Barbara Martelli

She graduated in Computer Science at the University of Bologna full marks cum laude in 2002. She is currently working as a Technologist (Tecnologo) at INFN-CNAF. She is member of the External Projects and Technology Transfer group and she coordinates the ICT unit of INFN-TTLab (the INFN industrial research lab in the Emilia Romagna Region) of which she contributed to the creation. In the past, she worked and performed research activities within the INFN WLCG-Tier1 datacenter, in the fields of distributed data management and distributed computing for the CERN LHC experiments. She was responsible for the INFN WLCG-Tier1 database management and operations and she was the INFN contact person within the European LCG 3D project (Distributed Deployment of Databases). Since 2009 Barbara was responsible for the CNAF section of the INFN Information System and was one of the main contributors on the feasibility study, proof of concept and execution of the migration of the Information system from a legacy HW/SW platform to a commodity, low-expense open source platform. Carrying out this task she gained experience in the field of business processes, application analytics and enterprise data management. Since 2012 she contributed to the study, definition, design and deployment of the distributed data management infrastructure for the Extreme Energy Events (EEE) experiment. She participated to Open City Platform, a project founded by the Italian Ministry of University and Research with the main goal of developing an open source Cloud platform for the Italian public administrations. In OCP Dr. Martelli was responsible for the Big Data infrastructure definition and deployment.

Curriculum Vitae

Stefano Dal Pra
Nato a Feltre (BL) il 26 Febbraio 1968
e-mail: stefano.dalpra@cnaf.infn.it

TECNOLOGO PRESSO INFN-CNAF.

- Sistemista in ambiente GRID (Middleware, Storage, Farming).
- Amministrazione sistemi UNIX-Linux (RedHat Scientific Linux, Debian GNU/Linux)

ATTIVITÀ LAVORATIVE

Gennaio 2009 – Oggi.
CNAF-INFN, Bologna

- **Gruppo Farming** (2012 – oggi): amministrazione e configurazione di: batch sistem per GRID di calcolo distribuito, e sistemi middleware connessi (Computing Elements, Worker Nodes; e WNoDES. Amministrazione DGAS HLR e DGAS sensors (Distributed Grid Accounting System).
  - Progettazione ed implementazione del modello interno di raccolta dati di accounting
  - Progetto ed implementazione di modello per il provisioning dinamico di risorse multicore.
  - Progetto ed implementazione di misure di prevenzione di "short job flooding".
- **Gruppo Storage**: (2009 – 2011) amministrazione CASTOR: sistema di Mass Storage a disco e tape in configurazione D0T1 per centri GRID;
  - Progetto, implementazione e applicazione di procedure di massive data migration and syncing tra Mass Storage Systems (CASTOR to GEMSS);
  - Supporto e amministrazione sistemi StoRM
  - sviluppo ed applicazione di tool per stress-tests di StoRM Release Candidates e sanity checks per istanze di produzione.
  - Progettazione e realizzazione di un sistema di data transfer, archival e recall per l'esperimento KLOE (INFN-FRASCATI) e l'infrastruttura di Storage GEMSS (INFN-T1).
- **DOCET:** database per hardware di centri di calcolo Grid oriented con interfaccia web. Contributi al progetto, definizione dello schema database. Popolazione, sviluppo e amministrazione; integrazione a componenti di monitoring e management (nagios, dhcp, DNS et al.)
- **SANCTORUM:** tool per gestione sicura e semiautomatizzata di certificati x509 per hosts in farm di calcolo, impiegato presso diverse sedi e gruppi INFN .

15 Dicembre 2006 – Dicembre 2008
INFN – Padova, Tecnologo III Liv.
System Administrator In ambito GRID.

- **Membro del gruppo Gridice** (gridice.forge.cnaf.infn.it; sistema di monitoring su stato e produzione di risorse GRID)
  - configurazione, test, porting e upgrade di rpm (SLC4, postgresql 8.3.x) .
  - Tuning for performances e hardening di GridICE servers:
- **Membro del progetto europeo Cyclops** (progetto europeo per lo sfruttamento di risorse GRID ad uso di organizzazioni di Protezione Civile)
  - Lavoro al primo porting su Grid porting dell'applicazione RISICO.

- Trainer al Second Cyclops training workshop, Chania;
- Sviluppo e integrazione con servizi geospaziali (WCS e WPS) in collaborazione con CNR-IMAA and CIMA portano alla realizzazione del prototipo: G-RISICO: A Wild Fire Risk Assessment application running on an advanced Grid infrastructure presentato a EGEE08 (Istanbul, best demo award).

