

POLITEHNICA University of Bucharest
Faculty of Applied Sciences

Academy of Romanian Scientists
Science and Technology of Information Section

THE 6th INTERNATIONAL COLLOQUIUM
“MATHEMATICS AND PHYSICS IN ENGINEERING,
NUMERICAL PHYSICS AND COMPLEXITY”
(MENP–6)

Joint with

THE 2nd INTERNATIONAL COLLOQUIUM
“PHYSICS OF MATERIALS” (PM–2)

8 OCTOBER 2010
POLITEHNICA University of Bucharest
ROMANIA

BUCHAREST
2010

**The Organizing Committees of
the 6th Colloquium “Mathematics and Physics in Engineering, Numerical Physics
and Complexity” (MENP–6),
joint with the 2nd Colloquium “Physics of Materials” (PM–2)**

Dear Participant,

We invite you to participate at the 6th edition of the International Colloquium “Mathematics and Physics in Engineering, Numerical Physics and Complexity” (MENP–6), joint with the 2nd edition of the Colloquium “Physics of Materials” (PM–2), organized by the POLITEHNICA University of Bucharest, in cooperation with the Academy of Romanian Scientists.

Looking forward to meeting you on this occasion, please accept our best thanks for your important cooperation.

The Organizing Committees of MENP–6 and PM–2

Joint Program

8³⁰-9⁰⁰ – Registration (both Colloquia): Room BN-020

Session 1 – Room AN-034

9⁰⁰-9³⁰ – *Opening Ceremony (both Colloquia)*

9³⁰-11⁰⁰ – Invited Lectures of Colloquium PM–2

11⁰⁰-11³⁰ – *Coffee Break*

Session 2 – Room AN-034

11³⁰-13⁰⁰ – Invited Lectures of Colloquium MENP–6

13⁰⁰-14⁰⁰ – *Lunch*

Session 3 – Room AN-034

14⁰⁰-16³⁰ – Invited Lectures and Oral Communications of Colloquium PM–2

Session 4 – Room BN 113

14⁰⁰-16³⁰ – Invited Lectures and Oral Communications of Colloquium MENP–6

16³⁰-17⁰⁰ – *Coffee Break*

Session 5 – Room AN-034

17⁰⁰-18⁰⁰ – Oral Communications of Colloquium PM–2

Session 6 – Room BN 113

17⁰⁰-18⁰⁰ – Oral Communications of Colloquium MENP–6

Session 7 – AN Hall

18⁰⁰-19⁰⁰ – Poster Communications of both Colloquia

19⁰⁰ – *Closing Ceremony*

INTERNATIONAL ORGANIZING COMMITTEE

Honorary Presidents

Prof. Dr. Eng. Ecaterina ANDRONESCU (Rector of POLITEHNICA University of Bucharest, President of Chemical Sciences Section, Academy of Romanian Scientists, Romania)

Prof. Dr. Vasile CÂNDEA (President of Academy of Romanian Scientists, Romania)

Members

Prof. Dan IORDACHE (Physics Department, POLITEHNICA University of Bucharest, Romania) – **Honorary Chairman**

Prof. Paul STERIAN (President of Section of Science and Technology of Information, Academy of Romanian Scientists, Head of Physics Department 2, POLITEHNICA University of Bucharest, Romania) – **General Chairman**

Prof. Doina MĂNĂILĂ-MAXIMEAN (Physics Department 2, POLITEHNICA University of Bucharest, Romania) – **Chairman PM-2**

Prof. Constantin ROȘU (Physics Department 2, POLITEHNICA University of Bucharest, Romania) – **Chairman MENP-6**

Prof. Ioan IOVITZ-POPESCU (Member of Romanian Academy, Romania)

Prof. Aureliu SĂNDULESCU (Member of Romanian Academy and of Academy of Romanian Scientists, Romania)

Prof. Doru DELION (Scientific Secretary of Academy of Romanian Scientists, Romania)

Prof. Constantin UDRIȘTE (Member of Academy of Romanian Scientists, Dean of Applied Sciences Faculty, POLITEHNICA University of Bucharest, Romania)

Prof. Gheorghe CĂTA-DANIL (Head of Physics Department 1, POLITEHNICA University of Bucharest, Romania)

Prof. Mihai POPESCU (National Institute of Materials Physics, Măgurele, Editor-in-Chief of Journal of Optoelectronics and Advanced Materials, Romania)

Prof. Erik BODEGOM (Physics Department, Portland State University, Oregon, USA)

Prof. Pier Paolo DELSANTO (Dipartimento di Fisica, Politecnico di Torino, Italy)

Prof. Carlo CATTANI (Dipartimento di Fisica, University of Salerno, Italy)

Prof. Ciprian ILIESCU (Institute of Bioengineering and Nanotechnology, Singapore)

Prof. Adrian PODOLEANU (University of Kent at Canterbury, United Kingdom)

Prof. Margarit PAVELESCU (President of the Section of Physical Sciences, Academy of Romanian Scientists, Romania)

Dr. Magdalena Lidia CIUREA (National Institute of Materials Physics, Măgurele, Romania)

Prof. Dumitru POPESCU (Dean of Control Systems and Computer Sciences Faculty, POLITEHNICA University of Bucharest, Romania)

Prof. Radu DOBRESU (Control Systems Department, POLITEHNICA University of Bucharest, Romania)

Prof. Laurentiu FARA (Physics Department 2, POLITEHNICA University of Bucharest, Member of Academy of Romanian Scientists, Romania)

Prof. Victor CIUPINĂ (Rector of “Ovidius” University, Constanța, Romania)

Prof. Viorel CÎRCU (Chemistry Faculty, University of Bucharest, Romania)

Prof. Ana Maria ALBU (Industrial Chemistry Faculty, POLITEHNICA University of Bucharest, Romania)

Prof. Emil SMEU (Physics Department 2, POLITEHNICA University of Bucharest, Romania)

Prof. Vladimir IANCU (Physics Department 2, POLITEHNICA University of Bucharest, Romania)

Prof. Gabriela TIRIBA (Physics Department 1, POLITEHNICA University of Bucharest, Romania)

Prof. Mihai Răzvan MITROI (Physics Department 2, POLITEHNICA University of Bucharest, Romania)

SCIENTIFIC PROGRAM COMMITTEE

Honorary Chairman: Prof. Dan IORDACHE (Physics Department 2, POLITEHNICA University of Bucharest)

General Chairman: Prof. Paul STERIAN (Academy of Romanian Scientists, Head of Physics Department 2, POLITEHNICA University of Bucharest, Romania)

Chairman PM–2: Prof. Doina MĂNĂILĂ-MAXIMEAN (Physics Department 2, POLITEHNICA University of Bucharest, Romania)

