



## Europass Curriculum Vitae

### Personal information

First name(s) / Surname(s) **Mihaela RACILA**  
Address(es) Str. G-ral. N. Mageneanu nr. 6, Craiova, Dolj, 200074  
Telephone(s) 0732 148 234  
E-mail [mihaela.racila@gmail.com](mailto:mihaela.racila@gmail.com)  
Nationality Romanian

### Work experience

Dates	<b>Since 2012</b>
Occupation or position held	<b>Associate Professor</b>
Main activities and responsibilities	Research and teaching in Department of Applied Mathematics, University of Craiova. Teaching Courses, Seminars and Project work class: <ul style="list-style-type: none"><li>• Mathematical Analysis for the first year students of Faculty of Automation, Systems Engineering (specializations: Automation and Applied Informatics, Multimedia Systems Engineering), Mechatronics and Robotics</li><li>• Numerical Calculus and Mathematical Statistics for the first year students, second semester, on the licence fields of Systems Engineering(specializations: Automation and Applied Informatics, Multimedia Systems Engineering), Mechatronics and Robotics</li></ul> Member of Department Council
Name and address of employer	University of Craiova, 13, A.I. Cuza Street, 200585, Craiova, Dolj, Romania
Type of business or sector	Research and Higher Education
Dates	<b>September 2007 to September 2012</b>
Occupation or position held	<b>Lecturer</b>
Main activities and responsibilities	Research and teaching in Department of Applied Mathematics, University of Craiova Teaching Courses, Seminars and Project work class: <ul style="list-style-type: none"><li>• Mathematical Analysis for the first year students of Faculty of Automation, Systems Engineering (specializations: Automation and Applied Informatics, Multimedia Systems Engineering), Mechatronics and Robotics</li><li>• Numerical Calculus and Mathematical Statistics for the first year students, second semester, on the licence fields of Systems Engineering(specializations: Automation and Applied Informatics, Multimedia Systems Engineering), Mechatronics and Robotics</li></ul>
Name and address of employer	University of Craiova, 13, A.I. Cuza Street, 200585, Craiova, Dolj, Romania
Type of business or sector	Research and Higher Education
Dates	<b>September 2004 to September 2006</b>
Occupation or position held	<b>ATER (Attaché Temporaire à l'Enseignement et à la Recherche)</b>
Main activities and responsibilities	Research and teaching in Laboratoire de Mathématiques, University of Franche-Comté 16 Route de Gray, 25000 Besançon, France Teaching Courses, Seminars and Project work class: <ul style="list-style-type: none"><li>• Numerical Algebra for the students in 2nd year of Mathematical Licence, University of Franche-Comté, France (2004-2005)</li><li>• Mathematical Analysis for the 1st year students in Economic Science (Licence), University of Franche-Comté, France (2004-2005)</li><li>• Numerical Approximations of EDP for the students in 1st year of Master of Mathematics, University of Franche-Comté, France (2005-2006)</li><li>• Linear Algebra for the students in 1st, 2nd and 3rd year in Economic Science (Licence), University of Franche-Comte, France (2005-2006)</li></ul>

Name and address of employer	Université de Franche-Comté, 16 Route de Gray, 25000 Besançon, France
Type of business or sector	Research and Higher Education
Dates	<b>September 1997 to September 2007</b>
Occupation or position held	<b>Assistant Professor</b>
Main activities and responsibilities	Research and teaching in Department of Applied Mathematics, University of Craiova Teaching Seminars: <ul style="list-style-type: none"> <li>• Mathematical Analysis I: Differential Calculus of Several Variables for the first year students of Faculty of Mechanics and Electrotechnics, University of Craiova, Romania</li> <li>• Mathematical Analysis II: Integral Calculus for the first year students of Faculty of Mechanics and Electrotechnics, University of Craiova, Romania</li> </ul>
Name and address of employer	University of Craiova, 13, A.I. Cuza Street, 200585, Craiova, Dolj, Romania
Type of business or sector	Research and Higher Education
Dates	<b>September 1995 to September 1997</b>
Occupation or position held	<b>Junior Assistant Professor</b>
Main activities and responsibilities	Research and teaching in Department of Applied Mathematics, University of Craiova Teaching Seminars: <ul style="list-style-type: none"> <li>• Mathematical Analysis I: Differential Calculus of Several Variables for the first year students of Faculty of Mechanics, University of Craiova, Romania</li> <li>• Mathematical Analysis II: Integral Calculus for the first year students of Faculty of Mechanics, University of Craiova, Romania</li> </ul>
Name and address of employer	University of Craiova, 13, A.I. Cuza Street, 200585, Craiova, Dolj, Romania
Type of business or sector	Research and Higher Education

## Education and training

Dates	<b>September 2002 – November 2005</b>
Title of qualification awarded	<b>Doctor in Mathematics</b>
Principal subjects/occupational skills covered	Applied Mathematical and Computational Sciences
Name and type of organisation providing education and training	University of Franche-Comté, France (Diploma no. 4663766/2006200405102) and University of Craiova (Diploma no. Seria D, Nr. 0000339 / 89/ 10.05.2006, Ordinul M.I. nr. 3824/03.05.2006) Dissertation Advisors: Prof. J.M. Crolet (University of Franche-Comté, Besançon, France) and Prof. C. Niculescu (University of Craiova, Romania) Members of the commission : D. Cioranescu, Univ. Paris VI (France), M. El Hatri, Univ. Fès (Maroc), M.C. Ho Ba Tho, Univ. Compiègne (France), M. Panfilov, Univ. Nancy I (France), J.N Pernin, Univ. Besançon (France), V. Radulescu, Univ. Craiova (Romania) For this thesis I have received the mention: très honorable
Dates	<b>March 1996 – June 1996</b>
Title of qualification awarded	<b>M.S. (DEA) dissertation in Applied Mathematics</b>
Principal subjects/occupational skills covered	Applied Mathematics, Computational Sciences
Name and type of organisation providing education and training	University of Franche-Comté, France Grade obtained : 16 (out of 20), on the French grading system and 10 (out of 10), on the Romanian grading system
Dates	<b>October 1995 – June 1996</b>
Title of qualification awarded	<b>M.S. in Mathematics</b>
Principal subjects/occupational skills covered	Dynamical Systems, Variational Methods
Name and type of organisation providing education and training	University of Craiova
Dates	<b>October 1993 – June 1994</b>
Title of qualification awarded	<b>Diploma of Maîtrise de Mathématiques – mention Ingénierie Mathématique</b>
Principal subjects/occupational skills covered	Applied Mathematics

