

PERSONAL INFORMATION

Donatello Elia

WORK EXPERIENCE

July 2013 – Present

Researcher at CMCC, ASC (Advanced Scientific Computing) Division

CMCC Foundation - Euro-Mediterranean Center on Climate Change, Lecce, Italy

- † involved in various European projects such as: FP7 *EUBrazilCC*, H2020 *EUBra-BIGSEA*, H2020 *INDIGO-DataCloud*, H2020 *EOSC-Hub*;
- † design and development of architectural and software solutions for scientific data analysis and management in the context of climate change;
- † Co-Principal Investigator (since 2018) and release manager of the Ophidia Big Data analytics framework (<http://ophidia.cmcc.it>), a research project on high performance data analytics and mining for eScience;
- † research activities related to high performance, cloud and distributed computing, data-intensive analytics (HPDA), big and scientific data management.

EDUCATION AND TRAINING

November 2017 – In progress

Ph.D. Student in Engineering of Complex Systems

University of Salento, Lecce, Italy

Topics: high-performance data analytics for eScience

February 2017

3rd International Winter School on Big Data (BigDat2017)

University of Bari "Aldo Moro", Bari, Italy

53 hours winter school on: Big Data, machine learning algorithms, High Performance Computing

October 2014

Engineer Professional qualification (Information Technology area)

University of Salento, Lecce, Italy

November 2010 – April 2013

M.Sc. degree in Computer Engineering (cum laude)

University of Salento, Lecce, Italy

Topics: data management, high performance computing, software engineering, network & UNIX programming, network design, wireless networks, image processing and business intelligence.

October 2006 – April 2010

B.Sc. degree in Information Technology Engineering (cum laude)

University of Salento, Lecce, Italy

Topics: databases, object-oriented & structured programming, UNIX OSs, computer science, computer networks, electronics, telecommunications, computer architectures, maths and physics.

PERSONAL SKILLS

Mother tongue(s)

Italian

Other language(s)

English

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
C1	C1	C1	C1	C1
First Certificate in English (FCE), B2 level (2006).				

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

- Computer skills
- ECDL (European Computer Driving Licence) certificate.
 - † Office productivity software, Google Docs.
 - † OS: Windows, MacOS and Linux/UNIX.
 - † Programming languages and software development: C/C++, PHP, Python (and common libraries: NumPy, Matplotlib, etc.), bash scripting, HTML, CSS, Wordpress, SQL.
 - † Building and continuous integration tools: GNU Toolchain (gcc, make, autotools), Git/Github, unit tests, Jenkins, RPM packaging, configuration management (Ansible), JupyterHub/Notebooks.
 - † NetCDF data format and analysis tools (CDO, NCO, gdal).
 - † Parallel and multithread programming (MPI, OpenMP, POSIX thread).
 - † Linux system configuration, MySQL DBMS, Apache Web Server, Tomcat, virtualization, Docker containers, infrastructure monitoring systems (Cacti, Grafana, SNMP).
 - † Software design: UML, relational database design and E/R modelling.

ADDITIONAL INFORMATION

Memberships IEEE and IEEE Computer Society member.