- **Membro del progetto europeo e-nmr** (Impiego di GRID per analisi strutturale proteine attraverso Electro – Nuclear Magnetic Resonance)
  - Contributo allo sviluppo di un portale web per gli utenti della VO e-nmr:
    - authenticazione di servizi Grid attraverso certificato robot su hardware token.
    - Mappatura tra operazioni utente e relativa attività Grid-side.
    - Il lavoro complessivo, dimostrato al 4th EGEE UF 2009 (Best demo award).
  - Supporto attività d'installazione, configurazione e/o amministrazione di servizi per accounting e monitoring (HLRmon, DGAS HLR, GridICE et al.)

- **Membro del gruppo HLRmon**
  - Web Tool per la generazione di reportistica tabulare e grafica di dati di accounting dell'uso di Grid resources; autenticazione e autorizzazione via certificato digitale. Dati raccolti dal sistema DGAS (Distributed Grid Accounting System).

6 Giugno 2005 – 14 Dicembre2006
INFN-CNAF, Bologna

- System e Web Administration, security, sviluppo applicazioni php/mysql e python/mysql.
- Sviluppo di applicazioni web per la generazione di grafici di reportistica, con strong authentication via certificati x509 e autorizzazione role based.
- Sviluppo software per la gestione sicura di certificati e password per gli host di una farm.
- Migrazione dei dati tra differenti sistemi di Content Management System.

3 Giugno 2002 – 2 Giugno 2005
Università degli Studi di Padova
Tecnico informatico presso l'Aula didattica Taliercio
Febbraio - Ottobre 2001
Consorzio Padova Ricerche
Responsabile Tecnico del laboratorio di certificazione per il protocollo di telecomunicazione industriale *Profibus*. Programmazione di sistemi a controllo numerico (Sinumerik 840D) e PLC S6/S7 Siemens.

Giugno - Dicembre 2000
Imagos SaS, Camposampiero (PD) (stage universitario).
Partecipazione a progetto di sistema di controllo di qualità tramite riconoscimento d'immagini; sviluppo il software in C per l'acquisizione, elaborazione e valutazione in real-time delle immagini; contributo al progetto della camera di illuminazione, implementazione di tecniche di calibrazione per rendere uniforme ed omogenea la luminosità di sfondo, consentendo l'acquisizione di immagini digitali grezze con elevato rapporto segnale/rumore e qualità adeguata alla successiva elaborazione.

TITOLI DI STUDIO

Dottore Magistrale in Ingegneria Elettronica (quinquennale vecchio ordinamento), indirizzo automazione - informatica, conseguita il 07/04/2003 con votazione 94/110 presso l'Università degli Studi di Padova. Ai sensi del DM 9 Luglio 2009, il titolo risulta equipollente alla odierna classe di laurea LM-25 (ingegneria dell'Automazione).

Diploma di maturità tecnica, perito in informatica, I.T.I.S. G.Montani di Fermo (AP) 1988. Valutazione finale: 48/60.

Diploma professionale di qualifica di ottico, I.P.S.I.A. "E. fermi", Pieve di Cadore (BL), 1985.

LINGUE STRANIERE

Buona conoscenza della lingua inglese, scritta e parlata.
Francese scolastico.

Short CV of Elisabetta Ronchieri

Institution: Istituto Nazionale di Fisica Nucleare (INFN)
Department: CNAF
Address: Viale Berti Pichat 6/2
City: Bologna, 40127 Italy

elisabetta.ronchieri@cnaf.infn.it
Skype: joda706233
Phone: +39 051 2095072

Personal Data

Date of Birth, 11 December 1970.
Place of Birth: Pisa, Italy

Current Position

Technologist at INFN CNAF, Bologna

Research Interests and Experiences

INFN CNAF

2001-present	Software metrics, software quality estimation and measurement, data mining techniques, cloud computing and big data analytics.
2014-present	Quality of software used in physics context, impact of software degradation in simulation results, methodology to detect issues.