Chairman MENP–6: Prof. Constantin ROȘU (Physics Department 2, POLITEHNICA University of Bucharest, Romania)

Prof. Constantin UDRIȘTE (Member of Academy of Romanian Scientists, Dean of Applied Sciences Faculty, POLITEHNICA University of Bucharest, Romania)

Prof. Radu DOBRESCU (Control Systems Department, POLITEHNICA University of Bucharest, Romania)

Prof. Erik BODEGOM (Physics Department, Portland State University, Oregon, USA)

Prof. Pier Paolo DELSANTO (Dipartimento di Fisica, Politecnico di Torino, Italy)

Prof. Mihai POPESCU (National Institute of Materials Physics, Măgurele, Editor-in-Chief of Journal of Optoelectronics and Advanced Materials, Romania)

Prof. Cornelia MOȚOC (Physics Department 2, POLITEHNICA University of Bucharest, Romania)

Dr. Magdalena Lidia CIUREA (National Institute of Materials Physics, Măgurele, Romania)

Prof. Adrian VOLCEANOV (Dean of Engineering in Foreign Languages Faculty, POLITEHNICA University of Bucharest, Romania)

Prof. Emil SMEU (Physics Department 2, POLITEHNICA University of Bucharest, Romania)

Prof. Vladimir IANCU (Physics Department 2, POLITEHNICA University of Bucharest, Romania)

Prof. Doina GAVRILĂ (Physics Department 2, POLITEHNICA University of Bucharest)

Prof. Mihai Răzvan MITROI (Physics Department 2, POLITEHNICA University of Bucharest, Romania)

Dr. Catalin SPULBER (PRO-Optica S.A, Academy of Romanian Scientists, Romania)

Dr. Irinela CHILIBON (National Institute for Opto-Electronics, Măgurele, Romania)

Prof. Vladimir BALAN (Mathematics Department, POLITEHNICA University of Bucharest, Romania)

Dr. Marioara AVRAM (National Institute for Research and Development in Microtechnologies, Bucharest, Romania)

Prof. Iulian BĂDRĂGAN (Abbotsford Cancer Centre, British Columbia, Canada)

TECHNICAL SECRETARIAT OF BOTH COLLOQUIA

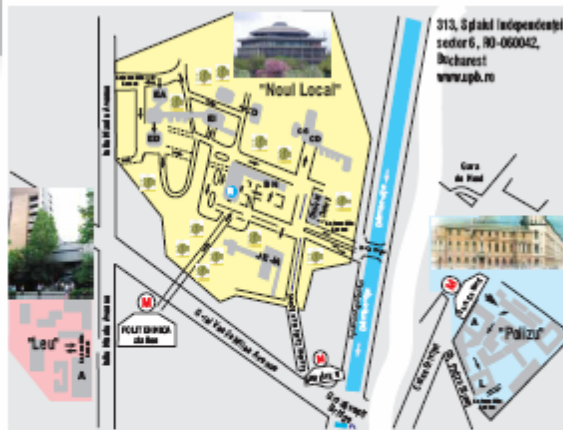
Eng. Octavian Dănilă

Phys. Marian Mocanu

Eng. Victor Stoian

Techn. Mariana Hurdubaia

The Map of the Campus



The Campus of the University POLITEHNICA of Bucharest is split in three distinct locations:

I. The Campus NOUL LOCAL situated at the address No. 313 Splaiul Independentei, Sector 6, Bucharest, with access both from Splaiul Independentei and from Iuliu Maniu Avenue.

II. The Campus POLIZU situated at the address No.1-3 Iuliu Maniu Avenue, Sector 6, Bucharest.

III. The Campus LEU situated at the address No.1-7 Gheorghe Polizu Street, Sector 1, Bucharest.

I. The Campus NOUL LOCAL hosts the following faculties:

1. Electric Engineering - Block EA
2. Automatics and Computing - Block ED
3. Energetics - Block EI
4. Biotechnical Systems Engineering - Block D
5. Mechanic Engineering - Block CG
6. Faculty of Engineering and Management of Technological Systems - Block CD
7. The Science and Engineering of the Materials - Block JA
8. Transports - Block JE
9. FILS - Block JA
10. Applied Sciences - Block BN

II. The Campus POLIZU hosts the following faculties:

1. Aerospace Engineering –Block A
 2. Applied Chemistry and Science of the Materials - Block L
- The faculty owns also a building on No.149 Calea Victoriei

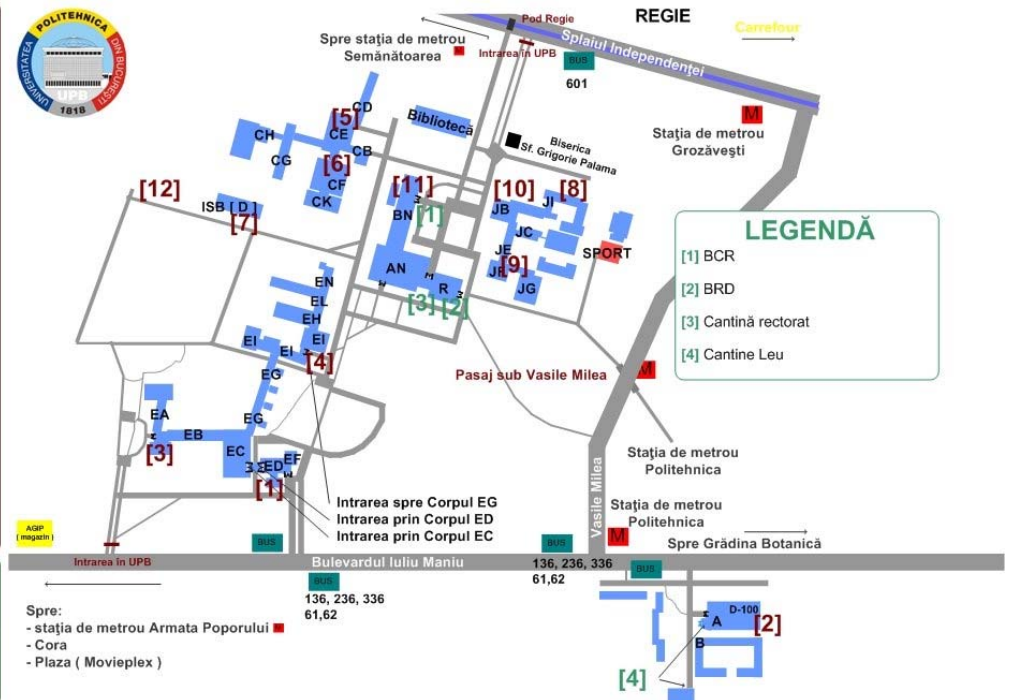
III. The Campus LEU hosts the faculty:

