


Curriculum vitae		
		
Personal information		
First name(s) / Surname(s)	Sebastian / MUNTEAN	
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Nationality		
Marital status		
Date of birth		
Gender		
Present Activity		
Workplace / Occupational field	Romanian Academy – Timisoara Branch, Center for Fundamental and Advanced Technical Research (CFATR); Hydrodynamics, Cavitation and Magnetic Liquids Division, Hydrodynamics and Cavitation Laboratory, Bv. Mihai Viteazu, No. 24, Ro-300223, Timisoara, ROMANIA engineer, senior researcher – 1st degree	
Key Words	fluid mechanics, Newtonian and non-Newtonian fluid dynamics, computational fluid dynamics, numerical methods, parallel computing turbomachinery hydrodynamics, cavitation, two-phase flow, flow control, magneto-rheological devices	
Domains of competence	efficiency and cavitation behavior of the hydraulic machines unsteady phenomena associated to the full operating range	
Domains of interest	turbomachinery hydrodynamics, flow control of the hydraulic machines and systems, magneto-rheological fluids and their engineering applications	

Education	<p>2017 Habilitation Thesis in Mechanical Engineering / University Politehnica Timisoara <i>Title of thesis: “Experimental and Numerical Flow Investigations in Hydraulic Machines”</i> <i>Committee:</i> Professor Corneliu Bălan, Politehnica University Bucharest, Romania Professor Anton Anton, Technical University of Civil Engineering Bucharest, Romania, Professor Adrian Lungu, „Dunărea de Jos” University of Galați, Romania, Professor Liviu Marșavina, Universitatea Politehnica Timișoara, Romania</p> <p>2002 Ph.D. in Mechanical Engineering with Magna cum Laude / University Politehnica Timisoara, Mechanical Engineering Faculty, Hydraulic Machinery Department <i>PhD title: “Numerical Methods for Analysis of the Three-Dimensional Flow in Francis Turbine Runners”</i> <i>Committee:</i> Professor Ioan M. Anton, member of Romanian Academy, Professor Francois Avellan, EPF Lausanne, Switzerland, Professor Viorel Câmpian, UEM Reșița, Romania, Professor Vladimir Crețu, UP Timișoara, Romania, Professor Romeo Susan-Resiga, UP Timișoara, Romania</p> <p>1995 M.Sc. in Mechanical Engineering 10 GPA (out of 10.0 scale) / University Politehnica Timisoara, Mechanical Engineering Faculty, Hydraulic Machinery Department <i>Dissertation title: “Numerical Study of the Spool Valve Hydrodynamics”</i> <i>Advisors:</i> Professor Ioan M. Anton, member of Romanian Academy Professor Romeo Susan-Resiga</p> <p>1994 B.Sc. in Mechanical Engineering 9.52 GPA (out of 10.0 scale) / University Politehnica Timisoara, Mechanical Engineering Faculty, Hydraulic Machinery Department <i>Dissertation title: “Experimental and Numerical Investigations of the Spool Valves”</i> <i>Advisor:</i> Associate Professor Călin Raszga</p> <p>1988 Mathematics and Physics High School “Emanuil Gojdu” from Oradea, Romania</p>
Postgraduate Education	<p>July 25 – 29, 2005 / International Center for Mechanical Sciences (CISM), Udine, Italy / International advanced course on Fluid Dynamics of Cavitation and Cavitating Turbopumps</p> <p>October 31 – November 2, 2001 / Tensor Srl., Engineering Software, Bucharest, Romania / GAMBIT & FIDAP Training Courses</p> <p>January 25 – 26, 1999 / Enervac – Flutec Ltd., Software & Services for Design and Development, Thessaloniki, Greece / GAMBIT & FLUENT Training Courses</p> <p>September 23 – 27, 1996 / École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland / <i>Computation in Sciences Methods and Algorithms on Supercomputing for Engineering (COSMASE): Grid Generation and Parallel Computing</i></p>
Invited Researcher	<p>January 25 – March 31, 2005 / University of Stuttgart, Institute of Fluid Mechanics and Hydraulic Machinery <i>Project title: High Performance Computing for 3D Unsteady Swirling Flow Simulation in Draft Tube</i>, HPC-Europa Project No. 506079 <i>Advisor:</i> Dr. Albert Ruprecht, Head of Fluid Mechanics Group</p>