Name and type of organisation providing education and training University of Jean Monnet, Saint Etienne, France

Dates October 1990 – June 1995

Title of qualification awarded B.S. in Mathematics

Principal subjects/occupational skills covered Mathematical Analysis, Algebra, Geometry, Statistics, IT, Pedagogy

Name and type of organisation providing education and training University of Craiova

Dates September 1986 – June 1990

Title of qualification awarded Graduation Diploma

Principal subjects/occupational skills covered Mathematics and Informatics

Name and type of organisation providing education and training Nicolae Balcescu High School, Craiova

**Personal skills and competences**

Mother tongue(s) Romanian

Other language(s)

Self-assessment / Official certificate

European level (\*)

**English**

**French**

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
B2	Independent user	B2	Independent user	B1	Independent user	B1	Independent user	B2	Independent user
C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user

(\*) [Common European Framework of Reference for Languages](#)

Social skills and competences Works well in teams, sociable, communicative, conscientious, responsible, creative, determined, well organized, dynamic, attention to details

Computer skills and competences Operating systems: Linux, Windows  
Programming languages: Fortran 77, C++

Calculus software: Scilab, Matlab, Mathematica, Maple  
FEM software: Modulef, Méfisto, Comsol

Domains of competence Numerical Analysis; Partial Differential Equations; Computational Methods

Modelization, programming and numerical simulation

Homogenization of strongly heterogeneous media: multiple scale method

Biomedical Applications: Modelling of human cortical bone; Mechanical properties of cortical at micro and macro level; Role of the bony fluid in the remodelling process; investigations and already realized applications on human cortical bone

Finite Element Analysis

Research Grants

**As grant director:**

Research project for researchers reintegration, RP Program, code CNCSIS 7: "Multi scale mathematical modelling of the coupled phenomena in the porous environment: application to the bone remodelling - the case of healthy and pathological bone", duration 2 years, 2009-2011, financed by CNCSIS, amount: 414.596 RON

[http://www.cnscis.ro/PNCIDI%20II/Resursa%20umana/RP/2008/Iunie/REZULTATE\\_FINALE.pdf](http://www.cnscis.ro/PNCIDI%20II/Resursa%20umana/RP/2008/Iunie/REZULTATE_FINALE.pdf)

**As member in the research team:**

Dynamical systems and their applications, FP7-PEOPLE-2012-IRSES-316338, director: Prof. Univ. Dr. Gheorghe Tigan, Universitatea de Vest Timisoara, director UCV: Conf. Univ. Dr. Dana Constantinescu, 2012-2016

Miotheris Project (Micro Innovative OncoTherapeutics Injection System), duration: **2010-2015**, France; University of Franche-Comté Director: Prof. Jean-Marie Crolet

GDR "Mécanotransduction" (GDR3162), duration : 3 years, **2008-2011**, financed by CNRS (Centre National de la Recherche Scientifique) France, project manager: Prof. Thierry Hoc (MSSMat, UMR8579, France), Ecole Centrale de Paris

(<http://www.mssmat.ecp.fr/Membres-du-GDR,3754> )

([http://www.mssmat.ecp.fr/IMG/pdf/Theme\\_Model-Multi-Ech.pdf](http://www.mssmat.ecp.fr/IMG/pdf/Theme_Model-Multi-Ech.pdf) )

Grant: 2766/14.03.2005, theme 14, code CNCSIS 80: "Integration in the European space of the master Romanian education: promoting the interdisciplinary research through the study of not-linear analysis and of the evolution problems", duration 2 years, **2005-2007**, financed by CNCSIS, project manager: Prof. Univ. Dr. Constantin Niculescu, University of Craiova, Faculty of Mathematics and Informatics

([http://www.cnscis.ro/2005/Rezultate\\_competitie/A/COMISIA\\_1\\_A\\_NOI\\_FINANTATE.html](http://www.cnscis.ro/2005/Rezultate_competitie/A/COMISIA_1_A_NOI_FINANTATE.html) )

([http://www.cnscis.ro/2006/continuari\\_2006/finantate/COMISIA\\_1\\_A\\_CONTINUARI\\_FINANTATE.html](http://www.cnscis.ro/2006/continuari_2006/finantate/COMISIA_1_A_CONTINUARI_FINANTATE.html) )

Project type IT2B, France, "Caractérisation et modélisation multi échelles de l'os (CMOS)"duration: 2 years, **2004-2006**, financed by CNRS (Centre National de la Recherche Scientifique ) France, project manager: Prof. MC Ho Ba Tho, Université de Technologie de Compiègne, France

Grant: 2766/14.03.2005, theme 16, code CNCSIS 81: "The geometry of Finsler, Lagrange and Hamilton subspaces. Applications in mechanics.", duration 1 year, **2005-2006**, financed by CNCSIS, project manager: Conf. Univ. Dr. Marcela Popescu, University of Craiova, Department of Applied Mathematics

([http://www.cnscis.ro/2005/Rezultate\\_competitie/A/COMISIA\\_1\\_A\\_NOI\\_FINANTATE.html](http://www.cnscis.ro/2005/Rezultate_competitie/A/COMISIA_1_A_NOI_FINANTATE.html) )