1. Electronics, Telecommunications and the Technology of Information –Block A

LEGENDĂ

- [1] Facultatea de Automatică și Calculatoare
- [2] Facultatea de Electronică, Telecomunicații și Tehnologia Informației
- [3] Facultatea de Inginerie Electrică
- [4] Facultatea de Energetică
- [5] Facultatea de Inginerie Mecanică și Mecatronică
- [6] Facultatea de Ingineria și Managementul Sistemelor Tehnologice
- [7] Facultatea de Ingineria Sistemelor Biotehnice
- [8] Facultatea de Transporturi
- [9] Facultatea de Știința și Ingineria Materialelor
- [10] Facultatea de Inginerie cu predare în limbi străine
- [11] Facultatea de Științe Aplicate
- [12] Spiru Haret

© danielrosner.blogspot.com



FOREWORD

The Colloquium “Mathematics in Engineering, Numerical Physics and Complexity” (MENP) had its first edition in October 30-31, 2000, as “The first French-Romanian Colloquium on Numerical Physics”, the main founders being Professors Cristian Florea (ESIEE – Noisy le Grand, Paris), Constantin Udriște and Vladimir Balan (Mathematics Department), Dan Iordache (Physics Department) and Daniel Ioan (Electrical engineering Department), from POLITEHNICA University of Bucharest.

Due to the considerable increase of the numbers of participants and of the Colloquium profiles, beginning with its 2nd edition (April 22-27, 2002), the Colloquium took its present denomination. Taking into account: a) the major topic of Complexity, and: b) the strong connection between the Physics of Materials and the Numerical Physics, beginning with this (5th) edition, the Colloquium denomination became “Mathematics in Engineering, Numerical Physics and Complexity” (MENPC) and it was joined with the Colloquium “Physics of Materials”, whose first edition is organized now. In this aim, the Colloquium has now as main organizer (besides the POLITEHNICA University of Bucharest and the research institutes of the Romanian Academy) – the Romanian Academy of Scientists.

Due to the strong international cooperation of many Romanian participants, beginning with the 2nd edition, it became possible the presentation of some submitted works, whose authors were not able to come at Bucharest, by their Romanian collaborators, in the well-known “Comptes Rendus” system.

The best communicated works of Numerical Physics and Physics of Materials, respectively, were published in frame of the following synthesis volumes:

- a) Proceedings of the first French-Romanian Colloquium of Numerical Physics, October 30-31, 2000, Bucharest, C. Udriște, Vl. Balan – editors, Geometry Balkan Press, Bucharest, 2002, 114 pages, ISBN 973-8381-00-2.
- b) Proceedings of the second edition of the Colloquium “Mathematics in Engineering and Numerical Physics”, April 22-27, 2002, part II “Numerical Physics”, D. Iordache – editor, Credis Publishing House, Bucharest, 2004, 287 pages, ISBN 973-7701-77-1.
- c) Proceedings of the third edition of the Colloquium “Mathematics in Engineering and Numerical Physics”, October 6-9, 2004, part II “Numerical Physics”, M. Logofătu, D. Iordache, V. Păun – editors, Credis Publishing House, Bucharest, 2006, 317 pages, ISSN 1842-5380.
- d) Proceedings of the fourth edition of the Colloquium “Mathematics in Engineering and Numerical Physics”, April 22-27, 2002, part II “Numerical Physics and Complexity”, D. Iordache, P. Sterian – editors, Printech Publishing House, Bucharest, 2007, 197 pages, ISBN 978-973-718-761-1.
- e) Annals of the Academy of Romanian Scientists, Series on Science and Technology of Information, Vol. 1, No. 2, 2008, pp. 7–120, ISBN 978-606-521-143-8.

As it concerns the scientific works communicated in the frame of Colloquia MENP–6 and PM–2, the best works will be published in the Annals of the Academy of Romanian Scientists or in the Scientific Bulletin of POLITEHNICA University of Bucharest, Applied Sciences Series.

The organizers are grateful to all their collaborators and to all the participants who attend the Colloquia.

Joint Program

8³⁰-9⁰⁰ – *Registration (both Colloquia):* Room BN-020

SESSION 1 – Room AN-034

9⁰⁰-9³⁰ – *Opening Ceremony (both Colloquia)*

9³⁰-11⁰⁰ – **INVITED LECTURES OF “PHYSICS OF MATERIALS” COLLOQUIUM***

Chairmen: **Cornelia Moțoc** (Physics Department 2, POLITEHNICA University of Bucharest, Romania), **Vladimir Iancu** (Physics Department 2, POLITEHNICA University of Bucharest, Romania)

9³⁰-10⁰⁰ – PM-I1: *M. Popescu, A. Lorinczi, A. Velea, I.D. Simandan, E. Matei,* **Organized chalcogenic micro- and nanostructures**

10⁰⁰-10³⁰ – PM-I2: *E. Volceanov, A. Volceanov, Ș. Motoc, D. M. Constantinescu, A. T. Abagiu, S. Badea, M. Istrate,* **Advanced ceramics with enhanced mechanical performance**

10³⁰-11⁰⁰ – PM-I3: *S. Frunză, L. Frunză, P. Ganea, A. Schonhals,* **Confinement of cyanobiphenyls in partially filled voids: complex investigations**

11⁰⁰-11³⁰ – *Coffee Break*

SESSION 2 – Room AN-034

11³⁰-13⁰⁰ – **INVITED LECTURES OF “NUMERICAL PHYSICS AND COMPLEXITY” COLLOQUIUM†**

Chairmen: **Paul Sterian** (Physics Department 2, POLITEHNICA University of Bucharest, Romania), **Constantin Roșu** (Physics Department 2, POLITEHNICA University of Bucharest, Romania)

11³⁰-12⁰⁰ – NP-I1: *E. Smeu, H. Gnewuch, D.A. Jackson, A. Podoleanu,* **Numerical analysis of a fibre Bragg gratings sensor for structural monitoring of buildings**

12⁰⁰-12³⁰ – NP-I2: *R. Widenhorn, I. Tunaru, E. Bodegom, D. Iordache,* **Study of the numerical modeling of the temperature dependence of the dark current in charge coupled devices**

12³⁰-13⁰⁰ – NP-I3: *J. Boland,* **Decision making under uncertainty in the integration of renewable energy sources into the electricity grid**

13⁰⁰-14⁰⁰ – *Lunch*

* PM – Physics of Materials (PM-2)

† NP – Numerical Physics and Complexity (MENP-6)