<p>Management Training</p>	<p>March 11 – 12, 2009 / <i>European Association of Research Managers and Administrators (EARMA)</i> / Helmholtz Office, Brussels, Belgium / Training Course on “Intellectual Property Rights and Contract Management”, Lecturer: Susanne Burnett</p> <p>June 26 – 27, 2008 / <i>European Association of Research Managers and Administrators (EARMA)</i> / Helmholtz Office, Brussels, Belgium / Training Course on “Effective Negotiations”, Lecturer: Kenneth Taylor</p> <p>April 28 – 29, 2008 / <i>European Association of Research Managers and Administrators (EARMA)</i> / Helmholtz Office, Brussels, Belgium / Training Course on “Advanced International Project Management”, Lecturer: Susanne Burnett</p> <p>March 28 – 29, 2008 / <i>European Association of Research Managers and Administrators (EARMA)</i> / Helmholtz Office, Brussels, Belgium / Training Course on “Leadership: Managing and Motivating Teams”, Lecturer: Kenneth Taylor</p> <p>July 12, 2007 / <i>Romanian Ministry of Industry and Business</i> Timisoara Chamber of Business and Industry, Romania / Training Course on “How to write a FP7 Proposal Successfully”, Lecturer: Sean McCarty</p> <p>May 21-22, 2007 / <i>European Association of Research Managers and Administrators (EARMA)</i> / Helmholtz Office, Brussels, Belgium / Training Course on “Financial Management in EU Projects”, Lecturer: Paul Drath</p> <p>April 16, 2007 / <i>European Association of Research Managers and Administrators (EARMA)</i> / Helmholtz Office, Brussels, Belgium / Training Course on “FP7 Agreements”, Lecturers: Lotte Jaspers, Jet van Dijk, Margot Spaargaren</p> <p>March 20-23, 2007 / <i>Romanian Ministry of Economy and Finance</i>, Timisoara Chamber of Business and Industry, Romania / Training Course on “Horizontal Training for Structural Instruments”, Lecturer Team Leader: Dr. Dimitra Ioannou</p> <p>May 16, 2006 / <i>European Association of Research Managers and Administrators (EARMA)</i> / Forschungszentrum Karlsruhe, Germany / Training Course on “Risk Management in Projects”, Lecturer: Prof.dr. Bernd J. Madauss</p> <p>May 15, 2006 / <i>European Association of Research Managers and Administrators (EARMA)</i> / Forschungszentrum Karlsruhe, Germany / Training Course on “Coordination of Complex Projects”, Lecturer: Prof.dr. Bernd J. Madauss</p>
<p>Work experience</p>	
<p>Dates / Occupation or last position held/ Name of employer</p>	<p>Since 2017 / PhD supervisor / University Politehnica Timisoara, Doctoral School, Mechanical Engineering Field</p> <p>Since 2008 / Senior Researcher I / Romanian Academy – Timisoara Branch, Center for Fundamental and Advanced Technical Research; Hydrodynamics, Cavitation and Magnetic Liquids Division, Hydrodynamics and Cavitation Laboratory</p> <p>Since 2001 / Senior Researcher/ <i>Numerical Simulation and Parallel Computing Laboratory</i>, “Politehnica” University of Timișoara, National Center for Engineering of Systems with Complex Fluids, Numerical Simulation and Parallel Computing Laboratory, Timisoara, Romania</p> <p>2002 - 2008 / Senior Researcher II / Romanian Academy – Timisoara Branch, Center for Fundamental and Advanced Technical Research; Hydrodynamics, Cavitation and Magnetic Liquids Division, Hydrodynamics and Cavitation Laboratory</p> <p>1997 – 2002 / Senior Researcher III / Romanian Academy – Timisoara Branch, Center for Fundamental and Advanced Technical Research; Hydrodynamics, Cavitation and Magnetic Liquids Division, Hydrodynamics and Cavitation Laboratory</p> <p>1996 – 1997 / <i>Researcher</i>/ Romanian Academy – Timisoara Branch, Center for Fundamental and Advanced Technical Research; Hydrodynamics, Cavitation and Magnetic Liquids Division, Hydrodynamics and Cavitation Laboratory</p>