Collaboration with European Projects

2017 – 2020 (30 months)	DEEP-Hybrid-DataCloud, WP3 T3.2 and WP6 T6.1
2012 – 2013	The European Middleware Initiative (EMI), WNoDeS Product Team Leader
2011 – 2012	SIENA, Dissemination
2008 – 2011	ETICS 2, INFN Co-Deputy and WP2 Work Package Co-Leader
2006 – 2007	ETICS, WP3 Work Package Leader
2004 – 2006	EGEE, Software Maintainer and Quality Researcher
2001 – 2004	DataGrid, Software Maintainer and Quality Researcher

Scientific Roles

2018	Involved in the Training Team for the Tutorial "Statistical Analysis for Validation Tests," at RPSD meeting, Santa Fe, NM, USA

2017	a session co-chair at IEEE NSS/MIC 2017 conference
2017	Organized Workshop on Software Reliability at IEEE NSS/MIC 2017 conference
2017	a session co-chair at the SDPS conference
2015	a session co-chair at the SDPS conference
2012 – present	Member of the program committee of the HEALTHINF conference

Conference/Workshop Presentations

[1] E. Ronchieri and M. Canaparo, "Measurements and trends of Geant4 software evolution," in *Proceedings of the 22th International Conference on Emerging Trends and Technologies in Convergence Solutions, SDPS 2017*, 2018, Inprint.

[2] E. Ronchieri and M. G. Pia, "Measurements and trends of Geant4 software evolution," in *Proceedings of the IEEE Nuclear Science Symposium, Medical Imaging Conference, NSS/MIC 2017*, 2018, Inprint.

[3] M. Canaparo and E. Ronchieri, "Software Metrics Thresholds: A Study Proposal," in *Proceedings of the 20th International Conference on Transformative Science and Engineering, Business and Social Innovation, SPDS 2015*, 2015, pp. 554–557.

[4] E. Ronchieri, "Big Data Analysis for Smart Grid Applications: An Overview," in *Proceedings of the 20th International Conference on Transformative Science and Engineering, Business and Social Innovation, SPDS 2015*, 2015, pp. 280–282.

[5] E. Ronchieri, M. Pia, and F. Giacomini, "First statistical analysis of Geant4 quality software metrics," *Journal of Physics: Conference Series*, vol. 664, no. 6, 2015. DOI: 10.1088/1742-6596/664/6/062053.

[6] E. Ronchieri, M. Grazia Pia, and F. Giacomini, "Software quality metrics for geant4: An initial assessment," in *Proceedings of the 18th Topical Meeting of the Radiation Protection and Shielding Division of ANS, RPSD 2014*, 2014, pp. 130–133.

[7] E. Ronchieri, D. Cesini, D. Dagostino, *et al.*, "The WNoDeS cloud virtualization framework: A macromolecular surface analysis application case study," in *Proceedings of the 22nd Euromicro International Conference on Parallel, Distributed, and Network-Based Processing, PDP 2014*, 2014, pp. 218–222. DOI: 10.1109/PDP.2014.54.

[8] E. Ronchieri, M. Verlato, D. Salomoni, *et al.*, "Accessing scientific applications through the wnodes cloud virtualization framework," in *Proceedings of Science*, 2013.

[9] E. Ronchieri and M. Canaparo, "A software quality predictive model," in *Proceedings of the 8th International Joint Conference on Software Technologies, ICSOFT 2013*, 2013, pp. 186–197.

[10] E. Ronchieri, M. Dibenedetto, R. Zappi, *et al.*, "The StoRM certification process," *Journal of Physics: Conference Series*, vol. 331, no. PART 4, 2011. DOI: 10.1088/1742-6596/331/4/042022.

[11] A. Cavalli, C. Ciocca, L. Dell'Agnello, *et al.*, "On enhancing GridFTP and GPFS performances," *Journal of Physics: Conference Series*, vol. 219, no. 1 PART 5, 2010. DOI: 10.1088/1742-6596/219/5/052024.

[12] D. Dongiovanni, E. Ronchieri, S. Dal Pra, *et al.*, "Simulations of distributed systems in a computing centre," in *Proceeding of the IEEE Nuclear Science Symposium and Medical Imaging Conference, NSS/MIC 2009, IEEE Nuclear Science Symposium Conference Record*, 2009, pp. 1048–1055. DOI: 10.1109/NSSMIC.2009.5402425.

[13] C. Kotsokalis, T. Ferrari, P. Louridas, *et al.*, "Grid-enabled instrument representation and reservation," in *Proceedings of the 4th IEEE International Conference on eScience, eScience 2008*, 2008, pp. 16–22. DOI: 10.1109/eScience.2008.52.

[14] M.-E. Begin, S. Da Ronco, G.-A. Sancho, *et al.*, "ETICS meta-data software editing - From check out to commit operations," *Journal of Physics: Conference Series*, vol. 119, no. 4, 2008. DOI: 10.1088/1742-6596/119/4/042004.

