

## Curriculum Vitae

### Mihai IOVEA

#### EDUCATION

- 1999 Postdoctoral position with The Johns Hopkins University - Baltimore, Maryland - USA; Department of Physics and Astronomy, Plasma Spectroscopy Group
- 1997 Ph.D. in Physics, The Institute for Atomic Physics, Bucharest.  
Thesis: "Study of Physical Mechanisms in Computerized Tomography"
- 1982 M.Sc. Engineering in Physics, Measurements and Control Specialty, Physics University of Bucharest, Romania
- 1980 B.Sc. Technology Physics, Physics University of Bucharest , Romania

#### WORK EXPERIENCE

##### Main experience

- Basic and applied research in 2D and 3D X and Gamma ray Industrial Computerized Tomography and Radioscopy.
  - Research, design and prototypes development of various types of computerized X and gamma rays Industrial Tomography and Radioscopy Systems, with applications in NDT and Security domains;
  - R&D for security screening in X-Ray radioscopy and tomography by using dual-multi energy, backscattering and diffraction techniques;
  - R&D of specialized algorithms and software packages for data acquisition, 2D & 3D tomograms reconstruction, data analysis and visualization in Tomography and Radioscopy;
  - Research & Development of dual/multi energy technique for measuring Zeff (Atomic effective number) and Density values in X and gamma ray Tomography and Radioscopy, with application in Security, Cores and minerals analysis, Industrial NDT, etc.
  - Fast in-line industrial X-Ray applications development based on microfocus X-ray source, Flat Panel or TDI type X-ray detectors.
- Fast prototyping and R & D equipment design and development
- Software development using *LabView*,<sup>™</sup> NI language
- R & D companies management for:
  - NDT and Computerized Technologies Laboratory as Head of Department for more than 10 years;
  - National R&D Institute for Electrical Engineering as Scientific Director for 2 years,
  - ACCENT PRO 2000 Ltd as General Manager for the last 14 years until present.
- European Community FP7 Projects Scientific Expert Evaluator (<ftp://ftp.cordis.europa.eu/pub/fp7/docs/sme.zip>)
- The Johns Hopkins University-USA External Collaborator since 2000 ([http://physics-astronomy.jhu.edu/groups/plasma/psg\\_people.html](http://physics-astronomy.jhu.edu/groups/plasma/psg_people.html) )

- Project coordinator for 16 projects and **partner** in more than 13 projects financed by Romanian Ministry of Research, European Union or private companies.

**Last 10 years R&D Projects list** (more details at <http://www.accent.ro/rd.html> )

- Multi-parameter X-ray baggage scanner for threatening materials detection in Security applications – acronym **Multi X-ray Scan**, Romanian Funding Application for Joint Applied Research Projects PN-II-PT-PCCA-2013-4, 2014-2016, coordinator
- Continuous monitoring systems for the SAFE storage, distribution and usage of Hydrogen POWER for transport - acronym **SafeHPower**, FP7 Research for SME, 2013-2015, GA 605095 – Coordinator , <http://www.safehpower.eu/>
- Design and development of Soft X-ray Photodiodes data Acquisition System for Tokamak's plasma X-ray Imaging, Contract with The Johns Hopkins University, Maryland USA, 2012-2013
- Digital Colour X-ray Security Scanning System - acronym **DCXScan** , Eureka-Eurostars Project E!7308, 2012-2014, Partner
- Development of an automated digital radiography system for the inspection of plastic electronics – acronym **PlastronicsSpec**, FP7 Research for SME, 2011-2013, GA 286531 – Coordinator, [www.plastronicspec.com](http://www.plastronicspec.com)
- Automated inspection for sintered parts by non-destructive techniques for improved quality in production – acronym **AutoInspect**, FP7 Research for SME, 2011-2013, GA 283288 – Coordinator, <http://www.autoinspectproject.eu/>
- Development of Novel X-ray Inspection System for Fast Automated Detection of Counterfeit PCB Components – acronym **ChipCheck**, FP7 Research for SME, 2010-2012, GA 262212 – partner ; <http://www.chipcheck.eu/>
- Experiments and improvements for Dual-energy X and gamma ray radioscopy and Tomography for baggage and truck screening, 2009-2010 (private customer) - coordinator;
- Preliminary Experiments with X-Ray backscattering technique for airport passenger screening, 2010 (private customer)- coordinator;
- Studies and preliminary experiments for portable, automate and fast system for dangerous materials identification from baggage, parcels or other suspected objects by X-ray Radioscopy and Tomography using dual-energy technique acronym **TOMORAY** (81-003/ 2007-2010) - coordinator
- Experiments and algorithms in Electrical Impedance Tomography – FP5 PECO/COPERNICUS - CIPD940254 - partner
- In Process Control with Optical Coherence Tomography - acronym **IPC-OCT** – FP6 CRAFT –COOP-CT, 2003-2005 GA 507825 - partner
- Combined Terahertz- X-ray spectroscopy experiments and analysis Advanced contactless material identification in security and quality control, acronym **AMATID** (C-D FFG CIRCE AUSTRIA) - partner
- Nano/Micro-Scale Imaging And Metrology By Electron And X-Ray 3-D Tomography Of Innovative Materials, acronym **NIMETIM** (CEEX 06-D11-23/2006-2008) - partner
- Application and development of the new methods for investigation and dating of major climate and sea level changes in the Danube Delta and the Black Sea in order to reconstruct the evaluation and predict the associated risks, acronym **CLIMARISC** (31-068/2007-2010) – partner
- Studies and preliminary experiments for portable, automate and fast system for dangerous materials identification from baggage, parcels or other suspected

