

# Babes-Bolyai University

## Cluj-Napoca

## ROMANIA



The Superior Dacia University, King Ferdinand I University, University of Cluj Napoca is the most important university of Transylvania, from November 3, 1919 when was set up by King Ferdinand I.

The Babeş-Bolyai University offers study programmes in Romanian, Hungarian, German, English, and French. The university was named after prominent scientists from Transylvania: the Romanian

institution in Romania, Babeş-Bolyai University has more than 40,000 students. The structure of the student body is composed out of over 2,500 Ph.D. students, 8500 master's degree students, and 30,000 undergraduates. The university has 21 faculties and over 1,400 faculty members. It offers bachelor's, master's, and Ph.D. degrees, along with advanced postgraduate studies.



bacteriologist Victor Babeş and the Hungarian mathematician János Bolyai.

In 1959, the Communist authorities decided to merge the two universities into one, named Babeş-Bolyai University, with teaching in both language. The university is now the most diversified and the most complex higher education

In the 2011 URAP international ranking, the University was ranked first in Romania based on top academic indicators.

In the 2015 Best Globat Universities Rankings BBU was included in Top 600 universities of the world.



## **Faculty of Mathematics and Computer Science**



The Faculty of Mathematics and Computer Science is today a fortunate blend of tradition, experience and modernity in a large and prestigious University.

The Computer Science is undeniably the science of the present and, beyond all questions, of the future as well. The number of students attending the courses in this branch has rapidly increased and it is with absolute certainty that the graduates of Computer Science study programs can compete fearlessly and deeply confidently on the international labour market of Information Technology.

There are generations of graduates of Mathematics and Computer Science study programs, spread all over the country and in the whole world, who work for prestigious schools, for strong IT companies, or in different fundamental and applied research fields in universities or research institutes from Romania, Western Europe or United States.





## Welcome from the Dean of the faculty



The Faculty of Mathematics and Computer Science is, in our opinion, a fortunate blend of tradition, experience

and modernity in a large and prestigious University.

On one hand, it is known that all that was discovered in Mathematics along the centuries, even since the times of the ancient Egyptians, Arabians and Greeks, all that Euclid, Pythagora, Euler or Poincaré stated as mathematical truth, remained as such. None of these became obsolete; the subsequent discoveries did not revoke anything from Mathematics which kept on developing unceasingly. The Faculty of Mathematics and Computer Science from Babeş-Bolyai University Cluj-Napoca relies on and draws its vigour from a whole school of famous names that starts with M. Hell, F. Riesz, L. Fejer, Gy. Farkas, D. Pompeiu, P. Sergescu, Gh. Bratu, Th. Angheluţă and proceeds with G. Călugăreanu, T. Popoviciu and

D.V. Ionescu, F. Rado, to mention only a few important scientists and professors. Today, with more than 500 students, enrolled in Bachelor study programs (in Mathematics and Mathematics-Computer Science) and in Master programs (Applied Mathematics and Didactic Mathematics) and with a very strong research activity (mainly in Algebra and in Applied Analysis), the Department of Mathematics try to maintain at a high level a successful scientific and professional activity. On the other hand, the Computer Science is undeniably the science of the present and of the future as well. The number of students attending the courses in this branch has rapidly increased (today are more than 1200) and, more than that, the graduates of Computer Science study programs (both in Romanian and in English) are extremely competitive on the international labour market of Information Technology. The cooperation agreements between the faculty and a lot of IT companies from Cluj-Napoca and from abroad and a fruitful scientific activity are powerful evidences of the central position of our Department of Computer Science in this field. A very important component of the



## Welcome from the Dean of the faculty

scientific and didactic activity of the faculty is the Hungarian line of study. The Department of Mathematics and Computer Science of the Hungarian line of study coordinates three Bachelor programs (in Mathematics, Mathematics-Computer Science and Computer Science) as well as, three Master programs (both in Mathematics and in Computer Science) with more than 600 students.

The Doctoral School of Mathematics and Computer Science is another important component of our scientific life. With 18 Ph.D. supervisors, both in Mathematics and Computer Science, and with more than 80 Ph.D. Students, the Doctoral School has today a very strong position at the national level. At the same time, both Mathematics and Computer Science from Babeş-Bolyai University have at their disposal a wide range of dependable technical and managerial facilities such as highly endowed laboratories, well equipped libraries, modern academic and research programmes, profitable international cooperation. Cluj-Napoca is known as the born place of János Bolyai, Transylvanian mathematician,

known for his work in non-Euclidean geometry. Bolyai's work was published in 1832 as an appendix to a math textbook by his father Farkas Bolyai. Independently from János Bolyai, N.I. Lobachevsky published in 1929 a similar work on non-Euclidean geometry. Today, these essential contributions are known as Bolyai-Lobachevsky geometry. Of course, we are proud today that the name of our university contains the name of this very famous mathematician.

Cluj-Napoca is today the second largest city in Romania situated in the northwestern part of the country. Geographically, it is roughly equidistant from Bucharest (441 km), Budapest (409 km) and Belgrade (465 km). Located in the Someșul Mic River valley, the city is considered the unofficial capital to the historical province of Transylvania. The past history of Transylvania is strongly connected to the myth of count Dracula, a legend promoted by Bram Stoker's well-known novel. The source of inspiration of the novel seems to be the figure of a Romanian voivode, "Vlad the Impaler", ruler of Wallachia, who was born in Sighișoara, a nice historical town in Transylvania.



## Management & Departments

### Dean and Vice-deans

Dean	Prof. PhD. Adrian PETRUŞEL
Vice-deans	Assoc. Prof. PhD. Simona MOTOGNA Assoc. Prof. PhD. ROBU Judit Assoc. Prof. PhD. Marcel Adrian ŞERBAN

### Senate Members

Prof. PhD. Septimiu CRIVEI
Prof. PhD. Horia F. POP
Assoc. Prof. PhD. Nicolae POPOVICI
Assoc. Prof. PhD. Virginia NICULESCU
Assoc. Prof. PhD. Christian SĂCĂREA
Assoc. Prof. PhD. Anna SOOS
Student Andrei Francisc TECSI





## Management & Departments

### Faculty Council (2012-2016)

Teaching staff	Prof. PhD. Agratini Octavian
	Assoc. Prof. PhD. Andras Szilard-Karoly
	Assoc. Prof. PhD. Andreica Anca
	Lect. PhD. Bodó Zalán
	Lect. PhD. Bufnea Darius
	Assoc. Prof. PhD. Chiorean Ioana
	Prof. PhD. Crivei Septimiu
	Assoc. Prof. PhD. Csató Lehel
	Prof. PhD. Czibula Gabriela
	Lect. PhD. Darabant Sergiu Adrian
	Prof. PhD. Mărcuș Andrei
	Assoc. Prof. PhD. Motogna Simona
	Prof. PhD. Pârv Bazil
	Prof. PhD. Petrușel Adrian
	Prof. PhD. Pop Horia-Florin
	Assoc. Prof. PhD. Popovici Nicolae
	Assoc. Prof. PhD. Robu Judit
	Assoc. Prof. PhD. Szenkovits Ferenc
	Assoc. Prof. PhD. Soos Anna
	Lect. PhD. Săcărea Christian
	Lect. PhD. Sterca Adrian
	Assoc. Prof. PhD. Șerban Marcel
	Lect. PhD. Vancea Alexandru





## Management & Departments

### Faculty Council (2012-2016)

Students	Dávid Anita-Kinga, Master I
	Fekete Roland, Master I, representing NGOs
	Feldrihan Lucia Dorina, Computer Science Romanian I
	Hedes Cristian Teodor, Computer Science English I
	Herlea Diana, PhD student
	Parajdi Lorand Gabriel, Master I, chancellor student
	Pável Szabolcs, Computer Science Hungarian II
	Sarca Septimiu Vasile, Mathematics and Computer Science Romanian I





## Academic programmes

### Undergraduate Programmes:

- **Domain Computer Science:** Computer Science  
(In Romanian, Hungarian, English and German)
- **Domain Mathematics:** Mathematics, Mathematics Computer Science (in Romanian, Hungarian and English)

### Master's Programmes:

- **Domain Mathematics:**
  - Advanced Mathematics (in English)
  - Applied Mathematics (in Romanian and English)
  - Computational Mathematics (in Hungarian)
  - Didactic Mathematics (in Romanian and Hungarian)
  - Mathematics (in Romanian and English)
- **Domain Computer Science:**
  - Applied Computational Intelligence (in English)
  - Component-Based Programming (in English)
  - Data Analysis and Modeling (in Hungarian)
  - Databases (in Romanian)
  - Didactics of Computer Science (in Romanian and Hungarian)
  - Distributed Systems in Internet (in Romanian)
  - Enterprise Software Design and Development (in Hungarian)
  - High Performance Computing and Big Data Analytics (in English)
  - Software Engineering (in English)

### Doctoral Programmes:

- Doctoral School in Mathematics and Computer Science



## Undergraduate Programs

### **Computer Science**

Labor market demands highly qualified computer science professionals. This programme offers a coherent approach by combining theoretical knowledge with modern technologies and practical work. The curricula is build using the paradigm “scientist-practitioner”, being inspired from other European computing science programmes, thus ensuring the compatibility of studies in the European Higher Education Area. What is more the undergraduate programme in Computer Science provides the students with the appropriate knowledge and tools for further master degree studies and/or for their professional activity in IT, education, administration, industry or finance and this program is taught in four languages, English, Romanian, Hungarian and German.

### **Mathematics**

The programme's purpose is to provide the students with the capacity to understand and manipulate the basic concepts of fundamental mathematical structures, to transmit and value the studied knowledge and methods, to permanently learn, understand and apply the most recent scientific results and to understand and approach problems of mathematical nature from other sciences. Furthermore, this bachelor programme in Mathematics provides the students with the appropriate knowledge and tools for further master degree studies and/or for their professional activity in education, administration, industry or finance and is taught in Romanian and Hungarian languages.



## Undergraduate Programs

### ***Mathematics & Computer Science***

The programme's purpose is to provide the students with the capacity to understand and manipulate the basic concepts and methods of fundamental mathematical structures, of fundamental programming and of software systems development and maintenance, to transmit and value the studied knowledge and methods, to permanently learn, understand and apply the most recent scientific results in Mathematics and Computer Science and to understand and approach, by mathematical and computing tools and methods, problems of mathematical nature from other sciences. Also, The bachelor programme in Mathematics Computer Science provides the students with the appropriate knowledge and tools for further master degree studies and/or for their professional activity in education, IT, administration, industry or finance and this program is taught in Romanian, Hungarian and English languages.





## Master Programs

### ***Advanced Mathematics***

Advanced mathematics focuses on the study and creation of Mathematical and computational tools broadly applicable in science and engineering, and on their use in solving challenging problems in these and related fields. From ecological modeling to mechanics, from statistical analysis to mathematical economics, areas of investigation are diverse. This master's program offers advanced theoretical knowledge in this complex and dynamic domain.

The program was created to respond to the demand of specialists in pure and applied mathematics, treating not only theoretical problems, but also doing mathematical modeling for various domains of science, economy and industry. Mathematicians and experts in mathematical modeling in: research, academic and educational institutes, financial system, industry and production companies.

### ***Applied Mathematics***

Applied mathematics focuses on the creation and study of mathematical and computational tools broadly applicable in science and engineering, and on their use in solving challenging problems in these and related fields. From ecological modeling to mechanics, from statistical analysis to mathematical economics, areas of investigation are diverse. The Applied Mathematics master's program offers advanced theoretical knowledge in this complex and dynamic domain.

The program was created to respond to the demand of specialists in mathematical modeling, numerical simulation and statistical analysis for various domains of science, economy and industry. Mathematicians and experts in mathematical modeling in: research, academic and educational institutes, banking system, industry and production companies.



## Master Programs

### ***Computational Mathematics***

This programme is an excellent opportunity for the graduates of first cycle of higher education to deepen their knowledge and to continue the training in a field of modern theoretical and applied research purposes. The main objective of the program is the formation of high level specialists in this important field. The formation of high school teachers of Mathematics and Computer Science envisaged. The acquirement of a complex knowledge according to the current technological requirements.

### ***Didactic Mathematics***

Teaching modern mathematics and carrying out various training programmes and methods; drawing up and assessing methods and textbooks for primary and lower secondary education; planning and evaluation of teaching/learning processes, as well as in research methods applied to modern mathematics.

This Master Programme has the purpose of broadening the horizon of knowledge and raising the level of competence in Mathematics and in teaching Mathematics. After graduating, the employment opportunities are increased in teaching at different levels: secondary schools, high schools, post high schools and universities. Also, they can perform guidance and control activities at School Territorial Inspectorates.



## Master Programs

### ***Mathematics Program***

The Mathematics programme concentrates in the core areas of algebra, analysis, geometry and topology, but it also spills into some specialized themes of pure mathematics, in order to focus the students' knowledge on certain modern themes and to continue their training in modern fields of Mathematics.

This programme emphasizes mathematics used in other sciences, in teaching and in new applications of pure mathematics (in computational mathematics, optimization etc) through seminars and case studies. The students will be prepared for either a Ph.D. degree or employment in industry or public service. Students who graduate this programme may activate in any institution or company of the economy and administration in positions requiring the ability to analyze, understand, approach and solve various practical problems whose solutions request a critical, creative and rigorous thinking. As well, the holder of this programme may activate, in the condition of graduating the pedagogical module, as a teacher of Mathematics in any state or private educational institution at all levels.



## Master Programs

### ***Applied Computational Intelligence***

#### *Programme objectives:*

- Acquisition of theoretical, applicative and practical knowledge of Intelligent and computational pradigms inspired from natural science, Social and linguistic fields:
  - Acquisition of in-depth knowledge in modeling / design / implementation of software applications based on computational intelligence approaches for solving problems specific to natural sciences, economics, industry;
  - Acquisition of the mathematical knowledge necessary in order to Tackle complex problems:
    - Acquisition of specialized knowledge in the analysis and improvement of software processes:
      - Professional modeling for team work as well as interdisciplinary approaches to research and development.

### ***Component-Based Programming***

Component-based programming (CBP) is considered the programming paradigm of the new millennium. Software development companies need professionals able to build component-based software systems, incorporating complex interactions and sophisticated mathematical models. The Component-based programming master's program offers theoretical and practical knowledge in this domain and is taught in English.





## Master Programs

### ***Data Analysis and Modelling***

*Programme objectives:*

- Acquisition of core theory and working knowledge of methods required when analysing large amount of data that is collected automatically;
- Acquisition specialised knowledge in modelling, design and implementation of complex systems based on simulation and visualization;
- Acquisition of the theoretical support to solve complex problems;
- Acquisition of knowledge of information extraction methods;
- Working knowledge of practical solutions to information extraction and their practical exploitation.

