



Personal information

First name(s) / Surname(s) **Ioan Rodica**

Address(es)

Telephone(s)

E-mail r.ioan.mi@spiruharet.ro

Nationality Romanian

Date of birth 08.01.1968

Desired employment /

Occupational field

Work experience

Dates **01.10.2007-currently**

Occupation or position held PhD Associate Professor

Name and address of employer *Spiru Haret* University

Type of business or sector Teaching

Dates **2004-2007**

Occupation or position held PhD Lecturer

Name and address of employer *Spiru Haret* University

Type of business or sector Teaching

Dates **2000-2004**

Occupation or position held PhD student lecturer

Name and address of employer *Spiru Haret* University

Type of business or sector Teaching

Dates **1994-1997**

Occupation or position held Mathematics Professor

Name and address of employer Industrial Electronics High-school no. 14, Bucharest

Type of business or sector Teaching

Dates **1994-1997**

Occupation or position held Mathematics Professor

Name and address of employer Economics High school no. 6, Bucharest

Type of business or sector Teaching

Education and training

Dates **1998-2004 –Doctoral Studies**

Title of qualification awarded PhD in Mathematics

Principal subjects/occupational skills covered Mathematical Modelling of Viscoplastic Flow in some Technological processes

Name and type of organisation providing education and training University of Bucharest, Mathematics and Computer College

Dates **1987-1993- University Studies**

Title of qualification awarded Mathematician

Principal subjects/occupational skills covered Mathematics and Mechanics

Name and type of organisation providing education and training University of Bucharest, Mathematics and Computer College

Personal skills and competences

Other language(s)

Self-assessment

European level (*)

English

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

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

Organisational skills and competences Chief of the Mathematics and Informatics Department- Mathematics and Computer College, *Spiru Haret* University (2008-2012)

Other skills and competences Dean of Faculty of Mathematics and Computer Science (may2012-february 2013)
Areas of interest: Mechanical Mathematics, Financial and Actuarial Mathematics, Probabilities' Theory, Mathematical Statistics, Material Engineering, Biomechanics and nano mechanics

Driving licence | B

Additional information

- member of the admission commission of the Mathematics and Computer College,
- member in the degree commission of the Mathematics and Computer College,
- member of the Society of Mathematical Sciences of Romania, Bucharest branch
- member of AMS (American Mathematical Society), al European Mathematical Society
- participation at the Continuum Mechanics Workshop, organised by PhD Prof. Sanda Cleja-Țigoiu, at University of Bucharest, Mathematics and Computer College
- scientific researcher** at the Solid Mechanics Institute
- member of examination commissions of Doctoral Programmes
- member of some commissions of the filling of teaching positions
- I graduated training program in teaching specialty didactics teaching mathematics in primary and pre-school, organized by the Ministry of Education, University of Bucharest, AI Cuza University of Iasi, Babes Bolyai University Politehnica of Bucharest, University of Pitesti, University December 1 1918 Alba Iulia, Neptune June 2013 Draft HRD quality, innovation, COMMUNICATION SYSTEM TRAINING IN DIDACTICIAN HIGHER EDUCATION
- I have completed the TRAINER course, COR code 242 401 organized CNDRU EUROSTUDY, March 2016
- Atelier Digital, certificate, 2016