## Research Experience and Awards

**1993-1994: TEMPUS Scholarship**, University Jean Monnet of St Etienne, France (Diploma of Maîtrise de Mathématiques)

**1991-1995: Performance scholarship** for remarkable results during the undergraduate studies, granted by the University of Craiova

**1996: TEMPUS Scholarship**, University of Franche-Comté, Besançon, France (M.S. dissertation in Applied Mathematics)

**2003-2004: ERASMUS Scholarship**, University of Franche-Comté, Besançon, France (Ph. D in Applied Mathematics)

**2004-2006:ATER** (Teaching and Research Assistant and Ph. D in Applied Mathematics (until november 2005)), University of Franche-Comté, Besançon, France

**2006-2007:Post-doctoral research** at the University of Franche-Comté, Besançon, France

**2007-2008:Post-doctoral fellowship** granted by AUF (Agence Universitaire de la Francophonie) at the University of Franche-Comté, Besançon, France

## Additional informations

### Memberships

Romanian Mathematical Society (SSMR) - since 1996

European Women in Mathematics (EWM) - since 1998

Society for Industrial and Applied Mathematics (SIAM) - since 2006

American Mathematical Society (AMS) - since 2006

Société de Mathématiques Appliquées et Industrielles (SMAI) - since 2006

European Mathematical Society (EMS) - since 2006

Association Nationale des Docteurs en Science (ANDES) - since 2006

Société de Biomécanique (SB) - since 2007

CSMA - since 2007

### Citations

25 citations in ISI papers, over 45 citations in Scopus and other data bases papers

Awards	<p>UEFISCDI awards for 9 ISI papers (in the last 5 years)</p> <p>2 scientific communications at international conferences, financed by the CNCS Mobility MC Program (in 2008)</p> <p>Over 70 citations of the results of my research in international papers, of which 25 in ISI journals, with an impact factor over 0.5</p> <p>Qualification in France (national contest) as an Associate Professor, CNU (Conseil National des Universités) sections : 26 (Mathématiques Appliquées) and 60 (Mécanique) (<a href="http://postes.smai.emath.fr/2011/kalif2011-MCF26.html">http://postes.smai.emath.fr/2011/kalif2011-MCF26.html</a>; <a href="http://www.snesup.fr/Votre-metier?aid=5645&amp;ptid=10&amp;cid=3693">http://www.snesup.fr/Votre-metier?aid=5645&amp;ptid=10&amp;cid=3693</a>) – (No. of qualifications: MCF-2011-26-11226171536 and MCF-2011-60-11260171536)</p>
Grants	8 research grants (of which 2 as project manager and 4 internationals)
Conferences attended	53 Conferences (of which 43 are internationals)
Invited communications	3 invited lectures at universities from France : Paris 12 Val de Marne UMR 7052 (April 22, 2008); Ecole Centrale de Paris and Laboratoire Jacques-Louis Lions, Université Paris 6 (January 16, 2006)
Publications	46 published articles in journals of specialty from within the country and from abroad (of which 23 in ISI recognized journals) (see the Annex, at the end of CV)
Research trainings	<p>June – July 2015: Belarusian State University, Minsk, Belarus (invited by Prof. Valery Gromak)</p> <p>10 – 19 of April 2015: Erasmus, Université de Franche-Comté, Besançon, France (invited by Prof. J.M. Crolet)</p> <p>March – July 2011: Université de Franche-Comté, Besançon, France (invited by Prof. J.M. Crolet)</p> <p>14-21 of March 2010 : Université de Franche-Comté, Besançon, France (invited by Prof. J.M. Crolet)</p> <p>4-23 of October 2010 : Université de Franche-Comté, Besançon, France (invited by Prof. J.M. Crolet)</p> <p>25 of October-1st of November 2010 : Laboratoire de Biomécanique et Mécanique des Chocs, Université de Lyon 1, France (invited by Prof. Laurence CHEZE)</p> <p>1-12 of November 2010 : Ecole Nationale Supérieure de Géologie, Nancy, France (invited by Prof. M. Panfilov)</p> <p>15-22 of November 2010 : Ecole Supérieure de Technologie de Fès, Maroc (invited by Prof. M. El Hatri)</p> <p>22 -30 of November 2010 : Université de Franche-Comté, Besançon, France (invited by Prof. J.M. Crolet)</p> <p>16-23 of March 2009: Université de Franche-Comté, Besançon, France (invited by Prof. J.M. Crolet)</p> <p>30 of May - 6 of June 2009 : Laboratoire de Biomécanique et Mécanique des Chocs, Université de Lyon 1, France (invited by Prof. Laurence CHEZE)</p> <p>22 - 29 of June 2009 : Istituto Ortopedico Rizzoli, Bologna, Italy (invited by Dr. Ing. Marco Viceconti)</p> <p>6-16 of November 2009: Université de Franche-Comté, Besançon, France (invited by Prof. J.M. Crolet)</p> <p>September 2006 - August 2007 : post-doc, Université de Franche-Comté, Besançon, France (invited by Prof. J.M. Crolet)</p>
Other activities	<p>Thesis jury member at the University of Franche-Comte, France:</p> <ul style="list-style-type: none"> <li>• July the 19th 2007 – Mr. R. Mahraoui thesis</li> <li>• October the 15th 2010 – Mr. J. M. Dialo thesis (<a href="http://tel.archives-ouvertes.fr/docs/00/54/57/70/PDF/ex-these.pdf">http://tel.archives-ouvertes.fr/docs/00/54/57/70/PDF/ex-these.pdf</a>)</li> <li>• March the 17th 2010 – Mr. Walid Miladi thesis</li> <li>• November the 30th 2010 – Mrs. C.M. Stroe thesis (<a href="http://hal.archives-ouvertes.fr/tel-00563580">http://hal.archives-ouvertes.fr/tel-00563580</a>);</li> </ul> <p>Doctoral co-framing at the University of Franche-Comte, France (2006-2010) in a proportion of 25% (Mrs. Cristina Stroe)</p> <p>Doctoral co-framing at the University of Franche-Comte, France (2008-2010) in a proportion of 25% (Mr. Walid Miladi)</p> <p>M. S. Dissertation co-framing at the University of Franche-Comte, France:</p> <ul style="list-style-type: none"> <li>• SerchiValéria, february 2012 - july 2012</li> <li>• Barthold-Malat, october 2010 - juin 2011</li> <li>• Esther Baruffini, march-juin 2011</li> </ul> <p>Responsible for the scientific seminary of the Numerical Analysis and Scientific Calculus team of the University of Besançon, France (2007-2008)</p> <p>Member of the organisation committee of three workshops in Besançon, France (in 2007 - Technique de l'Ingénieur pour la reconstruction osseuse et cutanée, 2008 - Tissue Repair and 2010 - New biomedical advances in Franche-Comté)</p>