### ***Databases***

The Databases master's program offer theoretical and practical knowledge in information technology and is taught in Romanian language. In recent years there is a growing demand from the students to specialize in areas close to databases, internet communication and applications in different environments. The program was created to respond to that demand, offering theoretical and technical knowledge in information technology and application of theoretical knowledge in databases, information security, web programming, electronic commerce.



## Master Programs

### ***Didactics of Computer Science***

This Master Programme has the purpose of broadening the Horizon of knowledge and raising the level of competence in Computer Science and in teaching Computer Science.

After graduating, the employment opportunities are increased in teaching at different levels: secondary schools, high schools, post high schools and universities. Also, they can perform guidance and control activities at School Territorial Inspectorates, as well as software development and testing in software companies.

### ***Distributed Systems in Internet***

The information technology is widely used in the global business environment. Virtual shops present in our homes through Web sites, provide the easiest way for the buyer to make everyday purchases. The Distributive Systems in Internet master's program offer theoretical and practical knowledge in this domain and is taught in Romanian language.

### ***Enterprise Software Design and Development***

Software development companies need professionals able to build large software systems, incorporating complex interactions and sophisticated mathematical models. The Enterprise Software Design and Development master's program offers theoretical and practical implementation knowledge in this domain. The curricula is build using the paradigm "scientist-practitioner", being inspired from other European computing science programmes, thus ensuring the compatibility of studies in the European Higher Education Area.



## Master Programs

### **High Performance Computing and Big Data Analytics**

*Programme objectives:*

- Acquisition of theoretical knowledge in complex systems modeling based *on* mathematical concepts and methods, and on programming concepts and *techniques*.
- Acquisition of applicative and practical knowledge*e*. in programming and usage *on/of* computation systems, especially those of high performance, which are necessary for solving real life problems and for simulating complex problem solutions.
- Acquisition of theoretical, applicative knowledge*e* in exploitation (data-analysis, knowledge-discovering) and visualization of „big data” for computation problems, statistical interpretations, decision processes, or for scientific instruments.
- Acquisition of theoretical, applicative and practical knowledge*e* in *applicative* scientific domains where high performance systems are used.
- Acquisition of theoretical, applicative and practical knowledge in analysis *and* improvement of software processes.
- Acquisition of theoretical, applicative and practical knowledge*e* in *professional* modelling for team work as well as interdisciplinary approaches to research and development.

### **Software Engineering**

Software development companies need professionals able to build large software systems, incorporating complex interactions and sophisticated mathematical models. The Software Engineering master's program offers theoretical and practical implementation knowledge in this domain and is taught in English. The curricula is build using the paradigm “scientist-practitioner”, being inspired from other European computing science programmes, thus ensuring the compatibility of studies in the European Higher Education Area.





## Doctoral Programmes

The Ph.D. programme in Mathematics/Computer Science take place under the guidance of 18 doctoral supervisors in the field of Mathematics and 7 doctoral supervisors in the field of Computer Science.

Core courses:

- **Mathematics:**

Commutative rings and algebraic number Theory, Coding theory, Modular representation of finite groups, Nonsmooth analysis, Nonlinear analysis, Fixed point theory and applications, Convex analysis, Variational calculus, Nonlinear partial differential equations, Fluid mechanics

- **Computer Science:**

Models and implementation of distributed applications, Databases, Distributed artificial intelligence, Games computational theory, Languages, tools and programming media, Software architecture

The holder of a Ph.D. diploma may activate, on the condition of graduating the pedagogical module, as teacher and as academic staff, in the Specialty of Mathematics or Computer Science in any state or private educational institution at any level including universities. As well the holder of a Ph.D. diploma may activate in any institution or company of the economy and administration on positions requiring the necessity of high level studies in Mathematics or Computer Science.



**SITUATION**  
**Students enrolled**  
**ACADEMIC YEAR 2015-2016**

No	Specialization	Year I	Year II	Year III
1.	Computer Science – Romanian	200	185	166
2.	Computer Science – english	200	181	122
3.	Computer Science Hungarian	100	103	67
4.	Computer Science – German	58	30	0
5.	Mathematics – Romanian	36	19	19
6.	Mathematics Computer Science – Romanian	185	98	44
7.	Mathematics Hungarian	8	8	9
8.	Mathematics Computer Science – Hungarian	21	11	8
9.	Information Engineering	-	-	30 (Year IV)



**SITUATION**  
**Students enrolled**  
**ACADEMIC YEAR 2015-2016**

**Master**

	Specialization	Year 1	Year 2
1.	Applied Mathematics English	0	6
2.	Advanced mathematics English	10	0
3.	Didactic Mathematics Romanian	20	24
4.	Didactic Mathematics Hungarian	7	8
5.	Computational Mathematics Hungarian	0	4
6.	Component-Based Programming english	13	0
7.	Intelligent systems english	-	-
8.	Databases - Romanian	43	22
9.	Distributed Systems in Internet – Romanian	49	37
10.	Applied Computational Intelligence - English	10	3
11.	Software Engineering - English	57	45
12.	Designing and developing Enterprise applications - Hungarian	24	19
13.	Data analysis and modeling - Hungarian	7	3
14.	High- performance computing and analyzing large volumes of data - English	13	11



## Partnerships

This section contains the collaboration with IT companies, high schools, and others events in which the faculty had contributed.

### Collaborations with IT companies

- 1) Over 50 partnerships with IT companies (<http://www.cs.ubbcluj.ro/despre-facultate/relatia-cu-societatea/firme-partenere/>)
- 2) Internship Workshop, 18.03.2015, Foyer University House: 51 software companies presented their internship offer for our students.
- 3) Company TBA sponsored the Knowledge Engineering: Principles and Techniques Conference (KEPT) 2015
- 4) Company ISDC sponsored Student Scientific Communication Session – Computer Science.
- 5) Company EBS Romania and Faculty of Mathematics and Computer Science organized Conference “Let’s talk IT in the University”
- 6) Companies Take off Labs, Fundatia e-MAG, Easy host, Telenav and Spyhce sponsored 2<sup>nd</sup> International Contest of Algorithmic Mind Coding 2015.





## Partnerships

### Collaborations with IT companies



FREQUENTIS





## Partnerships

### Collaborations with IT companies





## Partnerships

### Collaborations with IT companies

TransarT  
S H O P P I N G S

umt  
SOFTWARE  
A DIVISION OF UNIT CONSULTING GROUP

UNIQA   
Software Service SRL

  
Wirtek

xoomworks

yonder  
APPLICATION INNOVATION





## Partnerships

### Collaboration and representation in the society

- 1) Over 20 partnerships with schools, high-school, libraries, and NGO's
- 2) Contest "Mate-Info UBB", 25.04.2015



## Conferences Organized by the Faculty

- **National Conference ZAC2014 (Zilele Academice Clujene 2014): New Trends in Computer Science**, Computer Science Section, Babeş-Bolyai University, Cluj-Napoca, June 4, 2014
- **12<sup>th</sup> International Conference on Formal Concept Analysis (ICFCA 2014)**, Cluj-Napoca, Romania, June 10-13, 2014
- **3<sup>rd</sup> International Conference on Numerical Analysis and Approximation Theory (NAAT2014)**, September 17-20, 2014
- **National Conference “Didactics of Mathematics”, 31<sup>st</sup> edition**, to be held at Colegiul Tehnic Turda, Cluj (May 16, 2015)
- **International Conference on Knowledge Engineering Principles and Techniques, KEPT 2015**, 5<sup>th</sup> edition, July 2-4, 2015, Cluj-Napoca, Romania
- **International Conference on Nonlinear Operators, Differential Equations and Applications (ICNODEA 2015)**, July 14-17, 2015



## Summer Schools

Summer School "Mapping class groups, 3 and 4-manifolds",  
Cluj-Napoca, Romania, July 27-August 1, 2015.

### ***Mini-courses:***

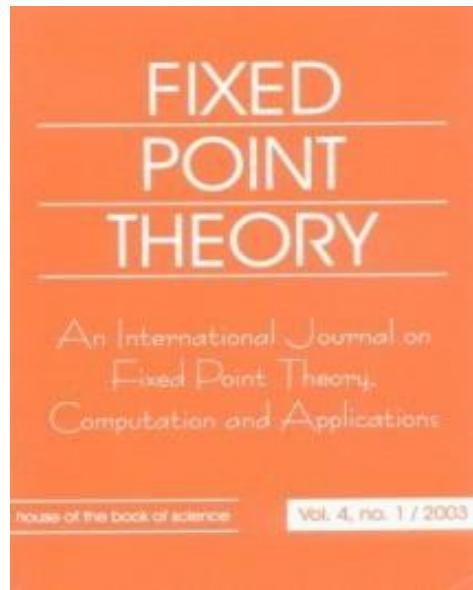
- **Stefan Friedl**, *Universitat Regensburg* : Virtual fibering for 3-manifolds
- **Burak Ozbagci**, *Koc University, Istanbul* : Topology of symplectic fillings of contact 3-manifolds
- **Mustafa Korkmaz**, *Middle East Technical University, Ankara* : *Mapping class groups: presentations, representations and relations with symplectic manifolds*
- **Norbert A'Campo**, *Universitat Basel* : Singularities, Low-Dimensional Topology and Galois action.

### ***Organizing Committee:***

- **Dorin Andrica**, *University Babes-Bolyai, Cluj Napoca*
- **Louis Funar**, *Institut Fourier, Grenoble*
- **Andras Stipsicz**, *Alfred Renyi Institute of Mathematics, Budapest*



## Research Journals of the Faculty



# INFORMATICA

SERIES

- Studia Universitatis Babeş-Bolyai, Series Mathematica (quaterly)
- Studia Universitatis Babeş-Bolyai, Series Informatica (quarterly)
- Fixed Point Theory (twice)
- Didactica Mathematica
- Annals of the Tiberiu Popoviciu Seminar of Functional Equations, Approximation and Convexity



## Student activities

*This section lists the activities organized by the faculty for students and the events and contests where the students of our faculty participated:*

### **1. 2<sup>nd</sup> Edition of Techsylvania, 6-9 June 2015**

**Results:**

**1st place:** Kádár Tamás-Csaba, Kedves Nándor and Kolumbán Álmos  
(Computer Science, Hungarian line II)

### **2. 2<sup>nd</sup> Edition of International Contest of Algorithmic Mind Coding 2015**

**Organizers:** Hermes Society and Students Council of Faculty of Mathematics and Computer Science

**Sponsors:** Take off Labs, e-MAG, easy host, telenav, spyhce

### **3. 3<sup>rd</sup> Edition of Excellentia awards, 30 March- 29 April 2015**

**Professor:** Lect. Ph.D Alexandru Vancea

**Student:** Petru Trîmbiţăş, Computer Science II

### **4. Internship Workshop, 18.03.2015, Foyer University House: 51 software companies presented their internship offer for our students.**

### **5. 2<sup>nd</sup> Edition of National Olympiad of Computer Science for Students, 24 Mai, Iaşi**

**Results:**

**Bronze Medal** for the team of the faculty composed by: Bianca Costin (Computer Science English I ), Flaviu Berbecariu (Computer Science German I ), Petru Trîmbiţăş (Computer Science English II )



## Student activities

**6. Student Scientific Communication Session – Mathematics,  
17.06.2015, Mathematicum Building, room e**

**7. Student Scientific Communication Session – Computer Sceince,  
organized in cooperation with Technical University, Faculty of  
Automation and Computer Science, 19.06.2015, at Technical  
Univ.**

Overall prize offered by ISDC: Andrei Candale: “Fuzzy Logic-based IoT enabled thermostat”

Faculty prizes :

**1<sup>st</sup> prize:**

- Marcel Moldovan: “DIP (Duplication is Processed) Principle – An Extension of the DRY Principle”

**2<sup>nd</sup> prize:**

- Cristina- Larisa Bătinăş: “Source code Plagiarism Detection using Abstract Syntax Trees”
- Arnold Szederjesi: “Performance Evaluation of Various Metrics in Agglomerative Clustering”

**3<sup>rd</sup> prize:**

- Andrei Candale: “Fuzzy Logic-based IoT enabled thermostat”
- řtefana Frătean: “Unconventional sorting using the force of gravity”



## Hermes Society

The student union of the Faculty of Mathematics and Computer Science is a great example of what students can do with the energy of youth and a little help from the university staff. The name of this union is "Hermes Society" and is part of the U.S.R. (Uniunea Studenților din România-Romanian Students' Union) and COS(Consortiul Organizațiilor Studențesti din Cluj-Napoca-Consortium of Student Organisations in Cluj-Napoca). The union seeks to create opportunities for personal development and friendship for the students of the faculty.

The year that has passed a lot of activities were organized both from the Hermes Society and the faculty. Hermes Society organized the following activities:

- Annual Ball which was held on November 2014
- Unifest, a week with a lot of student activities, such as sports, workshops, etc. (a project under the USR aegis)
- Team building: held both at autumn and spring.
- Careers in IT. A career fair which was held on 18-20 March and involved all the main IT companies of Cluj-Napoca in offering internships, jobs, tours and presentations to the students.
- SSMI (Săptămâna Studenților de la Matematică și Informatică): Student's week on 22-26 April 2015 with 2 conferences with international speakers, workshops on mathematics and on computer science, movie night and folk music night.
- Social Hackaton: 24h programming contest for student teams for creating desktop, mobile and web applications

Promotion Caravan: students from the Hermes Society tour the best high schools in Transylvania to attract students to come and study at the faculty of Mathematics & CS. It was held for first time this year and it went very good.

Because many members also have representative attributions



## Hermes Society

(year representatives, faculty council members, student chancellor, and student senator) the Society is able to contribute to the well being of all the students of the faculty and insures the swift resolution of all student problems.



## Lectures, events and ceremonies organized by the faculty

1. Launching Conference of the Project POSDRU/161/2.1/G/138033 “Creșterea oportunităților de ocupabilitate prin practică de succes (PRACT-IT)” 30.10.2014.
2. Conference “The Euler equations: anomalous dissipation and non-uniqueness”, Speaker Prof. PhD. Székelyhidi László, Leipzig University Germany, 20.11.2014, Mathematicum Building, room e.
3. Conference “O teorema de scufundare in geometria complexa”, Speaker Prof. PhD. Liviu Ornea, Bucharest University Romania, 28.11.2014, Mathematicum Building, room pi.
4. Conference “On Sums of Type  $\sum_{A \subseteq S} f(A)$ ”, Speaker Prof. PhD. Rer. nat. habil. Klaus Dohmen, Mittweida Germany, 18.11.2014, Mathematicum Building, room e.
5. Conference “Termination and Non-Termination Reasoning with HIP/SLEEK”, Speaker Prof. PhD. Wei-Ngan Chin, National University of Singapore, 11.12.2014, room Tiberiu Popovici.
6. Meeting with Mr. Werner Hans Lauk, Ambassador of the Federal Republic of Germany in Romania, 24.02.2015, room Tiberiu Popovici. *Sponsors:* Porsche AG, MHP Consulting Romania SRL and EBS Romania SA.
7. Conference “What is an Abelian Variety of Dimension six?”, Speaker Prof. PhD. Gavril Farkas (a graduate of Faculty of Mathematics and Computer Science in 1995), Humboldt Universität zu Berlin, Institut für Mathematik, 10.03.2015, room Tiberiu Popovici.