Published papers

1. Șt. Ioan, **R. Ioan**, *A Mathematical Dynamic Model of the Theory of Tube Drawing with Floating Plug*, Rev. Roum. Sci. Tehn. – Mec. Appl., **42**, 3-4, 1997
2. **R. Ioan**, Șt. Ioan, *O relație între factorul de frecare m și coeficientul de frecare μ la deformarea plastică a metalelor*, St. Cerc. Mec. Apl., **56**, 5-6, 1997.
3. **R. Ioan**, Șt. Ioan *A Mathematical Model of the Bimetallic Tube Drawing with Floating Plug*, Proceedings Second International Conference on Materials and Manufacturing Technologies, Cluj-Napoca, 1998
4. **R. Ioan**, Șt. Ioan, *Inertia Influence in Bimetallic Tube Drawing with Floating Plug Problem*, Metallurgy and New Materials Researches, vol. **VI**, 3, 1998
5. **R. Ioan**, Problema tragerii țevilor compozite cu dop flotant, Buletinul celei de-a XXII-a Conferințe Naționale de Mecanica Solidelor, Vol. I, 28 octombrie 1998
6. Șt. Ioan, **R. Ioan**, *A mathematical model of the bimetallic tube drawing with floating plug*, Revue Roumaine des Sciences Techniques, Serie de Mechanique Appliquee, Nr. 1, Vol. 44, ianuarie-februarie, 1999
7. **R. Ioan**, Șt. Ioan, *Un model matematic al tragerii țevilor pe dop susținut și dorn*, Bul. Univ. „Petrol-Gaze” Ploiești, vol. LI, 1, 1999.
8. **R. Ioan**, Șt. Ioan, *Tragerea țevilor bimetalice cu dop flotant. Considerente dinamice*, Buletinul Științific al Universității Tehnice a Moldovei, vol. **II**, Chișinău, 2000
9. **R. Ioan**, Șt. Ioan, *A Mathematical Model of Tube Drawing without Plug*, Proceedings – Sesiunea de comunicări științifice cu participare internațională „Tehnologii Moderne în secolul XXI”, Academia Tehnică Militară, București, 2001.

Published papers

10. **R. Ioan**, O soluție a problemei tragerii benzilor folosind o teoremă de medie, Scientific Magazine of the University of Pitesti, XXVII Conference of Solid Mechanics, Vol. I (7), 2003.
11. **R. Ioan**, St. Ioan , O nouă aproximare a soluției problemei asimetrice a benzilor, XXVIII National Conference of Solid Mechanics, Târgoviște, 2004.
12. **R. Ioan**, *A viscoplastic model of asymmetrical cold rolling*, SISOM, 2004.
13. **R. Ioan**, V. Chiroiu, M. Soare, *The LISA simulation of longitudinal acousto-elasto waves in pre-stressed and pre-polarized piezo-crystals* The International Colloquium "Mathematical in Engineering and Numerical Physics", October 7-9, Bucharest, 2004.
14. *A viscoplastic model of asymmetrical cold rolling - a new analytical approach* - R. Ioan, SISOM, 2005.
15. **R. Ioan**, Utilizarea metodei perturbațiilor la rezolvare problemei tragerii benzilor folosind o teoremă de medie, Annals of Spiru Haret University, Ed. Fundației România de Măine, 2005.
