



Europass Curriculum Vitae

Personal information

First name(s) / Surname(s) **Mihai Vasile SANDULEAC**
Address Bucharest (Romania)
Telephone(s) Mobile |
E-mail(s) mihai.sanduleac@gmail.com
Nationality Romanian
Date of birth 31 December 1960
Gender Male

Desired employment / Occupational field

Associate Professor, University Politehnica of Bucharest

Work experience

Dates	01/11/2016 → present
Occupation or position held	<i>Lecturer, University POLITEHNICA of Bucharest, Faculty of Power Engineering</i>
Main activities and responsibilities	Teaching activity in the Faculty of Power Engineering Developing smart metering applications for the laboratory activity in the faculty, by combining power engineering and ICT knowledge. to support solutions for energy ecosystems Research activity in H2020 projects Storage4Grid, project director for UPB and technical manager for the whole project Research activity in H2020 project RE-SERVE, as member of the team
Name and address of employer	Universitatea POLITEHNICA din Bucuresti Splaiul Independentei 313, Bucharest, Romania
Type of business or sector	Higher education, research
Dates	01/10/2016 → present
Occupation or position held	<i>Technical director for specific EU projects</i>
Main activities and responsibilities	Technical director in H2020 SUCCESS project, since October 2016 Technical director in WiseGRID project, since November 2016
Name and address of employer	Centrul Roman al Energiei (CRE) Str Sofia nr. 6, Bucharest (Romania)
Type of business or sector	Non profit organisation, research

Dates	01/10/2016 → present
Occupation or position held	<i>Administrator, consultancy, R&D</i>
Main activities and responsibilities	Administrate and perform high level consultancy in energy field Partner in H2020 NOBEL GRID project (2016-2019), since May 2017
Name and address of employer	EXENIR SRL (Excellence in Energy and Information) Pantelimon Sos., 256, Bl. 53, ap. 129, Bucharest (Romania)
Type of business or sector	Consultancy, R&D, administration
Dates	01/04/2004 → 30/09/2016
Occupation or position held	<i>Technical director till 2014, R&D director from 2015</i>
Main activities and responsibilities	-To participate to the company overall strategy definition and implementation; -To coordinate a team of highly qualified consultants; -To coordinate R&D activity of the company - Responsible for H2020 NOBEL GRID project, technological manager of the project, from January 2015 to September 2016 period - Responsible for FP6 FENIX project, 2005-2009 period
Name and address of employer	ECRO SRL 6, Precupetii Vechi Str., 020685 Bucharest (Romania)
Type of business or sector	Consultancy and Research
Dates	01/01/2001 - 31/03/2004
Occupation or position held	<i>Sales manager Transport and Distribution</i>
Main activities and responsibilities	-Responsible for business development of Siemens Transport and Distribution (T&D in Romania); -To coordinate the Siemens T&D activity in Romania; -To provide project management for transmission and distribution turn-key projects
Name and address of employer	SIEMENS SRL Bucharest (Romania)
Type of business or sector	Sales and business development
Dates	01/09/1997 - 31/12/2000
Occupation or position held	<i>Consultant and business agent</i>
Main activities and responsibilities	Meters and metering systems business development, SCADA/DMS business development
Name and address of employer	LANDIS GYR Zug (Switzerland)
Type of business or sector	Consultancy
Dates	01/03/1995 - 31/03/1997
Occupation or position held	<i>Technical and Strategy Manager</i>
Main activities and responsibilities	-To take responsibility of technical aspects; -To coordinate a team of highly qualified professionals; -To concept and develop a complete SCADA and digital protection family of equipment and related software for power substation MV and HV field -ISO 9001 responsible in the company
Name and address of employer	Telecomm SRL Bucharest (Romania)
Type of business or sector	R&D

Dates 01/10/1987 - 28/02/1993
 Occupation or position held *Head of research in Power Systems Laboratory, other positions*
 Main activities and responsibilities -To manage the overall activity of the laboratory;
 -To lead studies related to the integration of Romanian power system in UCTE;
 -To lead the development of critical power-systems applications for power system stability and optimization
 Name and address of employer **ICEMENERG BUCURESTI (The Romanian Research and Modernizing Institute for Energy)**
 Bucharest (Romania)
 Type of business or sector R&D