Member of the research group OSPR2 (Remodelage et Régénération), Franche-Comté, France  
Articles expertise for: Real Analysis Exchange magazine, Michigan State University; Journal of the Mechanical Behavior of Biomedical Materials; International Journal for Numerical Methods in Biomedical Engineering; Applied Mathematical Modelling.  
Realized informatics applications: 1) SiNuPrOs – Simulation Numerique des Propriétés de l'Os (in Matlab), informatics program for the calculus of the mechanical properties of the human cortical bone at each of its architectural levels; 2) SiNuPrOs-Fast (in Excel) that serves for the determination of cortical architectures corresponding to experimental measured mechanical properties at a macroscopic level. Both can be found on the Internet at the address <http://isfc.univ-fcomte.fr/Sinupros/SINUPROS/accueil.htm>

## Annex Papers

### Books and chapters in books (last 10 years)

1. M. Racila, J.M. Crolet, "Numerical simulations and some applications in cortical bone behavior", in "Qualitative Study of Differential Equations, Geometrical and Dynamical Aspects of Some Mechanical Systems, Numerical Treatment, and Applications", pp. 73-115, ISBN 978-606-26-0168-3, Editura Universitaria, 2014
2. M. Racila, Os cortical humain: modélisation mathématique et simulation numérique, Ed. Universitaria, Craiova, ISBN : 978-606-510-937-7, 208 pages, 2010 (in french)
3. Rôle de la piézoélectricité du collagène dans la mécanotransduction osseuse. Approche numérique, J.M. Crolet, M.C. Stroe, M. Racila, Bioreconstruction de l'os à la peau, Tome 2, ISBN 978-2-84023-705-1, pp. 43-54, Ed. Sauramp Médical, 2010 (in french)
4. M. Racila, C. Stroe, J.M. Crolet, "SiNuPrOs : Etude de la perméabilité multi échelle de l'os cortical humain", in "Reconstruction osseuse et cutanée: biomécanique et techniques de l'ingénieur", Ed. Sauramp Médical, ISBN : 978-2-84023-583-5, pp 13-24, 2008 (in french)
5. J.M. Crolet, M. Racila, "SINUPROS, modèle numérique de l'os cortical. Modélisation du fluide et méthode de quantification des champs physiques à diverses échelles", in "Reconstruction osseuse et cutanée: biomécanique et techniques de l'ingénieur", Ed. Sauramp Médical, ISBN : 978-2-84023-583-5, pp 25-46, 2008 (in french)
6. M. Racila, J.M. Crolet, "Orientation de la minéralisation et propriétés mécaniques de l'os cortical. Une approche numérique", in "Reconstruction osseuse et cutanée: biomécanique et techniques de l'ingénieur", Ed. Sauramp Médical, ISBN : 978-2-84023-583-5, pp 47-56, 2008 (in french)
7. Crolet J. M., M. Racila, "Un modèle numérique au service de l'orthopédie", Bio ingénierie et reconstruction osseuse, Ed. Sauramps Medical, France, ISBN : 978-2-84023-532-3, pp. 81-105, 2007 (in french)
8. Maria Predoi, Dana Constantinescu, Mihaela Racila, Teme de Analiza Matematica. Teorie si Aplicatii, Editura Universitaria Craiova, 464 pp, ISBN 978-606-510-233-0, 2010 (in romanian)

### ISI and BDI Papers (last 10 years)

1. L. Ellejmi, A.M. Mancuso, M. Racila, J.M. Crolet, Numerical simulations in a bony callus, Computer Methods in Biomechanics and Biomedical Engineering, DOI:10.1080/10255842.2014.931134, vol. 17, S1, pp. 70-71, 2014 (ISI)  
([http://www.tandfonline.com/doi/abs/10.1080/10255842.2014.931134?journalCode=gcmb20#.VGij\\_TsXJc](http://www.tandfonline.com/doi/abs/10.1080/10255842.2014.931134?journalCode=gcmb20#.VGij_TsXJc))
2. J.M. Crolet, M. Racila, A. Marguier and O. Placide, Electro osmosis and bone remodeling – a numerical simulation, International Journal of Biology and Biomedical Engineering, Volume 8, pp. 21-26, ISSN: 1998-4510, 2014 (ISI)
3. M.C. Stroe, J.M. Crolet and M. Racila, Mechanotransduction in cortical bone and the role of piezoelectricity: a numerical approach, Computer Methods in Biomechanics and Biomedical Engineering, Vol. 16, Issue 2, pp. 119-129, DOI: 10.1080/10255842.2011.608661, ISSN: 1025-5842, 2013 (ISI) (<http://dx.doi.org/10.1080/10255842.2011.608661>) - Premiu CNCS, cod CNCS: PN-II-RU-PRECISI-2012-6-1325  
[http://uefiscdi.gov.ro/userfiles/file/PREMIERE\\_ARTICOLE/articole%202012/noiembrie%20actualizat%208%20mai.pdf](http://uefiscdi.gov.ro/userfiles/file/PREMIERE_ARTICOLE/articole%202012/noiembrie%20actualizat%208%20mai.pdf)
4. J. M. Crolet, M. Racila, A. Marguier, O. Placide, Osteosynthesis by electro-osmosis. A numerical simulation, Recent Researches in Medicine, Biology and Bioscience, ISSN: 1790-5125, ISBN: 978-960-474-326-1, pp. 39-44, 2013 (ISI)  
<http://www.wseas.us/e-library/conferences/2013/Chania/BIOMED/BIOMED-05.pdf>
5. J. M. Crolet, S. Acciardo, M. Racila, Simulation of bone ingrowth in non-resorbable substitutes, Computer Methods in Biomechanics and Biomedical Engineering, Vol. 16 Supp. 1, pp. 251-253, DOI: 10.1080/10255842.2013.815925, ISSN: 1025-5842, 2013 (ISI)  
<http://www.tandfonline.com/doi/full/10.1080/10255842.2013.815925#.Um4uRnCOhG0>

