

PERSONAL INFORMATION

Alessandra Nuzzo



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WORK EXPERIENCE

Nov 2015–Present

Permanent position

CMCC Foundation, Lecce (Italy)

Collaboration on different national/international projects (ORIENTGATE, TESSA, OFIDIA, EuBrazilCC, INDIGO Data Cloud, IS-ENES2) aimed at fostering the coordination to develop common policies for adapting to climate change and providing useful tools to forecast and eventually mitigate such impacts.

Her activities mainly focus on the design and development of user-driven applications and software components in the context of climate change, with particular reference to visual analytics tools (portals, desktop and mobile applications) coupling interactive graphical representations with underlying analytical processes and workflows.

Since 2016, she has been leading the activities of the Dashboard Working Team in the context of the Earth System Grid Federation, one of the largest-ever collaborative data efforts in earth system science, with the aim of providing useful statistical information on the earth and climate data usage within the federation.

Oct 2016–Dec 2016

Visitor

Lawrence Livermore National Laboratory, Livermore (California)

The main aim of the visit was the extension of the dashboard module to further support fine-grained and project-specific data usage statistics, as well as the provision of a distributed and scalable monitoring framework responsible for capturing usage metrics at the single site level and at the global ESGF level.

During the stay, a new release of the dashboard component with the new features and a complete documentation was delivered and presented at the ESGF F2F 2016 Conference in Washington.

Jun 2015–Jan 2016

Post Degree Research Collaborator

Euro Mediterranean Center on Climate Change (CMCC), Lecce (Italy)

Collaboration on the EuBrazilCC (EU-Brazil Cloud infrastructure Connecting federated resources for Scientific Advancement) project, which aims to create a user-oriented platform for scientific testing, devoted to the research community in Europe and Brazil. The collaboration contributed to the research activities envisaged in Work Package 4 (Provision of a framework for the applications adaptation) and Work Package 5 (Use Cases). In particular, the planned activities were as follows:

- tests of workflow indicators through PDAS;
- release of three incremental releases of the scientific gateway for the use case of climate change and biodiversity;
- testing, validation and production start of the final version of the scientific gateway UC3;
- participation in meetings and teleconferences project.

Jun 2015–Oct 2015

Post Degree Research Collaborator

Euro Mediterranean Center on Climate Change (CMCC), Lecce (Italy)

Collaboration on the Ofidia (Operational Fire Danger presenting Platform) project, under the EUROPEAN TERRITORIAL COOPERATION PROGRAMME GREECE-ITALY 2007-2013. In particular, the collaboration covered the contribution to Work Package 4 "Data Archive and Analytics platform" and included the following activities:

- implementation of a new REST interface for advanced data analytics platforms, which extends and integrates the functionality provided by the first implementation to support the application requirements of the project, implementing the integration with the back-end using the API;
- testing, bug fixing, validation and documentation of the achieved interface and platform operators;
- development of a client to be used for test activities and validation of the platform.

Jan 2015–May 2015

Post Degree Research Collaborator

Euro Mediterranean Center on Climate Change (CMCC), Lecce (Italy)

Design and implementation of software solutions for the optimized access and management of scientific data archives in the context of the TESSA (Technologies for the Situational Sea Awareness) project.

Main activities:

- finalization of software solutions for data management with particular reference to the extension of the CDAM module in order to support the search & discovery functionality provided by the metadata service through REST interfaces;
- development of the Java module for querying the metadata service;
- testing, validation and production start of the service;
- finalization of the automatic procedures for the publication of data produced within the TESSA project on the ESGF data node.

Jan 2013–Dec 2014

Post Degree Research Collaborator

Euro Mediterranean Center on Climate Change (CMCC), Lecce (Italy)

Collaboration in ORIENTGATE, a project involving several countries of south-east Europe that fosters concerted and coordinated climate adaptation actions by exploring climate risks faced by coastal, rural and urban communities.

The core output to be developed by Orientgate is a set of web tools, designed to provide access to data and metadata from climate observations and simulations that will be available through a data platform connected to the European Climate Adaptation Platform (CLIMATE-ADAPT).

In particular, the collaboration is focused on the creation of a data platform, designed to store and manage data produced by the project partners.

Main tasks:

- design of the data platform;
- set-up and maintenance of a virtual machine-based environment;
- data subsetting functionality and data compression;
- installation of the main data services and their advanced configurations;
- link to the EuropeanClimate-ADAPT platform to foster the dissemination of results in a wider scientific context.