## Lectures, events and ceremonies organized by the faculty

8. Conference “Improving Dynamic Service Selection in Adaptive Software Systems: Optimal Stopping vs. Trivial Choice”, Speaker Prof. PhD. Oliver Skroch, Darmstadt University of Applied Sciences Germany, 11.03.2015, room 335 (FSEGA).
9. Conference “Timed Migration and Interaction in Distributed Systems”, Speaker Prof. PhD. Gabriel Ciobanu, 12.03.2015, room Tiberiu Popovici.
10. National Instruments: Life. Technology. Business Conference, 26.03.2015, Faculty of Mathematics and Computer Science, Babeş-Bolyai University of Cluj-Napoca.  
Co-founder National Instruments: Jeff Kodosky.
11. Conference “On Second-order Differential Inclusions on the Positive Half-line”, Speaker Prof. PhD. Gheorghe Morosanu, Central European University Budapest, 7.05.2015, Mathematicum Building, room e.
12. Discourse “High Resolution Earth System Models at Regional Scales: Seeking Sustainable Solutions for Rapidly Expanding Urban Areas, Environmental, Agricultural and Energy Applications”, Speaker PhD. Alex Mahalov, Arizona State University, 21.05.2015, room Justinian Petrescu.
13. Ceremony of awarding the Distinction “Antreprenorul Lunii” by the Embassy of the United States of America , 29.05.2015, room Tiberiu Popovici.  
Guests: Mr. Michael Steward- Counsellor for Economic Affairs of the USA in Bucharest;  
Mr. Kostas Loukas- General Manager Microsoft.

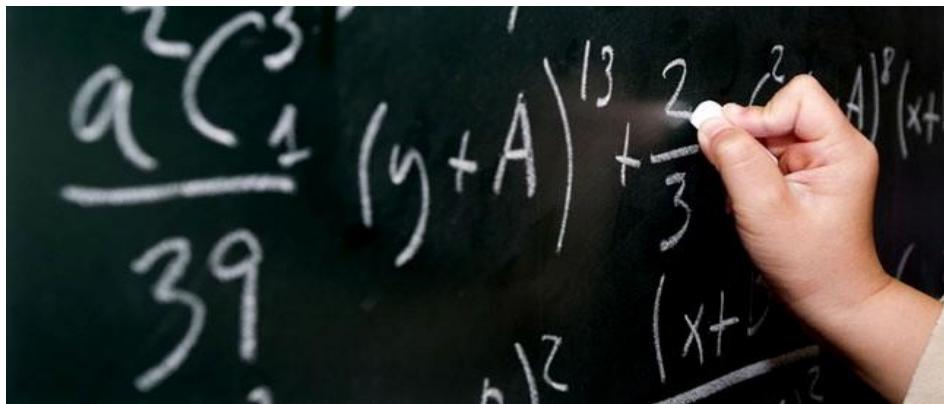


## Lectures, events and ceremonies organized by the faculty

14. Ceremony of awarding the title Doctor Honoris Causa of Faculty of Mathematics and Computer Science of Professor Wei- Ngan Chin, Ph.D. National University of Singapore, 3.07.2015, room Tiberiu Popovici, UBB.
15. Ceremony of awarding the title Doctor Honoris Causa of Faculty of Mathematics and Computer Science of Professor Ravi P. Agarwal, Ph.D., Texas A&M University-Kingsville, SUA, 14.07.2015, Aula Magna, UBB.



# Department of Mathematics



## Profile

The department is responsible for the specialization Mathematics. The purpose of the programme is to offer the following competences:

- to teach fundamental knowledge in mathematics
- to elaborate algorithms and use modern computer systems.
- to generate and implement new scientific and didactic approaches and methods.
- to use basic and complementary knowledge in pursuing a master program in the field of Mathematics or related fields.

Generally, by graduating from this program, there is a wide range of potential field of professional activity. The holder of a bachelor diploma in Mathematics may activate, under the condition of graduating the pedagogical module, as teacher in the Specialty of Mathematics in any state or private educational institution of gymnasium level. What is more, the holder can also pursue a job in administration, industry, finance or computer science.

The research conducted in the department is organized in nine research groups, with outstanding members and results. There are 3 scientific journals published under the supervision of the department, and each year we are organizing important international conferences.



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2. **MIHOLCA Livia- Mihaela (BERCHEȘAN)**– Contributions to the Theory of Equilibrium Problems and Variational Inequalities, advisor: Prof. univ. dr. KASSAY Gábor.
3. **CACOVEANU Florentina- Laura** -Verificarea formală a modelelor pentru sisteme cu evenimente discrete, advisor: Prof. univ. dr. BOIAN Florian- Mircea.
4. **BULGĂREAN Gheorghe- Vasile** - Studiul grupurilor de izometrii, advisor: Prof. univ. dr. ANDRICA Dorin
5. **MIRON Alina- Dana** - Multi-modal, Multi-Domain Pedestrian Detection and Classification: Proposals and Explorations in Visible over StereoVision, FIR and SWIR (Detectia și clasificarea multi-domeniu, multi-modală a pietonilor: Propuneri și Explorări în Vizibil folosind StereoViziune, Infraroșu Îndepărtat și Infraroșu Apropiat), advisor: Prof. univ. dr. POP Horia F. (univ. Babeş-Bolyai) and Prof. univ. dr. BENSRAIR Abdelaziz (INSA Rouen, Franța).
6. **MARIAN Zsuzsanna- Edit** - Machine Learning Based Software Development, adviser: Prof. univ. dr. CZIBULA Gabriela.
7. **FARKAS Csaba-** Symmetrization Methods in the Study of Sublinear Elliptic Problems, adviser: Prof. univ. dr. VARGA Gyorgy Csaba



## Publications

### Books - international publishing houses

1. **Motogna Simona-Claudia, Lazar Ioan, Parv Bazil**, capitol, *Developing Executable UML Components Based on fUML and Alf* , Handbook of Research on Innovations in Systems and Software Engineering, IGI Global, Hershey, USA, Editor: Vicente García Díaz, uan Manuel Cueva Lovelle, B. Cristina Pelayo García-Bustelo, 2015, P. 345-364

### Articles – ISI journals

1. **Andrica Dorin**, *On a conjecture on the number of polynomials with coefficients in [n]*, Science\_Citation\_Expanded, BULLETIN MATHEMATIQUE DE LA SOCIETE DES SCIENCES MATHEMATIQUES DE ROUMANIE, 58(106),1, 2015, P.19 - 31

2. **Breaz Simion-Sorin**, *Finite torsion-free rank endomorphism rings* , Science\_Citation\_Expanded, CARPATHIAN JOURNAL OF MATHEMATICS, 31 , 2015, P.39 - 43

3. **Breaz Simion-Sorin**, *A Baer-Kaplansky theorem for modules over principal ideal domains* , Science\_Citation\_Expanded, JOURNAL OF COMMUTATIVE ALGEBRA, 7, 2015, P.1 - 7

4. **Breaz Simion-Sorin**, *\$Sigma \$-pure injectivity and Brown representability* , Science\_Citation\_Expanded, PROCEEDINGS OF THE AMERICAN MATHEMATICAL SOCIETY, 143 , 2015, P.2789 - 2794

5. **Varga Csaba-Gyorgy, Breckner Brigitte-Erika**, *A note on gradient-type systems on fractals*, Science\_Citation\_Expanded, NONLINEAR ANALYSIS-REAL WORLD APPLICATIONS, 21, 2015, P.142 - 152



## Publications

6. **Czibula Gabriela, MARIAN Zsuzsanna-Edit, Czibula Istvan-Gergely**, *Detecting Software Design Defects Using Relational Association Rule Mining* , Science\_Citation\_Expanded, KNOWLEDGE AND INFORMATION SYSTEMS, 42 (3) , 2015, P.545 - 577
7. **Finta Zoltan, Agrawal P. N., Sathish Kumar A.**, *Bernstein-Schurer-Kantorovich operators based on  $q$ -integers*, Science\_Citation\_Expanded, APPLIED MATHEMATICS AND COMPUTATION, 256, 2015, P.222 - 231
8. **Finta Zoltan, Agrawal P. N., Sathish Kumar A.**, *Bivariate  $q$ -Bernstein-Schurer-Kantorovich operators*, Science\_Citation\_Expanded, RESULTS IN MATHEMATICS, 67, 2015, P.365 - 380
9. **Pop Ioan, Sheremet Mikhail, Grosan Teodor Silviu, Sheremet Mikhail, Pop Ioan**, *Free Convection in a Square Cavity Filled with a Porous Medium Saturated by Nanofluid Using Tiwari and Das' Nanofluid Model*, Science\_Citation\_Expanded, TRANSPORT IN POROUS MEDIA, 106, 2015, P.595 - 610
10. **Kohr Mirela, GUTT Robert, Pintea Cornel Sebastian, Wendland Wolfgang L.**, *On the transmission problems for the Oseen and Brinkman systems on Lipschitz domains in compact Riemannian manifolds*, Science\_Citation\_Expanded, MATHEMATISCHE NACHRICHTEN, to appear, 2015, P.1 - 14
11. **IANCU Mihai**, *Some applications of variation of Loewner chains in several complex variables*, Science\_Citation\_Expanded, JOURNAL OF MATHEMATICAL ANALYSIS AND APPLICATIONS, 421, 2015, P.1469 - 1478
12. **IANCU Mihai**, *On Reachable Families of the Loewner Differential Equation in Several Complex Variables*, Science\_Citation\_Expanded, COMPLEX ANALYSIS AND OPERATOR THEORY, to appear; DOI: 10.1007/s11785-015-0461-z, 2015, P.1 - 16



## Publications

13. **IANCU Mihai**, *A Density Result for Parametric Representations in Several Complex Variables* , Science\_Citation\_Expanded, COMPUTATIONAL METHODS AND FUNCTION THEORY, 15, 2015, P.247 - 262
14. **Kassay Gabor, Miholca Livia-Mihaela**, *Existence results for vector equilibrium problems given by a sum of two functions* , Science\_Citation\_Expanded, JOURNAL OF GLOBAL OPTIMIZATION, 61, 1, DOI 10.1007/s10898-014-0264-1 , 2015, P.1 - 17
15. **Hamada Hidetaka, Kohr Gabriela**, *Pluriharmonic mappings in  $C^n$  and complex Banach spaces* , Science\_Citation\_Expanded, JOURNAL OF MATHEMATICAL ANALYSIS AND APPLICATIONS, 426, nr. 2 , 2015, P.635 – 658
16. **Hamada Hidetaka, Graham Ian, Bracci Filippo, Kohr Gabriela**, *Variation of Loewner chains, extreme and support points in the class  $S^0$  in higher dimensions* , Science\_Citation\_Expanded, CONSTRUCTIVE APPROXIMATION, To appear , 2015, P.1 - 20
17. **Hamada Hidetaka, Graham Ian, Kohr Gabriela, Kohr Mirela**, *Support points and extreme points for mappings with A-parametric representation in  $C_n$*  , Science\_Citation\_Expanded, JOURNAL OF GEOMETRIC ANALYSIS, To appear; DOI 10.1007/s12220-015-9600-z , 2015, P.1 - 36
18. **Kohr Mirela, Lanza de Cristoforis Massimo, Wendland Wolfgang L.**, *Poisson problems for semilinear Brinkman systems on Lipschitz domains in  $R^n$*  , Science\_Citation\_Expanded, ZEITSCHRIFT FUR ANGEWANDTE MATHEMATIK UND PHYSIK, 66 , 2015, P.833 - 864
19. **Micula Sanda**, *On Spline Collocation and the Hilbert Transform* , Science\_Citation\_Expanded, CARPATHIAN JOURNAL OF MATHEMATICS, 31(1) , 2015, P.89 - 95



## Publications

20. **Modoi George-Ciprian**, *Constructing cogenerators in triangulated categories and Brown representability*, Science\_Citation\_Expanded, JOURNAL OF PURE AND APPLIED ALGEBRA, 219, Issue 8, 2015, P.3214 - 3224
21. **Pelea Cosmin-Razvan, Purdea Ioan, Stanca Liana Maria**, *Factor multialgebras, universal algebras and fuzzy sets*, Science\_Citation\_Expanded, CARPATHIAN JOURNAL OF MATHEMATICS, 31, 2015, P.111 - 118
22. **Pelea Cosmin-Razvan, Purdea Ioan, Stanca Liana Maria**, *Fundamental relations in multialgebras. Applications*, Science\_Citation\_Expanded, EUROPEAN JOURNAL OF COMBINATORICS, 44, part B, 2015, P.287 – 297
23. **Petrusel Adrian-Olimpiu, Sahu DR, Sagar Vidya**, *An extragradient iterative scheme for common fixed point problems and variational inequality problems with applications* , Science\_Citation\_Expanded, ANALELE STIINTIFICE ALE UNIVERSITATII OVIDIU CONSTANTA-SERIA MATEMATICA, 23, 1 , 2015, P.247 - 266
24. **Filip Alexandru-Darius, Petrusel Adrian-Olimpiu**, *Fixed point theorems for operators in generalized Kasahara spaces* , Science\_Citation\_Expanded, REVISTA DE LA REAL ACADEMIA DE CIENCIAS EXACTAS FISICAS Y NATURALES SERIE A-MATEMATICAS, DOI 10.1007/s13398-014-0163-9 , 2015, P.15 - 26
25. **Pintea Cornel Sebastian, Peter Ioan Radu, Marian Daniela**, *A class of generalized monotone operators*, Science\_Citation\_Expanded, JOURNAL OF MATHEMATICAL ANALYSIS AND APPLICATIONS, 421, 2015, P.1827 - 11843
26. **Pop Horia-Florin, Stefanescu A, Bizo A., Pop T.L.**, *Prognostic factors in liver failure in children by discriminant analysis of clinical data* , Science\_Citation\_Expanded, REVUE ROUMAINE DE CHIMIE, 60 , 2015, P.1 - 14