SESSION 3 – Room AN-034

14⁰⁰-16³⁰ – **INVITED LECTURES AND ORAL COMMUNICATIONS, “PHYSICS OF MATERIALS” COLLOQUIUM***

Chairmen: **Doina Gavrilă** (Physics Department 2, POLITEHNICA University of Bucharest, Romania), **Ana Maria Albu** (Industrial Chemistry Faculty, POLITEHNICA University of Bucharest, Romania)

14⁰⁰-14³⁰ – PM-I4: I. Rău, **On the stability DNA-based thin films**

14³⁰-15⁰⁰ – PM-I5: V. Cîrcu, Y. Molard, C. Roşu, D. Mănăilă-Maximean, **Mesomorphic and electro-optical properties of liquid crystals based on organometallic Pd(II) and Pt(II) complexes**

15⁰⁰-15³⁰ – PM-I6 I. Stăvărache, A.-M. Lepădatu, V. Iancu, M. L. Ciurea, **Voltage percolation thresholds in different nanosystems**

15³⁰-15⁴⁵ – PM-O1: D. E. Gavrilă, **Multistress ageing of underground cables**

15⁴⁵-16⁰⁰ – PM-O2: G. Ionescu, V. Păltânea, G. Păltânea, **Improvement of the magnetic properties of Co based amorphous alloy using thermal and magnetic treatments**

16⁰⁰-16¹⁵ – PM-O3: N. Tosa, L. Barbu-Tudoran, I. Bratu, **Photochemical synthesis of gold nanoparticles for S-functionalization**

16¹⁵-16³⁰ – PM-O4: A. Ştefan, T. D. M. Bell, V. Lemaur, S. Bernhardt, K. Müllen, J. Cornil, D. Beljonne, J. Hofkens, M. Van der Auweraer, F. C. De Schryver, **Molecular properties and the role of the environment in electron transfer process at the single-molecule level**

16³⁰-17⁰⁰ – *Coffee Break*

SESSION 4 – Room AN-034

17⁰⁰-18⁰⁰ – **ORAL COMMUNICATIONS, “PHYSICS OF MATERIALS” COLLOQUIUM***

Chairman: **Doina Mănăilă-Maximean** (Physics Department 2, POLITEHNICA University of Bucharest, Romania)

17-17¹⁵ – PM-O5: A.M. Albu, **Carbazole dye of nonlinear optical applications: synthesis and characterization**

17¹⁵-17³⁰ – PM-O6: D. Bolcu, S. Rizescu, M. Ursache, N. G. Bîzdoacă, M. M. Stănescu, P. Rinderu, **Calculating the elastic characteristics of composites using spectral decompositions of elasticity matrices**

17³⁰-17⁴⁵ – PM-O7: I. Stăvărache, **Temperature dependence of the dark current in GeSiO nanosystems**

17⁴⁵-18⁰⁰ – PM-O8: C. Cîrtoaje, C. Moțoc, E. R. Bena, **New magnetic methods for determination of elastic constants and viscosity coefficients in nematic liquid crystals**

SESSION 5– Room BN-113

14⁰⁰-16³⁰ – INVITED LECTURES AND ORAL COMMUNICATIONS, “NUMERICAL PHYSICS AND COMPLEXITY” COLLOQUIUM[†]

Chairmen: **Dan Iordache** (Physics Department 2, POLITEHNICA University of Bucharest, Romania), **Alina Ștefan** (Optics and Photonics Research Center, Institute of Physics “Gleb Watakin”, Universidade Estadual de Campinas, Campinas Sao Paulo, Brazil)

14⁰⁰-14³⁰ –NP-I4: R. Dobrescu, **Emergence of complexity in self-organizing systems**

14³⁰-15⁰⁰ – NP-I5: C. Iliescu, M. Avram, B. Chen, A. Popescu, V. Dumitrescu, A. Bragaru, D. P. Poenar, A. Sterian, P. Sterian, **Considerations regarding residual stress in thin films PECVD depositions**

15⁰⁰-15³⁰ – NP-I6: A. Ștefan, W. Becker, **Time-correlated single photon counting techniques**

15³⁰-15⁴⁵ – NP-O1: I. Apostol, D. Iordache, P. P. Delsanto, V. Iordache, **Study of the numerical artifacts intervening in the finite differences simulations of the solitons propagation**

15⁴⁵-16⁰⁰ – NP-O2: I. Apostol, P. P. Delsanto, A. S. Gliozzi, D. Iordache, **Evaluation of the numerical values of the physical parameters of the principal growth types of the human body and their interpretation**

16⁰⁰-16¹⁵ – NP-O3: A.-M. Lepădatu, **Electrical transport at room temperature in GeSiO nanosystems**

16¹⁵-16³⁰ – NP-O4: C. Roșu, D. Mănăilă-Maximean, V. Cîrcu, **Differential negative resistance in current-voltage characteristics of new metallomesogen**

16³⁰-17⁰⁰ – *Coffee Break*

SESSION 6– Room BN-113

17⁰⁰-18⁰⁰ – ORAL COMMUNICATIONS, “NUMERICAL PHYSICS AND COMPLEXITY” COLLOQUIUM[†]

Chairman: **Constantin Roșu** (Physics Department 2, POLITEHNICA University of Bucharest, Romania)

17⁰⁰-17¹⁵ – NP-O5: M. Paulescu, V. Bădescu, **Disorder and complexity measures for the stability of the daily solar radiative regime**

17¹⁵-17³⁰ – NP-O6: N. Rotar, V. Bădescu, **Romanian climate data impact on passive building design**

- 17³⁰-17⁴⁵ – NP-O7: *E. P. Tsankova, G. A. Zlateva, G. N. Giylchev, M. D. Sekulovski, S. M. Atanassov*, **Model algorithm for applying situational methods in magnetic phenomena teaching for medical students**
- 17⁴⁵-18⁰⁰ – NP-O8: *S. Cheval, V. Bădescu, C. Gueymard, C. Oprea, M. Baciu, A. Dumitrescu, I. Milos, C. Rada, T. Breza*, **A large testing procedure for models of clear sky solar irradiance computation under the climate of Romania, advanced simulation, modelling and analysis in engineering**

SESSION 7 – AN Hall

18⁰⁰-19⁰⁰ – POSTER COMMUNICATIONS OF BOTH COLLOQUIA^{*,†}

Chairmen: **Emil SMEU** (Physics Department 2, POLITEHNICA University of Bucharest, Romania), **Gabriela TIRIBA** (Physics Department 1, POLITEHNICA University of Bucharest, Romania)