Dates 01/10/1985 - 30/09/1987
 Occupation or position held Engineer
 Main activities and responsibilities *Maintenance of the automation and protections in high voltage substations*
 Name and address of employer High Voltage Electrical Network Enterprise **EREIT București**
 Bucharest (Romania)
 Type of business or sector Maintenance

Education and training

Dates 01/03/1991 - 01/02/1998
 Title of qualification awarded **PhD in Power Engineering**
 Principal subjects / occupational skills covered Doctoral thesis: Real time expert system for disturbances analysis in electric substations and electric networks
 Name and type of organisation providing education and training Polytechnic Institute of Bucharest (Polytechnic Institute)
 Bucharest (Romania)

Dates 15/09/1980 - 15/06/1985
 Title of qualification awarded **M. Sc. Power Engineering**
 Principal subjects / occupational skills covered Polytechnic Institute of Bucharest, Faculty of Power Engineering, Power Engineering Section
 Name and type of organisation providing education and training Polytechnic Institute of Bucharest, Faculty of Power Engineering (Polytechnic Institute)
 Bucharest (Romania)

Personal skills and competences

Mother tongue(s) **Romanian**

Other language(s)

Self-assessment

English
French

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user
C2	Proficient user	C2	Proficient user	C1	Proficient user	C1	Proficient user	C1	Proficient user

Social skills and competences	Team spirit Good communications skills
Organisational skills and competences	Leadership (teams of 5 - 15 people) Good experience in project management
Technical skills and competences	Good command of quality control processes, as I have been in two positions responsible for quality management in my company)
Computer skills and competences	Software development in various languages (Pascal, C, C++, Prolog, Java, Assembly etc.) Good command of Office tools
Artistic skills and competences	Guitar playing (voluntary activity), music enthusiast, fundamental Physics enthusiast
Other skills and competences	Hobby in electronics (voluntary activity) Hobby in gardening (voluntary activity)
Driving licence(s)	B
Additional information	Selected / relevant projects and activities