objects by X-ray Radioscopy and Tomography using dual-energy technique, acronym **TOMORAY** (S-001 PNCD Security, 2006-2007) - coordinator

- The integrated and multidisciplinary investigation of the semi-closed ecosystems (alpine and volcanic lakes), to establish the reference level, to realize an ecological approach of the entropic impact: the alpine lakes from the Fagaras Mountains and the volcanic Saint Ana Lake, acronym **ALPIMP** (31-013/2007-2010) - partner
- Dual-energy X-Ray Tomography applied to marine and deltaic geology for obtaining, in situ and in laboratory, new data about geological samples density and chemical compositions (CEEX – MENER, 625 /03.10.2005) - partner.
- Design and development of Low-Noise Transimpedance preamplifier for NSTX Tokamak soft X-ray detectors used in plasma diagnosis – contract with Johns Hopkins University, 2005
- Feasibility study and laboratory X-Ray dual-energy Tomograph design and development for luggage control, 2002-2004 (private customer) - coordinator

## **GENERAL SKILLS**

- Applied physics and engineering research in NDT computerized methods.
- X-ray Imaging (dual-multi energy techniques, radioscopy, tomography, diffraction, backscattering) for NDT, Security and industrial applications
- Various NDT techniques applications development (Acoustic Emission, Vibration monitoring, Ultrasound, Eddy Current, Electrical Impedance, etc.)
- Customer oriented new scientific and technical solutions.
- Innovating and developing new methods for computerized measurements and control.
- Designing and building new equipment and technologies in Non-Destructive Testing and Evaluation domains.
- Full design and development of prototype scientific instruments, including electrical, electronically, mechanical, hardware and software design and manufacturing.
- Data acquisition and computerized measurements.
- Data acquisition, analysis and visualization software packages development.
- Data analysis and measurement algorithms.
- Company and projects management.
- R&D Management & Consulting.

## **PROFESSIONAL ACTIVITY**

< **July 2000 - Present** >

General Manager and Senior Research Scientist with **ACCENT PRO 2000 Ltd.**  
Company (please visit [www.accent.ro](http://www.accent.ro)), Bucharest, Romania

### **Activities:**

- Design and development of X-ray tomography/radioscopy equipment for Security and NDT applications;
- Design, development and prototype manufacturing for portable X-ray dual-energy system for bomb squad interventions;
- Design, development and prototype manufacturing for X-ray dual/multi energy Tomography/radioscopy equipment dedicated for security and NDT (sedimentary cores and minerals analysis);
- X-ray backscattering technique for passenger scanning and NDT applications;

- Research, experiments and algorithms development for X and gamma ray baggage and trucks screening devices;
- R&D for high resolution X-ray imaging with application in NDT (electronic components scan, pipe welds digital radiography, sintered parts, OLED displays etc.)
- Materials identification algorithms by X-Ray dual/multi-energy, diffraction, backscattering Tomography and Radioscopy.
- Medical X-Ray Imaging.
- European Community FP7 Projects Evaluator.
- R&D Consulting.
- Coordinator for 6 R&D projects and partner in other 7 projects financed by Romanian Ministry of Research, EC or private companies.
- R&D Company management.