- PM-P1: *I. Stăvărache, C. Palade, A.-M. Lepădatu*, **Optical transmission through Si-SiO₂ nanocomposites with variable concentration of Si nanocrystals**
- PM-P2: *I. Tunaru, R. Widenhorn, D. Iordache, E. Bodegom, V. Iordache*, **Possibilities of physical characterization of CCDs semiconductor material, starting from the temperature dependence of their dark current**
- PM-P3: *D. Mănăilă-Maximean, C. Roșu, L. Frunză, P. Ganea, D. Donescu, M. Ghiurea*, **Perspectives on electrically induced properties of liquid crystal/clay composites**
- PM-P4: *D. Mănăilă-Maximean, A.-M. Albu, C. Roșu*, **PSLC with new AZO polymer materials**
- PM-P5: *M. Micutz, T. Staicu*, **On collagen hydrolyzates from some personal care formulations**
- PM-P6: *D. E. Gavrilă, I. Ciprian*, **Dielectric response, a possible way of diagnosing a transformer**
- PM-P7: *D. E. Gavrilă*, **Thermoanalytical technique of diagnosis of insulation used in electrical cables**
- PM-P8: *A. Groza, A. Surmeian, C. Diplășu, P. Chapon, D. Mănăilă-Maximean, M. Ganciu*, **GD-OES and GD-MS investigations of the processes involved in the polymerization of polydimethylsiloxane in corona discharges**
- PM-P9: *I. Dumitru, M. Matache, N. D. Bogdan, I. Baciu, D. P. Funeriu*, **The use of chemical protein functionalization technique for the synthesis of new protein-based polymers**
- PM-P10: *C. Cîrtoaje, C. Moțoc, E. Petrescu*, **Electric field effects in nematic liquid crystals doped with carbon nanotubes**

- PM-P11: *A. Diacon, E. Rusen, L. Fara, C. Boscornea, A. M. Pandele, C. Zaharia, S. Fara, P. Sterian, C. Cincu*, **Dye fullerenes hybrid materials for solar cells**
- PM-P12: *G. A. Zlateva, E. P. Tsankova, G. N. Giylchev, N. G. Popdimitrova, M. D. Sekulovski*, **Case-based learning in physics of hemodynamics for future physicians**
- PM-P13: *I. Chilibon, M. Mogîldea, G. Mogîldea, C. Petrescu*, **Acoustic emission of metallic pipes under stretches**
- PM-P14: *G. Tiriba*, **Residual stress and dislocation density in Au layers on Si**
- PM-P15: *I. Zarafu, C.-V. Popa, L. Lungu, M. Săvoiu, M. Marinescu, M. Maganu, P. Ioniță*, **Some autochthonous medicinal plants, good sources of natural antioxidants**
- PM-P16: *C. Zalaru, M. Marinescu, L. Lungu, M. Săvoiu, I. Zarafu, C.-V. Popa, I. Stănculescu, M. Neață, L. I. Neagu*, **A study on the chemical composition and therapeutically properties of some vegetable extracts**
- PM-P17: *M. C. Piscureanu*, **Experimentally proved possibility of generating stable nonlinear directory waves in liquid crystals**
- PM-P18: *B. Mitrică, R. Mărgineanu, M. Petcu, I. Brâncuș, H. Rebel, A. Haungs, M. Petre*, **Measurements of the atmospheric muon flux in the underground of Slănic Prahova salt mine**
- PM-P19: *V. Stănescu*, **Physical properties of chitosan/starch films**
- PM-P20: *D. Mănăilă-Maximean, C. Roșu, P. L. Almeida, S. Kundu*, **New cellulose based polymer dispersed liquid crystal devices**
- PM-P21: *I. Șchiopu, M. Karlsson*, **Wavelength analysis of the solitonic stability in a PMFL**
- NP-P1: *B. Ștefănescu, P. Sterian*, **Chaos synchronization in optical communications**
- NP-P2: *R.-F. Stancu*, **Photonic crystal optoelectronic devices and circuits**
- NP-P3: *O. Dănilă, P. Sterian, D. Mănăilă Maximean, C. Roșu*, **Entanglement Preservation in the Ohmic Reservoir and Depolarizing Channel Setup**
- NP-P4: *A.-M. Bădescu, V. Bădescu*, **On a large-scale radio Cherenkov observatory**
- NP-P5: *D. Popescu, R. Bercia*, **Second harmonic generation in photonic crystals: numerical simulations**
- NP-P6: *M. R. Mitroi, V. Iancu, L. Fara*, **Numerical analysis of J–V characteristics of a solar cell**
- NP-P7: *M. C. Piscureanu*, **Narrow optical pulses evolution in nonlinear dielectric thin layers**

- NP-P8: *S. Fara, L. Fara, P. Sterian, M. Iancu, Using a semi-quantum model for evaluating the quantum efficiency of multiple quantum well (MQW) solar cells*
- NP-P9: *G. Macaveiu, Mathematical Methods in Biomedical Optics*
- NP-P10: *G. Macaveiu, Monte Carlo Algorithm in Biomedical Optics*
- NP-P11: *Ioan Iovitz-Popescu, P. Sterian, D. Zotta, R. E. Nistor, N. Ionescu-Pallas, Vacuum noise and disentanglement processes*
- NP-P12: *D. Zotta, Critical evaluation of classical and quantum computer performance, limits and prospects*
- NP-P13: *I.-F. Toma, OntoSense – an ontology-based information retrieval model*
- NP-P14: *I.-F. Toma, Using ontology-aware mediator agents to achieve semantic interoperability*
- NP-P15: *A. Groza, A. Surmeian, C. Diplășu, D. Vințeler, M. Ganciu, Modelling of the temporal afterglow processes in high voltage pulsed discharges for Ar metastable atoms density evaluation*
- NP-P16: *D. Anghel, Quantum wires and dots*
- NP-P17: *B. Mitrică, V. Stanciu, M. Petre, M. O. Dima, D. Aranghel, C. Petre, Theoretical study of a nuclear jet for the propulsion of airplanes*
- NP-P18: *A. Petrescu, Simulations of the optical and acoustic solitons propagation*
- NP-P19: *R. Grigorescu, C. Mihalca, Comparative study between classic solar collectors and evacuated solar tube collectors*
- NP-P20: *C. Spulber, Ș. Voloacă, A contribution on experimental determination of emissivity variation of a disc brake by image analysis*
- NP-P21: *M. D. Cazacu, C. Mihalca, Technical and economic aspects of wind turbines. Costs simulation*
- NP-P22: *C. Mihalca, Advantages and disadvantages of using economically lightbulbs*