## Publications

27. **Popovici Nicolae, Bagdasar Ovidiu**, *Local maximum points of explicitly quasiconvex functions* , Science\_Citation\_Expanded, OPTIMIZATION LETTERS, Vol. 9, Issue 4, 2015, P.769 - 777
28. **Popovici Nicolae, Kuroiwa Daishi, Rocca Matteo**, *A characterization of cone-convexity for set-valued functions by cone-quasiconvexity* , Science\_Citation\_Expanded, SET-VALUED AND VARIATIONAL ANALYSIS, Vol. 23, Nr. 2, 2015, P.295 - 304
29. **Precup Radu, Bunoiu Renata**, *Vectorial approach to coupled nonlinear Schrödinger systems under nonlocal Cauchy conditions*, Science\_Citation\_Expanded, APPLICABLE ANALYSIS, DOI: 10.1080/00036811.2015.1028921 , 2015, P.1 - 18
30. **Precup Radu, Novac Adela**, *Variational Properties of the Solutions for Second-Order Differential Equations and Systems on Semi-Line* , Science\_Citation\_Expanded, NUMERICAL FUNCTIONAL ANALYSIS AND OPTIMIZATION, 36, 2015, P.930 – 941
31. **Rosca Natalia-Carmen, Pop Ioan**, *Unsteady boundary layer flow over a permeable curved stretching/ shrinking surface*, Science\_Citation\_Expanded, EUROPEAN JOURNAL OF MECHANICS B-FLUIDS, 51, 2015, P.61 - 67
32. **Rosca Natalia-Carmen, Rosca Alin-Vasile, Merkin John, Pop Ioan**, *Mixed convection boundary-layer flow near the lower stagnation point of a horizontal circular cylinder with a second-order wall velocity condition and a constant surface heat flux*, Science\_Citation\_Expanded, IMA JOURNAL OF APPLIED MATHEMATICS, Vol. 80, nr.2, 2015, P.431 - 451
33. **Roth Agoston-Istvan**, *Control point based exact description of trigonometric/hyperbolic curves, surfaces and volumes*, Science\_Citation\_Expanded, JOURNAL OF COMPUTATIONAL AND APPLIED MATHEMATICS, 290, C, 2015, P.74 - 91



## Publications

34. **Sandor Jozsef, Chen C.-P.**, *Sharp inequalities for trigonometric and hyperbolic functions*, Science\_Citation\_Expanded, JOURNAL OF MATHEMATICAL INEQUALITIES, 9, 2015, P.203 - 217
35. **Sandor Jozsef, Bhayo Barkat**, *On some inequalities for the identric, logarithmic and related means*, Science\_Citation\_Expanded, JOURNAL OF MATHEMATICAL INEQUALITIES, 9, no.3, 2015, P.889 - 896
36. **Szanto Csaba-Lehel, Suteu-Szollosi Stefan-Lucian, Hall polynomials and the Gabriel-Roiter submodules of simple homogeneous modules**, Science\_Citation\_Expanded, BULLETIN OF THE LONDON MATHEMATICAL SOCIETY, 47, Issue 2 (April), 2015, P.206 - 216
37. **Szanto Csaba-Lehel**, *Combinatorial aspects of extensions of Kronecker modules*, Science\_Citation\_Expanded, JOURNAL OF PURE AND APPLIED ALGEBRA, 219, 2015, P.4378 - 4391
38. **Varga Csaba-Gyorgy, Pucci Patrizia, Filippucci Roberta**, *Symmetry and multiple solutions for certain quasilinear elliptic equations*, Science\_Citation\_Expanded, ADVANCES IN DIFFERENTIAL EQUATIONS, 3, 2015, P.1 - 34
39. **Varga Csaba-Gyorgy, Csirik Mihaly, Costea Nicusor**, *Weak solvability via bipotential method for contact models with nonmonotone boundary conditions*, Science\_Citation\_Expanded, ZEITSCHRIFT FUR ANGEWANDTE MATHEMATIK UND PHYSIK, DOI 10.1007/s00033-015-0513-2, 2015, P.1 - 20
40. **Varga Csaba-Gyorgy, Stancu-Dumitru Denisa, Mihăilescu Mihai**, *On the spectrum of a Baouendi–Grushin type operator: an Orlicz–Sobolev space setting approach*, Science\_Citation\_Expanded, NODEA-NONLINEAR DIFFERENTIAL EQUATIONS AND APPLICATIONS, DOI 10.1007/s00030-015-0314-5 , 2015, P.1 - 21



## Publications

41. **Varga Csaba-Gyorgy, Baricz Arpad, Ponnusamy Saminathan**, JULIA'S LEMMA ON THE HYPERBOLIC DISK,  
Science\_Citation\_Expanded, ANNALES ACADEMIAE SCIENTIARUM  
FENNICAE-MATHEMATICA, 40, 2015, P.1 – 10

### International Conferences

1. **Adrian-Olimpiu Petrușel**, Conference „*Fixed point theorems in vector-valued metric spaces*”, at Workshop 5th Minisymposium on Fixed Point Theory and Applications, ICAM 10, Univ. Tehnica Cluj-Napoca, Centrul Universitar Nord Baia- Mare, 1-7 June 2014.  
<http://icam.ubm.ro/>

### Prizes

1. **Septimiu Crivei**, „*Structuri exacte, echivalențe și dualități*” , Premiu “Gheorghe Lazar”, Academia Romana, 2014.



## Publications

### Articles – journals indexed in international databases

1. **Mirela Kohr, M. Lanza de Cristoforis, W. L. Wendland**, *Nonlinear Darcy-ForchheimerBrinkman system with linear Robin boundary conditions in Lipschitz domains*, in *Complex Analysis and Potential Theory* (T. Aliev Azeroglu, A.Golberg, S.Rogosin eds.), 111–124, Cambridge Scientific Publishers, 2014. ISBN 978-1-908106-40-7.
2. **Mirela Kohr, C. Pintea**, *On the invertibility of some elliptic operators on manifolds with boundary and cylindrical ends*, in: "Topics in Mathematical Analysis and Applications", Springer volume, 94 (2014), 483-500, Editors: Th. M. Rassias, L. Toth.
3. **Trif Tiberiu**: *Again on passing to the limit under the integral sign*. Gazeta Matematică (seria A) 32 (111), nr. 1–2, 11–18 (2014).
4. **Trif Tiberiu**: *Asymptotic behavior of intermediate points in certain mean value theorems. III*. Studia Univ. Babeş-Bolyai, Math. 59, no. 3, 279–288 (2014).



## Publications

### Visiting professors

1. **Adrian-Olimpiu Petruşel**, University of Perugia, Italy, 2014.
2. **Adrian-Olimpiu Petruşel**, University of Miskolc, Hungary, 2014.
3. **Adrian-Olimpiu Petruşel**, University of Lublin, Poland, 2014.
4. **Popovici Nicolae**, Research mobility, University of Varese, Italy, March 2014.
5. **Popovici Nicolae**, Research mobility, University of Varese, Italy, June 2014.
6. **Popovici Nicolae**, Research mobility, University of Derby, UK, July 2014.
7. **Popovici Nicolae**, Research mobility, University of Varese, Italy, September 2014.
8. **Popovici Nicolae**, Research mobility, University of Varese, Italy, February 2015.



## Publications

### Invited lecture - conferences

1. **Adrian-Olimpiu Petrușel**, Geometry Conference dedicated to Tudor Zamfirescu, Univ. Mulhouse, France, 7-11 September 2014, communication (comuna cu A.-D. Filip) with title „Contributions of Tudor Zamfirescu to fixed point theory”, <http://www.math.uha.fr/chevallier/TZ70/TZAng.html>
2. **Adrian-Olimpiu Petrușel**: „Fixed point and fixed set theorems for multivalued operators” at MACOS 2014 Conference, Univ. Transilvania, Brasov, 26-28 June 2014.,  
<http://www.unitbv.ro/mi/CercetareStiintifica/Manifestari/MACOS.aspx>
3. **Adrian-Olimpiu Petrușel**: „Fixed points and multivalued fractals for generalized contractions”, at 10th Joint Conference on Mathematics and Computer Science, Cluj-Napoca, 21-25 May 2014,  
<http://www.cs.ubbcluj.ro/~macs/2014/>
4. **Simion Breaz**: Algebraic Structures and Their Applications, Spineto, June 16-21, 2014 (talk: Commuting properties for the defect functor associated to a homomorphism).
5. **Simion Breaz**, Algebraic Structures and Their Applications, Spineto, June 16-21, 2014 (talk: Salce's lemma in trinagulated categories)
6. **Simion Breaz**, Algebraic Hyperstructures and its Applications, Xanthi, September 2-7, 2014 (talk: Products of Hypergroupoids Associated to Binary Relations)



## Projects

### Structural funds projects:

1. **Sacarea Christian**, *Cresterea oportunitatilor de ocupabilitate prin practica de succes (PRACT-IT), proiect Fonduri structurale , AMPOSDRU, Bani pentru formare profesionala, 2015, 1278748 RON*



## Projects

### National Projects – coordinator/ director

1. **Breaz Simion-Sorin**, *Functori definiti pe categorii de module*, UEFISCDI, ALGEBRA, LOGICA SI TEORIA NUMERELOR, 2012 - 2013,
2. **Grosan Teodor Silviu**, *5th International Conferences on Applications of Porous Media*, 25-28 August, Cluj-Napoca, Romania, MCT, MECANICA SI ASTRONOMIE, 2013
3. **Grosan Teodor Silviu**, *Fenomene de Transport in Nanofluide si Medii Poroase Saturate cu Nanofluide*, UEFISCDI, MECANICA SI ASTRONOMIE, 2012 - 2013
4. **Kohr Gabriela**, *Aspecte geometrice si analitice ale aplicatiilor biolomorfe in  $C^n$  si spatii Banach complexe*, UEFISCDI, FUNCTII DE VARIABILE COMPLEXE SI TEORIA POTENTIALULUI, 2012 - 2013
5. **Kohr Mirela**, *Probleme cu valori pe frontiera pentru sistem eliptice pe domenii nenetede cu aplicatii in mecanica fluidelor*, UEFISCDI, MECANICA SI ASTRONOMIE, 2012 - 2013
6. **Petrusel Adrian-Olimpiu**, *The 10th International Conference on Fixed Point Theory and its Applications*, MCT, ECUATII DIFERENTIALE, INTEGRALE SI CU DERIVATE PARTIALE, 2012
7. **Petrusel Adrian-Olimpiu**, *Fixed Point Theory in Metric Structures*, UEFISCDI, ANALIZA FUNCTIONALA, TEORIA OPERATORILOR, ANALIZA CONVEXA, 2012
8. **Popovici Nicolae**, *CERCETARI AVANSATE PRIVIND PROBLEME*



## Projects

*DE OPTIMIZARE VECTORIALA, MULTIVOCA SI INEGALITATI VARIATIONALE IN IPOTEZE DE CONVEXTATE GENERALIZATA, CNCSIS II, ANALIZA FUNCTIONALA, TEORIA OPERATORILOR, ANALIZA CONVEXA, 2012*

9. **Precup Radu**, *Metode operatoriale pentru sisteme neliniare si aplicatii*, UEFISCDI, ECUATII DIFERENTIALE, INTEGRALE SI CU DERIVATE PARTIALE, 2012 - 2013
10. **Precup Radu**, *Sisteme Neliniare in Analiza Matematica si Aplicatii*, CNCSIS II, ECUATII DIFERENTIALE, INTEGRALE SI CU DERIVATE PARTIALE, 2012 - 2013

### ***International and national projects – members***

1. **Blaga Cristina-Olivia** - *PRIMAS - Promoting inquiry in Mathematics and science education across Europe*, European Commision II, ECUATII DIFERENTIALE, INTEGRALE SI CU DERIVATE PARTIALE, 2010-2013
2. **Bota Monica-Felicia** - *Metode operatoriale pentru sisteme neliniare si aplicatii*, UEFISCDI, ECUATII DIFERENTIALE, INTEGRALE SI CU DERIVATE PARTIALE, 2011-2014
3. **Buica Florina Adriana** - *Metode operatoriale pentru sisteme neliniare si aplicatii*, UEFISCDI, ECUATII DIFERENTIALE, INTEGRALE SI CU DERIVATE PARTIALE, 2011-2014
4. **Chiorean Ioana-Rodica** - *Produse dermatologice pe baza de biomateriale hibride obtinute din antociani si nanoparticule metalice (NATNANOMED)*, UEFISCDI, CHIMIE ORGANICA SI COMPUSI



## Projects

NATURALI,2012-2014

5. **Chiorean Ioana-Rodica** - *Regiunea Piatra Craiului-Dambovicioara: o abordare multidisciplinara a unei megasecvente carbonatice regresive*, UEFISCDI, PALEONTOLOGIE-STRATIGRAFIE,2011-2014
6. **Crivei Septimiu** - *Functori definiti pe categorii de module*, UEFISCDI, ALGEBRA, LOGICA SI TEORIA NUMERELORE,2011-2014
7. **Grosan Teodor Silviu** - *Probleme cu valori pe frontiera pentru sisteme eliptice pe domenii nenetede cu aplicatii in mecanica fluidelor*, UEFISCDI, MECANICA SI ASTRONOMIE,2011-2014
8. **Ilea Veronica-Ana** - *Metode operatoriale pentru sisteme neliniare si aplicatii*, UEFISCDI, ECUATII DIFERENTIALE, INTEGRALE SI CU DERIVATE PARTIALE,2011-2014
9. **Kohr Mirela** - *Aspecte geometrice si analitice ale aplicatiilor biolomorfe in  $C^n$  si spatiu Banach complexe*, UEFISCDI, FUNCTII DE VARIABILE COMPLEXE SI TEORIA POTENTIALULUI,2011-2014
10. **Kohr Mirela** - *5th International Conferences on Applications of Porous Media, 25-28 August, Cluj-Napoca, Romania*, MCT, MECANICA SI ASTRONOMIE,2013-2012
11. **Modoi George-Ciprian** - *Functori definiti pe categorii de module*, UEFISCDI, ALGEBRA, LOGICA SI TEORIA NUMERELORE,2011-2014



## Projects

12. **Pelea Cosmin-Razvan** - *Functori definiti pe categorii de module, UEFISCDI, ALGEBRA, LOGICA SI TEORIA NUMERELEOR,2011-2014*
13. **Petrusel Adrian-Olimpiu** - *Metode operatoriale pentru sisteme neliniare si aplicatii, UEFISCDI, ECUATII DIFERENTIALE, INTEGRALE SI CU DERIVATE PARTIALE,2011-2014*
14. **Pintea Cornel Sebastian** - *Structura si senzitivitatea solutiilor inegalitatilor variationale, problemelor de optimizare si echilibru in ipoteze de monotonie generalizata, UEFISCDI, ANALIZA FUNCTIONALA, TEORIA OPERATORILOR, ANALIZA CONVEXA,2011-2014*
15. **Pintea Cornel Sebastian** - *Probleme cu valori pe frontiera pentru sisteme eliptice pe domenii nenetede cu aplicatii in mecanica fluidelor, UEFISCDI, MECANICA SI ASTRONOMIE,2011-2014*
16. **Popovici Nicolae** - *Structura si senzitivitatea solutiilor inegalitatilor variationale, problemelor de optimizare si echilibru in ipoteze de monotonie generalizata, UEFISCDI, ANALIZA FUNCTIONALA, TEORIA OPERATORILOR, ANALIZA CONVEXA,2011-2014*
17. **Rosca Natalia-Carmen** - *5th International Conferences on Applications of Porous Media, 25-28 August, Cluj-Napoca, Romania, MCT, MECANICA SI ASTRONOMIE,2013-2012*
18. **Serban Marcel-Adrian** - *Metode operatoriale pentru sisteme neliniare si aplicatii, UEFISCDI, ECUATII DIFERENTIALE, INTEGRALE SI CU DERIVATE PARTIALE,2011-2014*