< **Feb.1999 - May 2000** >

- Postdoctoral fellow with The Johns Hopkins University, Department of Physics and Astronomy, Plasma Spectroscopy Group from Baltimore, Maryland, USA; ([http://physics-astronomy.jhu.edu/groups/plasma/psg\\_people.html](http://physics-astronomy.jhu.edu/groups/plasma/psg_people.html) )

- Long-term Visitor Research Scientist at Princeton Plasma Physics Laboratory, Princeton University, New Jersey ([http://physics-astronomy.jhu.edu/groups/plasma/psg\\_people.html](http://physics-astronomy.jhu.edu/groups/plasma/psg_people.html) )

**Activities:**

- R&D of tomographic systems for Soft X-Ray plasma diagnostics dedicated to NSTX Tokamak;
- Designing and development of specialized data acquisition and software packages for tomographic systems.

< **1990 - 1999** >

Senior Research Scientist, Head of the "Computerized Control and Non-Destructive Testing Laboratory" and Head of a NDT Nuclear Unit, at the R&D Institute for Electrical Engineering - ICPE S.A., Bucharest.

**Activities:**

R&D oriented to new-product and new applications development (for more details please visit the Lab Site <http://www.icpe.ro/lab/comp-ndt/>) in the following domains:

- 2D and 3D Industrial gamma-ray Computerized Tomography;
- Immersion Ultrasound scanner with focalized transducers for lithotripsy;
- Multi-channel Acoustic Emission equipment;
- Vibration Monitoring Systems;
- High-accuracy density measurement;
- Studies and experiments in Electrical Impedance Tomography;
- Stands for complex electrical tests and measurements for electrical motors and electrical tools;
- Magnetic-powder and eddy current brakes design;
- Large size LED-based Graphic Panel design and manufacturing;
- Laboratory Department Manager; representative and dealer activity.

- Coordinator for 7 national R&D projects and partner in 3 projects financed by Romanian Ministry of Research, EC or private companies.

#### < 1990 - 1991 >

Scientific Director with R&D Institute for Electrical Engineering (ICPE S.A.) - Bucharest

##### Activities:

- Building and implementing new technical and economical algorithm for R&D departments evaluation and management;
- Scientific management of following domains/laboratories: Non-conventional energies (solar, photovoltaic, wind, H<sub>2</sub>, etc.), Non Destructive Testing, R&D for Electrical Materials, Accelerating Aging tests for electrical components, Electrical Technologies, Quality Assurance in Electrical Domain, Superconductivity, Medical Equipment, Microwave technologies, Tests of equipment destined for Nuclear Power Plants; Quality Assurance Department.

#### < 1984 - 1990 >

Research Scientist with R&D Institute for Electrical Engineering - ICPE S.A., Bucharest.

##### Activities:

- Development of techniques and instrumentations for monitoring electrical equipment behavior during the "Seismic Test" and "Loss of Cooling Accident Test" for Nuclear Power Plants equipment qualification.

#### < 1982 - 1984 >

Research Scientist with the Research Institute for Nuclear Reactors - IRNE, Pitesti - Romania.

##### Activities:

Participating at the development of computerized stand dedicated for nuclear fuel reactivity test and analysis. Nuclear fuel gamma scanning measurements. Water residual contamination analysis by activation method.

