europass Curriculum Vitae

PERSONAL INFORMATION

Moreno Baricevic



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https://www.linkedin.com/in/morenobaricevic

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Sex *omissis* | Date of birth *omissis* | Nationality *omissis*

WORK EXPERIENCE

October 2002 – Present

HPC Specialist, System Administrator and Software Developer

CNR-IOM DEMOCRITOS (formerly INFM DEMOCRITOS) c/o SISSA, Trieste, Italy

http://www.iom.cnr.it – http://www.sissa.it

- System administration and hardware maintenance of LINUX/UNIX servers and workstations. Management of distributed network services, virtualization platforms and cloud infrastructures.
- Administration of networking devices and appliances (switches, routers, wifi APs, firewalls, VPNs), including deployment, security and troubleshooting.
- Deployment and management of several HPC infrastructures, including parallel and distributed file systems. Development of tools, utilities and services for the remote, distributed and unattended installation and management of workstations, servers and clusters.
- Installation and maintenance of complex scientific software stacks and dynamic environments on HPC systems. Technical support to the scientific community (help-desk, troubleshooting, debugging, problem solving), tutor and laboratory instructor for HPC/LINUX courses and for IT staff training.
- Software development in various programming and scripting languages.

December 2011 – Present

Founder and Shareholder

eXact Lab s.r.l., Trieste, Italy

http://www.exact-lab.it

- Advanced Computational Technologies, HPC solutions, Research & Development, Training.

November 2017 – December 2018

Electronics Technician for Science and ICT specialist for the XXXIII and XXXIV Italian Expeditions in Antarctica and the 14th Winterover (DC14) at Concordia Station, Dome C, Antarctica

Italian National Antarctic Research Program (PNRA) and French Polar Institute (IPEV)

https://www.italiantartide.it – https://www.facebook.com/italiantartide
http://www.ipev.fr – https://en.wikipedia.org/wiki/Concordia_Station

Deployed for 13 months at Concordia Station, a joint French-Italian permanent research facility on the East Antarctic Plateau, at 3,233m a.s.l. and 1,200km away from the coast (75°06'S, 123°21'E). Nine months of isolation for the Winter Campaign, with a multinational crew of 13 members and no possibility of leaving, in extreme polar conditions (pressure altitudes equivalent to nearly 4000m, humidity close to zero, 3 months of almost total darkness and temperatures down to –80°C).

Responsible for Operation and Maintenance of various scientific experiments and permanent observatories, among which *Seismology*, *Geomagnetism*, *NetLander*, *HAMSTRAD*, *CHINSTRAP*, *SuperDARN*, *SAOZ NDACC Antarctica*, *ISACCO*, *GEOWAVES*, *REFIR-PAD* and *PRE-REC*.

- Software and hardware maintenance of scientific equipment and data acquisition chains based on industrial PCs and advanced electronic devices (e.g. magnetometers, seismometers, radiometers, LiDARs, RADARs, cosmic ray detectors).
- Monitoring of continuous data-taking and data-transfer via satellite communication.
- Periodic manual data validation, pre-processing, archival, transfer.
- Hardware interfacing, calibration, tuning, diagnostics, 24/7 critical on-site support.
- LINUX/UNIX and Windows systems administration, network administration, software development.
- Frequent outside-activities, up to 2km far from the station in winter (planned and unplanned maintenance, periodic manual measurements, equipment cleaning, digging and snow removal).
- Regular communication with the principal investigators and the scientific committee (weekly reports, technical summaries), technical support for summer activities, on-site handover training.

Other standard duties included the general maintenance of the station (kitchen tasks, cleaning, waste management, ...), training activities and drills as part of the Emergency Response Teams (Fire, First Aid, Medical, Search and Rescue), participation to live interactive video conferences with schools and general public events (70+), participation in various experiments conducted by the European Space Agency (ESA) on human adaptation to isolation, confinement, and extreme environments.

January 2016 – November 2017

Teacher and Laboratory Instructor

Joint SISSA/ICTP MHPC: International Master in High Performance Computing, Trieste, Italy

http://www.mhpc.it

- Responsible for the HPC Hardware and Networking Laboratories. Teacher and laboratory instructor for the course "P1.8 - High Performance Computing Technology" and laboratory assistant for the courses "P1.2 - Introduction to Computer Architectures for HPC" and "P1.6 - Data Management".

March 2006 – December 2013

Lecturer, Laboratory Instructor, System/Network Administrator, Deployment

The Abdus Salam International Centre for Theoretical Physics (ICTP), United Nations Development Programme / Africa Adaptation Programme (UNDP/AAU), and various non-profit organizations

- Advanced training on HPC. LINUX, Storage, Data-Management and Networking related lectures, activities and laboratories for researchers, graduate students and technical personnel.
- Organization of 20+ international schools, training activities, conferences and educational events held in Italy and in various developing countries (Indonesia, Panama, Colombia, Costa Rica, Mexico, Ethiopia, Mauritius). Full list available online (LinkedIn) or upon request.
- On-site deployment of 10+ HPC/Storage infrastructures in developing countries.