	1995 – 1996/ Assistant Researcher/ Romanian Academy – Timisoara Branch, Center for Fundamental and Advanced Technical Research; Hydrodynamics, Cavitation and Magnetic Liquids Division, Hydrodynamics and Cavitation Laboratory
Management experience	
Dates / Position / Name of employer	<p>2015 – 2016 / Member/ Energy, Environment and Climate Change Commission of the Advisory Council for Research, Development and Innovation (CCCDI)</p> <p>2012 – 2014 / Member / National Council of Higher Education, Statistics and Forecast (CNSPIS)</p> <p>2009 – 2011 / Member / Mechanical Engineering Commission of the National Council of the Higher Education's Scientific Research (CNCSIS)</p> <p>Since 2012 / Scientific Secretary / Center of Advanced Research in Engineering Sciences, Romanian Academy – Timisoara Branch</p> <p>Since 2010 / Legal Entity Appointment Representative (LEAR) / Romanian Academy – Timisoara Branch at the European Commission</p> <p>Since 2002 / Head of Numerical Simulation and Parallel Computing Laboratory, “Politehnica” University of Timișoara, National Center for Engineering of Systems with Complex Fluids, Numerical Simulation and Parallel Computing Laboratory, Timisoara, Romania</p>
Professional affiliations	<p><i>Romanian Magnetic Liquids Association</i></p> <p><i>European Association of Research Managers and Administrators (EARMA)</i></p> <p><i>Romanian Coalition for Education in Engineering</i></p>
Books	<p>Muntean S., <i>Numerical Analysis Fluid Flow in Hydraulic Francis Turbines</i>, Orizonturi Universitare Publishing House, (380 p.), ISBN 978-973-638-355-7, 2008. (in Romanian)</p> <p>Resiga R., Muntean S., Bernad S., Balint D., Balint I., <i>Modern Methods for Parallel Computing in Fluid Flow Simulation</i>. Orizonturi Universitare Publishing House, (296 p.), 2003. ISBN 973-638-064-5, (in Romanian)</p> <p>Anton L., Balint D., Baya A., Badarau R., Bej A., Milos T., Muntean S., Resiga R., Stuparu A., <i>Fluid Mechanics, Hydraulic Machinery and Hydraulic systems. Applications</i>”, Orizonturi Universitare, Timișoara Publishing House 2004. ISBN 978-973-638-076-9</p>
Member of the Editorial Board	<p>Muntean S., Rudolf P., Cavazzini G., Doujak E., Selbo Storli P.T., (Eds.) "State-of the-Art, Challenges and Perspectives in Hydraulic Machines and Systems", Special Issue in the section "State-of-the-Art Energy Related Technologies", <i>Energies Journal</i>, October 2021.</p> <p>Rossi M., Renzi M., Ștefan D., Muntean S., (Eds.) "Small-Scale Hydropower and Energy Recovery Interventions: Management, Optimization Processes and Hydraulic Machines Applications", Special Issue in section "Energy Sustainability", <i>Sustainability Journal</i>, December 2021</p> <p>Susan-Resiga R., Muntean S., Bernad S., (Eds.), <i>Proceedings of the “25th IAHR Symposium on Hydraulic Machinery and Systems”</i>, Timisoara, 20-24 Sept. 2010, in Institute of Physics. Conference Series Earth and Environment Science, Issue 12, 2010. ISSN 1775-1315 (http://iopscience.iop.org/1755-1315/12/)</p> <p>Susan-Resiga R., Bernad S., Muntean S. (Eds.), <i>Proceedings of the “2nd IAHR International Meeting of the Workgroup on Cavitation and Dynamic Problems in Hydraulic Machinery and Systems</i>, Timisoara, 24-26 Oct. 2007, in <i>Scientific Bulletin of the “Politehnica” University of Timisoara, Transactions on Mechanics</i>, Issue 6, Tom 52(66), (244 pp.), 2007. ISSN 1224-6077</p> <p>Susan-Resiga R., Bernad S., Muntean S. (Eds.) <i>Vortex Hydrodynamics and Applications</i>, Eurostampa Publishing House, (600 pp.), 2, 2007. ISBN: 978-973-687-659-</p>