19⁰⁰– *CLOSING CEREMONY* – Room AN-034

Authors Index

Name / papers	Affiliation	E-mail
Abagiu, A. T. / PM-I2	Institute of Metallurgical Researches – ICEM SA, Bucharest, Romania	
Albu, A. M. / PM-O5, PM-P4	POLITEHNICA University of Bucharest, Romania	anamarialbu@yahoo.com
Almeida, P. L. / PM-P20	Área Científica de Física Lisbon, Portugal	pmalmeida@deea.isel.ipl.pt
Anghel, D. / NP-P16	POLITEHNICA University of Bucharest, Romania	dan_alex_angel@yahoo.com
Apostol, I. / NP-O1, NP-O2	"Al. I. Cuza" Lyceum, Bucharest, Romania	aposoft@yahoo.com
Aranghel, D. / NP-P17	"Horia Hulubei" National Institute of Physics and Nuclear Engineering, Bucharest-Magurele, Romania	
Atanassov, S. M. / NP-O7	Sofia University "St. Kliment Ohridski" and University Hospital "Lozenetz", Sofia, Bulgaria	
Avram, M. / NP-I5	National Institute for R. & D. in Microtechnologies, Bucharest, Romania	
Baciu, I. / NP-O8, PM-P9	POLITEHNICA University of Bucharest, Romania	
Baciu, M. / NP-O8	National R&D Institute for Environmental Protection, Bucharest, Romania	
Badea, S. / PM-I2	Research Center for NBC Defense and Ecology Bucharest, Romania	
Barbu T. / PM-O3	"Babes-Bolyai" University, Cluj-Napoca, Romania	
Bădescu, A.-M. / NP-P4	POLITEHNICA University of Bucharest, Romania	alinabadescu@radio.pub.ro
Bădescu, V. / NP-O5, NP-O6, NP-O8, NP-P4	POLITEHNICA University of Bucharest, Romania	badescu@theta.termo.pub.ro
Becker, W. / NP-I6	Becker & Hickl GmbH, Berlin, Germany	
Beljonne, D. / PM-O4	University of Mons-Hainaut, Mons, Belgium	
Bell, T. D. M. / PM-O4	Monash University, Victoria, Australia	
Bena, E. R. / PM-O8	POLITEHNICA University of Bucharest, Romania	rodicabena@yahoo.com
Bercia, R. / NP-P5	POLITEHNICA University of Bucharest, Romania	r_bercia@yahoo.com
Bernhardt, S. / PM-O4	Max-Planck-Institut für Polymerforschung, Mainz, Germany	
Bîzdoacă, N. G. / PM-O6	University of Craiova, Romania	
Bodegom, E. / NP-I2, PM-P2	Portland State University, Oregon, USA	Bodegom@pdx.edu
Bogdan, D. N. / PM-P9	Technische Universitaet Munchen, Germany	
Boland, J. / NP-I3	University of South Australia, Mawson Lakes, Australia	John.Boland@unisa.edu.au
Bolcu, D. / PM-O6	University of Craiova, Romania	

Boscornea, C. / PM-P11	POLITEHNICA University of Bucharest, Romania	boscornea_cristian@yahoo.com
Bragaru, A. / NP-I5	National Institute for R. & D. in Microtechnologies, Bucharest, Romania	
Brâncuș, I. / PM-P18	"Horia Hulubei" National Institute of Physics and Nuclear Engineering, Magurele, Romania	
Bratu, I. / PM-O3	"Babes-Bolyai" University, Cluj-Napoca, Romania	
Breza, T. / NP-O8	National R&D Institute for Environmental Protection, Bucharest, Romania	
Cazacu, M. D. / NP-P21	POLITEHNICA University of Bucharest, Romania	
Chapon, P. / PM-P8	Horiba Jobin Yvon, Longjumeau, France	
Chen, B. / NP-I5	Institute of Bioengineering & Nanotechnology, Singapore	
Cheval, S. / NP-O8	National R&D Institute for Environmental Protection, Bucharest, Romania	sorin.cheval@meteoromania.ro
Chilibon, I. / PM-P13	National Institute for Optoelectronics, Magurele, Romania	qilib@yahoo.com
Cincu, C. / PM-P11	POLITEHNICA University of Bucharest, Romania	c_cincu@yahoo.com
Ciprian, I. / PM-P6	POLITEHNICA University of Bucharest, Romania	
Ciurea, M. L. / PM-I6	National Institute of Materials Physics, Magurele, Romania	ciurea@infim.ro
Cîrcu, V. / NP-O4, PM-I5	University of Bucharest, Romania	viorel_carcu@yahoo.com
Cîrtoaje, C. / PM-O8, PM-P10	POLITEHNICA University of Bucharest, Romania	cristina_cirtoaje@physics.pub.ro
Constantinescu, D. M. / PM-I2	POLITEHNICA University of Bucharest, Romania	
Cornil, J. / PM-O4	University of Mons-Hainaut, Mons, Belgium	
Dănilă, O. / NP-P3	POLITEHNICA University of Bucharest, Romania	otty_danila@yahoo.com
De Schryver, F. C. / PM-O4	Katholieke Universiteit Leuven, Heverlee, Belgium	
Delsanto, P. P. / NP-O1, NP-O2	Politecnico di Torino, Italy	pier.delsanto@polito.it
Diacon, A. / PM-P11	POLITEHNICA University of Bucharest, Romania	
Dima, M. O. / NP-P17	"Horia Hulubei" National Institute of Physics and Nuclear Engineering, Magurele, Romania	
Diplașu, C. / PM-P8, NP-P15	National Institute for Laser, Plasma and Radiation Physics, Magurele, Romania	
Dobrescu, R. / NP-I4	POLITEHNICA University of Bucharest, Romania	radud@aii.pub.ro
Donescu, D. / PM-P3	The National Institute for Research & Development in Chemistry and	ddonescu@chimfiz.icf.ro