## Representations in professional organizations

1. **Vacaretu Daniel**, Societatea de Stiinte Matematice din Romania, from 1983 - member
2. **Precup Radu**, American Mathematical Society, from 1993 - member
3. **Precup Radu**, Research Group in Mathematical Inequalities and Applications (RGMIA), from 2004 - member
4. **Precup Radu**, Societatea de Stiinte Matematice din Romania, from 1982 - member
5. **Petrusel Adrian-Olimpiu**, International Society of Mathematical Sciences, Osaka, Japan, from 2008 - member
6. **Petrusel Adrian-Olimpiu**, American Mathematical Society, from 1994 - member
7. **Petrusel Adrian-Olimpiu**, Societatea Europeana de Matematica, from 2003 - member
8. **Petrusel Adrian-Olimpiu**, Societatea de Stiinte Matematice din Romania, from 1994 - member
9. **Pelea Cosmin-Razvan**, AMS, from 2008 - member
10. **Pelea Cosmin-Razvan**, SSMR, from 2000 - member
11. **Kohr Mirela**, American Mathematical Society, from 2006 - member
12. **Kohr Mirela**, GAMM, from 1995 - member
13. **Kohr Mirela**, European Science Foundation (ESF), from 2010 - member Romania, from 2005 - member
15. **Kohr Gabriela**, American Mathematical Society, from 2006 - member
16. **Kohr Gabriela**, GAMM, from 1995 - member
17. **Kohr Gabriela**, European Science Foundation (ESF), from 2010 - member
18. **Kohr Gabriela**, Societatea de Stiinte Matematice din Romania from 2005 - member
19. **Crivei Septimiu**, American Mathematical Society, from 2004 - member
20. **Crivei Septimiu**, Societatea de Stiinte Matematice din Romania, from 1995 - member
21. **Breaz Simion-Sorin**, American Mathematical Society, from 2005 - member
22. **Breaz Simion-Sorin**, Societatea de Stiinte Matematice din



## Representations in professional organizations

- Romania, from 2000 - member
23. **Blaga Cristina-Olivia**, International Astronomy Olympiad, from 2006 – national representant
24. **Blaga Aurel-Paul**, European Astronomical Association, from 1992 - member
25. **Blaga Aurel-Paul**, TeX Users Group (TUG), from 2006 - member
26. **Andrica Dorin**, American Mathematical Society, from 1995 - member
27. **Andrica Dorin**, Societatea Balcanica a Geometrilor, from 1993 - founder
28. **Andrica Dorin**, Academia Romano-Americanana (ARA), from 2002 – corresponeing member
29. **Andrica Dorin**, Societatea de Stiinte Matematice din Romania, from 1977 - member
30. **Agratini Octavian**, American Mathematical Society, from 1997 - member
31. **Agratini Octavian**, Societatea de Stiinte Matematice din Romania, from 2008 – member
32. **Popovici Nicolae**, SSMR, from 2012, member
33. **Popovici Nicolae**, American Mathematical Society, from 2012, member
34. **Popovici Nicolae**, EUROPT (The Continuous Optimization Working Group of EURO - Association of European Operational Research Societies), from 2012, member
35. **Popovici Nicolae**, WGGC (Working Group on Generalized Convexity), from 2012, member
36. **Popovici Nicolae**, MCDM (International Society on Multiple Criteria Decision Making), from 2012, member



## Representations in professional organizations

### ***Public representations***

1. **Agratini Octavian**, Consiliul National de Atestare a Titlurilor, Diplomelor si Certificatelor Universitare (CNATDCU), 2012, member, Commission Mathematics
2. **Agratini Octavian**, Consiliul National de Atestare a Titlurilor, Diplomelor si Certificatelor Universitare (CNATDCU), 2013, member, Commission Mathematics
3. **Agratini Octavian**, Agentia Nationala de Asigurare a Calitatii in Invatamantul Superior (ARACIS), from 2012, evaluating expert
4. **Kohr Gabriela**, CNCSIS, 2012, evaluating expert
5. **Kohr Mirela**, CNCSIS, from 2011, evaluating expert

### ***International Editorial Boards:***

1. **Agratini Octavian**, Facta Universitatis, Nis, Serbia, from 2006, member
2. **Agratini Octavian**, Mathematical Reviews, from 1997, reviewer
3. **Agratini Octavian**, Open Journal of Discrete Mathematics, from 2011, member
4. **Agratini Octavian**, Studia Universitatis Babes-Bolyai, Mathematica, from 2011, editor in chief
5. **Agratini Octavian**, Mathematica, Cluj, from 2006, member  
**Andrica Dorin**, Balkan Journal of Geometry, from 2001, member
7. **Andrica Dorin**, Studia Univ.Babes-Bolyai-Mathematica, from 1997, member
8. **Andrica Dorin**, General Mathematics, from 2001, member
9. **Andrica Dorin**, Acta Universitatis Apulensis, from 2004, member
10. **Andrica Dorin**, Creative Mathematics and Informatics, from 2005, member
11. **Andrica Dorin**, Bulletin of Calcutta Mathematical Society, 2003, member
12. **Andrica Dorin**, Mathematica, 2006, member
13. **Blaga Aurel-Paul**, The PracTeX Journal, from 2006, Production



## Representations in professional organizations

Editor

14. **Buica Florina Adriana**, FIXED POINT THEORY, from 2006,  
Associate Managing Editor
15. **Catinas Teodora-Maria**, Journal of Advanced Research in  
Applied Mathematics, from 2008, member
16. **Chiorean Ioana-Rodica**, Journal of Advanced Researches on  
Applied Mathematics, from 2008, editor
17. **Kohr Gabriela**, JIPAM-Journal of Inequalities in Pure and Applied  
Mathematics , from 2005, member
18. **Lisei Hannelore-Inge**, JOURNAL OF OPTIMIZATION THEORY  
AND APPLICATIONS, from 2012, guest editor
19. **Muresan Marian**, Scientific Journals International, from 2007,  
editor
20. **Petrusel Adrian-Olimpiu**, Scientiae Math. Japinicae, from 2008,  
Editorial Board
21. **Petrusel Adrian-Olimpiu**, Journal of Nonlinear Functional  
Analysis and Differential Equations, from 2007, Editorial Board
22. **Petrusel Adrian-Olimpiu**, FIXED POINT THEORY, from 2003,  
Managing Editor
23. **Precup Radu**, Mathematics in Engineering, Science and  
Aerospace MESA , from 2010, member of the Editorial Board
24. **Precup Radu**, Studia Univ. Babes-Bolyai Math., from 2003, editor  
in chief
25. **Precup Radu**, Ann. Tiberiu Popoviciu Semin. Funct. Eq. Approx.  
Convexity, from 2010, editor
26. **Precup Radu**, CARPATHIAN JOURNAL OF MATHEMATICS,  
from 2005, member
27. **Precup Radu**, JOURNAL OF INEQUALITIES AND  
APPLICATIONS, from 2009, member
28. **Precup Radu**, FIXED POINT THEORY, from 2003, Deputy editor-  
in-chief
29. **Salagean Grigore-Stefan**, Journal of Approximation Theory and  
Applications , from 2005, member



## Representations in professional organizations

30. **Salagean Grigore-Stefan**, Studia Universitatis Babes-Bolyai. MATHEMATICA, from 2001, member
31. **Salagean Grigore-Stefan**, Acta Universitatis Apulensis. Mathematics-Informatics, from 2001, member
32. **Salagean Grigore-Stefan**, Journal of Applied Computer Science & Mathematics, from 2007, member
33. **Agratini Octavian**, STUDIA UNIVERSITATIS BABES-BOLYAI. MATHEMATICA, from 2003, member
34. **Andrica Dorin**, Gazeta Matematica, from 1996, member
35. **Breaz Simion-Sorin**, MATHEMATICA, from 2002, redaction secretary
36. **Breaz Simion-Sorin**, STUDIA UNIVERSITATIS BABES-BOLYAI. MATHEMATICA, from 2010, Editor
37. **Breckner Brigitte-Erika**, MATHEMATICA, from 2007, redaction secretary
38. **Catinas Teodora-Maria**, STUDIA UNIVERSITATIS BABES-BOLYAI. MATHEMATICA, from 2005, secretary
39. **Chiorean Ioana-Rodica**, STUDIA UNIVERSITATIS BABES-BOLYAI. MATHEMATICA, from 2004, reviewer
40. **Crivei Septimiu**, MATHEMATICA, from 2001, scientific secretary
41. **Duca Dorel**, Didactica Mathematica, from 1999, Editor-in-Chief
42. **Duca Dorel**, Universul matematic, from 2000, member
43. **Duca Dorel**, Creatii matematice, seria A, from 2006, honorary member
44. **Duca Dorel**, Creatii matematice, seria B, from 2006, honorary member
45. **Duca Dorel**, Revista de matematica Transilvania, from 1998, member
46. **Duca Dorel**, Educatia Matematica, from 2004, member
47. **Duca Dorel**, REVUE D'ANALYSE NUMERIQUE ET DE THEORIE DE L'APROXIMATION REVUE D'ANALYSE NUMERIQUE ET DE THEORIE DE L'APROXIMATION, from 1983, redaction secretary



## Representations in professional organizations

48. **Duca Dorel**, CREATIVE MATHEMATICS, from 2006, member
49. **Grad Anca**, Didactica Mathematica, from 2010, Managing Editor
50. **Kohr Gabriela**, MATHEMATICA, from 2007, member
51. **Kohr Mirela**, STUDIA UNIVERSITATIS BABES-BOLYAI.  
MATHEMATICA, from 2010, member
52. **Lisei Hannelore-Inge**, STUDIA UNIVERSITATIS BABES-BOLYAI.  
MATHEMATICA, from 2011, scientific secretary
- 53 **Lupsa Liana**, ANNALS OF THE TIBERIU POPOVICIU SEMINAR  
OF FUNCTIONAL EQUATIONS, APPROXIMATION AND  
CONVEXITY, from 2003, editor
54. **Petrusel Adrian-Olimpiu**, STUDIA UNIVERSITATIS BABES-BOLYAI. MATHEMATICA, from 2004, member
55. **Petrusel Adrian-Olimpiu**, MATHEMATICA, from 2005, member
56. **Pintea Cornel Sebastian**, STUDIA UNIVERSITATIS BABES-BOLYAI. MATHEMATICA, from 1995, member
57. **Popovici Nicolae**, MATHEMATICA, from 2006, editor
58. **Precup Radu**, TRANSYLVANIAN JOURNAL OF MATHEMATICS  
AND MECHANICS, from 2009, Anul de sfarsit: in prezent, member

### ***Reviewer for international and national journals:***

1. **Breaz Simion-Sorin**: Mathematica, International Electronic Journal of Algebra, CMUC, Algebra, British Journal of Mathematics & Computer Science, CENTRAL EUROPEAN JOURNAL OF MATHEMATICS, REVISTA MATEMATICA COMPLUTENSE, GLASNIK MATEMATICKI, BULLETIN OF THE LONDON MATHEMATICAL SOCIETY CARPATHIAN JOURNAL OF MATHEMATICS
2. **Crivei Septimiu**: JOURNAL OF ALGEBRA AND ITS APPLICATIONS, COMMUNICATIONS IN ALGEBRA.



## Representations in professional organizations

3. **Kohr Mirela:** Applications and Applied Mathematics: An International Journal (AAM), MATEMATIČKI VESNIK , CHEMICAL ENGINEERING COMMUNICATIONS, JOURNAL OF MATHEMATICAL ANALYSIS AND APPLICATIONS, ZAMM-ZEITSCHRIFT FÜR ANGEWANDTE MATHEMATIK UND MECHANIK, POTENTIAL ANALYSIS, MATHEMATICAL METHODS IN THE APPLIED SCIENCES, COMPLEX VARIABLES AND ELLIPTIC EQUATIONS, STUDIA UNIVERSITATIS BABES-BOLYAI: MATHEMATICA.
4. **Lisei Hannelore-Inge:** JOURNAL OF OPTIMIZATION THEORY AND APPLICATIONS, NONLINEAR ANALYSIS-THEORY METHODS & APPLICATIONS.
5. **Popovici Nicolae:** ACTA MATHEMATICA SCIENTIA, APPLIED MATHEMATICS LETTERS, OPTIMIZATION, JOURNAL OF OPTIMIZATION THEORY AND APPLICATIONS, OPTIMIZATION, APPLIED MATHEMATICS AND COMPUTATION, STUDIA

### ***Members of the Organizing and Scientific Committees of International Conferences:***

1. **Grosan Teodor Silviu** , 5th International Conference of Applications of Porous Media, Romania, 2013,
2. **Kohr Mirela** , 5th International Conference on Applications of Porous Media, Romania, 2013,
3. **Pelea Cosmin-Razvan** , Algebra Symposium, Romania, 2013,
4. **Kohr Gabriela** , International Symposium on Geometric Function Theory and Applications, Ohrid, R. Macedonia (GFTA2012), Macedonia, 2012,
5. **Kohr Mirela** , International Symposium on Geometric Function Theory and Applications (GFTA 2012) , Macedonia, 2012,
6. **Kohr Gabriela** , International Conference on Complex Analysis and Related Topics. The 13th Romanian-Finnish Seminar “, June 26-30, 2012, Ploieşti, Romania,



## Representations in professional organizations

7. **Petrusel Adrian-Olimpiu** , International Conference on Fixed Point Theory and its Applications, Romania, 2012,
8. **Precup Radu** , International Conference on Fixed Point Theory and Applications ICFPTA-2012, Romania,
9. **Salagean Grigore-Stefan** , 8-th International Symposium on Geometric Function Theory and Applications - GFTA 2012, Ohrid (Macedonia), 2012.

# Department of Computer Science



## Profile

The department is responsible for organizing studies in the domain of Computer Science. The bachelor degree provides the students with the appropriate knowledge and tools for further master degree studies and/or for their professional activity in IT, education, administration, industry or finance.

The purposes of the programme are the following

- to teach fundamental concepts of computer science and mathematics
- to teach problem-solving methods and techniques
- to teach how to use software engineering concepts and methods in software development and maintenance
- to give students the appropriate knowledge and skills related to design and administration of database systems and computer networks
- to teach students new scientific and didactic approaches
- to give students the appropriate motivation and abilities



# Department of Computer Science

## Profile

related to team work, professional communication and development.