- Publications
1. A. S. Alic, J. Almeida, G. Aloisio, N. Andrade, N. Antunes, D. Ardagna, R. M. Badia, T. Basso, I. Blanquer, T. Braz, A. Brito, **D. Elia**, S. Fiore, D. Guedes, M. Lattuada, D. Lezzi, M. Maciel, W. Meira, D. Mestre, R. Moraes, F. Morais, C. E. Pires, N. P. Kozievitch, W. Santos, P. Silva, and M. Vieira, "BIGSEA: A Big Data analytics platform for public transportation information", *Future Generation Computer Systems*, Volume 96, 2019, Pages 243-269, ISSN 0167-739X, DOI: 10.1016/j.future.2019.02.011
 2. 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. Galvao, J. E. de B. L. Cunha, M. Caballer, M. S. Sousa-Baena, V. P. Canhos, and G. Aloisio, "A Science Gateway for Climate Change and Biodiversity research in the EUBrazilCloudConnect project", *Future Generation Computer Systems*, *Elsevier*, Volume 94, 2019, Pages 895-909, ISSN 0167-739X, DOI: 10.1016/j.future.2017.11.034
 3. S. Fiore, **D. Elia**, C. Palazzo, A. D'Anca, F. Antonio, D. N. Williams, I. Foster, and G. Aloisio, "Towards an Open (Data) Science Analytics-Hub for Reproducible multi-model Climate Analysis at Scale," In *proc. of 2018 IEEE Int. Conf. on Big Data (Big Data)*, Seattle, WA, USA, 10-13 December 2018, pp. 3226-3234. DOI: 10.1109/BigData.2018.8622205
 4. A. S. Alic, J. M. Almeida, W. Meira Jr., D. O. Guedes, W. dos Santos, I. Blanquer, S. Fiore, N. P. Kozievitch, N. Andrade, T. Braz, A. Brito, C. E. S. Pires, N. Antunes, M. Vieira, P. Silva, D. Ardagna, K. V. O. Fonseca, D. Lezzi, **D. Elia**, R. Moraes, T. Basso, and W. H. Cavassin, "GIS and Data: Three applications to enhance Mobility", In *proc. of XIX Brazilian Symposium on Geoinformatics (GeoInfo 2018)*, Campina Grande, PB, Brazil, December 5-7, 2018, pp. 1-12. Online: <http://urlib.net/8JMKD3MGPDW34P/3SEUN7L>
 5. H. Silva, T. Basso, R. Moraes, **D. Elia** and S. Fiore, "A Re-Identification Risk-Based Anonymization Framework for Data Analytics Platforms," In *proc. of 2018 14th European Dependable Computing Conference (EDCC)*, Iași, Romania, 10-14 September 2018, pp. 101-106. DOI: 10.1109/EDCC.2018.00026
 6. S. Fiore, C. Palazzo, A. D'Anca, **D. Elia**, E. Londero, C. Knapic, S. Monna, N. M. Marcucci, F. Aguilar, M. Plóciennik, J. E. de Lucas, and G. Aloisio, "Big Data Analytics on Large-Scale Scientific Datasets in the INDIGO-DataCloud Project". In *proc. of the ACM Int. Conf. on Computing Frontiers 2017 (CF '17)*, May 15-17, 2017, Siena, Italy, pp. 343-348. DOI: 10.1145/3075564.3078884
 7. A. D'Anca, C. Palazzo, **D. Elia**, S. Fiore, I. Bistinas, K. Böttcher, V. Bennett, and G. Aloisio, "On the Use of In-Memory Analytics Workflows to Compute eScience Indicators from Large Climate Datasets". In *proc. of the 17th IEEE/ACM Int. Symposium on Cluster, Cloud and Grid Computing (CCGrid '17)*, May 14-17, 2017, Madrid, Spain, pp. 1035-1043. DOI: 10.1109/CCGRID.2017.132
 8. S. Fiore, M. Plóciennik, C. Doutriaux, C. Palazzo, J. Boutte, T. Žok, **D. Elia**, M. Owsiak, A. D'Anca, Z. Shaheen, R. Bruno, M. Fargetta, M. Caballer, G. Moltó, I. Blanquer, R. Barbera, M. David, G. Donvito, D. N. Williams, V. Anantharaj, D. Salomoni, and G. Aloisio "Distributed and cloud-based multi-model analytics experiments on large volumes of climate change data in the Earth System Grid Federation eco-system". In *proc. of the 2016 IEEE Int. Conf. on Big Data (Big Data)*, December 5-8, 2016, Washington D.C., US, pp. 2911-2918. DOI: 10.1109/BigData.2016.7840941

9. **D. Elia**, A. Nuzzo, P. Nassisi, S. Fiore, I. Blanquer, F. V. Brasileiro, I. A. A. Rufino, A. C. Seijmonsbergen, N. S. Anders, C. de O. Galvao, J. E. de B. L. Cunha, M. de Sousa-Baena, V. P. Canhos, and G. Aloisio: "A Science Gateway for Biodiversity and Climate Change Research". In *proc. of IWSG 2016 (8th Int. Workshop on Science Gateways)*, June 8-10, 2016, Rome, Italy. Online: <http://ceur-ws.org/Vol-1871/paper5.pdf>
10. **D. Elia**, S. Fiore, A. D'Anca, C. Palazzo, I. Foster, D. N. Williams, and G. Aloisio. "An in-memory based framework for scientific data analytics". In *proc. of the ACM Int. Conf. on Computing Frontiers 2016 (CF '16)*, May 16-19, 2016, Como, Italy, pp. 424-429. DOI: 10.1145/2903150.2911719
11. C. Palazzo, A. Mariello, S. Fiore, A. D'Anca, **D. Elia**, D. N. Williams, and G. Aloisio. "A Workflow-Enabled Big Data Analytics Software Stack for eScience". In *proc. of the 2015 Int. Conf. on High Performance Computing & Simulation (HPCS 2015)*, July 20-24, 2015, Amsterdam, The Netherlands, pp. 545-552, DOI: 10.1109/HPCSim.2015.7237088
12. S. Fiore, M. Mancini, **D. Elia**, P. Nassisi, F. V. Brasileiro, I. Blanquer, I. A. A. Rufino, A. C. Seijmonsbergen, C. de O. Galvao, V. P. Canhos, A. Mariello, C. Palazzo, A. Nuzzo, A. D'Anca, and G. Aloisio, "Big data analytics for climate change and biodiversity in the EUBrazilCC federated cloud infrastructure". In *proc. of the 12th ACM Int. Conf. on Computing Frontiers 2015 (CF '15)*, May 18-21, 2015, Ischia, Italy, pp. 52:1- 52:8. DOI: 10.1145/2742854.2747282
13. S. Fiore, A. D'Anca, **D. Elia**, C. Palazzo, A. Mariello, P. Nassisi, and G. Aloisio. "The Ophidia framework: toward big data analytics for climate change". In *proc. of SISC 2nd Annual Conf.*, September 29-30, 2014, Venice, Italy. pp. 448-453. Online: http://www.sisclima.it/wp-content/uploads/2014/10/SISC_Conference_Proceedings-2014.pdf
14. S. Fiore, A. D'Anca, **D. Elia**, C. Palazzo, I. Foster, D. Williams, and G. Aloisio. "Ophidia: A Full Software Stack for Scientific Data Analytics". In *proc. of the 2014 Int. Conf. on High Performance Computing & Simulation (HPCS 2014)*, July 21-25, 2014, Bologna, Italy, pp. 343-350. DOI: 10.1109/HPCSim.2014.6903706