6. J. M. Crolet, S. Acciaro, M. Racila, B de Billy, Dissect osteochondritis of the elbow: a possible explanation with a numerical study, *Computer Methods in Biomechanics and Biomedical Engineering*, Vol. 16 Supp. 1, pp. 234-236, DOI: 10.1080/10255842.2013.815946, ISSN: 1025-5842, 2013 (ISI) <http://www.tandfonline.com/doi/full/10.1080/10255842.2013.815946#.Um4uZHCOhG0>
7. Racila M., Crolet J.M, Collagen's role in the cortical bone's behavior: a numerical approach, *Computer Methods in Biomechanics and Biomedical Engineering*, vol. 14, issue 7, pp. 621-631, ISSN: 1025-5842, July 2011 (ISI) (DOI: 10.1080/10255842.2010.493509) (<http://www.tandfonline.com/doi/abs/10.1080/10255842.2010.493509>) - Premiu CNCS, cod CNCS PN-II-RUPRECISI-2012-6-0444 ([http://uefiscdi.gov.ro/userfiles/file/PREMIERE\\_ARTICOLE/articole%202012/MAI%20actualizat.pdf](http://uefiscdi.gov.ro/userfiles/file/PREMIERE_ARTICOLE/articole%202012/MAI%20actualizat.pdf) )
8. Racila M., Crolet J.M, Numerical simulation of thermoablation in living tissues, *Computer Methods in Biomechanics and Biomedical Engineering* (ISI), vol. 14, S1, pp. 279-281, ISSN: 1025-5842, August 2011, DOI:10.1080/10255842.2011.595244 (<http://www.tandfonline.com/doi/abs/10.1080/10255842.2011.595244> )
9. M.C. Stroe, Racila M., Crolet J.M, Quantitative investigation for properties of osteoporotic cortical bone: a numerical study, *Computer Methods in Biomechanics and Biomedical Engineering* (ISI), vol. 14, S1, pp. 99-101, ISSN: 1025-5842, August 2011, DOI:10.1080/10255842.2011.592375 (<http://www.tandfonline.com/doi/abs/10.1080/10255842.2011.592375>)
10. Racila M., Stroe M.C., Crolet J.M., Human cortical bone: the SiNuPrOs model. Part II - a multi-scale study of permeability, *Computer Methods in Biomechanics and Biomedical Engineering*, ISSN: 1025-5842, Vol. 13, Issue 1, pp. 81-89, 2010 (ISI), (IDS Number: 551PM; DOI: 10.1080/10255840903045037) (PMID:19639487) - Premiu CNCS (cod 572) ([http://cncsis.ro/userfiles/file/PREMIERE\\_ARTICOLE/ARTICOLE%202010/ARTICOLE\\_16\\_SEPTbuna%20\(Autosaved\)14ian.pdf](http://cncsis.ro/userfiles/file/PREMIERE_ARTICOLE/ARTICOLE%202010/ARTICOLE_16_SEPTbuna%20(Autosaved)14ian.pdf)) (<http://www.informaworld.com/smpp/content-content=a913461191-db=all-jumptype=rss> (<http://www.tandfonline.com> )
11. J. M. Crolet, C. M. Stroe, M. Racila, Decreasing of mechano transduction process with age, *Computer Methods in Biomechanics and Biomedical Engineering*, ISSN: 1025-5842, Vol. 13, S 1, pp. 43-45, 2010 (ISI), (IDS Number: 646UE; DOI:10.1080/10255842.2010.491950) 2010 - Premiu CNCS (cod 1065) ([http://cncsis.ro/userfiles/file/PREMIERE\\_ARTICOLE/ARTICOLE%202010/ARTICOLE%202010\\_15%20NOIEMBRIE\\_2feb2011.pdf](http://cncsis.ro/userfiles/file/PREMIERE_ARTICOLE/ARTICOLE%202010/ARTICOLE%202010_15%20NOIEMBRIE_2feb2011.pdf) ) (<http://www.informaworld.com/smpp/content-content=a926444045-db=all-jumptype=rss> (<http://www.tandfonline.com> )
12. J.M. Crolet, M. Racila, "Elaboration of assumptions for the fluid problem at microscopic scale in Sinupros, mathematical model of cortical bone", *Mathematical and Computer Modelling*, vol. 49, issue 11-12, 2009, ISSN: 0895-7177, pp. 2182-2190 (ISI) (IDS Number: 441CD; DOI: 10.1016/j.mcm.2008.07.027) - Premiu CNCS (cod 1599) ([http://www.cncsis.ro/userfiles/file/PREMIERE\\_ARTICOLE/REZULTATE\\_CUMULATE\\_ETAPA\\_II%20-8\\_IUNIE\(1\).pdf](http://www.cncsis.ro/userfiles/file/PREMIERE_ARTICOLE/REZULTATE_CUMULATE_ETAPA_II%20-8_IUNIE(1).pdf)) (<http://dx.doi.org/10.1016/j.mcm.2008.07.027> )
13. M. Racila and J.M. Crolet, "SiNuPrOs : Mathematical Model of Human Cortical Bone", *Recent Advances in Mathematics and Computers in biology and chemistry*, ISBN: 978-960-474-062-8, ISSN: 1790-5125, published by WSEAS Press (www.wseas.org), pp. 53-58, March 2009 (ISI) (IDS Number: BJF25) (<http://www.wseas.us/e-library/conferences/2009/prague/MCBC/MCBC07.pdf>) ([http://apps.isiknowledge.com.gate4.inist.fr/full\\_record.do?product=WOS&search\\_mode=GeneralSearch&qid=17&SID=4Cm3Lg3Hbbai6@diK1p&page=1&doc=2&cacheurlFromRightClick=no](http://apps.isiknowledge.com.gate4.inist.fr/full_record.do?product=WOS&search_mode=GeneralSearch&qid=17&SID=4Cm3Lg3Hbbai6@diK1p&page=1&doc=2&cacheurlFromRightClick=no) )
14. Crolet J.M., Racila M., Mathematical modelization of fluid flow in osteonal structures, *Computer Methods in Biomechanics and Biomedical Engineering*, ISSN: 1025-5842, Volume 12, Supplement 1, pp 87-89, 2009 (ISI), (DOI: 10.1080/10255840903077220) - Premiu CNCS (cod 1583) ([http://www.cncsis.ro/userfiles/file/PREMIERE\\_ARTICOLE/REZULTATE\\_CUMULATE\\_ETAPA\\_II%20-8\\_IUNIE\(1\).pdf](http://www.cncsis.ro/userfiles/file/PREMIERE_ARTICOLE/REZULTATE_CUMULATE_ETAPA_II%20-8_IUNIE(1).pdf)) (<http://www.ingentaconnect.com/content/tandf/gcmb/2009/00000012/A00101s1/art00031;jsessionid=a kpa4t7qniq82.victoria> ) (<http://www.tandfonline.com> )
15. Stroe, C.M., Racila M., Crolet J. M., Numerical simulation of fluid flow in the cortical part of a human femur, *Computer Methods in Biomechanics and Biomedical Engineering*, ISSN: 1025-5842, Volume 12, Supplement 1, pp 235-237, 2009 (ISI), (DOI: 10.1080/10255840903094043) - Premiu CNCS (cod 1585) ([http://www.cncsis.ro/userfiles/file/PREMIERE\\_ARTICOLE/REZULTATE\\_CUMULATE\\_ETAPA\\_II%20-8\\_IUNIE\(1\).pdf](http://www.cncsis.ro/userfiles/file/PREMIERE_ARTICOLE/REZULTATE_CUMULATE_ETAPA_II%20-8_IUNIE(1).pdf)) (<http://www.ingentaconnect.com/content/tandf/gcmb/2009/00000012/A00101s1/art00098;jsessionid=a kpa4t7qniq82.victoria> ) (<http://www.tandfonline.com> )