	Petrochemistry, Bucharest, Romania	
Dumitrescu, V. / NP-I5, NP-O8	National Institute for R. & D. in Microtechnologies, Bucharest, Romania	
Dumitru, I. / PM-P9	University of Bucharest, Romania	ioanaa.dumitru@gmail.com
Fara, L. / PM-P11, NP-P6, NP-P8	POLITEHNICA University of Bucharest, Romania	lfara@physics.pub.ro , lfara@nare.renerg.pub.ro
Fara, S. / PM-P11, NP-P8	Research and design institute for Automation IPA SA, Bucharest, Romania	
Frunză, L. / PM-I3, PM-P3	National Institute of Materials Physics, Magurele, Romania	lfrunza@infim.ro
Frunză, S. / PM-I3	National Institute of Materials Physics, Magurele, Romania	
Funeriu, P. D. / PM-P9	Technische Universitaet Munchen, Germany	
Ganciu, M. / PM-P8, NP-P15	National Institute for Laser, Plasma and Radiation Physics, Magurele, Romania; Université Paris-Sud, Orsay, France	
Ganea, P. / PM-I3, PM-P3	National Institute of Materials Physics, Magurele, Romania	paul_ganea@yahoo.com
Gavrilă, D. E. / PM-O1, PM-P6, PM-P7	University "Politehnica" of Bucharest, Romania	gavrilad@physics.pub.ro
Ghiurea, M. / PM-P3	The National Institute for Research & Development in Chemistry and Petrochemistry, Bucharest, Romania	ghiurea@gmail.com
Giylchev, G. N. / NP-O7, PM-P12	Sofia University "St. Kliment Ohridski" and University Hospital "Lozenetz", Sofia, Bulgaria	
Gliozzi, A. S. / NP-O2	Politecnico di Torino, Italy	
Gnewuch, H. / NP-I1	University of Kent in Canterbury, UK	
Grigorescu, M. / NP-P19	POLITEHNICA University of Bucharest, Romania	
Groza, A. / PM-P8, NP-P15	National Institute for Laser, Plasma and Radiation Physics, Magurele, Romania	Andreea@infim.ro
Gueymard, C. / NP-O8	Solar Consulting Services, Colebrook, USA	
Haungs, A. / PM-P18	Karlsruhe Institute of Technology, Karlsruhe, Germany	
Hofkens, J. / PM-O4	Katholieke Universiteit Leuven, Heverlee, Belgium	
Iancu, M. / NP-P8	Research and design institute for Automation IPA SA, Bucharest, Romania	
Iancu, V. / PM-I6, NP-P6	POLITEHNICA University of Bucharest, Romania	codas@physics.pub.ro
Iliescu, C. / NP-I5	Institute of Bioengineering & Nanotechnology, Singapore	
Ionescu, G. / PM-O2	POLITEHNICA University of Bucharest, Romania	gelu.ionescu@yahoo.com
Ionescu-Pallas, N. / NP-P11	Institute of Atomic Physics, Bucharest-Magurele, Romania	
Ioniță, P. / PM-P15	University of Bucharest, Romania	
Iordache, D. A. / NP-I2, NP-O1, NP-O2, PM-P2	POLITEHNICA University of Bucharest, Romania	daniordache2003@yahoo.com

Iordache, V. / NP-O1, PM-P2	POLITEHNICA University of Bucharest, Romania	daniordache2003@yahoo.com
Iovitz-Popescu, I. / NP-P11	Romanian Academy, Bucharest, Romania	
Istrate, M. / PM-I2	Stimpex SA, Bucharest, Romania	
Jackson, D. A. / NP-I1	University of Kent in Canterbury, UK	
Karlsson, M. / PM-P21	Chalmers University of Technology, Goteborg, Sweden	
Kundu, S. / PM-P20	Área Científica de Física Lisbon, Portugal	
Lemaur, V. / PM-O4	University of Mons-Hainaut, Mons, Belgium	
Lepădatu, A.-M. / PM-I6, NP-O3, PM-P1	National Institute of Materials Physics, Magurele, Romania	lepadatu@infim.ro
Lorinczi, A. / PM-I1	National Institute of Materials Physics, Magurele, Romania	
Lungu, L. / PM-P15, PM-P16	Institute of Organic Chemistry "Constantin Nenitescu", Bucharest, Romania	
Macaveiu, G. / NP-P9, NP-P10	POLITEHNICA University of Bucharest, Romania	macaveiu_gabriela@yahoo.com
Maganu, M. / PM-P15	Institute of Organic Chemistry "Constantin Nenitescu", Bucharest, Romania	
Marinescu, M. / PM-P15, PM-P16	University of Bucharest, Romania	maria7marinescu@yahoo.com
Matache, M. / PM-P9	University of Bucharest, Romania	
Matei, E. / PM-I1	National Institute of Materials Physics, Magurele, Romania	
Mănăilă-Maximean, D. / PM-I5, NP-O4, PM-P3, PM-P4, PM-P8, PM-P20, NP-P3	POLITEHNICA University of Bucharest, Romania	manaila@physics.pub.ro
Mărgineanu, R. / PM-P18	"Horia Hulubei" National Institute of Physics and Nuclear Engineering, Magurele, Romania	
Micutz, M. / PM-P5	University of Bucharest, Romania	micutz@gw-chimie.math.unibuc.ro
Mihalca, C. / NP-P19	POLITEHNICA University of Bucharest, Romania	cip_mihalca@yahoo.com
Miloş, I. / NP-O8	National R&D Institute for Environmental Protection, Bucharest, Romania	
Mitrică, B. / PM-P18, NP-P17	"Horia Hulubei" National Institute of Physics and Nuclear Engineering, Magurele, Romania	
Mitroi, M. R. / NP-P6	POLITEHNICA University of Bucharest, Romania	rm.mitroi@gmail.com
Mogîldea, G. / PM-P13	National Institute for Optoelectronics, Magurele, Romania	
Mogîldea, M. / PM-P13	National Institute for Optoelectronics, Magurele, Romania	marian_mogildea@yahoo.com
Molard, Y. / PM-I5	Université de Rennes, France	

Moțoc, C. / PM-O8, PM-P10	POLITEHNICA University of Bucharest, Romania	cornelia_motoc@hotmail.com
Motoc, Ș. / PM-I2	Max-Planck-Institut für Polymerforschung, Mainz, Germany	
Müllen, K. / PM-O4	Max-Planck-Institut für Polymerforschung, Mainz, Germany	
Neagu, L.-I. / PM-P16	University of Bucharest, Romania	
Neață, M. / PM-P16	RENAR, Bucharest, Romania	
Nistor, R. E. / NP-P11	POLITEHNICA University of Bucharest, Romania	nistor@physics.pub.ro
Oprea, C. / NP-O8	National R&D Institute for Environmental Protection, Bucharest, Romania	
Palade, C. / PM-P1	National Institute of Materials Physics, Magurele, Romania	
Pandele, A. M. / PM-P11	POLITEHNICA University of Bucharest, Romania	
Paulescu, M. / NP-O5	West University of Timisoara, Romania	
Păltânea, G. / PM-O2	POLITEHNICA University of Bucharest, Romania	
Păltânea, V. / PM-O2	POLITEHNICA University of Bucharest, Romania	
Petcu, M. / PM-P18	"Horia Hulubei" National Institute of Physics and Nuclear Engineering, Magurele, Romania	
Petre, C. / NP-P17	University of Bucharest, Romania	
Petre, M. / PM-P18, NP-P17	"Horia Hulubei" National Institute of Physics and Nuclear Engineering, Magurele, Romania	
Petrescu, A. / NP-P18	"Gh. Lazar" National College, Bucharest, Romania	petrescu_andrei@yahoo.com
Petrescu, C. / PM-P13	Institute of Electrotechnics, Bucharest, Romania	
Petrescu, E. / PM-P10	POLITEHNICA University of Bucharest, Romania	camiemip@yahoo.com
Piscureanu, M. C. / PM-P17, NP-P7	POLITEHNICA University of Bucharest, Romania	piscureanu@physics.pub.ro
Podoleanu, A. / NP-I1	University of Kent in Canterbury, UK	A.G.H.Podoleanu@ukc.ac.uk
Poenar, D. P. / NP-I5	Nanyang Technological University, Singapore	
Popa, C.-V. / PM-P15, PM-P16	University of Bucharest, Romania	
Popdimitrova, N. G. / PM-P12	University of Sofia, Bulgaria	
Popescu, A. / NP-I5	National Institute for R. & D. in Microtechnologies, Bucharest, Romania	
Popescu, D. / NP-P5	POLITEHNICA University of Bucharest, Romania	matrixideal@yahoo.com
Popescu, M. / PM-I1	National Institute of Materials Physics, Magurele, Romania	pop_al.mihai@yahoo.com
Rada, C. / NP-O8	National R&D Institute for Environmental Protection, Bucharest,	