	<p>Muntean S., Ruprecht A. (Eds.), Proceedings of the 3rd Romanian-German Workshop on Turbomachinery Hydrodynamics, Orizonturi Universitare Publishing House, (160 pp.), 2007. ISBN 978-973-638-329-8</p> <p>Bernad S., Muntean S., Susan-Resiga R. (Eds.), Proceedings of the "3rd Workshop on Vortex Dominated Flows. Achievements and Open Problems", in Scientific Bulletin of the "Politehnica" University of Timisoara, Transactions on Mechanics, Issue 3, Tom 52(66), (158 pp.), ISSN 1224-6077, 2007.</p> <p>Bernad S., Muntean S., Susan-Resiga R. (Eds.), Proceedings of the 2nd Workshop on Vortex Dominated Flows Achievements and Open Problems, in Scientific Bulletin of the "Politehnica" University of Timisoara, Romania, Transactions on Mechanics, Special Issue, (196 pp.), ISSN 1224-6077, 2006.</p> <p>Bernad S., Muntean S., Susan-Resiga R. (Eds.), Proceedings of the Workshop on Vortex Dominated Flows Achievements and Open Problems, in Scientific Bulletin of the "Politehnica" University of Timisoara, Romania, Transactions on Mechanics, Special Issue, (214 pp.), ISSN 1224-6077, 2005.</p> <p>Susan-Resiga R., Bernad S., Muntean S., Popoviciu M. (Eds.), Proceedings of the 6th International Conference on Hydraulic Machinery and Hydrodynamics, Scientific Bulletin of the 'Politehnica' University of Timisoara, Romania, Transactions on Mechanics, Tom 49(63), Special Issue, (740 pp.), ISSN 1224-6077, 2004.</p> <p>Anton I., Resiga R., Sofonea S., Bernad S., Muntean S., (Eds.) Proceedings of Workshop on Numerical Methods in Fluid Mechanics and FLUENT Applications, Orizonturi Universitare Publishing House, (312 pp.), ISBN 973-638-022-X, 2003.</p>
<p>Member of the Scientific Committee</p>	<p>21th International Seminar on Hydropower Plants, Hydropower for future generations (Viennahydro2022), 9-11 November 2022, Vienna, Austria.</p> <p>9th International Conference on Energy and Environment "Energy for a Green Digital World" (CIEM2019), 17-28 October 2019, Timisoara, Romania.</p> <p>20th International Seminar on Hydropower Plants, Celebrating 40 years of industry – academic engagements (Viennahydro2018), 14-16 November 2018, Vienna, Austria.</p> <p>8th International Conference on Energy and Environment (CIEM2017), 19-20 Octobre 2017, Bucharest, Romania.</p> <p>19th International Seminar on Hydropower Plants, Flexible Operation of Hydropower Plant in the Energy System (Viennahydro2016), 9-11 November 2016, Vienna, Austria.</p> <p>7th International Conference on Energy and Environment (CIEM2015), 22-23 October 2015, Jassy, Romania.</p> <p>6th International Conference on Energy and Environment (CIEM2013), 7-8 Novembre 2013, Bucharest, Romania.</p>
<p>Member of the Organizing Committee</p>	
	<p>9th IAHR Meeting of the WorkGroup on Cavitation and Dynamic Problems in Hydraulic Machinery and Systems (IAHRWG2023), October 10-12, 2023, Timisoara, Romania.</p> <p>7th IAHR Meeting of the WorkGroup on Cavitation and Dynamic Problems in Hydraulic Machinery and Systems (IAHRWG2017), February 1-3, 2017, Porto, Portugal.</p> <p>Conference „Diaspora in Scientific Research and Higher Education from Romania”, Renewable Energy Workshop, 25-28 April 2016, Timisoara.</p> <p>4th CREDING conference "Engineering education. The challenges for the XXI century", 14-15 May 2015, Timișoara.</p> <p>9th German-Romanian Workshop on Turbomachinery Hydrodynamics, 16-18 July 2013, Timisoara.</p> <p>7th German-Romanian Workshop on Turbomachinery Hydrodynamics, 26-28 May 2011, Timisoara.</p> <p>25th IAHR Symposium on Hydraulic Machinery and Systems, 20-24 Septembre 2010, Timisoara.</p>