### Selected published and presented scientific papers

1. [PORTABLE LOW-COST FLAT-PANEL DETECTORS FOR REAL-TIME DIGITAL RADIOGRAPHY](#), 7<sup>TH</sup> International symposium on NDT in aerospace, Bremen, Germany, 16-18 November , 2015, Mihai IOVEA, Marian NEAGU, Bogdan STEFANESCU, Gabriela MATEIASI, Ioana POROSNICU, Elena ANGHELUTA ;
2. [ASPECTS REGARDING NON-DESTRUCTIVE HIGH RESOLUTION X-RAY IMAGING IN INDUSTRIAL DIGITAL RADIOGRAPHY](#) , Asociatia romana de examinari nedistructive, Revista Examinari nedistructive , Nr. 1(3), 2015, pag. 13-23 ( in Romanian language )
3. GAMMA BEAM INDUSTRIAL APPLICATIONS AT ELI-NP , *The 2015 International Conference on Applications and Nuclear Techniques , Crete, Greece ( June 14-20, 2015 )* , G. Suliman, V. Iancu, C. A. Ur, M. Iovea, I. Daito, and H. Ohgaki ;
4. SIMULATION STUDY ON COMPUTER TOMOGRAPHY IMAGING ON NUCLEAR DISTRIBUTION BY QUASI MONOENERGETIC GAMMA RAYS WITH NUCLEAR RESONANCE FLUORESCENCE : CASE STUDY FOR ELI-NP APPLICATION, 12<sup>th</sup> Eco-Energy and Materials Science and Engineering Symposium, Krabi, Thailand, June 11-14, 2015, I. Daito, H. Ohgaki, G. Suliman, V. Iancu, C.A. Ur, M. Iovea
5. [TIME DELAY INTEGRATION DETECTOR BASED SOLUTION FOR INDUSTRIAL X-RAY NDT INSPECTION](#), 11<sup>th</sup> European Conference on Non-Destructive Testing ( ECNDT 2014 ), October 6-10, 2014, Prague, Czech Republic, Mihai IOVEA, Marian NEAGU, Bogdan STEFANESCU, Gabriela MATEIASI, Alan L. CLARKE, Malini VIEYRA, P. Ian NICHOLSON
6. AN X-RAY IMAGING SOLUTION FOR GREEN AND SINTERED PM PARTS-NDT CONTROL; EURO PM Congress - EMPA 2014, Salzburg AUSTRIA, 21-24 September 2014; Mihai IOVEA, Marian NEAGU, Bogdan STEFANESCU, Gabriela MATEIASI, Alan CLARKE, Malini Vieyra, Ian NICHOLSON ;