16. Miladi W., Racila M., Mathematical model of fluid flow in an osteon. Influence of cardiac system, Computer Methods in Biomechanics and Biomedical Engineering, ISSN: 1025-5842, Volume 12, Supplement 1, pp 187-189, 2009 (ISI), (DOI: 10.1080/10255840903091502) – Premiu CNCS (cod 1584)  
[http://www.cnscis.ro/userfiles/file/PREMIERE\\_ARTICOLE/REZULTATE\\_CUMULATE\\_ETAPA\\_II%20-8\\_IUNIE\(1\).pdf](http://www.cnscis.ro/userfiles/file/PREMIERE_ARTICOLE/REZULTATE_CUMULATE_ETAPA_II%20-8_IUNIE(1).pdf)  
<http://www.ingentaconnect.com/content/tandf/gcmb/2009/00000012/A00101s1/art00075;jsessionid=a kpa4i7qniq82.victoria> (<http://www.tandfonline.com>)
17. Racila M., Crolet J.M., "Human cortical bone : the SINUPROS model. Part I - Description and macroscopic results", Computer Methods in Biomechanics and Biomedical Engineering, ISSN: 1025-5842, Taylor & Francis, Volume 11, Issue 2, pp. 169-187, April 2008 (ISI), (DOI: 10.1080/10255840701695140; IDS Number: 277UV) – Premiu CNCS (cod 441) )  
[http://cnscis.ro/UserFiles/File/PREMIERE\\_ARTICOLE/ARTICOLE\\_2008/REZULTATE\\_PREMIERE\\_DECEMBRIE\\_2008.pdf](http://cnscis.ro/UserFiles/File/PREMIERE_ARTICOLE/ARTICOLE_2008/REZULTATE_PREMIERE_DECEMBRIE_2008.pdf)  
<http://www.informaworld.com/smpp/content?content=10.1080/10255840701695140>  
<http://www.tandfonline.com> )
18. Racila M., Crolet J.M., "Human cortical bone: the Sinupros model", Studies in health technology and informatics, J. Hammer et al. Eds, IOS Press, ISSN 0926-9630, vol. 133, pp. 208-215, 2008  
<http://www.ncbi.nlm.nih.gov/pubmed/18431849?dopt=Abstract> ; IDS Number: BMN41) (ISI)
19. Crolet J. M., Racila M., "Collagen fibers effect on the mechanical properties of cortical bone. A numerical approach", Computer Methods in Biomechanics and Biomedical Engineering, ISSN: 1025-5842, Volume 11, Supplement 1, pp 69 - 71, 2008 (ISI) (DOI: 10.1080/10255840802296608; IDS Number: 398OZ) (<http://www.informaworld.com/smpp/content-content=a795397108-db=all>  
<http://www.tandfonline.com> )
20. Racila M., Crolet J. M., "Nano and macro structure of cortical bone: numerical investigations", Mechanics of Advanced Materials and Structures, Volume 14, Issue 8, pp. 655 - 663, ISSN: 1537-6494, 2007 (ISI) (<http://dx.doi.org/10.1080/15376490701673193> ; IDS Number: 235MY)
21. Racila M., Crolet J. M., "SINUPROS: human cortical bone multiscale model with a fluide-structure interaction", Computer Methods in Biomechanics and Biomedical Engineering, Taylor & Francis Group, ISSN: 1025-5842, vol. 10, Supplement 1, pp. 179-181, 2007 (ISI) (DOI: 10.1080/10255840701479891)  
<http://www.informaworld.com/smpp/content-content=a781150693-db=all-jumtype=rss> )  
<http://www.tandfonline.com> )
22. Crolet J. M., Racila M., Mahraoui R., Meunier A., "New numerical concept for hydroxyapatite in human cortical bone", Computer Methods in Biomechanics and Biomedical Engineering, Taylor & Francis Group, ISSN: 1025-5842, Vol. 8 (2), pp. 139-143, 2005 (ISI)  
<http://dx.doi.org/10.1080/10255840500156971> )  
<http://taylorandfrancis.metapress.com/index/MN737U2112103330.pdf> ) (<http://www.tandfonline.com> )
23. Racila M., Crolet J. M., "Multi physic and multi scale aspects in human cortical bone", Rom. Journ. Phys., ISSN 1221-146X, vol. 50, nos 9-10, pp. 1157-1161, 2005 (ISI)
24. Racila M., Crolet J. M., "Human cortical bone: computer method for physical behavior at nano scale. Constant pressure assumption", Technology and Health Care – Journal of the European Society for Engineering and Medicine, IOS Press, ISSN 0928-7329, Vol.14, No. 4,5, pp. 379-392, 2006 (ID 8966995400 - Scopus Database) (BDI)  
<http://iospress.metapress.com/index/6WN3DFU1TQVF73JV.pdf>
25. Crolet J. M., Racila M., "Sur les propriétés physiques homogénéisées d'une paroi osseuse", Annals of University of Craiova, vol. 32, ISSN: 1223-6934, pp. 106-111, 2005 (BDI) (Math Scinet: MR2215902 and Zentralblatt Math: Zbl pre 05176684) (in french)  
<http://inf.ucv.ro/~ami/2005/index.html> )

