



PERSONAL INFORMATION



- First name / Surname **NICOLAE BALC**
- Tel. / Fax. 0264 401794 / 0264 401611 / / 0264 415653
- E-mail nicolae.balc@tcm.utcluj.ro

ACTUAL EMPLOYER

- Date 1990
- Department Department of Manufacturing Engineering / Faculty of Machines Building
- Position held Professor / Dean of the Faculty
- Main activity Teaching and research
- PhD advisor Yes, Industrial Engineering Domain, Since 2006

EDUCATION AND TRAINING

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

TEACHING ACTIVITY

WORK EXPERIENCE

COURSE LEADER	PROGRAM	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-conventional Technologies; CNC Machining, 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 customized medical implants.

FOREIGN LANGUAGES

ENGLISH
FRENCH

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

SCIENTIFIC ACTIVITY

- Scientific Coordinator of 22 PhD Thesis (14 defended PhD thesis and 8 ongoing PhD thesis)
- Patents: 5; 2 international (registered in USA) and 3 national
- 15 books published (8 as first author / editor)
- Reviewer of the Rapid Prototyping Journal (ISI)
- 97 published scientific articles, in the last 10 years (27 ISI, 28 BDI, 42 published in other journals/volumes)
- 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. Bălc: "Engineering resources in CEE, including Romania", Warsaw, 3-rd March 2009, Poland

PUBLICATIONS

97 in the last 10 years

ISI Publications (Examples from the last 10 years)

1. Leordean, D, Dudescu, C, Marcu, T, Berce, P, **Balc, N**, "Customized Implants With Specific Properties, Made by Selective Laser Melting", Leordean, D, Dudescu, C, Marcu, T, Berce, P, Balc, N, published in Rapid Prototyping Journal, Volume: 21, Issue 1, Pages: 98-104, 2015 – (ISI, FI:2,031); WOS:000349647500010;
2. Panc, N; Hancu, L; **Balc, N**, „Research Regarding the Improvement of the Performance of Rubber Dies”, WORLD CONGRESS ON ENGINEERING, WCE 2011, VOL I Book Series: Lecture Notes in Engineering and Computer Science Pages: 783-789, Published: 2011; WOS:000393011100155;
3. Radu, SA; Leordean, D; **Balc, N**; Nemes, O, „Resin type influence on moulded parts final dimensions”, Studia Universitatis Babes-Bolyai Chemia, Volume: 60 Issue: 2 Pages: 219-228 Published: JUN 2015; WOS:000369161800021;
4. **Balc, N**; Berce, P; Pacurar, R, „CAD For Optimal Scaling of the 3D Model, to Compensate the SLS Post-Processing Errors”, ANNALS OF DAAAM FOR 2008 & PROCEEDINGS OF THE 19TH INTERNATIONAL DAAAM SYMPOSIUM Book Series: Annals of DAAAM and Proceedings Pages: 63-64 Published: 2008; WOS:000262860100031;
5. Vilau, C; Moldan, D; **Balc, N**; Leordean, D, „Researches on the buckling test of a tripod components used in emergencies”, Acta Technica Napocensis, Series-Applied Mathematics Mechanics And Engineering, Volume: 58 Issue: 2 Pages: 299-302, Published: Jun 2015; WOS:000387965200024;
6. Viorica Saplontai, Monica Saplontai, Ioan Roman, Dan Leordean, Roxana Trusca, Tamas Toth, Ileana Cojocaru, **Nicolae Balc**, Marioara Moldovan, "Electrochemical and Structural Investigation on T16Al7Nb Alloy, Coated with Hydroxyapatite and Titanium Dioxide", in REVISTA DE CHIMIE, vol. 65, no. 10, pp. 1249-1252, 2014; WOS:000344719500028;
7. Paul Bere, Mircea Dudescu, **Nicolae Balc**, Petru Berce, Amalia Iurian, Ovidiu Nemes, "Design and Analysis of Carbon/epoxy Composite Bicycle Handlebar", in MATERIALE PLASTICE, vol. 51, no. 2, pp. 145-149, 2014; WOS:000339475200007
8. Monica Saplontai, **Nicolae Balc**, Viorica Saplontai, Ileana Cojocaru, Robert Toth, Marioara Moldovan, "Synthesis and Characterization of Nano Hydroxyapatite Used for Immobilizing Heavy Metals", in REVISTA DE CHIMIE, vol. 63, no. 12, pp. 1228-1230, 2012; WOS:000313229100005;
9. Horatiu Rotaru, Horatiu Stan, Ioan Florian, Ralf Schumacher, Yong-Tae Park, Seong-Gon Kim, Horea Chezan, **Nicolae Balc**, Mihaela Baciut, "Cranioplasty With Custom-Made Implants: Analyzing the Cases of 10 Patients", in JOURNAL OF ORAL AND MAXILLOFACIAL SURGERY, vol. 70, no. 2, pp. E169-E176, 2012, (ISI, FI: 1,5); WOS:000300053900009;
10. Razvan Pacurar, Ancuta Pacurar, Petre Berce, **Nicolae Balc**, Ovidiu Nemes, "POROSITY CHANGE BY RESIN IMPREGNATION IN STRUCTURES OBTAINED BY SELECTIVE LASER SINTERING TECHNOLOGY", in STUDIA UNIVERSITATIS BABES-BOLYAI CHEMIA, vol. 57, no. 3, pp. 5-13, 2012, FI 0.089; WOS:000318592900001;
11. Emilia Sabau, **Nicolae Balc**, Paul Bere, Ovidiu Nemes, "NEW MATERIALS FROM WASTE GLASS FIBRE", in STUDIA UNIVERSITATIS BABES-BOLYAI CHEMIA, vol. 57, no. 4, pp. 201-208, 2012; WOS:000318593300020.