February 2004 – January 2011

HPC Expert

ICMS, Temple University, Philadelphia, Pennsylvania, USA (3 months)
LRSM/CMM, University of Pennsylvania, Philadelphia, Pennsylvania, USA (3 months)
ICTP/SCPG-AAU, Addis Ababa University, Addis Ababa, Ethiopia (1 month)
ICTP/AAU, Addis Ababa University, Addis Ababa, Ethiopia (1 month)
Eurotech s.p.a., Amaro (Udine), Italy (various collaborations)
The Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy (various events)

- Deployment of 10+ HPC LINUX clusters and storage infrastructures, advanced training for local system administrators and users, know-how transfer.

October 2003 – January 2007

Software Developer

openMosix project

- User-land tools development and back-porting of kernel security patches.

April 2000 – August 2002

Software Developer, IT Specialist for Science

EXAFS Beamline and *Beamline Control Group*, ELETTRA Synchrotron Light Source, Trieste, Italy

- Installation, configuration and administration of LINUX clients and LINUX/UNIX servers for data acquisition and remote control of scientific equipment. Hardware/software configuration and tuning of data acquisition and control systems (sensors, devices and equipment). Troubleshooting of hardware-related issues.
- Design, planning and implementation of the software framework devoted to control and interface the equipment of the experimental chamber of the *EXAFS Beamline*, acquire and process the experimental data, interface to the *Beamline Control System* (BCS). Instrumentation of an emergency safety system. Low-level programming for data acquisition via GPIB, RS232, parallel port and TCP-IP interfaces and protocols. HW/SW integration of various devices and equipment.
- Low-level programming in C and Assembly languages on LINUX and real-time UNIXes.
  C, Perl and shell-scripting programming for the collection, parsing and management of acquired data.
  Development of man-machine web-oriented interfaces (Perl-CGI, HTML, JavaScript and CSS).
- Technical support and training for the scientific staff and users of the *EXAFS Beamline*.

EDUCATION AND TRAINING

2002 – Present

40+ HPC, Networking, Storage and LINUX related training activities, workshops and technical conferences, in Italy and abroad

- Full list available upon request.

July – October 2017

Antarctic Pre-Deployment Training

Italian National Antarctic Research Program (PNRA), Rome, Italy
French Polar Institute Paul-Emile Victor (IPEV), Brest, France
School and Observatory of Earth Sciences (EOST), University of Strasbourg, Strasbourg, France
Alpini Corps, Italian Army, Monte Bianco, Italy

- General background (1 week, PNRA)
  - Wide-ranging introduction to PNRA/IPEV policies and culture, practical advice and information regarding Antarctica. Facilities, equipment, logistics, technical and research activities, scientific programmes. Fire, Search and Rescue, First Aid and Personal Survival Techniques (sea survival) theory and practical trainings.
- Field Training Course (1 week, Monte Bianco glacier, 3500m a.s.l., *Alpini* Corps)
  - High-altitude adaptation, mountaineering, glacier travel techniques, Antarctic camp craft, survival skills, Search and Rescue techniques, crevasse rescue.
- Winter Team Training (2 weeks, PNRA/IPEV)
  - Practical aspects of wintering at Concordia. Stress management, conflict resolution, coping strategies. Team-building activities.
  - Emergency Response Teams training (Fire, Search and Rescue, First Aid and Medical).
  - Introduction to the European Space Agency (ESA) studies and experiments conducted on the Concordia winter crew concerning physiological and psychological adaptation to isolation, confinement and extreme environments.
- Winterover *ElectroScience* advanced training (2 weeks, EOST)
  - Overview of scientific equipment, procedures, maintenance and operation of the seismic and geomagnetic permanent observatories at Concordia Station.
  - Manual absolute measurements of the geomagnetic field, data-validation and pre-processing.
- Winterover ICT advanced training (2 weeks, PNRA)
  - Operational and technical support for the IT and communications systems at Concordia Station.

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2014 – 2015

Master's Degree, High Performance Computing, with Merit

EQF level 7

Joint SISSA/ICTP MHPC: International Master in High Performance Computing, Trieste, Italy

- Parallel programming, advanced computer architectures and optimizations (advanced CPU programming, accelerators and CUDA programming), fundamental algorithms and mathematical methods in computational science, management of HPC/Cloud computing platforms, data management, benchmarking, system tuning, energy efficiency. C, C++, Fortran and Python programming, source code management and distributed revision control systems.