7. TIME DELAY INTEGRATION DETECTOR BASED SOLUTION FOR INDUSTRIAL X-RAY NDT INSPECTION; 11th European Conference on NDT, Prague, October 6-10, 2014; Mihai IOVEA , Marian NEAGU, Bogdan STEFANESCU, Gabriela MATEIASI, Alan L. CLARKE, Malini VIEYRA· Ian NICHOLSON (paper accepted);
8. THREAT LIQUID IDENTIFICATION IN HAND-HELD BAGGAGE, "The Third International Conference on Image Formation in X-Ray Computed Tomography", June 22-25, 2014, Salt Lake City, Utah, USA, Conf. Proceedings pg. 117-121; Sebastian Faby, Marcus Brehm, Michael Knaup, Keith Powell, Mohammed Ayoub, Benjamin Cantwell, Ian Radley, Mihai lovea and Marc Kachelrieß;
9. PRODUCTION OF FERROUS PM-PARTS FOR CALIBRATION AND DEMONSTRATION OF TYPICAL DEFECT DETECTION PERFORMANCE OF IN-LINE X-RAY DIGITAL RADIOGRAPHY EQUIPMENT; European Powder Metallurgy Association EMPA 2013, 15-18 September 2013, Gothenburg, Sweden, Proceedings Volume 2, Session 27: Non Destructive Testing, pp.169 – 174, ISBN 978-1-899072-42, Christian Gierl-Mayer Mohammad Momeni, Herbert Danninger, Mihai lovea; G Mateiasi, A Clarke; I. Nicholson;
10. PM PARTS FAST IN-LINE X-RAY DIGITAL RADIOGRAPHY; European Powder Metallurgy Association EMPA 2013, 15-18 September 2013, Gothenburg, Sweden, Proceedings Volume 2, Session 27: Non Destructive Testing, pp.187 – 192, ISBN 978-1-899072-42, Mihai lovea, Marian Neagu, B. Stefanescu, Gabriela Mateiasi, Mathew Amos, Ian Nicholson, Maxim Ponomarev;
11. A DEFECT DETECTION AND CLASSIFICATION SYSTEM FOR AUTOMATIC ANALYSIS OF DIGITAL RADIOGRAPHY IMAGES OF POWDER METALLURGY PARTS; European Powder Metallurgy Association 2013, 15-18 September, Gothenburg, Sweden; Proceedings Volume 2, Session 27: Non Destructive Testing, pp.181-186, ISBN 978-1-899072-42-2; Maxim Ponomarev; Tat-Hean Gan; CemSelcuk; Mathew Amos; Ian Nicholson; Mihai lovea, Marian Neagu.
12. THREAT LIQUID IDENTIFICATION IN HAND-HELD BAGGAGE, 2013 IEEE Nuclear Science Symposium and Medical Imaging Conference (2013 NSS/MIC); Mihai lovea, Marcus Brehm, Sebastian Faby, Michael Knaup, Marc Kachelrieß, Ben Cantwell, Xun Wang, Ian Radley, Mohammed Ayoub, Keith Powell;
13. ON THE HEAVY ELEMENTS CONTENT OF SEDIMENTS AND ROCKS FROM TWO SEMICLOSED ECOSYSTEMS: PROGLACIAL LAKE BÂLEA (FÂGÂRAȘ MOUNTAINS) AND CRATER LAKE ST. ANA (HARGHITA MOUNTAINS), Physics of Particles and Nuclei 01/2013; 10(5):469–475. DOI: 10.1134/S1547477113050087; O.G. Dului; S.I. Lyapunov, A.V. Gorbunov, C. Ricman, T. Brustur, M.V. Frontasyeva, O.A. Culicov and M. lovea
14. PRELIMINARY NDT INVESTIGATION OF SINTERED POWDER METALLURGY PARTS BY HIGH-RESOLUTION TDI BASED X-RAY DIGITAL RADIOGRAPHY, Powder Metallurgy European Congress, 2013 September 16-19, Basel, Switzerland; Mihai IOVEA, Marian NEAGU, Gabriela MATEIASI; Harshad V. HALAI, Mathew AMOS; Maxim PONOMAREV, Vassilis KAPPATOS, Cem SELCUK, Tat-Hean GAN; Christian GIERL, Mohammad MOMENI; Powder Metallurgy European Proceedings, Vol.1, p.145-150;
15. DEVELOPMENT OF A DIGITAL RADIOGRAPHIC INSPECTION TECHNIQUE FOR PRODUCTION FRIENDLY QUALITY ASSESSMENT OF POWDER METALLURGY PARTS; Powder Metallurgy European Congress, September 16-19, Basel, Switzerland; Maxim G Ponomarev, Vassilis Kappatos, Cem Selcuk, Tat-Hean Gan, Mathew Amos, Harshad Halai Christian Gierl, Mihai lovea; Powder Metallurgy Journal - Vol. 56, No. 2, pp 92-95, 2013;
16. X-RAY RADIOGRAPHIC STUDY OF SOME PANEL PAINTING ICONS FROM THE BEGINNING OF THE XX-th CENTURY, *International Journal of Conservation Science*, ISSN 2067-533X, Volume 2, Issue 3, July-September 2011, 179-183; <http://www.ijcs.uaic.ro/pub/IJCS-11-16-Emandi.pdf> ;
17. A DEDICATED ON-BOARD DUAL-ENERGY COMPUTER TOMOGRAPH, *Journal of Nondestructive Evaluation* (Springer), Volume: 30, Issue: 3, Pages: 164-171, DOI: 10.1007/s10921-011-0104-x, June 2011; Mihai lovea, Marian Neagu, Octavian G. Dului, Gheorghe Oaie, Stefan Szobotka, Gabriela Mateiasi. <http://www.springerlink.com/content/bpx2mn784r7k5h71/>
18. NEW PORTABLE AND AUTONOMOUS DUAL ENERGY X-RAY SYSTEM FOR NDT AND SECURITY APPLICATIONS, International Symposium on Digital Industrial Radiology and Computed Tomography, June 20 – 22, 2011, Berlin, Germany; M. lovea, G. Mateiasi, M. Neagu , O.G. Dului;
19. PERFORMANCES COMPARISON BETWEEN A 2D FLAT PANEL X-RAY DETECTOR AND A VIRTUAL ONE BASED ON LINEAR ARRAY X-RAY DETECTOR TRANSLATION TECHNIQUE, International Symposium on Digital Industrial Radiology and Computed Tomography, June 20 – 22, 2011, Berlin, Germany; M. lovea, I. Tiseanu, T. Craciunescu, M. Neagu, G. Mateiasi;
20. PORTABLE AND AUTONOMOUS X-RAY EQUIPMENT FOR IN-SITU THREAT MATERIALS IDENTIFICATION BY EFFECTIVE ATOMIC NUMBER HIGH-ACCURACY MEASUREMENT,