- **FENIX** (Flexible electricity networks to integrate the expected 'energy evolution'), an FP6 European R&D Project which dealt with Virtual Power Plants for the energy sector, as *Smart Grid application* to aggregate and optimize distributed generation and to use it in energy and energy services markets, project rolled during the 2006-2009 period together with distribution grid companies such as Iberdrola, EdF and with energy systems providers such as Siemens and Areva.
- **SIRIUS - Smart Grid Solutions** platform in CCPP Brazi gas power plant to assist a *Virtual Power Plant* functionality together with Hidroelectrica hydro-company (system commissioned in 2011).
- **Advanced Metering Reading (AMR) system** for around 2000 metering points with OMV-Petrom, integrating *energy metering for billing and some extensions of Smart Metering* related to instrumentation data readout and handling local alarms (system commissioned with 1000 metering points in 2007 and continuously improved and extended during time).
- **Smart Metering system** for around 250 metering points in Pitesti city, integrating *energy metering for billing and real-time consumption and energy quality survey* as well as *intelligent street-lighting functionalities* (system commissioned in 2011 and improved during time with new functionalities).
- **Study and simulations** for Transelectrica (the Romanian TSO) regarding *Virtual Power Plant* technology applied for coupling Wind Power Plants – as stochastic production, with controllable hydro-plants (2012).
- **Development** of a *Smart City concept* for **Sibiu** city, dealing with multi-steram energy contours, energy awareness and energy services for different stakeholders (started in 2012, in preparation for funding).
- **Energy and ICT domain Expert** for consultancy and reviewing activity for **European Commission**, related to *Smart Grid, Smart Meters, renewable energy, Smart Cities and ICT* use in energy domain, selected for many EC projects in the period 2011 – 2014, in FP7 and Marie Curie frameworks.
- **Member** in the European Technology Platform for Electricity Networks of the Future, also called **ETP SmartGrids**, in Working Group 3 (WG3) "*Demand and Metering/Retail*", at teh European Commission in Brussels.
- **Participation** in European Commission **COST** actions related to Smart Grid solutions, namely in Action MP1004 – WG4, Hybrid energy storage solutions for stationary (energy techniques) applications.
- **NOBEL GRID**, a H2020 project started in 2015, with the aim to develop, deploy and evaluate advanced tools and ICT services for Distribution System Operators and electric cooperatives, enabling active consumers' involvement and the adoption of a flexible and low-cost architecture for smart metering systems, acting as technological manager of the project and leading the smart metering systems subproject.
- **Storage4Grid**, a H2020 project started in 2016, with the vision is to provide utilities and end-users with new tools for optimal grid planning, use and evaluation of storage technologies. S4G pre-designs new storage control models and interfaces built upon existing standards and suitable to support scalable and cost-efficient coordination of heterogeneous ESS.
- **SUCCESS**, a H2020 project started in 2016, developing develop an overarching approach to threat and countermeasure analysis with special focus on the vulnerabilities introduced by Smart Meters. The main challenge is to create the conditions in Europe for the future energy system to be as reliable as today's. Starting from a security by design approach and placing resiliency and survivability in focus, a new joint design of Energy Infrastructure and ICT is proposed, with a New-generation Open Real-time smart Meter (NORM) as a key building block.
- **WiseGRID**, a H2020 project started in 2016, aiming at successfully putting in the market, within a horizon of 24 months after project completion, a set of solutions and technologies which increase the smartness, stability and security of an open, consumer-centric European energy grid, with an enhanced use of storage technologies and a highly increased share of RES.
- **RE-SERVE**, a H2020 project started in 2016, addressing the challenge of having energy systems with up to 100% RES (where inertia is often lost due to power converter mediated energy transfer)by

researching new energy system concepts, implemented as new system support services enabling distributed, multi-level control of the energy system.

- **Member** of Romanian organisations of CIGRE and World Energy Council WEC, member of the Romanian Standardisation body ASRO.

- **Member** in IEEE Power and Energy Society (PES) and IEEE Instrumentation and Measurement Society (IMS).

Additional information

Selected published papers:

-Recursive Discrete Transformations Applied in Energetics; Energetica Revue, Romania 9/1988

-ProCLog - An Object Oriented Programming Language for Expert Systems Development; Second International Workshop on Electric Power System Control Centres. ALGHERO, ITALY, June 16 - 18, 1993

-An Introduction to Expert Systems - General Aspects.; First Romanian Round-Table on Expert Systems Applications in Power Systems; Energetica Revue, Oct. 1993

-Online Monitoring and Offline Analysis of the Harmonic State; Paper 36-303 of Session CIGRE'96 – PARIS, FRANCE, September 1996

-Metering Billing and Settlement of Ancillary Services; Paper at Metering Europe 2004 – Berlin, Germany, 28-30 September 2004

- Sub-transmission IPP automation and control for EMS functionality support, RO-CIGRE, 2007, June 28-29, Sibiu

- Virtual Power Plants – solution for efficient integration of distributed energy resources, Energetica Revue, 2009

- Integration of Distributed Energy Resources in the National Power System, using Virtual Power Plant concept, as part of emerging Smart Grid technologies. Case Study: Sibiu regional network, accepted for the conference GCC CIGRE POWER 2010, Doha, October 2010, Qatar

- Hybrid energy storage solutions for stationary applications, IRES 2011, November 28-30, Berlin (Joao Martins, Mihai Sanduleac)

-Integrating the Electrical Vehicles in the Smart Grid through Unbundled Smart Metering and multi-objective Virtual Power Plants, IEEE PES, Manchester, December 2011

- Smart Grid – Patterns of fractality, Energetica Revue, 2012

-Probabilistic Energy Services – A study of the concept, Deregulated Electricity Market Issues in South-Eastern Europe - DEMSEE 2012 Conference - 21 September 2012, Bucharest