16. **R. Ioan**, *Dynamic aspects in bimetallic tube drawing with floating plug problem* Scientific Magazine – Applied Mechanics Series, vol. 1 (12), ISSN 1582 - 1561, 2005.
17. **R. Ioan**, *Asymmetrical cold strip rolling - a new analytical approach*, Rev. Roum. Sci. Techn- Mec. Appl., 2005
18. **R. Ioan**, *A mathematical model of tube drawing without plug*, Scientific Magazine of the University of Pitești, 2006
19. **R. Ioan**, Contributions to the modelling of the asymmetric rolling process, the XXXI National Conference of Solid Mechanics, Chisinau, 2007.
20. G. Albeanu, **R. Ioan**, *Bootstrap schemes for the estimation of indirect measurements*, The seventh workshop on Mathematical Modelling of Environmental and Life Sciences Problems, 25-28 Octombrie 2008, Constanta
21. Valeria Mosneguțu, Veturia Chiroiu, **Rodica Ioan**, *On the friction coefficient of synovial fluid in knee joint*, , SISOM, 2009
22. Veturia Chiroiu, Valeria Mosneguțu, Ligia Munteanu, **Rodica Ioan**, *On a micromorphic model for the synovial fluid in the human knee*, Mechanics Research Communications, ISI magazine, 2010
23. **R. Ioan** *Asymmetrical cold strip rolling. A new analytical approach*, Revue Roumaine des Sciences Techniques – Série de Mécanique Appliquée, 54, 1, pp. 11-34, 2009, ISSN: 0035-4074 .
24. Veturia Chiroiu, Valeria Mosneguțu, Ligia Munteanu, **Rodica Ioan**, *On a micromorphic model for the synovial fluid in the human knee*, Mechanics Research Communications, revista ISI, vol.36, nr.8, pp. 973- 984, 2009 ISSN 0093-6413, 2009.
25. G. Albeanu, **R. Ioan**, *Correlation between the distance learning higher education and the labour market*, The White Paper of the Romanian Higher Education and Distance Learning, Ed. Universitaria, Craiova 2011
26. **R. Ioan**, St. Donescu, V. Mosnegutu, *On the motion of femoral head into the acetabular cup. Part 1. The model*, pp. 320-328, Proceedings of the Annual Symposium of the Institute of Solid Mechanics, ISBN 1843-5459
27. M. Poienariu, **R. Ioan**, *On the self-organizing pattern with application to smart materials*, , Analele Universității Spiru Haret – Seria Matematică-Informatică, 2012, ISSN: 1841-7833.
28. V. Mosnegutu, St. Donescu, **R. Ioan**, V. Chiroiu, *On a squeaky knee*, Proceedings of the International Conference of Mechanical Engineering ICOME 2013 Craiova 16-17 mai 2013, Tome 1, pp.183-188, 2013.
29. P.P. Teodorescu, V. Mosnegutu, **R. Ioan**, L. Munteanu, *Acustica freccarii: aplicatii in mecanica*, A 37-a Conferință Națională de Mecanica Solidelor, Acustică și Vibrații CNMSAV XXXVII Chișinău, MD-2070, Republica Moldova, 6-8 Iunie 2013.