Business or sector Scientific Data Management research activities on climate change

Sep 2012–Dec 2012

Post Degree Collaborator

Crisma s.r.l, Ugento (LE) (Italy)

Project collaboration on behalf of the public transportation company, STP of Brindisi, for the implementation of a business intelligence system providing a series of tools to support the normal work activities through the computerization of most of the manufacturing processes and advanced reporting systems.

Business or sector Information and communication

EDUCATION AND TRAINING

Jun 2014–Sep 2014

Engineering Professional Qualification

University of Salento, Lecce (Italy)

2007–2011

Master of Science, Computer Engineering

110/110 Magna cum Laude

University of Salento, Lecce (Italy)

Thesis in Processing Systems

"Dash-G: a dashboard approach to monitor large scale distributed systems".

Supervisor: Prof. Giovanni Aloisio - Assistant supervisor: PhD. Sandro Fiore

Main topics: Computer science, Computer network, Software architecture, Web application development, High-Performance computing

Oct 2006–Dec 2009

Extra-curricular course in Renaissance Engineering

University of Salento, Lecce (Italy)

University extra-curricular course with the aim of integrating the training of a graduated engineer with humanities and social sciences contents, in order to improve and enrich the curricular knowledge.

PERSONAL SKILLS

Mother tongue(s)

Italian

Foreign language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	C1	B2	B2	C1

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user
Common European Framework of Reference for Languages

Communication skills

Very good organizational skills (acquired during work projects and university research) and analytical and problem-solving skills.

Organisational/ managerial skills

Very good experience in organizing group social activities.

Job-related skills

Very good knowledge of the main formats and tools related to scientific data in the context of big data and climate change.

Digital skills

Design Tools: Rational Rose, Microsoft Visio, DBDesigner

Modeling Languages: UML, BPMN, AWARE Methodology, IDM, IDM-Paging, Rich-IDM

Programming: Java, J2EE, bash scripting

Programming framework: Struts 2, Spring MVC

Web Development: XML, JavaScript, Ajax, JQuery, Bootstrap, AngularJS, ExtJS, JSP, Apache Tomcat, Google Maps API, Struts 2, HTML5, XHTML, XSL, XSLT, CSS, Actionscript, Eclipse, NetBeans

Database: MySQL, MySQL Tools, PostgreSQL, pgAdmin, SQL Server, Microsoft Access, Hibernate

Datawarehouse: ERP Systems, Systems and architectures of datawarehousing, Talend Open Studio, IReport Design

Operating Systems: Microsoft Windows, MacOS, Linux CentOS

Mobile development: iOS Xcode

Software libraries and data formats for scientific data: NetCDF, CF convention HDF, CDM, CDO, NCO, NCdump, NCgenerator

Tools for the access, visualization, browsing and subsetting of scientific data: OPeNDAP, THREDDS, NetCDF subset service

Software for geographic metadata and data management: GeoNetwork, GeoServer, ISO19115 and ISO19139 standards

Networking: TCP/IP, HTTP, SMTP, DHCP, DNS

Experience of: Virtual Machine VMWare, Python language, ESGF components, Versioning software CVS.