*SPIE 2011 Defence, Security & Sensing Conference*, April 2011, Orlando -Florida USA ,  
M. lovea, G. Mateiasi, M. Neagu , O.G. Dului (published in Proc. of SPIE Vol 8017 801713-1;  
DOI: 10.1117/12.883666) [http://spie.org/x648.html?product\\_id=883666](http://spie.org/x648.html?product_id=883666) ;

21. COMBINED X-RAY DUAL-ENERGY RADIOSCOPY AND TOMOGRAPHY ANALYSIS FOR EXPLOSIVES DETECTION, *Materials Evaluation*, vol 67, Issue:12, pg. 1343-1349, December 2009, M. lovea, G. Mateiasi, O.G. Dului, M. Neagu and M. Mangu. <http://www.asnt.org/publications/materialseval/materialseval.htm>
22. DUAL ENERGY X-RAY COMPUTER AXIAL TOMOGRAPHY AND DIGITAL RADIOGRAPHY INVESTIGATION OF CORES AND OTHER OBJECTS OF GEOLOGICAL INTEREST; 2008 *Engineering Geology*, Volume:103, Issue: 3-4, Pages:119-126, DOI: 10.1016/j.enggeo.2008.06.018 , M. lovea, G. Oaie, C. Ricman, G. Mateiasi, M. Neagu, S. Szobotka and O.G. Dului;
23. <http://www.sciencedirect.com/science/article/pii/S0013795208001713>
24. PORTABLE AND AUTONOMOUS X-RAY DUAL-ENERGY RADIOSCOPY AND TOMOGRAPHY EQUIPMENT FOR SECURITY AND NDT APPLICATION, *American Society for Non-destructive Testing Fall Conference 2009 Columbus OHIO*, 16-18 October 2009, M. lovea, M. Neagu, O. Dului, G. Mateiasi, M. Mangu (abstract);
25. COMPLEX STUDY OF OXIGENATED and ANOXIC SEDIMENTS OF THE BLACK SEA ZONES, Faculty of Physics General Scientific Seminar, University of Bucharest, 25<sup>th</sup> November 2009, Bucharest, Romania O.G. DULIU, M. IOVEA, M. NEAGU, G. OAIE, S.A. SZOBOTKA, C. CRISTACHE, M. TOMA, O.A. CULICOV, M.V. FRONTASYEVA (invited paper);
26. VISUALIZATION, ANALYSIS AND MATERILAS IDENTIFICATION TECHNIQUES IN X\_RAY DUAL\_ENERGY RADIOSCOPY AND TOMOGRAPHY FOR SECURITY AND NDT APPLICATION, *Institute of Atomic Physics Seminar, 26th June 2009 (invited paper)*; M. lovea; [http://www.ifa-mg.ro/seminarii/26\\_iunie\\_2009/Mihai\\_IOVEA-Seminar\\_IFA\\_26Iunie2009.pdf](http://www.ifa-mg.ro/seminarii/26_iunie_2009/Mihai_IOVEA-Seminar_IFA_26Iunie2009.pdf) (in Romanian language)
27. PRELIMINARY EXPERIMENTS OF SINGLE X-RAY VIEW CATHETER 3D LOCALIZATION ALGORITHM FOR TARGETED STEM CELL INJECTIONS, SPIE Medical Imaging Conference, 8-12 February 2009, Florida; Proc. SPIE 7261, 72611Y (2009); doi:10.1117/12.811036 ; M. lovea , J.Creed, E. Perin; M. Neagu, G. Mateiasi. [http://spie.org/x648.html?product\\_id=811036](http://spie.org/x648.html?product_id=811036)