	Romania	
Rău, I.	POLITEHNICA University of Bucharest, Romania	ileana.rau@gmail.com
Rebel, H. / PM-P18	Karlsruhe Institute of Technology, Karlsruhe, Germany	
Rinderu, P. / PM-O6	University of Craiova, Romania	
Rizescu, S. / PM-O6	University of Craiova, Romania	sabin_rizescu@yahoo.com
Roșu, C. / PM-P3, PM-P4, PM-P20, NP-P3	POLITEHNICA University of Bucharest, Romania	rosudanut@yahoo.com
Rotar, N. / NP-O6	Nuclear Electrica, Bucharest, Romania	
Rusen, E. / PM-P11	POLITEHNICA University of Bucharest, Romania	edina_rusen@yahoo.com
Săvoiu, M. / PM-P15, PM-P16	Institute of Organic Chemistry "Constantin Nenițescu", Bucharest, Romania	
Schoenhals, A. / PM-I3	Federal Institute of Materials Research and Testing, Berlin, Germany	andreas.schoenhals@bam.de
Sekulovski, M. D. / NP-O7, PM-P12	Sofia University "St. Kliment Ohridski" and University Hospital "Lozenetz", Sofia, Bulgaria	
Simandan, I. D. / PM-I1	National Institute of Materials Physics, Magurele, Romania	
Smeu, E. / NP-I1	POLITEHNICA University of Bucharest, Romania	emil_smeu@physics.pub.ro
Spulber, C. / NP-P20	PROOPTICA SA, Bucharest, Romania	catalin.spulber@yahoo.com
Staicu, T. / PM-P5	University of Bucharest, Romania	
Stanciu, V. / NP-P17	POLITEHNICA University of Bucharest, Romania	
Stancu, R.-F. / NP-P2	POLITEHNICA University of Bucharest, Romania	rhadoostanku@yahoo.com
Stănculescu, I. / PM-P16	University of Bucharest, Romania	
Stănescu, M. M. / PM-O6	University of Craiova, Romania	viorstanescu@yahoo.com
Stănescu, V. / PM-P19	"Gh. Lazar" National College, Bucharest, Romania	viorstanescu@yahoo.com
Stăvărache, I. / PM-I6, PM-O7, PM-P1	National Institute of Materials Physics, Bucharest-Magurele, Romania	stavarache@infim.ro
Sterian, A. / NP-I5	POLITEHNICA University of Bucharest, Romania	andreea_sterian@physics.pub.ro
Sterian, P. / NP-I5, PM-P11, NP-P1, NP-P3, NP-P8, NP-P11	POLITEHNICA University of Bucharest, Romania	sterian@physics.pub.ro
Surmeian, A. / PM-P8, NP-P15	National Institute for Laser, Plasma and Radiation Physics, Magurele, Romania	surmeian@infim.ro
Șchiopu, I. / PM-P21	POLITEHNICA University of Bucharest, Romania	schiopuionutisc@yahoo.com
Ștefan, A. / PM-O4, NP-I6	Institute of Physics "Gleb Watakin"- Universidade Estadual de Campinas, Cidade Universitária Zeferino Vaz, Campinas Sao Paulo, Brazil	alin.stefana@yahoo.co.uk
Ștefănescu, B. / NP-P1	POLITEHNICA University of Bucharest, Romania	bogdanadrians@yahoo.com

Tiriba, G. / PM-P14	POLITEHNICA University of Bucharest, Romania	gctiriba@yahoo.com
Toma, I.-F. / NP-P13, NP-P14	University of Pitesti, Romania	TiF@TiF.ro
Tosa, N. / PM-O3	National Institute for Research and Development of Isotopic and Molecular Technologies, Cluj-Napoca, Romania	nicoleta.tosa@itim-cj.ro
Tsankova, E. P. / NP-O7, PM-P12	Sofia University “St. Kliment Ohridski” and University Hospital “Lozenetz”, Sofia, Bulgaria	tsankovaem@abv.bg
Tunaru, I. / NP-I2, PM-P2	POLITEHNICA University of Bucharest, Romania	tunaru_ionel@yahoo.fr
Ursache, M. / PM-O6	University of Craiova, Romania	ursachemarcela@yahoo.com
Van der Auweraer, M. / PM-O4	Katholieke Universiteit Leuven, Heverlee, Belgium	
Velea, A. / PM-I1	National Institute of Materials Physics, Magurele, Romania	
Volceanov, A. / PM-I2	POLITEHNICA University of Bucharest, Romania	avolceanov@ing.pub.ro , avolceanov@yahoo.co.uk
Volceanov, E. / PM-I2	Institute of Metallurgical Researches – ICEM SA, Bucharest, Romania	
Voloacă, Ș. / NP-P20	POLITEHNICA University of Bucharest, Romania	
Vințeler, D. / NP-P15	National Institute for Laser, Plasma and Radiation Physics, Magurele, Romania	
Widenhorn, R. / NP-I2, PM-P2	Portland State University, Oregon, USA	ralfw@pdx.edu
Zaharia, C. / PM-P10	POLITEHNICA University of Bucharest, Romania	zhctln@yahoo.com
Zalaru, C. / PM-P16	University of Bucharest, Romania	
Zarafu, I. / PM-P15, PM-P16	University of Bucharest, Romania	zarafuirina@yahoo.fr
Zlateva, G. A. / NP-O7, PM-P12	Sofia University “St. Kliment Ohridski” and University Hospital “Lozenetz”, Sofia, Bulgaria	gzlateva@mail.bg
Zotta, D. / NP-P11, NP-P12	POLITEHNICA University of Bucharest, Romania	dzotta@yahoo.com