The holder of this diploma may activate in any institution or company, occupying positions like analyst, programmer, developer, system designer, system engineer, network/database administrator, software project manager, computer science consultant, administrator of educational platforms. If the holder of diploma is also a graduate of the pedagogical module, he/she may be a teacher of Computer Science in any educational institution of gymnasial level.

The research activities in the department are organized in seven research groups, in different fields of Computer Science. The department supervises one research journal, and organizes an international conference every odd year, and a national conference every even year.



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1. **NAGY Reka** - Evolutionary Techniques in Computational Game Theory, adviser: Prof. univ. dr. DUMITRESCU Dumitru
2. **BOCSI E.A. Botond – Attila** - Model Learning for Robot Control, adviser: Prof. univ. dr. POP Horia – Florin
3. **LEFKOVITS Szidónia** - Metode robuste de detecție a obiectelor cu aplicații în detecția facială, adviser: Prof. univ. dr. POP Horia F.



## Publications

### Articles in national journals

1. **Cojocar Grigoreta Sofia, Guran Adriana-Mihaela, Aspecte specifice privind utilizabilitatea siturilor web pentru admiterea la facultate, REVISTA ROMANA DE INTERACTIUNE OM - CALCULATOR, Categ CNCSIS B+, 5,3, 2012, P.97 - 108**

### Proceeding of ISI and professional conferences

1. **Craciun Mihai-Florin-Gabriel, Motogna Simona-Claudia, Lazar Ioan, Towards Better Testing of fUML Models, conferinta ISI, IEEE 6th International Conference on Software Testing, Verification, and Validation (ICST 2013) , IEEE 6th International Conference on Software Testing, Verification, and Validation (ICST 2013) , IEEE Computer Society, Editor: IEEE Computer Society, 000000000, , 2013, P. 0-1**
2. **Chin Wei-Ngan, Asankhaya Sharma, Le Quang Loc, Craciun Mihai-Florin-Gabriel, Towards Complete Specifications with an Error Calculus, conferinta ISI, 5th NASA Formal Methods Symposium, LNCS 7871, Springer Verlag, Editor: Guillaume Brat, Neha Rungta, Arnaud Venet , 000000000, , 2013, P. 1-15**
3. **Chin Wei-Ngan, Qin Shengchao, He Guanhua, Craciun Mihai-Florin-Gabriel, Automated Specification Discovery in a Combined Abstract Domain, conferinta ISI, 15th International Conference on Formal Engineering Methods, 2013, Springer Verlag, 000000000, , 2013, P. 100-116**
4. **Nagy Reka, Suciu Mihai-Alexandru, Dumitrescu Dumitru, Exploring Lorenz Dominance , conferinta ISI, SYNASC 2013, 14th International Symposium on Symbolic and Numeric Algorithms for Scientific Computing , IEEE, Editor: "", 978-0-7695-4934-7, , 2013, P. 254-259**



## Publications

5. **Suciuc Mihai-Alexandru, Pallez Denis, Cremene Marcel, Dumitrescu Dumitru**, *Adaptive MOEA/D for QoS-based web service composition*, conferinta ISI, EvoCop, 7832, Springer Berlin Heidelberg, Editor: Middendorf, Martin; Blum, Christian, 978-3-642-37197-4, , 2013, P. 72-84
6. **Mocean Loredana, Ciaca Monica-Iuliana, Vancea Alexandru-Ioan**, *Possibilities of parallel processing at the level of economic programs in groups of firms*, conferinta ISI, The 12 International Conferences of Informatics in Economy Bucharest 2013, Conference Proceedings of the 12 ICIEERBT, ASE, Editor: \*, 2284-7472, , 2013, P. 31-36
7. **Ciaca Monica-Iuliana, Mocean Loredana, Vancea Alexandru-Ioan**, *Analisis of Data Dependence. Applications in Groups of Firms*, conferinta ISI, International Conference on Informatics in Economy , Proceedings of the 12th International Conference on Informatics in Economy, 25-28 April, Bucharest, Romania, Bucharest University of Economic Studies Press, Editor: University of Economic Studies, Bucharest, 2284-7472, , 2013, P. 202-209
8. **Andreica Anca-Mirela, Chira Camelia**, *Dynamics of Networks Evolved for Cellular Automata Computation*, conferinta ISI, International Workshop on Hybrid Artificial Intelligence Systems (HAIS 2012), Salamanca, Spain, Hybrid Artificial Intelligent Systems, vol. 7208-7209, Springer-Verlag, -, , 2012, P. 359-368
9. **Andreica Anca-Mirela, Chira Camelia**, *The Role of Crossover in Evolutionary Approaches to Resource-Constrained Project Scheduling*, conferinta ISI, International Conference on Intelligent Systems Design and Applications (ISDA 2012), Proceedings, -, -, , 2012, P. 200-205
10. **COMBEMALE Benoit, Chiorean Ioan Danut, COMBEMALE Benoit**, *The 8th Educators' Symposium @ MODELS 2012: software modeling in education*, conferinta ISI, MODELS 2012 - Educator's Symposium, Proceedings of the 8th edition of the



## Publications

- Educators' Symposium, ACM Digital Library, Editor: Ruth Breu and Colin Atkinson, DOI : 10.1145/2425936.2425937, , 2012, P. 1-4
11. **Chira Camelia, Hatami Nima**, *Hybrid Evolutionary Algorithm with a Composite Fitness Function for Protein Structure Prediction*, conferinta ISI, Intelligent Data Engineering and Automated Learning, 7345, Springer, Editor: LNCS, "", , 2012, P. 184-191
12. **Armano Giuliano, Chira Camelia, Hatami Nima**, *Ensemble of Binary Learners for Reliable Text Categorization with a Reject Option*, conferinta ISI, 7th International Workshop on Hybrid Artificial Intelligence Systems, 7208, Springer, Editor: "", "", , 2012, P. 137-146
13. **Cioban Vasile, Prejmerean Vasile, Culic Bogdan, Ghiran Ovidiu**, *Image Calibration for Color Comparison*, conferinta ISI, Proceedings of 2012 IEEE International Conference on Automation, Quality and Testing, Robotics - AQTR 2012, I, IEEE Catalog Number: CFP12AQT-CDR,, Editor: Liviu Miclea, Ioan Stoian, ISBN: 978-1-4673-0703-1, , 2012, P. 332-336
14. **Cremene Ligia, Dumitrescu Dumitru, Nagy Reka, Gasko Noemi**, *Cognitive Radio Simultaneous Spectrum Access/ One-shot Game Modelling*, conferinta ISI, IEEE, IET International Symposium on Communication Systems, Networks and Digital Signal Processing, Communication Systems, Networks & Digital Signal Processing (CSNDSP), 2012 8th International Symposium on, "", Editor: "", "", , 2012, P. 1-6
15. **Suciuc Mihai-Alexandru, Cremene Marcel, Pop Florin-Claudiu, Dumitrescu Dumitru**, *Equitable solutions in QoS-aware service optimization*, conferinta ISI, GECCO, "", "", Editor: Terence Soule, Jason H. Moore, 978-1-4503-1178-6, , 2012, P. 1537-1538
16. **Nagy Reka, Suciuc Mihai-Alexandru, Dumitrescu Dumitru**, *Lorenz equilibrium: equitability in non-cooperative games*,



## Publications

conferinta ISI, GECCO, 1, ACM, New York, USA, Editor: Terence Soule, 978-1-4503-1177-9 , , 2012, P. 489-496

17. **Nagy Reka, Gasko Noemi, Lung Rodica Ioana, Dumitrescu Dumitru**, *Between Selfishness and Altruism: Fuzzy Nash–Berge–Zhukovskii Equilibrium*, conferinta ISI, PPSN XII (Parallel Problem Solving from Nature), 7491, Springer Berlin Heidelberg, Editor: Coello, Carlos A. Coello and Cutello, Vincenzo and Deb, Kalyanmoy and Forrest, Stephanie and Nicosia, Giuseppe and Pavone, Mario, 978-3-642-32936-4, , 2012, P. 500-509

### Proceeding of international conferences (indexed in international databases)

1. **Neagos Adriana, Motogna Simona-Claudia**, *Security Analysis regarding Cross-Site Scripting on Internet Explorer*, Workshop on Software Quality Analysis, Monitoring, Improvement, and Applications, ACM International Conference Proceeding Series. , Editor: \*, 978-0-7695-3783-2, ACM, 2012, P. 0-0
2. **SERBAN Ovidiu - Mircea, Pauchet Alexandre, Pop Horia-Florin**, *Recognizing emotions in short text*, ICAART, SciTePress, Editor: Joaquim Filipe and Ana Fred, 978-989-8425-95-9, SciTePress, 2012, P. 477-480

### Editor – national volumes

1. **Posea Vlad, Cojocar Grigoreta Sofia**, *Conferinta Nationala de Interactiune Om-Calculator RoCHI 2012*, MATRIX ROM , Bucuresti, 2012, P. 151

### Prizes

1. **Czibula Gabriela**, *UBB Prize for scientific excellence 2012*



## Publications

### Invited conferences

1. **Niculescu Virginia**, internationale, Franta, *Univ. Orleans LIFO- Le Laboratoire d\l{t}titu: Workshop: FraDeCoPP: Second Workshop on Frameworks for the Development of Correct (parallel) Programs* nov 2012, 2012, calitate invitat.

### Articles in ISI journals

1. Czibula Gabriela, Crisan Gloria Cerasela, Pintea Camelia, Czibula Istvan-Gergely, Soft computing approaches on the bandwidth problem , Science\_Citation\_Expanded, INFORMATICA, Vol. 24, No. 1, 2013, P.1 - 12
2. Czibula Gabriela, Czibula Istvan-Gergely, Gaceanu Radu-Dan, Intelligent data structures selection using neural networks , Science\_Citation\_Expanded, KNOWLEDGE AND INFORMATION SYSTEMS, Vol. 34, Issue 1, 2013, P.171 - 192
3. Czibula Gabriela, Bocicor Maria - Iuliana, Czibula Istvan-Gergely, Temporal Ordering of Cancer Microarray Data through a Reinforcement Learning Based Approach , Science\_Citation\_Expanded, PLOS ONE, 8(4): e60883 - doi:10.1371/journal.pone.0060883, 2013, P.0 - 20
4. Czibula Gabriela, Inkpen Diana, Tatar Doina, Text segmentation using Roget-based weighted lexical chains , Science\_Citation\_Expanded, COMPUTING AND INFORMATICS, Vol. 32, 2013, P.1001 - 1018
5. DARABANT Laura , Darabant Sergiu Adrian, Magnetic Stimulation of the Spinal Cord: Experimental Results and Simulations, Science\_Citation\_Expanded, IEEE TRANSACTIONS ON MAGNETICS, 49, 2013, P.1845 - 1848
6. Pop Horia-Florin, Sarbu Costel, A new fuzzy discriminant analysis method, Science\_Citation\_Expanded, MATCH-



## Publications

COMMUNICATIONS IN MATHEMATICAL AND IN COMPUTER CHEMISTRY, 69, 2, 2013, P.391 - 412

7. Czibula Gabriela, Czibula Istvan-Gergely, Unsupervised Restructuring of Object-Oriented Software Systems using Self-Organizing Feature Maps , Science\_Citation\_Expanded, INTERNATIONAL JOURNAL OF INNOVATIVE COMPUTING INFORMATION AND CONTROL, Volume 8, Number 3(A), 2012, P.1689 - 1704
8. Czibula Gabriela, Bocicor Maria - Iuliana, Czibula Istvan-Gergely, Promoter Sequences Prediction Using Relational Association Rule Mining , Science\_Citation\_Expanded, EVOLUTIONARY BIOINFORMATICS, Vol. 8, 2012, P.181 - 196
9. MARIAN Zsuzsanna-Edit, Czibula Gabriela, Czibula Istvan-Gergely, Using software metrics for automatic software design improvement, Science\_Citation\_Expanded, STUDIES IN INFORMATICS AND CONTROL, 21, 3, 2012, P.249 - 258
10. Cremene Ligia, Dumitrescu Dumitru, Analysis of Cognitive Radio Scenes Based on Non-cooperative Game Theoretical Modelling, Science\_Citation\_Expanded, IET COMMUNICATIONS, 6, 2012, P.1876 - 1883

### Articles – journals indexed in international databases

1. **Varga Viorica, Grebla Horea-Adrian, Andreica Anca-Mirela,**, *Decision Support System for Babes-Bolyai University*, mathscinet, Studia Universitatis Babes-Bolyai Informatica, 2013, P.102-110
2. **Craciun Mihai-Florin-Gabriel, Motogna Simona-Claudia, Parv Bazil,**, *Towards a Region-based Calculus for Energy-Aware Programming*, bdi, Studia Universitatis Babes-Bolyai Series Informatica, 2013, P.93-101



## Publications

3. **Frentiu Militon, Coman Gheorghe, Academician Professor Dimitrie D. Stancu at His 85-th Anniversary**, MathSciNet, Studia Informatica, 2013, P.5-20
4. **Andreica Anca-Mirela, Chira Camelia, Study of Majority Rule and Network Topology for Cellular Automata** , - , Studia Universitatis Babes-Bolyai, Informatica series, Vol. LVII, No. 3 , 2012, P.35-40
5. **Andreica Anca-Mirela, Chira Camelia, A Collaborative Evolutionary Approach to Resource-Constrained Project Scheduling** , - , Studia Universitatis Babes-Bolyai, Informatica series, Vol. LVII, No. 3 , 2012, P.76-84
6. **Iclanzan David, Andreica Anca-Mirela, Chira Camelia, Cell state change dynamics in cellular automata** , SCOPUS, Google Scholar, Academic OneFile, DBLP, EI-Compendex, io-port.net, OCLC, SCImago, Summon by Serial Solutions , Memetic Computing , 2012, P.0
7. **Bufnea Darius-Vasile, Analyzing and Tuning User Queries to Search Engines**, Zentralblatt fur Mathematik, Studia Universitatis Babes-Bolyai, Seria Informatica, Vol. LVII, No. 3, 2012, P.41-48
8. **Cojocar Grigoreta Sofia, Aspect Mining. Past, Present, Future**, MathSciNet , Studia Universitatis Babes-Bolyai, Series Informatica, 2012, P.85-96
9. **Cojocar Grigoreta Sofia, Guran Adriana-Mihaela, Aspecte specifice privind utilizabilitatea siturilor web pentru admiterea la facultate**, Computer Science Bibliographies, Revista Romana de Interacţiune Om-Calculator, 2012, P.97-108
10. **Tambulea Leon, Darabant Sergiu Adrian, Navroschi Andreea, REDUNDANT SPATIAL INDEX FOR SOLVING RANGE QUERIES**, Mathematica Reviews, STUDIA UNIV. BABES, Volume LVII, Number 4, 2012, P.75-84



