSW Neutrino Oscillation Experiment, David Ernst, 77th Annual Meeting of the Southeastern Section of the American Physical Society, Baton Rouge, LA, 21 October 2010

Mandalou, J., P. Hoeflich, Stellarium Programming and CO Formation in Supernovae, Florida State University Department of Physics Undergraduate Research Poster Session, Tallahassee, FL, 1 April 2010

PUBLIC EDUCATION AND OUTREACH

Member of the COAPS outreach team. Some recent contributions include:

- Engaging with the community and promoting research and student development in the Marine Data Center and COAPS via social media
- Leading the public in the 'cloud in a bottle' demonstration and explaining the breadth of COAPS activities and initiatives at the annual Tallahassee Science Festival, November 2018
- Presenting as an invited speaker during the FSU Discovering Physics course to highlight career paths of people with physics bachelor's degrees who work outside of academic physics, October 2015, October 2016, October 2018
- Developing and hosting a pseudocode and robot obstacle course demonstration designed to teach software development methods and drag-and-drop programming to children ages 8+, Oasis Center for Women and Girls "Girls Can Do Anything!" Summer Camp, July 2017, July 2018
- Representation of COAPS and presentation of research activities being conducted in the Marine Data Center at FSU Day at the Capitol, an annual event held each year to provide legislators and members of the public with information about FSU, February 2016, February 2018
- Designing a scale of computer storage space demonstration (using fruity cereal and other props) to help students understand the computer storage capacity and requirements, COAPS Annual Open House, February 2016