30. **R.Ioan**, I.Girip, M.A.Popescu, L.Munteanu, V.Chiroiu, *On the sonic composites with defects*, The 5th International Conference on Computational Mechanics and Virtual Engineering - COMEC 2013, 24 – 25 oct. Brasov, 2013.
31. I.Girip, St.Donescu, **R.Ioan**, M.Georgescu, *On the nonlinear structural parameter estimation with hysteretic Bouc-Wen nonlinearity*, Annual Symposium of the Institute of Solid Mechanics, Sisom 2013, May 21-22 2013.
32. L. Munteanu, C. Brişan, V. Chiroiu, D. Dumitriu, **R. Ioan**, *Chaos-hyperchaos transition in a class of models governed by Sommerfeld effect*, Nonlinear Dynamics, 78(3), pp. 1877-1889, 2014, ISSN 0924-090X, IF 2013: 2.419, SRI 1.739.
33. Ruxandra Ilie, **Rodica Ioan**, Cornel Brişan, *On the sonic composites subjected to severe acoustic loads*, PAMM ("Proceedings in Applied Mathematics and Mechanics"), John Wiley and Sons. ISSN: 1617-7061., 2014
34. Iulian Girip, **Rodica Ioan**, *On the contact interfaces in sonic composites*, PAMM ("Proceedings in Applied Mathematics and Mechanics") John Wiley and Sons. ISSN: 1617-7061
35. Veturia Chiroiu, Marius Florinel Ionescu, Tudor Sireteanu, **Rodica Ioan**, Ligia Munteanu, *On intrinsic time measure in the modeling of cyclic behavior of a Nitinol cubic block*, Smart Materials and Structures doi:10.1088/issn.0964-1726, Online ISSN: 1361-665X
Print ISSN: 0964-1726. Factor impact 2.024, 2014
36. L. Munteanu, C. Brişan, V. Chiroiu, D. Dumitriu, **R. Ioan**, *Chaos-hyperchaos transition in a class of models governed by Sommerfeld effect*, Nonlinear Dynamics, 2014, 78(3), 1877-1889, ISSN 0924-090X, IF 2,419 (pe 2013/2014), SRI 1,99697, <http://link.springer.com/article/10.1007/s11071-014-1575-y>
37. Ligia Munteanu, Tudor Sireteanu, **Rodica Ioan**, *On the Sommerfeld effect*, SISOM 2014
38. **R.Ioan**, I.Girip, M.A.Popescu, L.Munteanu, V.Chiroiu, *On the sonic composites with defects*, International Conference on Computational Mechanics and Virtual Engineering - COMEC 2013, 24 – 25 oct. Brasov, 2013
39. **Rodica Ioan**, Teaching mathematics using TIC , Conferința Internațională "Modernitate și competitivitate în educație" București, Universitatea Politehnica din București, 31 mai 2014
40. V. Chiroiu, L. Munteanu, **R. Ioan**, V. Moşneguţu, *On the seismic cloaking*, Romanian Journal of Acoustics and Vibration, XI(1), pp.31-34, 2014, ISSN 1584-7284 (38th International Conference on Mechanics of Solids, Acoustics and Vibrations ICMSAV XXXVIII, 3-5 Septembrie 2014, Piteşti)
41. V. Chiroiu, L.Munteanu, D.Dumitriu, C. Brişan, **R. Ioan**, *On the stability of a class of nonideal systems*, Romanian Journal of Acoustics and Vibration, XI(2), pp. 88-93, 2014, ISSN 3 1584-7284 (38th International Conference on Mechanics of Solids, Acoustics and Vibrations ICMSAV XXXVIII, 3-5 Septembrie 2014, Piteşti).
42. Vlad Copil, **Rodica Ioan**, *A brief history of Catalan's conjecture*, An. Univ. Spiru Haret. Ser. Mat.- Inform. 2014;10(1)33–36.
43. **Rodica Ioan**, Stefan Ioan, *The perturbation method applied to tube drawing with floating plug*, [PAMM](#) ("Proceedings in Applied Mathematics and Mechanics") [John Wiley and Sons](#). ISSN: 1617-7061., 2015
44. L. Munteanu, **R. Ioan**, *On the sonic composites with applications*, SISOM 2015
45. Ligia Munteanu, **Rodica Ioan**, *On the evanescent waves in sonic band-gaps*, Analele Universităţii , "Eftimie Murgu" Reşiţa, Anul XXII, NR. 1, 2015, ISSN 1453 – 7397 Multi-Conference on Systems & Structures (SysStruc 2015), Reşiţa, Sept. 24-26, 2015.
46. V. Chiroiu, C.Brişan, L. Munteanu, C.Rugina, **R.Ioan**, I. Girip, *The atmosphere - a natural sonic structure with chaotic characteristics*, sent to Nonlinear Dynamics, 2016, ISSN: 0924-090X , IF(2016/2016) 3,00, SRI (2016) 1,810 august 2016.
47. V.Chiroiu, L. Munteanu, D.Dumitriu, C.Rugina, **R. Ioan**, V.Mosnegutu, *Application of dynamic optimisation for enhancing the full band-gaps in sonic multilayer films*, sent to Nonlinear Dynamics, 2016, ISSN: 0924-090X ,

