



PERSONAL INFORMATION

First name / Surname

BALC, NICOLAE

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ACTUAL EMPLOYER

- Date 1990
- Department Department of Manufacturing Engineering
- Profession Engineer
- Position held Professor / Director of Department
- Main activity Teaching and research
- PhD advisor Yes
- Domain Manufacturing Engineering

EDUCATION AND TRAINING

- Year 1987
- Name and type of organisation Polytechnic Institute of Cluj-Napoca, Faculty of Mechanics
 - Title Engineer
 - Specialization Machine building technology
- Year 1994
- Name and type of organisation Technical University of Cluj-Napoca
 - Title European Master of Science (Honour Degree)
 - Specialization Mechanical Engineering and Energy Management
- Year 2001
- Name and type of organisation Technical University of Cluj-Napoca
 - Title Doctor of Engineering
 - Specialization Industrial Engineering

TEACHING ACTIVITY

WORK EXPERIENCE	COURSE TUTOR	PROGRAMME	YEAR
	Non-traditional Technologies	Industrial Engineering	III - Bachelor
	Rapid Prototyping	Industrial Design	IV - Bachelor
	Design for Competitive Manufacturing	Master IVFC-Eng	I Master-IVFC
	Innovative Manufacturing for RPD	Master IVFC-Eng	II Master-IVFC

SCIENTIFIC EXPERIENCE

- Non-traditional Technologies; Selective Laser Melting; Selective Laser Sintering; Water Jet Cutting; Investment Casting of Complex Metal Parts
- Product Design for Competitive Manufacturing, / Innovative Manufacturing for Rapid Product Development, Industrial Applications of Rapid Prototyping;
- Medical applications of RP, / Manufacturing of the customised medical implants.

FOREIGN LANGUAGES

		Understanding		Speaking				Writing		
		Listening		Reading		Spoken interaction		Spoken production		
ENGLISH	B2	Intermediate plus	B2	Intermediate plus	B2	Intermediate plus	B2	Intermediate plus	B2	Intermediate plus
	FRENCH	B2	Intermediate plus	B2	Intermediate plus	B2	Intermediate	B2	Intermediate	B2

SCIENTIFIC ACTIVITY

- Scientific Coordinator of 16 PhD Thesis (5 defended PhD thesis and 11 ongoing PhD thesis)
- Invention (Actuating Device) registered in USA and Germany
- 9 books published (5 as first author / editor)
- Reviewer of the Rapid Prototyping Journal (ISI)
- Honorary Professor of "Transilvania" din Braşov (Senate decision : 24 Nov. 2000)

INTERNATIONAL COOPERATION

- 2 Research Contracts at Loughborough University, England (Work Permit E-766013 and Work Permit E-865239) – Dept. of Design and Technology
- Invited Professor at Nottingham University, De Montfort University – Leicester
- Invited Lecturer at the universities from Poznan, Maribor, Debrecen, Miskolc, Viena and Rijeka (courses held within these universities)
- Invited Speaker at 2009 Dover Presidents Meeting (DE-STA-CO Europe GmbH) (<http://www.dovercorporation.com/>), N. Bâlc: "Engineering resources in CEE, including Romania", Warsaw, 3-rd March 2009, Poland

PUBLICATIONS

114

(Examples)