ADDITIONAL INFORMATION

Publications

- S. Fiore, D. Elia, I. Blanquer, F. V. Brasileiro, A. Nuzzo, P. Nassisi, I. A. A. Rufino, A. C. Seijmonsbergen, N. S. Anders, C. de O. Galvão, J. E. de B. L. Cunha, M. Caballer, M. S. Sousa-Baena, V. P. Canhos, G. Aloisio, BioClimate: A Science Gateway for Climate Change and Biodiversity research in the EUBrazilCloudConnect project, *Future Generation Computer Systems*, Volume 96, 2019, Pages 243-269, ISSN 0167-739X, <https://doi.org/10.1016/j.future.2017.11.034>
- D. Salomoni, I. Campos, L. Gaido, J. Marco de Lucas, P. Solagna, J. Gomes, L. Matyska, P. Fuhrman, M. Hardt, G. Donvito, L. Dutka, M. Plociennik, R. Barbera, I. Blanquer, A. Ceccanti, E. Cetinic, M. David, C. Duma, A. López-García, G. Moltó, P. Orviz, Z. Sustr, M. Viljoen, F. Aguilar, L. Alves, M. Antonacci, L. A. Antonelli, S. Bagnasco, A. M. J. J. Bonvin, R. Bruno, Y. Chen, A. Costa, D. Davidovic, B. Ertl, M. Fargetta, S. Fiore, S. Gallozzi, Z. Kurkcuoglu, L. Lloret, J. Martins, A. Nuzzo, P. Nassisi, C. Palazzo, J. Pina, E. Sciacca, D. Spiga, M. Tangaro, M. Urbaniak, S. Vallerio, B. Wegh, V. Zaccolo, F. Zambelli, T. Zok, INDIGO-DataCloud: a Platform to Facilitate Seamless Access to E-Infrastructures, *Journal of Grid Computing*, (2018) 16: 381. <https://doi.org/10.1007/s10723-018-9453-3>
- Elia D., Nuzzo A., Nassisi P., Fiore S., Blanquer I., Francisco V. B., Rufino I.A.A., Arie C.S., Niels S.A., De O. Galvao C., John E. de B.L.C., De Sousa-Baena M., P. Canhos V., Aloisio G., A Science gateway for biodiversity and climate change research, 2017, *PeerJ Preprints*, DOI: 10.7287/peerj.preprints.2834v1
- Salomoni D., Gaido L., Campos I., De Lucas M. J., Solagna P., Gomes J., Matyska L., Fuhrmann P., Hardt M., Donvito G., Dutka L., Plociennik M., Barbera R., Aiftimiei C., Blanquer I., Ceccanti A., David M., Lopez-Garcia A., Molto G., Orviz P., Sustr Z., Viljoen M., Aguilar F., Alves L., Bonving A., Bruno R., Davidovic D., Fargetta M., Chen Y., Fiore S., Kurkcuoglu Z., Martins J., Lloret L., Nuzzo A., Nassisi P., Pina J., Sciacca E., Spiga D., Tangaro M., Urbaniak M., Wegh B., Zok T., INDIGO-DataCloud: A data and computing platform to facilitate seamless access to e-infrastructures, 2017, *Cornell University Library*, DOI: arXiv:1711.01981
- D'Anca A., Conte D., Nassisi P., Palazzo C., Lecci R., Creti S., Mancini M., Nuzzo A., Mirto M., Mannarini G., Coppini G., Fiore S., Aloisio G., A multi-service data management platform for scientific oceanographic products, 2017, *Natural Hazards and Earth System Sciences*, 17, 171-184, 2017, DOI: 10.5194/nhess-17-171-2017
- Elia, D., Nuzzo, A., Nassisi, P., Fiore, S., Blanquer, I., Brasileiro, F.V., Rufino, I.A.A., Seijmonsbergen, A.C., Anders, N.S., Carlos De Galvão, O., De Cunha, J.E.B.L., De Sousa-Baena, M., Canhos, V.P., Aloisio, G., A Science gateway for biodiversity and climate change research, 2016, 8th International Workshop on Science Gateways, IWSG 2016, Rome, Italy
- Fiore S., Mancini M., Elia D., Nassisi P., Brasileiro F. V., Blanquer I., Rufino I. A. A., Seijmonsbergen A. C., Galvao C. O., Canhos V. P., Mariello A., Palazzo C., Nuzzo A., D'Anca A., Aloisio G., Big data analytics for climate change and biodiversity in the EUBrazilCC federated cloud infrastructure, 2015, *Proceedings of the 12th ACM International Conference on Computing Frontiers*, Article No. 52, Ischia, Italy — May 18 - 21, 2015, DOI: 10.1145/2742854.2747282
- Mirto M., Mariello A., Nuzzo A., Mancini M., Raolil A., Marra O., Fiore S., Sirca C., Salis M., Bacciu V., Spano D., Aloisio G., The OFIDIA Fire Danger Rating System, 2015, 10th International Conference on P2P, Parallel, Grid, Cloud and Internet Computing (3PGCIC), pp: 695-700, DOI: 10.1109/3PGCIC.2015.115

Honours and awards

Team Award of Achievement for the Development of the ESGF Dashboard

Group award for the development of the new ESGF Dashboard at the 2017 Earth System Grid Federation (ESGF) Face-to-Face Conference (San Francisco, California, USA).

The group addressed key challenges such as communicating the most important information in a straightforward way and allowing different users to view specific details simultaneously. Without their critical work in displaying automatic real-time data usage, scientists would have no clear way to determine the importance of their projects' data contributions to the community.

Driving licence B