2005 – 2007

IFTS-TST, Advanced Technician in Telecommunications, 100/100 cum laude

EQF level 5

IAL FVG, Trieste, Italy

- CISCO CCNA and CCSP, CompTIA Network+ and Security+. Networking, network administration, security, laws and regulations (networking, cyber-security, data privacy). Advanced administration of networking devices, appliances and services. Penetration testing, intrusion detection and prevention. Monitoring, diagnostic and troubleshooting. Network planning, design, integration, optimization and validation. Structured cabling.
- Cisco certification "640-821 INTRO", assessment 1000/1000.
- 1200 hours.

1999 – 2000

Technician for Innovation in Control Technology, 10/10

EQF level 5

AREA Science Park, Trieste, Italy

- Low-level programming, data acquisition and control technology, automation, networking and distributed systems. Hardware and software interfaces (microprocessors, microcontrollers and embedded systems; signal processing, sensors, transducers and actuators; Assembly and C language programming). Computer numerical control (CNC), computer-aided design (CAD) and computer-aided manufacturing (CAM).
- 800 hours, 240 of training at the *Beamline Control Group*, ELETTRA Synchrotron Light Source, Trieste, Italy.

1996 – 1999

Student in Physics

University of Trieste, Trieste, Italy

Studies interrupted by mandatory military service (conscientious objector, civilian service 1998-99).

1991 – 1996

High School Diploma, Electrical and Electronics Engineering, 60/60

EQF level 4

IPSIA "L. Galvani", Trieste, Italy

- Wide-range electronics and electrical engineering background. Installation, maintenance, design and development of electrical and electronic systems, equipment and appliances.

PERSONAL SKILLS

Mother tongue: Italian

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C2	C1	C1	C1
Spanish	B2	C1	B1	A2	A2
French	B1	B2	A1	A1	A1
Portuguese	A2	B1	A1	A1	A1
Japanese	A1	A1	A1	A1	A1

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

Communication skills

- good communication and interpersonal skills gained through the experience as organizer, lecturer and laboratory instructor for international training events
- culturally sensitive and experienced in successful integration in diverse groups of people adapting to differing cultural environments

Organisational and Job-related skills

- strong commitment to team environment dynamics with developed ability to contribute expertise and follow leadership directives at appropriate times
- comfortable working as a team member as well as independently, with excellent self planning skills
- able to deal effectively with multicultural, international and challenging scientific environments
- open-minded critical thinker with strong analytical and problem-solving skills
- confident and motivated self-starter with learning aptitude, enthusiasm, curiosity and positive attitude driven by a genuine desire to achieve, excel and evolve

Digital competence

- Operating systems:
  - Wide and deep knowledge and understanding of LINUX and UNIX systems as developer, administrator and user.
  - Excellent skills as CLI administrator for networking devices and embedded network operating systems. Experienced administrator of Microsoft and Apple operating systems.
- Software development:
  - Excellent knowledge of C, Perl, shell scripting (all major shells), AWK, sed, Make.
    Good knowledge of Python, C++, PHP, JavaScript, HTML, CSS, LaTeX.
    Basic programming skills with TCL, Fortran, Java, Assembly, TeX, {g,n,t}roff.
  - Good knowledge of MPI Programming, basic knowledge of Cuda and OpenCL programming.
  - Good knowledge of distributed revision control systems (CVS, SVN, GIT).
  - Extensive experience in software deployment, dependencies management, upgrade and maintenance of complex software stacks and dynamic user environment.
  - Free and Open Source Software (FOSS) contributor and developer.
- Hardware:
  - Excellent knowledge of computer architectures and software/hardware interaction. Wide-ranging experience on hardware assembling and system tuning, including maintenance of embedded systems and industrial computers. Experienced on application-level energy profiling.
- Complex IT systems:
  - Broad experience and excellent knowledge of LINUX HPC clustering architectures, networking and IT systems security, including deployment, maintenance and troubleshooting.
  - Good knowledge of HA clustering, multi-vendor virtual infrastructure maintenance, support, troubleshooting and repair (VMWare, Virtualbox, QEMU, Linux-KVM, OpenStack).
  - Good knowledge and experience of installation and maintenance of distributed file systems, parallel file systems and heterogeneous I/O storage and interconnect systems.
  - Extensive experience with diagnostic, monitoring and analysis tools for systems and networks, and with remote-management systems, tools and protocols.

Publications
Public Dissemination
References

available upon request

Use of personal information is granted under the rules stated on Italian Legislative Decree N° 196 of 30 June 2003, concerning protection of people's privacy and personal data treatment.

I'm aware that making false declarations, providing data that do not correspond to the truth and using false docume punishable by law with specific criminal penalties and with the loss of any benefits that may have been achieved thereby (art and 76 of Italian Legal Decree N° 445 of 28 December 2000).

13 February 2021
Baricevic Moreno

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