#### Proceedings Paper (last 10 years)

1. J.M. Crolet, M.C. Stroe, M. Racila, Possible Explanation of Mechano-Transduction Process for Human Cortical Bone, , Journal of Biomechanics, ISSN: 0021-9290, Vol. 43, no. S1, pp. S59-S60, June 2010 (ISI) ([http://www.jbiomech.com/issues/contents?issue\\_key=S0021-9290\(10\)X0008-2](http://www.jbiomech.com/issues/contents?issue_key=S0021-9290(10)X0008-2) )
2. J. M. Crolet, C. M. Stroe, M. Racila, Possible role of collagen in mechano transduction of cortical bone, , Proceeding (CD) of the 4th European Conference on Computational Mechanics, Paris, France, 16-21 mai 2010
3. Racila M., Crolet J. M., „Transport of oxygen in cortical bone. Influence of mechanical loading”, Proceeding of the ECCOMAS, International Conference on Tissue Engineering 2009, P.J. Bartolo et al Eds, pp. 241-247, ISBN 978-972-8469-90-0, 2009
4. M. Racila, J.M. Crolet, "Homogenization of Human Cortical Bone. Numerical Approach", Proceedings of the 5th International Conference "Dynamical Systems and Applications", Volume 1, Special Issue 11, Ovidius University Press, ISSN: 1584-5990, pp. 141-154, June 2009  
[http://www.univ-ovidius.ro/faculties/civil\\_eng/conferinta%20iunie%202009/Home.html](http://www.univ-ovidius.ro/faculties/civil_eng/conferinta%20iunie%202009/Home.html) )

For more information on Europass go to <http://europass.cedefop.europa.eu>



5. Racila M., Crolet J. M., "SINUPROS : un modèle et un logiciel nano-macro pour les propriétés mécaniques de l'os cortical humain", Proceedings of the 8ème Colloque National en Calcul des Structures, Giens, Vol. 1, pp. 83-89, Hermes Science Publications, ISBN 978-2-7462-1822-2, 2007 ([http://www.utc.fr/csma/Colloque\\_Giens\\_2007/Giens2007/session-57.html](http://www.utc.fr/csma/Colloque_Giens_2007/Giens2007/session-57.html) [www.utc.fr/csma/Colloque\\_Giens\\_2007/Giens2007/.../S47B9L7E.doc](http://www.utc.fr/csma/Colloque_Giens_2007/Giens2007/.../S47B9L7E.doc))
6. Racila M., Crolet J. M., "Nano and macro structure of cortical bone: numerical investigations", Proceedings (CD) of 3th European Conference on Computational Mechanics Solids, Structures and Coupled Problems in Engineering, Lisbon, Portugal, June 2006
7. Racila M., Crolet J. M., "Human cortical bone: A tool for numerical simulation of fluid motion in osteonal architectures", Proceedings of 2nd International Conference on Computational Bioengineering, Vol.2, IST Press, ISBN: 972-8469-37-3, pp.711-718, 2005