1. **Bâlc, N.**, Berce, P., Păcurar, R., Active Elements Tools Made by Selective Laser Sintering, Society of Manufacturing Engineers, Rapid Prototyping Journal – Third Quarter 2006, Vol. 12, nr. 3 / 2006, pag. 1-7, SUA, (www.sme.org/rtam);
2. **N. Bâlc**, P. Berce, R. Păcurar, Comparison Between Different Infiltration Methods, in order to Decrease the Porosity of the SLS Metal Parts. , Academic Journal of Manufacturing Engineering, Volume Supplement - 1/ 2008, ISSN 1583-7904;
3. **N. Bâlc**, R. Păcurar, The accuracy of the complex steel parts made by SLS and SLM, Academic Journal of Manufacturing Engineering, Volume 7, Issue 3/ 2009, pag.48-53, ISSN 1583-7904;
4. **N. Bâlc**, The Application of Rapid Tooling, Proceedings of the "Layered Technologies" Workshop, 22-23 April 2004, pag. 30-45, The University Maribor, Slovenia, ISBN 86 435 0616 8;
5. P., Berce, R. Păcurar, **N., Bâlc**, Virtual Engineering for Rapid Product Development, ISI Proceedings of WSEAS Network Conference: " New Aspects of Engineering Mechanics, Structures, Engineering Geology", 5th-7th July 2008, Crete., Greece, ISSN 1790-2769;
6. **N., Bâlc**, P., Berce, R., Păcurar, CAD for optimal scaling of the 3D model, to compensate the SLS post-processing errors, ISI Proceedings of the International Conference on Additive Technologies iCAT 2008, 14th-16th September 2008, Ptuj, Slovenia, ISSN 1726-9679;
7. P., Berce, **N., Bâlc**, R., Păcurar, SLS Parameters Optimization using the Taguchi Method, ISI Proceedings of the International Conference on Additive Technologies iCAT 2008, 14th-16th September 2008, Ptuj, Slovenia, ISSN 1726-9679;
8. L., Cseki, **N., Bâlc**, s.a., Development of a Continuous Passive Motion Device for Post Surgical Rehabilitation of a Knee, ISI Proceedings of the International Conference on Additive Technologies iCAT 2008, 14th-16th September 2008, Ptuj, Slovenia, ISSN 1726-9679;
9. D. Dumitriu, **N., Bâlc**, s.a., The Development of a Custom Maxillofacial Implant by Means of RP, ISI Proceedings of the International Conference on Additive Technologies iCAT 2008, 14th-16th September 2008, Ptuj, Slovenia, ISSN 1726-9679;
10. R., Păcurar, **N., Bâlc**, P., Berce, Research on Improving the Mechanical Properties of the SLS Metal Parts, ISI Proceedings of the International Conference on Additive Technologies iCAT 2008, 14th-16th September 2008, Ptuj, Slovenia, ISSN 1726-9679;
11. **Balc, N.**, Popan, A., Berce, P., Luca, A., Software Solution For Abrasive Water Jet Milling Process, The 15-th International Research/Expert Conference TMT 2011, Prague, Czech Republic 12-18 Sept.2011, Proceedings, pag. 77-80, ISSN 1840-4944.

INTERNATIONAL

1. **FP7** nr. 295016: "Adm-ERA-Reinforcing Additive Manufacturing research cooperation between the Central Metallurgical Research and Development Institute and the European Research Area", ongoing (01.10.2011 – 01.10.2013), budget 496.634 €, (Coordinator UTCN– Prof. N. Bâlc);
2. **FP6** "Optical 3D Metrology – Automated in-line metrology for quality assurance in the manufacturing industry" – OP3MET (Contract nr. 3721 / 2006) – Co-operative Research Project. Partener – Prof. N. Balc
3. "Center for Innovative Manufacturing" –international contract – 2005 – financed by the KOICA (KOREAN INTERNATIONAL COOPERATION AGENCY), Director: Prof. Dr. ing. Petru Berce (buget 325.000 USD), Coordinator of the manufacturing module: Prof. Nicolae Bâlc (buget manufacturing module: 160.000 USD) (finalized 2007);
4. "European Virtual Engineering Network", 13 partners from 11 EU countries (period: 2002-2003 – <http://www.even.tcd.ie>). Prof. N. Balc – employed by Loughborough University in that period;
5. Ppostdoctoral Research, contract at Loughborough University (England), title of Post (job): Post doctoral research associate – Grade 1A, Contract of Employment – Prof. Nicolae Balc;
6. Contractor of 3 years European Project "National Pilot Centre for Continuing Education in Rapid Prototyping", S-JEP-12490-97, period (15.12.1997 - 14.03.2001) budget 252.000 €, Contractor – Prof. N. Bâlc.

NATIONAL (Examples)

1. **PCCE** "New Biocompatible Materials for customized implants made by SLS and SLM (BIOMAPIM)" – contract nr. 5/2010, ongoing (2010-2013), budget 6.790.297 RON; Director – Prof. P. Berce, Deputy Director – Prof. Nicolae Bâlc;
2. "Innovative Manufacturing Network" – Contract **CEEX** nr. 41/2005 (2005-2008), budget 14,2 miliarde lei; Director – Prof. P. Berce, Scientific manager: Prof. Nicolae Bâlc;
3. **CNCSIS Contract** " Research on using the RP techniques and CT in order to manufacture the orthopedics and maxilo-faciale implants" (3 years period: 1999-2001), Director – Prof. N. Bâlc, (Ref. 37118 / 2000, 37118 / 2001 - CNCSIS – thema 26);
4. **CNCSIS Contract** " Research regarding the Selective Laser Sintering Manufacturing methods, (period 3 years: 2002-2004), Director - Prof. N. Bâlc (Ref. 33532 / 2003, 33385 / 2004 - Cod CNCSIS 406).