IF(2016/2016) 3,00, SRI (2016) 1,810 septembrie 2016. 11.

48. R.Ilie, V.Chiroiu, **R.Ioan**, *On the acoustical cloaking*, sent to Scientific Bulletin, University Politehnica from Bucharest, series A, vol.78, 2016, ISSN 1223-7027, IF (2015/2016) 0,365, SRI (2016) 0,161.

49. **R.Ioan**, St.Ioan, *On intrinsic time measure concept with application to the modeling of smart materials*, PAMM- Proceedings in Applied Mathematics and Mechanics, Gesellschaft für Angewandte Mathematik und Mechanik (GAMM) ISSN: 1617- 7061, vol. 16, issue 1, 2016.

50. V.Chiroiu, **R.Ioan**, I.Girip, V.Mosnegutu, *On the non-periodic multilayer structures*, XXVII-th Annual Symposium of the Institute of Solid Mechanics SISOM 2016 and Session of the Commission of Acoustics, CD Proceedings, Bucharest, 12-13 May 2016.

Books

1. *Mathematics for economists* – collaboration - R.Trandafir, I. Duda, A. Baci, **R. Ioan**, , Ed. Fundației României de Măine, 2000.
2. *Mathematics for economists*– collaboration - R.Trandafir, I. Duda, A. Baci, **R. Ioan**, S. Bîrză, Ed. Fundației României de Măine, 2005.
3. **Topics in Applied Mechanics, vol. I** - edited by V. Chiroiu, T. Sireteanu - chapter *Global and local methods for solving strip rolling problem*, **R. Ioan**, p.163-187; ISBN 973 – 27-1005 – 5, ISBN 973 – 27-1004 – 7, Ed. Academiei Române, 2003.
4. **Topics in Applied Mechanics, vol. III** - edited by V. Chiroiu, T. Sireteanu, chapter - *A mathematical model of asymmetrical cold rolling using perturbation method*, **R. Ioan**, p.72 -103, ISBN 973 – 27-1245 – 7, ISBN 973 – 27-1004 – 7, Ed. Academiei Române, 2006.
5. *Probabilities' Theory*- R.Trandafir, **R. Ioan**, M. Ghica, Ed. Fundației României de Măine, 2007.
6. *Elements of financial and actuarial mathematics* - **R. Ioan**, Ed. Fundației României de Măine, 2007
7. *Mathematical Modelling of Viscoplastic Flow in some Technological processes*, **R. Ioan**, Ed.Academiei, 2008
8. *Mathematical Analysis. Integral Calculus*, Rodica Trandafir, Duda Iordan, **R. Ioan**, Antonela Gonciulea, , Editura FRM, Bucharest, 2009
9. *Applied Mathematics in Economy- course in IFR technology*, **R. Ioan**, M Ghica, V. Copil, R. Nicola, , Editura FRM, Bucharest, 2011
10. *Inverse Problems and Computational Mechanics*, vol.1, cap.10, *Two inverse problems for the human knee*, V. Mosneguțu, **R. Ioan**, V. Chiroiu, Editura Academiei (eds. L. Marin, L. Munteanu, V. Chiroiu), 2011
11. **R. Ioan**, M Ghica, V. Copil, *Financial and Actuarial Mathematics –course in IFR technology*, Editura FRM, Bucuresti, 2012
12. *Algebra fundamentals*, Ion D. Ion, S. Barza, **R. Ioan**, , Editura FRM, Bucuresti, 2012, ISBN 978-606-20-0091-2
13. L.Munteanu, V.Chiroiu, T.Sireteanu, **R. Ioan**, *Sonic multilayer composite films*, chapter 11, vol. 2 Editura Academiei (eds. L.Marin, L.Munteanu, V.Chiroiu) 251-272, 2016

Courses

1. **Syntheses - Mathematical economics**, Facultatea de Management Financiar Contabil – collaboration - R.Trandafir, I. Duda, A. Baci, **R. Ioan**, S. Bîrză, Ed. Fundației României de Măine, 2005 (2003, 2004).
2. **Syntheses - Mathematics**, I. Duda, A. Baci, **R. Ioan**, S. Bîrză, Ed. Fundației României de Măine, 2005 (2003, 2004).
5. **Syntheses – Applied Mathematics in banking** - R. Ioan, Mathematics and Computer College, Ed. Fundației României de Măine, 2005.
6. **Syntheses- Mathematical Theory of Insurance** - R. Ioan, Mathematics and Computer College, Ed. Fundației României de Măine, 2005.

Participation in Grants

International Grants won by Competition

1. International project no. 01697/2005-2006 signed with Svenska Institutet, Stockholm, theme: “*Active and passive damping with applications in manufacturing*”, coordinators: Cornel Mihai Nicolescu, Goran Karlsson, T. Sireteanu, V. Chiroiu.
2. International Project no. 2657/2001–2004, 01834/2004-2005 Svenska Institute, Stockholm “*Active and passive damping with applications in manufacturing*”, Swedish partner: prof. Cornel Mihai Nicolescu and prof. Goran Karlsson; Romanian partner: dr. V. Chiroiu, dr. T. Sireteanu and dr. I. Ruginã.
3. International Grant NATO 2000–2002, PST.CLG. 976864/2000 NATO country manager professor P. P. Delsanto, partner country manager V. Chiroiu “*Modelling of Nonlinear Mesoscopic Elastic Materials*”.