#### Conferences attended (last 5 years)

1. M. Racila, J. M. Crolet, Numerical simulations and some applications in the cortical bone behaviour and thermoablation in living tissues, Workshop NONLINEAR DYNAMICS, 26 - 27 Septembre 2014, Sinaia, Romania
2. L. Ellejmi, A.M. Mancuso, M. Racila, J.M. Crolet, Numerical simulations in a bony callus, 39ème Congrès de la Société de Biomécanique, Valenciennes, 27-28 août 2014, France
3. J.M. Crolet, M. Racila, Bone Remodeling: A New Law from the Sinupros Model, 8th ESMC, Graz, Austria, 9-13 July 2012 ([http://www.esmc2012.tugraz.at/images/stories/esmc-2012\\_programme\\_final.pdf](http://www.esmc2012.tugraz.at/images/stories/esmc-2012_programme_final.pdf))
4. M. Racila, V. Serchi, J.M. Crolet, Effect of macroscopic loading on nanoscopic signal for cellular activity, 37ème Congrès de la SB 2012 – Toulouse, France, 16 - 19 octobre 2012 ([http://sb2012-toulouse.imft.fr/index8\\_prog.htm](http://sb2012-toulouse.imft.fr/index8_prog.htm))
5. M. Crolet, M. Racila, Simulation of Bone Remodeling With the Sinupros Model, 10th International Symposium CMBBE, Berlin, Germany, 11-14 April 2012 (<http://www.cmbbe2012.cf.ac.uk/list%20of%20PL5.asp>)
6. M.C. Stroe, J.M. Crolet and M. Racila, Rôle de la piézoélectricité du collagène dans la mécanotransduction osseuse. Approche numérique, Congrès SMAI 2011, 23-27 mai 2011, Guidel, Bretagne, France ([http://smai.emath.fr/smai2011/programme\\_detaille.php](http://smai.emath.fr/smai2011/programme_detaille.php) <http://smai.emath.fr/smai2011/resumesPDF/cmstroe/Abstract.pdf>)
7. Racila M., Crolet J.M, Numerical simulation of the thermoablation in living tissues, 36ème Congrès de la SB, Besançon, France, 31 août-2 sept 2011 (<http://sb2011-besancon.fr/Programme.aspx>)
8. M.C. Stroe, Racila M., Crolet J.M, Quantitative investigation for properties of osteoporotic cortical bone: a numerical study, 36ème Congrès de la SB, Besançon, France, 31 août-2 sept 2011 (<http://sb2011-besancon.fr/Programme.aspx>)
9. M. Racila, J.M. Crolet, C.M. Stroe, 9th International Symposium Computer Methods in Biomechanics and Biomedical Engineering, Valencia, Spain, 24-27 February 2010, Link between bony elastic properties and mineral density. Role of the architecture (<http://www.cmbbe2010.cf.ac.uk/pages/programme.htm>)
10. J. M. Crolet, C. M. Stroe, M. Racila, 9th International Symposium Computer Methods in Biomechanics and Biomedical Engineering, Valencia, Spain, 24-27 February 2010, Bony mechanotransduction: a possible explanation (<http://www.cmbbe2010.cf.ac.uk/pages/programme.htm>)
11. J. M. Crolet, C. M. Stroe, M. Racila, 4th European Conference on Computational Mechanics (ECCM 2010), Paris, France, 16-21 mai 2010, Possible role of collagen in mechano transduction of cortical bone ([http://www.eccm2010.org/Document/programme\\_ECCM\\_2010.pdf](http://www.eccm2010.org/Document/programme_ECCM_2010.pdf)) ([https://www.eccm-2010.org/abstract\\_pdf/abstract\\_930.pdf](https://www.eccm-2010.org/abstract_pdf/abstract_930.pdf))
12. J.M. Crolet, M.C. Stroe, M. Racila, International Conference on Orthopaedic Surgery, Biomechanics and Clinical Applications, Brunel University, West London, UK, June 6-9, 2010, Possible Explanation of Mechano-Transduction Process for Human Cortical Bone, (<http://www.brunel.ac.uk/about/acad/sed/conf/obcas/conferenceprogram>)
13. J. M. Crolet, C. M. Stroe, M. Racila, 35ème congrès annuel de la Société de Biomécanique, Mans, France, 25 -27 août 2010, Decreasing of mechano transduction process with age, (<http://sb2010.univ-lemans.fr/docs/Programme.pdf>)
14. J.M. Crolet, M.C. Stroe, M. Racila, Workshop New biomedical advances in Franche-Comté, 4-5 November 2010, Besançon, France, Rôle de la piézoélectricité du collagène dans la mécanotransduction osseuse. Approche numérique, (<http://ospr2.fr/manifestations.aspx>)
15. M. Racila, Belarusian State University, Minsk, Belarus, June 2015
16. J. M. Crolet, M. Racila, A. Marguier, O. Placide, Osteosynthesis by electro-osmosis. A numerical simulation, 9th WSEAS International Conference on Cellular and Molecular Biology, Biophysics and Bioengineering (BIO '13), Chania, Crete Island, Greece, August 27-29, 2013 <http://www.wseas.org/multimedia/conferences/2013/Chania/Program.pdf>

17. J. M. Crolet, S. Acciardo, M. Racila, Simulation of bone ingrowth in non-resorbable substitutes, 38ème Congrès de la Société de Biomécanique, Marseille, Luminy, 2-6 sept 2013, France  
<http://www.biomecanique.org/manifestations/congres/82-congres-sb-2013-marseille-luminy-3-6-septembre-2013>
18. J. M. Crolet, S. Acciardo, M. Racila, B de Billy, Dissecan osteochondritis of the elbow: a possible explanation with a numerical study, 38ème Congrès de la Société de Biomécanique, Marseille, Luminy, 2-6 sept 2013, France  
<http://www.biomecanique.org/manifestations/congres/82-congres-sb-2013-marseille-luminy-3-6-septembre-2013>

Associate Prof. Mihaela RACILA