-Concepts of Democracy in Power Systems – a Vision within the Smart Grid Paradigm, Romanian Energy Center – Info Days Energy, R&D, ICT, 27-28.09.2012, Romanian Academy

-Smart Meters – A critical review, Smart Grid Conference, 7-9.11.2012, Sibiu, Romania

-Transforming Big Data into Collective Awareness, Pitt J, Sanduleac M. and all, Computer (Volume:46, Issue: 6, IEEE Computer Society), June 2013, ISSN 0018-9162

- Integration of the Wind Power Plants into the Power System operation by using the Virtual Power Plant concept, FOREN 2012, 18-20 June, 2012, Ungureanu Monica, Mihailescu Florentina, Benghea Lucian, Sanduleac Mihai

- Solution for impact reduction over safe operation of PS by the integration of a large volume of wind power plants, RSEEC 2012 (Biannual Regional South East European Conference, organized by RO-Cigre), 10-12 October 2012,, Monica Ungureanu,, Florentina Mihailescu,, Mihai Sanduleac

- Rural Sustainability Project. A holistic approach electricity and services, FOREN 2014 - "Tomorrow's Energy: From Vision to Reality" (Gal Stelian, Sanduleac Mihai, Florea Monica, Dobre Ion, Radu Ghinea

- Power Quality Assessment in LV networks using new Smart Meters design, Mihai Sanduleac , Mihaela Albu , Joao Martins, M^a Dolores Alacreu, Carmen Stanescu, CPEE 2015, June 24-26, 2015
- Measurement of Energies within f-P Secondary Control by the Means of Metrological Procedures, for ATEE 2015, Catalin Lucian Chimirel, Mircea Eremia, Mihai Sanduleac, THE 9th INTERNATIONAL SYMPOSIUM ON ADVANCED TOPICS IN ELECTRICAL ENGINEERING, May 7-9, 2015, Bucharest, Romania
- Automating Remote Grid Acceptance and Energy Services Tests suited for large deployments of PV systems in active distribution networks, The 41st Annual Conference of the IEEE Industrial Electronics Society IECON 2015, 9th -12th November, 2015, Yokohama, Japan
- Medium/Low Voltage Smart Grid Observability and PQ assessment with Unbundled Smart Meters to be presented at IEEE International Energy conference ENERGYCON 2016, 4-8 April, 2016, Leuven, Belgium
- The Unbundled Smart Meter concept in a synchro-SCADA framework, I2MTC - 2016 International Instrumentation and Measurement technology Conference, May 23-26, 2016, Taipei, Taiwan
- A New Approach for Technological Ancillary Services Measurement and Aggregation by Metrological Procedures, 18th Mediterranean Electrotechnical Conference – MELECON 2016, April 18-20, 2016, Limasol, Cyprus
- Metrology based Measurement of Voltage Control services provided by advanced Power Generation modules, CPE-POWERENG 2016, Bydgoszcz, 29.06-01.07 2016

Co-author at the following books:

- Modern issues regarding measurement in Power Systems (Romanian title: Probleme moderne de măsurare în electroenergetică), Bucharest 2001, Technical Publishing House, ISBN: 973-31-2065-0
- Physical basis for Energetics (Romanian title: Bazele fizice ale Energeticii), 2004, POLITEHNICA PRESS, ISBN: 978-606-515-591-6
- Engineering the Future, chapter Energy and information, 2010, SCIYO Publishing House, ISBN 978-953-307-210-4
- FACTS: Concepts and applications in Energetics (Romanian title: Dispozitive FACTS: Concepte și aplicații în electroenergetică), 2017, AGIR, ISBN: 978-973-720-682-4, 2017

Patents:

- Device for binary status processing with digital filtering. PATENT no. 95517/1988.
- Method and system for electrical distribution network control. PATENT no. 95438/1988.
- Equipment for flicker attenuation in electrical networks. PATENT no. 98424/1989.

Recent awards:

2011 IEEE-PES Chapter Outstanding Engineer Award for Mihai Sanduleac, awarded by IEEE PES Romania Chapter (PES stands for Power and Energy Society)

