



Damiano Bortolato

EDUCATION

Graduated/MSc Student in Electronic Engineering (University of Padova (Padua)) Final Grade: 101 (over 110)	Start (94, 09) End (02, 10)
High School Diploma in Industrial Electronic, ITIS Max Planck Lancenigo di Villorba (TV) Grade: 48 (over 60)	Start (90, 09) End (94, 06)

- OTHER:** - RED HAT CERTIFIED SYSTEM ADMINISTRATOR (December 2014 CN 140-252-388)
- Corso di aggiornamento sull'operazione delle macchine acceleratrici 21-22/09/2015.

**RELEVANT
PROFESSIONAL
EXPERIENCES**

- From 01/02/2012 to 3/11/2017 (present) temporary position at LNL: Hardware and Software developer at INFN-LNL as Tecnologo III Livello. The work includes designing, developing, testing and producing the next generation electronics for the main Linac at LNL. This include also the developing of the software infrastructure (from HW drivers to Operator GUI) needed to operate the accelerator.

- From 01/02/2010 to 01/02/2012 temporary position at LNL: Hardware and Software developer for AGATA and GALILEO Experiments. Demonstrator Phase of AGATA has been completed, and the experiment is ready to move from LNL to GSI (Darmstadt DE). At the same time the needing of a more scalable and less expensive electronics for AGATA arose, so I started a new HW development for the data acquisition system which would cover the needing for both AGATA and the new experiment GALILEO (another HPGe Gamma Spectrometer to be installed at LNL). The new DAQ system was a PCIe based board optically interconnected with on-field Digitizers capable of processing, through an FPGA, 40 channels at 100Ms/s. The readout capability was up to 1GB/s (on RAM) using advanced device drivers for Linux OS.

- From 01/02/2008 to 01/02/2010 Temporary Research Associate at LNL: AGATA demonstrator Phase at LNL. Several AGATA subsystems was assembled, integrated and tested al LNL. During this period I also developed the first GUI for the DAQ control system. In this phase AGATA was been equipped with 5 HPGe triple-cryostats for a total of 570 acquisition channels.

- 01/09/2003 to 26/01/2008 Temporary Research Associate at INFN Padua: Hardware and Software developer at INFN-PD and INFN-LNL for the core development of **Advanced GAMMA ray Tracking Array** (Segmented HPGe Spectrometer). The core of the 1st generation of AGATA electronics has been developed, in collaboration with groups from other European Labs, during this period.
This included:
 - GTS: Global Trigger System: a distributed Synchronization and Time-stamping System suitable for selecting interesting events captured from germanium detectors.
 - data acquisition system (DAQ), a data collector and formatting system interconnected with GTS.

My personal contribution during this period was testing and validating the various board design and FPGA code development (for both, GTS and DAQ).

PERSONAL SKILLS

English

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
B1/2	B1/2	B1/2	B1/2	B1/2
Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user Common European Framework of Reference for Languages				

Other known language(s) German (A1/2)

Computer skills

Advanced:

- UNIX, Linux System Administration.
- C, C++, Python, VHDL, Programming.
- Linux OS kernel and Device Driver developing.
- Knowledge on Computer Networks and networking protocols and programming.

Intermediate:

- WEB Technologies and Languages (PHP, Javascript, HTML)
- MATLAB programming.

- Other skills**
- Timing Synchronization Systems for Nuclear Physics experiments. Skills acquired while developing the Global Trigger System of AGATA experiment at LNL.
 - Fast Data Acquisition Systems development based on PCI, PCIe, ATCA infrastructures. Skills acquired during the AGATA and GALILEO data acquisition system development at INFN-LNL.
 - RF control and distribution and monitoring for super-conductive Particle Linear Accelerator. Skills acquired during the development of the next generation electronics for ALPI Linac at INFN-LNL.
 - Multi-Threaded GUI and control system development. Skills acquired during the development of control software for AGATA and GALILEO experiment at LNL.
 - EPICS based control system development for Particle Accelerators. Skills acquired during the development of the next generation electronics for ALPI Linac at INFN-LNL.

D. Bortolato, S. Pavinato, D. Pedretti, M. Betti, F. Gelain, D. Marcato, M. Bellato, R. Isocrate, M. Bertocco "New LLRF Control System at LNL" IEEE Real Time Conference 2016, DOI: 10.1109/RTC.2016.7543105

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M. Bertocco, Department of Information Engineering, University of Padova
"DEVELOPMENT OF A DIGITAL LLRF CONTROL SYSTEM AT LNL ", Proceedings of LINAC2016, East-Lansing, MI, USA

Barrientos, D.; Gonzalez, V.; Bellato, M.; Gadea, A.; Bazzacco, D.; Blasco, J.M.; Bortolato, D.; Egea, F.J.; Isocrate, R.; Pullia, A.; Rampazzo, G.; Sanchis, E.; Triossi, A. "Multiple Register Synchronization With a High-Speed Serial Link Using the Aurora Protocol", Nuclear Science, IEEE Transactions on, Volume: 60, Issue: 5, Pages: 3521 - 3525, Year: 2013, DOI: 10.1109/TNS.2013.2273369

Bellato, M.; Berti, L.; Bortolato, D.; Coleman-Smith, P.J.; Edelbruck, P.; Grave, X.; Isocrate, R.; Lazarus, I.; Linget, D.; Medina, P.; Oziol, C.; Rampazzo, G.; Santos, C.; Travers, B.; Triossi, A., "Global Trigger and Readout System for the AGATA Experiment", Nuclear Science, IEEE Transactions on, Volume: 55, Issue: 1 Pages: 91 - 98, Year: 2008, DOI: 10.1109/TNS.2007.910034

Ceschia, M.; Violante, M.; Reorda, M.S.; Paccagnella, A.; Bernardi, P.; Rebaudengo, M.; Bortolato, D.; Bellato, M.; Zambolin, P.; Candelori, A., "Identification and classification of single-event upsets in the configuration memory of SRAM-based FPGAs"; Nuclear Science, IEEE Transactions on, Volume 50, Issue 6, Part 1, Dec. 2003 Page(s):2088 - 2094

Barrientos, D.; Bellato, M.; Bazzacco, D.; Bortolato, D.; Cocconi, P.; Gadea, A.; Gonzalez, V.; Gulmini, M.; Isocrate, R.; Mengoni, D.; Pullia, A.; Recchia, F.; Rosso, D.; Sanchis, E.; Toniolo, N.; Ur, C.A.; Valiente-Dobon, J.J. "Fully digital FPGA-based Front-End Electronics for the GALILEO array" Real Time Conference (RT), 2014 19th IEEE-NPSS, Pages: 1 - 2, Year: 2014
DOI: 10.1109/RTC.2014.7097491

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Barrientos, D.; Gonzalez, V.; Bellato, M.; Gadea, A.; Bazzacco, D.; Blasco, J.M.; Bortolato, D.; Egea, F.J.; Isocrate, R.; Pullia, A.; Rampazzo, G.; Sanchis, E.; Triossi, A. "Graphical user interface for serial protocols through a USB link", Real Time Conference (RT), 2012 18th IEEE-NPSS, Pages: 1 - 4, Year: 2012 DOI: 10.1109/RTC.2012.6418111

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