28. X-RAY MICRO-TOMOGRAPHY AS A TOOL FOR QUANTITATIVE CHARACTERIZATION OF ADVANCED MATERIALS MANUFACTURING PROCESSES, *Advanced Materials Research Vol 47-50 (2008)*, 698-701, Ion Tiseanu, Teddy Craciunescu, M. lovea; <http://www.scientific.net/0-87849-378-6/698/>
29. DUAL-ENERGY COMPUTED TOMOGRAPHY AND DIGITAL RADIOGRAPHY: VALUABLE METHODS IN INVESTIGATING UNCONSOLIDATED SEDIMENTS, *International Seminar on Natural Hazards in the Marine Area*, 28-29 July 2008, Bucharest, Romania; Dului O., lovea M., Oaie Gh., Neagu M. , Szobotka St., Mateiasi G.
30. MATERIALS MICROANALYSIS TECHNIQUE BY DUAL-ENERGY X-RAY TOMOGRAPHY AND RADIOSCOPY, *The British Institute of Non-Destructive Testing NDT 2008 Conference*, 16-18 September 2008, Cheshire - UK; M. lovea, O.Dului, G.Mateiasi, M. Neagu, M. Mangu; Ion Tiseanu, Teddy Craciunescu
31. COMBINED X-RAY DUAL-ENERGY RADIOSCOPY AND TOMOGRAPHY ANALYSIS FOR EXPLOSIVES DETECTION, *ASNT Fall Conference 2008*, 10-14 November 2008, Charleston, South Carolina-USA; M. lovea, G.Mateiasi, O.Dului, M. Neagu, M. Mangu
32. STUDIUL INTERDISCIPLINAR AL ECOSISTEMELOR SEMIÎNCHISE (LACURI ALPINE SI VULCANICE) IN VEDEREA STABILIRII NIVELULUI DE REFERINTA PENTRU APRECIEREA IMPACTULUI FACTORULUI ANTROPIC: LACURILE ALPINE DIN MASIVUL FAGARAS SI LACUL SFÎNTA ANA, *Geo-Eco-Marina 14*, supliment nr. 1, 2008, p.181 – 185; Dului O., Brustur T., Szobotka S., Oaie G., Ricman C., Alexe V., lovea M., Hodoroagea S. ;
33. PRELIMINARY EXPERIMENTS FOR X-RAY DUAL-ENERGY MICRO-TOMOGRAPHY QUANTITATIVE ANALYSIS, *X-Ray Micro Imaging of Materials, Devices and Organisms IEEE Conference*, 22-24 October 2008 Dresden, Germany
34. COMBINED X-RAY RADIOSCOPY AND TOMOGRAPHY ANALYSIS FOR SEDIMENTARY CORES AND MINERALS, *International Conference DEFECTOSKOPIE 2008*, 4-6.11.2008, Brno - Czech Republic <http://www.ndt.net/article/defektoskopie2008/papers/324.pdf>
35. MICRO AND DUAL-ENERGY X-RAY COMPUTED TOMOGRAPHY INVESTIGATION OF SOME SOUTH CARPATHIANS METAMORPHIC ROCKS, *International Geological Congress OSLO 2008*, August 6-14th August 2008, O. Dului, E. Negulescu, M. lovea, I. Tiseanu, A. Dobrescu
36. X-ray micro-tomography as a tool for quantitative characterization of advanced materials manufacturing processes, *International Conference on Multifunctional Materials and Structures*;