[15] A. Di Meglio, M.-E. Begin, P. Couvares, *et al.*, "ETICS: The international software engineering service for the grid," *Journal of Physics: Conference Series*, vol. 119, no. 4, 2008. DOI: 10.1088/1742-6596/119/4/042010.

[16] M.-E. Bgin, G.-A. Sancho, A. Di Meglio, *et al.*, "Build, configuration, integration and testing tools for large software projects: ETICS," vol. 4401 LNCS, 2007, pp. 81–97.

[17] S. Andreozzi, T. Ferrari, E. Ronchieri, and S. Monforte, "Agreement-based workload and resource management," in *Proceedings of the First International Conference on e-Science and Grid Computing, e-Science 2005*, vol. 2005, 2005, pp. 181–188. DOI: 10.1109/E-SCIENCE.2005.14.

Teaching

	University of Ferrara
2014-2017	Department of Economics and Management Lecturer of Computer Science, Bachelor's Degree in Economics, 7 credits
2006	Department of Computer Science Seminar at the Computational Grid Course (4 hours) about Software Configuration Management, Bachelor's Degree in Computer Science, 6 credits

Education

	DSEA, University of Pisa
2007	Ph.D. in Automatic, Robotic and Bioengineer, 2007. Thesis: DECENTRALIZED CONTROL OF A SWARM OF UNMANNED AERIAL VEHICLES
1999	M.A. in Computer Science Engineering.

Qualifications

April – May, 2014	Data Scientist's Toolbox, 4 weeks Free Online Course on Coursera, Mt. San Jacinto College
April – May, 2014	Getting and Cleaning Data, 4 weeks Free Online Course on Coursera, Johns Hopkins University
April – May, 2014	R programming, 4 weeks Free Online Course on Coursera, Johns Hopkins University
January 21 - April 4, 2014	Statistic Learning, 11 weeks Free Online Course on Stanford Free Course, Stanford University
Feb 7 – March 21, 2014	Crafting an Effective Writer: Tools for the Trade, 6 weeks Free Online Course on Coursera, Mt. San Jacinto College
January 6 – Feb 3, 2014	Computing for Data Analysis, Qualification with Distinction, 4 weeks Free Online Course on Coursera, Johns Hopkins University
September 23 – November 22, 2013	SciWrite Writing in the Sciences, 8 weeks Free Online Course on Stanford Free Course, Stanford University
19-22 July 2005	1st HYCON PhD School on Hybrid systems, 4 days, Siena, Italy
15-17 July 2004	Scuola CIRA di Dottorato "Antonio Ruberti", Diagnostica e Controllo Tollerante ai Guasti di Sistemi Dinamici, 3 days, Bertinoro, Italy
15-28 September 2002	CERSN School of Computing, 2 weeks, Vico Equense, Italy

Other Activities

April 2009 up to now	INFN CNAF, permanent position as Software and Computing Researcher about software engineering, big data analytics and cloud computing, Bologna, Italy
May 2001 – May 2009	INFN CNAF, temporary position as Software and Computing Researcher about Grid computing, software engineering and storage systems for European projects, Bologna, Italy

November 2000 – April 2001	Whitehead Alenia Sistemi Subacquei – Wass, permanent position as Software Engineer on torpedo simulation software, Livorno, Italy
September 1999 – May 2000	Intecs permanent position as Software Engineer on Earth Observation/Geographical Information System (EO/GIS) software, Pisa, Italy
May 1999 – August 1999	Synthema, temporary position as Software Engineer on Earth Observation/Geographical Information System (EO/GIS) software, Pisa, Italy

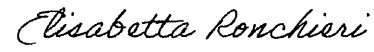
Languages

Italian (native), English (advanced)

Skills

Social	Inclination to collaborate in multicultural contexts; Able to proactively work in team.
Communication	Good way to elaborate and present technology research contents and outcomes in public speaking events.
Programming	Basic experience with gfortran; Advanced experience with Python and R;; Advanced experience to support efficient programming and good software practices such as version control tools (e.g., gitlab, docker), configuring and compiling and packaging scripting approaches (e.g, cmake, makefile, python scripting), debuggers, testing and reproducibility; Good knowledge of C/C++.
Technical	Excellent knowledge of Latex; Advanced knowledge of Matlab and RStudio tools.
Computer	Good knowledge of Linux; Knowledge of Windows as simple user; Good knowledge of MacOS.

Date, 20 February 2018

Elisabetta Ronchieri 

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