51 research contracts: 3 grants in international competition, other 2 international contracts, 6 grants in national competition and other national contracts

INTERNATIONAL

1. **Horizon 2020:** AMaTUC – No. 691787: „Boosting the scientific excellence and innovation capacity in additive manufacturing of the TUC-N”, period 01.01.2016 – 30.12.2018, budget 999.443 Euro, **Coordinator:** Prof. **N. Bâlc** (www.amatuc.com);
2. **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 €, (**Team leader** TUCN: Prof. **N. Bâlc**); <http://www.fp7-admera.org/>
3. **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. Bâlc**;
4. "Center for Innovative Manufacturing" – international contract – 2005 – financed by the KOICA (KOREAN INTERNATIONAL COOPERATION AGENCY), Director: Prof. Dr. ing. Petru Berce (budget 325.000 USD), Coordinator of the manufacturing module: Prof. **Nicolae Bâlc** (budget manufacturing module: 160.000 USD) (finalized 2007);
5. **FP5 European project:** EVEN, "European Virtual Engineering Network", 13 partners from 11 EU countries (period: 2002-2003 – <http://www.even.tcd.ie>). Prof. **N. Bâlc** – employed by Loughborough University in that period;
6. **Postdoctoral Research**, contract at Loughborough University (England), title of Post (job): Post doctoral research associate – Grade 1A, **Contract of Employment** – Prof. **Nicolae Bâlc**;
7. 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. **Bridge Grant** Nr. 101BG/2016, **UEFISCDI - PN-3-P2:** „3D printing optimization for Customized Dental Applications" (OpTi-DeP), **Director:** Prof. **Nicolae Bâlc**;
2. **PH2020 Grant** Nr. 11/2016, **UEFISCDI - PN-3-P3/183:** Awarding the Horizon 2020 Participation: "Support AMaTUC", **Director:** Prof. **Nicolae Bâlc**;
3. PCCA National Grant "Personalized Craniofacial Implants made by innovative 3D printing, from fiber reinforced polymers (PECIFCO), Contract UEFISCDI No. 115/2014), PN-II-PT-PCCA-2013-4-0917, **Team leader** TUCN: Prof. **Nicolae Bâlc**;
4. **PCCE** National Grant: "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**;
5. **CNCSIS Contract** "Research on using the RP techniques and CT in order to manufacture the orthopedics and maxillofacial implants" (3 years period: 1999-2001), **Director** – Prof. **N. Bâlc**, (Ref. 37118 / 2000, 37118 / 2001 - CNCSIS – theme 26);
6. **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).

Cluj-Napoca, 28/03/2017

Professor Nicolae BALC