National Grants won by Competition

Participation in

1. Grant CNCSIS- Contract no.27664/2005-2007, additional document no. 120/2006 and 2007, code 160/2005, Virtual designing project of some nanocomposites with optimal resistance and amortization properties
2. Grant MCT-ANSTI-Contract-additional 1/ 2001 with ANSTI, theme A5, *Simulating program of the dynamical behaviour of the human cardio-vascular system for assessing its integrity*
3. Contract GAR code 3 /2005-2006, contract 85/2005, contract 88/2006 with The Romanian Academy, *Vibrations of carbon nanotubes with one wall, charged with axial forces, transversal forces and bending moments, on elastic environment, with applications in super-resistant nanostructured materials’ construction*
4. Contract no. 99/2003 and 95/2004 with The Romanian Academy, project no.4/2003, *Researches on using alloys with form memory in controlling mechanical vibrations with applications in robotics and machine tools*
5. Contract no. 40197/2003, CNCSIS, theme A1, CNCSIS code 152, *Research on the intelligent control of the amortization in nanostructures and nanostructured materials with mechanical applications*
6. Participation in the project POSDRU/86/1.2/s/60720, *Developing and implementing a monitoring system, continuous improvement and quality assessment in the open higher education and in the distance learning based on the performance indicators and international quality standards*, European Social Fund, Priority axe 1- *Education and professional forming to support economic growth and the knowledge-based society development*
7. Participation in the project *Compozite sonice local rezonante cu aplicatii in mecanica, Proiect PN-II-ID-PCE-2012-4-0023, contract nr. 3/2013*
Unitatea contractanta: UEFISCDI - Unitatea executiva pt finantarea invatamantului superior, a cercetarii, dezvoltarii si inovarii., conducator grant- dr.hab. Ligia Munteanu

Economical Contracts

1. Economical contract no. 4/2004, SC UTON SA Onești, *Assessing the lifetime of materials using the continuous degradation method*

Internal Projects- Solid Mechanics Institute

1. IMS Project *Research on new theory coupled atomistic-continuous with applications in the modelling of nano-contacts and of indentation* (Program: *Dynamical problems in solid mechanics*, 2007)
2. IMS Project: *Complexity and universality in the control of the characteristics of nanostructured materials* (Program: *Dynamical problems in solid mechanics*), 2006.
3. IMS Project, *Researches on the mechanical properties of composites with*

inclusions of negative rigidity, (Program: *Dynamical problems in solid mechanics*), 2005.

Cited papers which validate (no auto-citing) the recognition from specialists and institutions

The papers have been cited by:

G. Camenschi, N. Sandru – Mathematical models in metal processing, Ed. Tehnică, 2003, 6 cited papers.

Cited paper: „A Mathematical model of bimetallic tube drawing with floating plug, Rev. Roum. Sci. Tech.-Mec. Appl. 44,1,49-72” **S. Ioan, R. Ioan in Dynamic Plasticity, N. Cristescu**, Ed. World Scientific Publishing, C.o. Pte. Lsd., S.U.A, 2007.

Cited paper Vlad Copil, **Rodica Ioan**, *A brief history of Catalan’s conjecture*, An. Univ. Spiru Haret. Ser. Mat.- Inform. 2014;10(1)33–36.

in British Journal of Mathematics & Computer Science, 11(3): 1-6, 2015, Article no.BJMCS.19252, ISSN: 2231-0851, SCIENCEDOMAIN international,

www.sciencedomain.org, Solutions to the Equations $2^w - 3^n \pm 1 = 0$, with w and n Positive Integers, Alain Jaeckell, Jean-François Palierne, and Jean Dayantis,

UEFISCDI prize (<http://uefiscdi-direct.ro>.) Article

Veturia Chiroiu, Florinel Marius Ionescu Tudor Sireteanu, Rodica John Ligia Munteanu On intrinsic measure time in the modeling of cyclic behavior of the Nitinol cubic block, Smart Materials and Structures doi: 10.1088 / issn.0964-1726, Online ISSN: 1361 -665X

Print ISSN: 0964-1726. 2024 Impact Factor 2014

Member of the editorial team, Annals of Spiru Haret University, Mathematics-Computer Series no. 2, 2006, ISSN 1841-7833,

Member of the scientific editorial team of the Annual Conference of Applied Mathematics and Informatics, CAMAI 2008, CAMAI 2009, 2010,2011, 2012, 2014, 2015, 2016