## Publications

11. **Dragos Sanda-Maria, Sacarea Christian, Analysing the Usage of Pulse Portal with Formal Concept Analysis , BDI , Studia Universitatis Babes-Bolyai Series Informatica , 2012, P.65-75**
12. **Parvu Ovidiu, Dragos Sanda-Maria, Building Intelligent Knowledge Management Systems, CNCSIS , Studia Universitatis Babes-Bolyai Series Informatica, 2012, P.110-121**
13. **Gasko Noemi, Suciu Mihai-Alexandru, Lung Rodica Ioana, Dumitrescu Dumitru, Pareto-optimal Nash equilibrium detection using an evolutionary approach, AMS, Acta Universitatis Sapientiae, Informatica, 2012, P.237-246**
14. **Lupea Mihaela-Ana, Tatar Doina, Phonemes versus Geometric Properties in Clustering of Poems, MathSciNet Mathematical Reviews, www.ams.org/mathscinet, Studia Universitatis Babes-Bolyai seria Informatica, Vol LVII , 4, 2012, P.55-62**
15. **Niculescu Virginia, Lupsa Dana, Lupsa Radu-Lucian, Issues in Collections Framework Design, Mathematical Reviews, Studia Universitatis "Babes-Bolyai", Informatica, Vol. LVII, No. 4 , 2012, P.30-38**
16. **Vescan Andreea, Pop Horia-Florin, Automatic Criteria-based Configuration for the Component Selection Problem , <http://www.mirlabs.net/ijcism>, International Journal of Computer Information Systems and Industrial Managements Applications, 2012, P.641-647**
17. **Sacarea Christian, Suciu Alin, Marton Kinga, Cret Octavian, Generation and Testing of Random Numbers for Cryptographic Applications, zentralblatt, , Proceedings of the Romanian Academy, series A: Mathematics, Physics, Technical Sciences, Information Science , 2012, P.368-377**



## Projects

### National Projects – coordinator/ director

1. **Chira Camelia**, *EMERGENTA, AUTO-ORGANIZARE SI EVOLUTIE: NOI MODELE COMPUTATIONALE IN STUDIUL SISTEMELOR COMPLEXE*, proiect national , CNCSIS II, MODELARE SI TEORIA CALCULULUI, 2012 - 2013,
2. **Pop Horia-Florin**, *S-GAIA: Sistem pentru gestiunea si analiza inteligenta a datelor medicale in vederea imbunatatirii strategiilor de raspuns in cazul unor afectiuni acute si cronice*, proiect national , UEFISCDI, SISTEME SOFTWARE, 2012 - 2013,
3. **Sterca Adrian-Ioan**, *Controlul Fluxului pentru Streaming Multimedia in Retele de tip Best-Effort. Aplicatii Internet Television si Peer-2-Peer Video Streaming*, proiect national , CNCSIS II, SISTEME SOFTWARE, 2012 – 2012.

### International projects

1. **Grosan Crina Daniela**, *IPIROCOM*, proiect international , Comisia Europeana II, ALGEBRA, LOGICA SI TEORIA NUMERELORE, 2013,

### International and national projects – member

1. **Andreica Anca-Mirela** - *EMERGENTA, AUTO-ORGANIZARE SI EVOLUTIE: NOI MODELE COMPUTATIONALE IN STUDIUL SISTEMELOR COMPLEXE*, CNCSIS II, MODELARE SI TEORIA CALCULULUI,2010-2013
2. **Boian Florian-Mircea** - *Formarea profesionala a cadrelor didactice din invatamantul preuniversitar pentru noi oportunitati de dezvoltare in cariera*, AMPOSDRU, Profesionisti in educatie si formare,2010-2012
3. **Chisalita-Cretu Maria-Camelia** - *Regiunea Piatra Craiului-Dambovicioara: o abordare multidisciplinara a unei megasecvente carbonatice regresive*, UEFISCDI, PALEONTOLOGIE-STRATIGRAFIE,2011-2014



## Projects

4. **Gaceanu Radu-Dan** - S-GAIA: *Sistem pentru gestiunea si analiza inteligenta a datelor medicale in vederea imbunatatirii strategiilor de raspuns in cazul unor afectiuni acute si cronice*, UEFISCDI, SISTEME SOFTWARE, 2012-2014
5. **Grosan Crina Daniela** - S-GAIA: *Sistem pentru gestiunea s analiza inteligenta a datelor medicale in vederea imbunatatirii strategiilor de raspuns in cazul unor afectiuni acute si cronice*, UEFISCDI, SISTEME SOFTWARE, 2012-2014
6. **Guran Adriana-Mihaela** - *Towards the Integration of Transectorial IT Design and Evaluation*, ANCS - progr internat cu finantare nat, TEHNOLOGIA INFORMATIEI, 2010-2013
7. **Parv Bazil** - IPROCOM, Comisia Europeană II, ALGEBRA, LOGICA SI TEORIA NUMERELOR, 2013-2016
8. **Pop Horia-Florin** - DSL 2013 Programul Sectorial ERASMUS, ctiunea Progframe Intensive, Comisia Europeană II, SISTEME SOFTWARE, 2012-2012
9. **Prejmerean Vasile** - NOI GENERATII DE BIOMATERIALE PENTRU STOMATOLOGIA COSMETICA, UEFISCDI, STIINTA MATERIALELOR COMPOZITE, 2012-2014



## Representations in professional organizations

### Members of Editorial Boards of International and National Journals

1. **Boian Florian-Mircea**, International Journal of Intelligent Computing & Information Science, from 2000, member
2. **Grebla Horea-Adrian**, Broad Research in Artificial Intelligence and Neuroscience, from 2010, copyeditor
3. **Grosan Crina Daniela**, International Journal of Computational Intelligence Research, from 2008, Editor
4. **Grosan Crina Daniela**, International Journal of Software Reuse, from 2007, Editor
5. **Grosan Crina Daniela**, International Journal of Theoretical and Applied Computer Sciences, from 2007, Editor
6. **Grosan Crina Daniela**, International Journal of Innovative Computing and Applications, from 2007, Editor
7. **Grosan Crina Daniela**, International Journal of Unified Software Engines, from 2007, Editor
8. **Oltean Mihai-Nicolae**, International Journal of Innovative Computing and Applications, from 2007, member
9. **Pop Horia-Florin**, Studia Universitatis Babes-Bolyai, Series Informatica, from 2001, executive editor
10. **Pop Horia-Florin**, Scientific Bulletin of the "Petru Maior" University of Tîrgu Mureş, from 2010, member
11. **Vescan Andreea**, International Journal of Web Applications, from 2009, member.
12. **Boian Florian-Mircea**, STUDIA UNIVERSITATIS BABES-BOLYAI.INFORMATICA, from 1999, member
13. **Boian Florian-Mircea**, CARPATHIAN JOURNAL OF MATHEMATICS, CONTINUARE A REVISTEI "BULETINUL STIINTIFIC AL UNIVERSITATII BAIA MARE", SERI FASCICOLA MATEMATICA-INFORMATICA, from 2001, member
14. **Frentiu Militon**, STUDIA UNIVERSITATIS BABES-BOLYAI. INFORMATICA, from 1995, redactor
15. **Guran Adriana-Mihaela**, REVISTA ROMANA DE INTERACIUNE OM - CALCULATOR, from 2010, member



## Representations in professional organizations

### Members of Editorial Boards of International and National Journals

16. **Motogna Simona-Claudia**, STUDIA UNIVERSITATIS BABES-BOLYAI. INFORMATICA, from 2006, member
17. **Parv Bazil**, ACTA UNIVERSITATIS APULENSIS - MATHEMATICS - INFORMATICS, from 2001, member
18. **Parv Bazil**, STUDIA UNIVERSITATIS BABES-BOLYAI. INFORMATICA, from 1996, member
19. **Tambulea Leon**, STUDIA UNIVERSITATIS BABES-BOLYAI. INFORMATICA, from 1991, member

### Reviewers of Editorial Boards of International and National Journals

1. **Czibula Gabriela**, Studia Informatica, from 2002
2. **Czibula Gabriela**, BRAIN, in 2012
3. **Czibula Istvan-Gergely**, Studia Informatica, in 2012
4. **Niculescu Virginia**, Studia Universitatis Babes-Bolyai Series Informatica, from 2002
5. **Cojocar Grigoreta Sofia**, REVISTA ROMANA DE INTERACIUNE OM - CALCULATOR, in 2012
6. **Cojocar Grigoreta Sofia**, STUDIA UNIVERSITATIS BABES-BOLYAI. INFORMATICA, from 2008
7. **Motogna Simona** - International Journal of Computers, Communications & Control, 2013

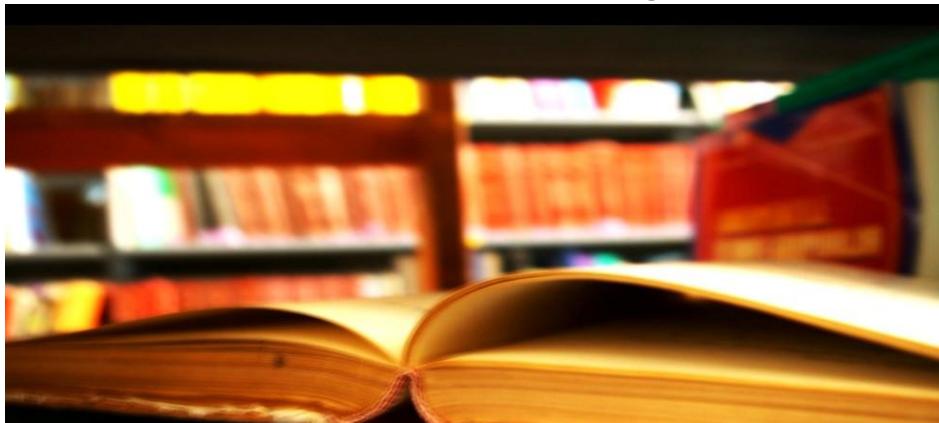


## Members of Organizing and Scientific Committees of International and National Conferences

1. **Motogna Simona-Claudia** , 6th Balkan Conference in Informatics, Grecia, 2013, Program Committee Member
2. **Motogna Simona-Claudia** , KEPT 2013, Romania, 2013, Chair and Scientific Committee member
3. **Niculescu Virginia** , 7th International Conference on Complex, Intelligent, and Software Intensive Systems (CISIS-2013), China, 2013, PC member
4. **Niculescu Virginia** , Engineering Object Oriented Parallel Software (EOOPS) - AINA 2013, Spania, 2013, PC member
5. **Sacarea Christian** , 6th International Conference on Security on Information Technology and Communications, Romania, 2013, member
6. **Chiorean Ioan Danut** , MODELS 2012, Austria, 2012, organizer and PC membru
7. **Craciun Mihai-Florin-Gabriel** , 14th ECOOP Workshop on Formal Techniques for Java-like Programs, Belarus, 2012, Program Committee Member
8. **Craciun Mihai-Florin-Gabriel** , The Sixth IEEE International Symposium on Theoretical Aspects of Software Engineering, China, 2012, Program Committee Member
9. **Czibula Gabriela** , Conferinta: CONSILR 2012, Romania, 2012, member
10. **Motogna Simona-Claudia** , 5th Balkan Conference in Informatics, 2012, member
11. **Pop Horia-Florin** , MACS 9th, Ungaria, 2012, Member Steering Committee
12. **Chisalita-Cretu Maria-Camelia**, CSSC 2012, 2012, member
13. **Guran Adriana-Mihaela**, INTERACT 2013 - 14th IFIP TC13 Conference on Human-Computer Interaction, 2013, member
14. **Cojocar Grigoreta Sofia**, Conferinta Nationala de Interactiune Om-Calculator RoCHI 2012, 2012, PC President
15. **Guran Adriana-Mihaela**, Conferinta Romana de Interactiune Om-Calculator, 2012, member



# Department of Mathematics and Computer Science, Hungarian line



## Profile

The department is responsible for ongoing education in Hungarian in the frame of the Faculty of Mathematics and Computer Science, and consists of 4 professors, 8 associate professors, 10 lecturers, 5 assistants and 7 PhD students.

The department provides complete study programs in Hungarian for the following specializations:

- Bachelor degree: Mathematics, Mathematics and Computer Science, Computer Science;
- Master degree: Enterprise Application Programming & Development, Optimization of Computational Models, Didactic Mathematics, Computational Mathematics.

The members of the department are involved in research groups of the faculty. The main research directions include: geometric theory of functions, stochastic analysis, optimization theory, variation calculus, nonlinear analysis, theory of finite dimension algebraic representation, celestial mechanics, artificial intelligence, databases, computational modeling and simulation, graphics and computational geometry, parallel programming a.s.o.



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Domains of interest: Differential equations, Partial differential equations, Critical points, Calculus of variations

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Domains of interest: Methods and algorithms in numerical analysis,

Optimization theory

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Domains of interest: Distributed system and networking

TAKÓ István, *Doctoral Student*

Domains of interest: Software engineering, Software modeling

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Domains of interest: Simulation modeling, Granular materials

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## Research Groups in Mathematics and Computer Science

The members of the Department are part of the research groups in Mathematics and Computer Science, as follows:

**Algebra:** Prof. PhD. Mărcuş Andrei, Assoc. Prof. PhD. Szántó Csaba, Asist. PhD. István Szöllosi ([http://math.ubbcluj.ro/~aga\\_team/](http://math.ubbcluj.ro/~aga_team/))

**Analysis and Optimization:** Prof. PhD. Kassay Gábor, Prof. PhD. Kolumbán József, Assoc. Prof. PhD. Finta Zoltán (<http://www.cs.ubbcluj.ro/~grupanopt/>)

**Geometric Analysis:** Prof. PhD. Varga Csaba, Lect. PhD. Mezei Ildiko

**Function Theory:** Prof. PhD. Bulboacă Teodor (<http://math.ubbcluj.ro/~gctf/>)

**Nonlinear Operators and Differential Equations:** Lect. PhD. András Szilárd (<http://www.math.ubbcluj.ro/~nodeacj/soned.html>)

**Numeric and Stochastic Analysis:** Assoc. Prof. PhD. Soós Anna, Lect. PhD. Somogyi Ildikó (<http://www.cs.ubbcluj.ro/wp-content/uploads/ans-2012.pdf>)

**Simulation, Modeling, Control and Visualization:** Lect. PhD. Libál András, Assoc. Prof. PhD. Ferenc Szenkovits, Ruff Laura (<http://www.cs.ubbcluj.ro/~smcv/>)

**Data Analysis:** Assoc. Prof. PhD. Varga Viorica (<http://www.cs.ubbcluj.ro/~da/>)

**Datamin:** Assoc. Prof. PhD. Csató Lehel, Lect. PhD. Bodó Zalán, Lect. PhD. Darvay Zsolt, Asist. PhD. Jakab Hunor (<http://datamin.ubbcluj.ro/>)