	<p>5th German-Romanian Workshop on Turbomachinery Hydrodynamics, 2-4 July 2009, Timisoara.</p> <p>2nd IAHR International Meeting of the Workgroup on Cavitation and Dynamic Problems in Hydraulic Machinery and Systems, 24-26 Octobre 2007, Timisoara.</p> <p>3rd German-Romanian Workshop on Turbomachinery Hydrodynamics, 10-12 May 2007, Timisoara.</p> <p>3rd Workshop on Vortex Dominated Flows. Achievements and Open Problems, 1 - 2 June 2007, Timisoara.</p> <p>2nd Workshop on Vortex Dominated Flows Achievements and Open Problems, 30 June – 1 July 2006, Bucharest.</p> <p>1st German-Romanian Workshop on Turbomachinery Hydrodynamics, 24-26 Noiembrie 2005, Timisoara.</p> <p>1st Workshop on Vortex Dominated Flows Achievements and Open Problems, 10-11 June 2005, Timisoara.</p> <p>6th International Conference on Hydraulic Machinery and Hydrodynamics, 21-22 Octobre 2004, Timisoara.</p> <p>Workshop on Numerical Methods in Fluid Mechanics and FLUENT Applications, 22-23 Mai 2003, Timisoara.</p> <p>8th International Conference on Magnetic Fluids (ICMF8), 29 June - 3 July 1998, Timisoara.</p>			
Organizer of the course	<p>Training School on Sustainable Hydropower in Eastern European Area, 7-10 May 2023, Timisoara, Romania. CA21104 Pan European Network for Sustainable Hydropower (PEN@HYDROPOWER) (26 participants)</p> <p>Numerical Methods in Fluid Dynamics and FLUENT applications, 18-23 September 2006, Timisoara, Romania.(18 participants)</p>			
Mother tongue(s)	Romanian			
Other language(s)	Self-assessment	Understanding	Speaking	Writing
Language	English	Good	Good	Good
Awards	<ul style="list-style-type: none"> ◦ “Diploma of Merit for Outstanding Results in Scientific Research”, prize awarded to the management team of the Research Center for Engineering of Systems with Complex Fluids, 2004 ◦ Academy for Technical Sciences of Romania – Timisoara Branch Award, „PhD Thesis of the year 2002”, 2004. ◦ Timisoara Orizonturi Universitare Association Award for special results in the research activity, „Eminent Young Researcher”, 2003. ◦ CASA Auto Timisoara Award for Excellent Results, „Ion Tiriac”, 2003 			

Date: September, 2023

Sebastian Muntean, PhD