## Projects

### National projects – coordinator/ director

1. **Csato Lehel**, *Metode neparametrice in instruirea automata a masinilor: aplicatii in robotica si analiza datelor*, proiect national , UEFISCDI, MODELARE SI TEORIA CALCULULUI, 2012 - 2013,
2. **Kassay Gabor**, *Structura si senzitivitatea solutiilor inegalitatilor variationale, problemelor de optimizare si echilibru in ipoteze de monotonie generalizata*, proiect national , UEFISCDI, ANALIZA FUNCTIONALA, TEORIA OPERATORILOR, ANALIZA CONVEXA, 2012 - 2013,
3. **Libal Jozsef-Andras**, *Studiul sistemelor coloidale de spin ice artificiale*, proiect national , UEFISCDI, TEORIA STARII CONDENSATE, 2012 - 2013,
4. **Roth Agoston-Istvan**, *Probleme recente in modelarea geometrica asistata de calculator*, proiect national , UEFISCDI, ANALIZA NUMERICA SI TEORIA APROXIMARII, 2012 - 2013,

### International projects

1. **Andras Szilard Karoly**, *PRIMAS - Promoting inquiry in Mathematics and science education across Europe*, proiect international , Comisia Europeana II, ECUATII DIFERENTIALE, INTEGRALE SI CU DERIVATE PARTIALE, 2012 - 2013,
2. **Soos Anna**, *DSL 2013 Programul Sectorial ERASMUS, Actiunea Programe Intensive*, proiect international , Comisia Europeana II, SISTEME SOFTWARE, 2012,

### Members in projects:

1. **Andras Szilard Karoly** - *Studiul functiilor speciale cu metode din analiza reala si complexa*, CNCSIS II, ANALIZA REALA,TEORIA MASURII,2013-2014
2. **Andras Szilard Karoly** - *Metode operatoriale pentru sisteme neliniare si aplicatii*, UEFISCDI, ECUATII DIFERENTIALE, INTEGRALE SI CU DERIVATE PARTIALE,2011-2014
3. **BOCSI Botond - Attila** - *Metode neparametrice in instruirea*



## Projects

- automata a masinilor: aplicatii în robotica si analiza datelor,*  
UEFISCDI, MODELARE SI TEORIA CALCULULUI,2011-2014
4. **BOCSI Botond - Attila** - *DSL 2013 Programul Sectorial ERASMUS, ctiunea Progframe Intensive, Comisia Europeana II, SISTEME SOFTWARE,2012-2012*
5. **Bodo Zalan-Peter** - *Metode neparametrice in instruirea automata a masinilor: aplicatii în robotica si analiza datelor, UEFISCDI, MODELARE SI TEORIA CALCULULUI,2011-2014*
6. **Bodo Zalan-Peter** - *DSL 2013 Programul Sectorial ERASMUS, ctiunea Progframe Intensive, Comisia Europeana II, SISTEME SOFTWARE,2012-2012*
7. **Csato Lehel** - *DSL 2013 Programul Sectorial ERASMUS, ctiunea Progframe Intensive, Comisia Europeana II, SISTEME SOFTWARE,2012-2012*
8. **Horvath Zoltan** - *DSL 2013 Programul Sectorial ERASMUS, ctiunea Progframe Intensive, Comisia Europeana II, SISTEME SOFTWARE,2012-2012*
9. **Jakab Hunor-Sandor** - *Metode neparametrice in instruirea automata a masinilor: aplicatii în robotica si analiza datelor, UEFISCDI, MODELARE SI TEORIA CALCULULUI,2011-2014*
10. **Jakab Hunor-Sandor** - *DSL 2013 Programul Sectorial ERASMUS, ctiunea Progframe Intensive, Comisia Europeana II, SISTEME SOFTWARE,2012-2012*
11. **Mezei Ildiko Ilona** - *Simetrii in probleme eliptice: tehnici euclidiene si ne-euclidiene, UEFISCDI, ECUATII DIFERENTIALE, INTEGRALE SI CU DERIVATE PARTIALE,2011-2013*
12. **Roth Agoston-Istvan** - *Studiul sistemelor coloidale de spin ice artificiale, UEFISCDI, TEORIA STARII CONDENSATE,2011-2014*
13. **Soos Anna** - *PRIMAS - Promoting inquiry in Mathematics and science education across Europe, Comisia Europeana II, ECUATII DIFERENTIALE, INTEGRALE SI CU DERIVATE PARTIALE,2010-2013*
14. **Suteu-Szollosi Stefan-Lucian** - *Algebre grupale si algebrelor*



## Projects

- Ringel-Hall, CNCSIS II, ALGEBRA, LOGICA SI TEORIA NUMERELORE,2010-2013*
15. **Suteu-Szollosi Stefan-Lucian** - *DSL 2013 Programu Sectorial ERASMUS, ctiunea Progframe Intensive, Comisia Europeana II, SISTEME SOFTWARE,2012-2012*
16. **Szanto Csaba-Lehel** - *Algebre grupale si algebre Ringel-Hall, CNCSIS II, ALGEBRA, LOGICA SI TEORIA NUMERELORE,2010-2013*
17. **Varga Csaba-Gyorgy** - *Simetrii in probleme eliptice: tehnici euclidiene si ne-euclidiene, UEFISCDI, ECUATII DIFERENTIALE, INTEGRALE SI CU DERIVATE PARTIALE,2011-2013*
18. **Varga Csaba-Gyorgy** - *Sisteme Neliniare in Analiza Matematica si Aplicatii, CNCSIS II, ECUATII DIFERENTIALE, INTEGRALE SI CU DERIVATE PARTIALE,2010-2013*
19. **Varga Viorica** - *Sisteme Neliniare in Analiza Matematica si Aplicatii, CNCSIS II, ECUATII DIFERENTIALE, INTEGRALE SI CU DERIVATE PARTIALE,2010-2013*



## Representations in professional organizations

1. **Sandor Jozsef**, in Corporatia Doctorilor Academiei Ungare, from 2000 – member
2. **Sandor Jozsef**, in Romanian mathematical society, 2012, member
3. **Sandor Jozsef**, *Reprezentare nationala*, in Romanian mathematical society, 2013, membru
4. **Sandor Jozsef**, in Working Group on Generalized Convexity, from 2012, membra
5. **Sandor Jozsef**, in Farkas Gyula Association for mathematics and computer science, from 2012, member
6. **Sandor Jozsef**, in Rado Ferenc Mathematical Society, from 2012, member
7. **Sandor Jozsef**, in Research Group Mathematical Inequalities Applications, from 2012, member
8. **Sandor Jozsef**, in American Mathematical Society, from 2012, member
9. **Sandor Jozsef**, in European mathematical Society, from 2012, member
10. **Sandor Jozsef**, in Janos Bolyai Mathematical Society, from 2012, member
11. **Soos Anna**, in Fundatia Universitara Maghiara din Cluj, from 2012, president
12. **Soos Anna**, in Asociatia Farkas Gyula pentru Matematica si Informatica, from 2012, vicepresident
13. **Szenkovits Ferenc**, in International Astronomical Union, fro 2012, member
14. **Szenkovits Ferenc**, in European Astronomical Society, from 2012, member
15. **Szenkovits Ferenc**, in Societatea de Stiinte Matematice din Romania, from 2012, member
16. **Szenkovits Ferenc**, in Consiliul National Roman de Astronomie, from 2012, member
17. **Szenkovits Ferenc**, in Hungarian Astronomical Society, from 2012, member
18. **Szenkovits Ferenc**, in Asociatia Farkas Gyula pentru matematica si informatics, from 2012, president



## Representations in professional organizations

### International Editorial Boards:

1. **Bulboaca Teodor**, International Journal of Mathematics and Mathematical Sciences, from 2006, member
2. **Gasko Noemi**, Memmotic Computing, from 2011, reviewer
3. **Kassay Gabor**, Advances in Nonlinear Variational Inequalities, from 2000, editor
4. **Kassay Gabor**, Studia Universitatis Babeş-Bolyai, from 2011, member
5. **Sandor Jozsef**, Journal of Inequalities in Pure applied mathematics, from 2001, Foundation Editor
6. **Sandor Jozsef**, Advances in Nonlinear variational inequalities and Applications, from 2001, Associate editor
7. **Sandor Jozsef**, Advanced Studies in Contemporary mathematics, from 2003, Associate Editor
8. **Sandor Jozsef**, Proceedings of the Jangjeon Mathematical Society, from 2005, Associate editor
9. **Sandor Jozsef**, Notes in Number Theory and Discrete mathematics, from 1993, Associate editor
10. **Sandor Jozsef**, Bulletin of mathematical analysis and applications, from 2007, Associate editor
11. **Sandor Jozsef**, ISST Journal of Mathematics and Computer Sciences, from 2009, Associate Editor
12. **Sandor Jozsef**, Scientia Magna, from 2009, Associate Editor
13. **Sandor Jozsef**, Research Journal of Pure Algebra, from 2011, Associate Editor
14. **Sandor Jozsef**, International Journal of Contemporary Mathematics, from 2011, Associate Editor
15. **Sandor Jozsef**, MathProblems, from 2010, Associate Editor
16. **Sandor Jozsef**, Octogon Mathematical Magazine, from 1993, Associate Editor
17. **Sandor Jozsef**, IMVI Open Bulletin of Mathematics, from 2010, Associate Editor



## **Representations in professional organizations**

18. **Sandor Jozsef**, Konuralp Journal of Mathematics, from 2012,  
Associate Editor
19. **Sandor Jozsef**, IMVI Open Journal of Mathematics, from 2010,  
Associate Editor
20. **Sandor Jozsef**, Advances in Inequalities and Applications, from  
2012, Associate Editor
21. **Sandor Jozsef**, Conference Papers in Mathematics, from 2012,  
Associate Editor
22. **Sandor Jozsef**, MATHEMATICAL INEQUALITIES &  
APPLICATIONS, from 1999, Associate Editor
23. **Sandor Jozsef**, APPLICABLE ANALYSIS AND DISCRETE  
MATHEMATICS, from 2004, Associate Editor
24. **Szenkovits Ferenc**, Studia Mathematica, from 2000, member
25. **Varga Csaba-Gyorgy**, ABSTRACT AND APPLIED ANALYSIS,  
from 2012, Editor

### **National Editorial Board**

1. **Sandor Jozsef**, Matlap, from 2000, Associate Editor
2. **Sandor Jozsef**, Erdelyi Matematikai lapok, from 2003, Associate  
Editor
3. **Soos Anna**, STUDIA UNIVERSITATIS BABES-BOLYAI.  
MATHEMATICA, from 2009, member
4. **Szenkovits Ferenc**, Matlap, from 1980, member
5. **Szenkovits Ferenc**, Firka, from 2000, member
6. **Varga Csaba-Gyorgy**, STUDIA UNIVERSITATIS BABES-  
BOLYAI.MATHEMATICA, from 2009, Editor
7. **Varga Csaba-Gyorgy**, MATHEMATICA, from 2004, member

### **Reviewer for international and national journals:**

1. **Bulboaca Teodor**, Journal of Complex Analysis, 2012



## Representations in professional organizations

2. **Bulboaca Teodor**, Asian-European Journal of Mathematics, 2012
3. **Bulboaca Teodor**, Journal of the Egyptian Mathematical Society, 2012
4. **Bulboaca Teodor**, Bulletin of International Mathematical Virtual Institute, 2012
5. **Bulboaca Teodor**, ANALELE STIINTIFICE ALE UNIVERSITATII AL I CUZA DIN IASI-SERIE NOUA-MATEMATICA, 2012
6. **Bulboaca Teodor**, INTERNATIONAL JOURNAL OF PHYSICAL SCIENCES, 2012
7. **Bulboaca Teodor**, JOURNAL OF NUMBER THEORY, 2012
8. **Bulboaca Teodor**, ACTA MATHEMATICA SCIENTIA, 2012
9. **Bulboaca Teodor**, INTEGRAL TRANSFORMS AND SPECIAL FUNCTIONS, 2012
10. **Bulboaca Teodor**, JOURNAL OF CONTEMPORARY MATHEMATICAL ANALYSIS-ARMENIAN ACADEMY OF SCIENCES, 2012
11. **Csato Lehel**, Annales Univ Sci Budapest, Sect Comp, 2012
12. **Csato Lehel**, JOURNAL OF MACHINE LEARNING RESEARCH, 2012
13. **Csato Lehel**, ANNALS OF MATHEMATICS AND ARTIFICIAL INTELLIGENCE, 2012
14. **Csato Lehel**, IEEE TRANSACTIONS ON SYSTEMS MAN AND CYBERNETICS PART B-CYBERNETICS, 2012
15. **Csato Lehel**, SOFT COMPUTING, 2012
16. **Csato Lehel**, International Joint Conference on Neural Networks, 2012
17. **Darvay Zsolt**, ORION : journal of the Operations Research Society of South Africa, 2012
18. **Darvay Zsolt**, NUMERICAL FUNCTIONAL ANALYSIS AND OPTIMIZATION, 2012
19. **Darvay Zsolt**, JOURNAL OF GLOBAL OPTIMIZATION, 2012
20. **Darvay Zsolt**, NUMERICAL ALGORITHMS, 2013



## Representations in professional organizations

21. **Darvay Zsolt**, APPLIED MATHEMATICS AND COMPUTATION, 2013
22. **Szanto Csaba-Lehel**, JOURNAL OF PURE AND APPLIED ALGEBRA, 2012
23. **Szanto Csaba-Lehel**, COMMUNICATIONS IN ALGEBRA, 2012
24. **Szenkovits Ferenc**, ASTROPHYSICS AND SPACE SCIENCE, 2012
25. **Szenkovits Ferenc**, CELESTIAL MECHANICS & DYNAMICAL ASTRONOMY, 2013
26. **Varga Csaba-Gyorgy**, Complex Variable, 2012
27. **Varga Csaba-Gyorgy**, NONLINEAR ANALYSIS-REAL WORLD APPLICATIONS, 2012
28. **Varga Csaba-Gyorgy**, FIXED POINT THEORY, 2012
29. **Varga Csaba-Gyorgy**, JOURNAL OF GLOBAL OPTIMIZATION, 2012
30. **Varga Csaba-Gyorgy**, JOURNAL OF MATHEMATICAL ANALYSIS AND APPLICATIONS, 2012

### Member in organizing and scientific committees of international conferences:

1. **Varga Csaba-Gyorgy** , Advances in Differential Equations: symmetrizations and related topics. , Romania, 2013, member
2. **Bulboaca Teodor** , Geometric Function Theory and Applications, Macedonia, 2012, Scientific Committee member
3. **Robu Judit** , 9th Joint Conference on Mathematics and Computer Science (9th MaCS), Ungaria, 2012, member
4. **Soos Anna** , 9th Joint Conference on Mathematics and Computer Science, Ungaria, 2012, member
5. **Szenkovits Ferenc** , DYNAMICAL AND PHYSICAL PROCESSES IN CELESTIAL BODIES – AN ASTROPHYSICAL INSIGHT, Romania, 2012, co-organizer