- 28-31 July 2008, Hong Kong; published in *Advanced Materials Research* Vol 47-50 (2008), pp 698-701; I. Tiseanu, T. Craciunescu, M. Iovea <http://www.scientific.net/0-87849-378-6/698/>
37. DEVELOPMENT OF NEW X-RAY RADIOSCOPY & TOMOGRAPHY EQUIPMENT FOR NDT ANALYSIS; *CD Proceedings of the 4th International Conference on NDT, Chania, Crete - Greece*, 11-14 October 2007; M. Iovea, G. Mateiasi, M. Neagu, V. Georgiou, P. Tsagkari, A. Antonakakis; <http://www.ndt.net/article/hsndt2007/files/IOVEAMihai.pdf>
  38. High-accuracy X-Ray Dual-energy experiments and non-rotational Tomography algorithm for explosives detection technique in luggage control - *CD Proceedings of the International Symposium on Digital Industrial Radiology and Computed Tomography - Lyon*, June 25-27 2007; Mihai IOVEA, Gabriela MATEIASI, Marian NEAGU; Octavian DULIU <http://www.ndt.net/article/dir2007/papers/16.pdf>
  39. On ship Drilling cores deDicated dual-energy X-Ray Tomography/Radisocopy equipment- *CD Proceedings of the International Symposium on Digital industrial Radiology and Computed tomography - Lyon*, June 25-27 2007; Mihai IOVEA, Gabriela MATEIASI, Marian NEAGU; Octavian DULIU, Gheorghe OAIE <http://www.ndt.net/article/dir2007/papers/p5.pdf>
  40. Dual energy computed tomography and digital radiography investigation of black sea unconsolidated sediments, *The 2nd International Conference on the Geology of the Tethys*, March 2007, Cairo University, Cairo, Egypt (abstract) O.G. DULIU, M. IOVEA, M NEAGU, G. OAIE, G. MATEIASI
  41. COMBINED 3D TOMOGRAPHY AND X-RAY FLUORESCENCE FOR CRYSTALLINE HOST ROCK ANALYSIS, *FUNMIG Workshop*, Nov. 2006, I. Tiseanu, T Craciunescu, M. Iovea
  42. DUAL-ENERGY COMPUTER TOMOGRAPHY AND DIGITAL RADIOGRAPHY INVESTIGATION OF METAMORPHIC ROCKS AND UNCONSOLIDATED SEDIMENTS; *Romanian Institute Of Geology Conference 2006*, 74 SPECIAL ISSUE: 52 - 54; O.G. Dului, M. Iovea, M. Neagu, G. Oaie, C. Ricman
  43. AN ON-BOARD DUAL-ENERGY X - RAY COMPUTER TOMOGRAPH: PRELIMINARY EXPERIMENTS AND RESULTS, *The XX<sup>th</sup> International Sedimentology Conference*, August 2006, Fukuoka, Japan ; M. Iovea, G. Oaie, O.G. Dului, M. Neagu, S. Szobotka
  44. Pure Translational Tomography - a Non-Rotational Aproach for Tomographic Reconstruction - Tu.1.4.1; *CD Proceedings of the 9<sup>th</sup> European Conference on NDT - ECNDT Berlin September 2006* - CD-ROM; M. Iovea, G. Mateiasi, M. Neagu <http://www.ndt.net/article/ecndt2006/doc/Tu.1.4.2.pdf>
  45. Dual Energy Computed Tomography and Digital Radiography investigation of Organic and Inorganic Materials" - P44; *CD Proceedings of the 9<sup>th</sup> European Conference on NDT - ECNDT Berlin September 2006* - CD-ROM; M. Iovea, G. Mateiasi, M. Neagu O. Dului <http://www.ndt.net/article/ecndt2006/doc/P44.pdf>
  46. Dual-Energy Tomography and some of its application; *CT DAY Conference at University of Applied Sciences Wels - Austria* , 19 september 2006; M. Iovea ;
  47. DUAL-ENERGY DIGITAL RADIOGRAPHY AND COMPUTER TOMOGRAPHY APPLICATIONS IN GEOSCIENCES, *The 4th International Colloquium on Mathematics in Engineering and Numerical Physics* (invited paper), 6-8 October 2006, Bucharest, Romania; M. IOVEA, O.G. DULIU, G. OAIE, M. NEAGU, C. RICMAN, G. MATEIASI
  48. Dual-energy Computer Tomography and Digital Radiography Applications in Non-destructive Control of Materials, *Proceedings of the 6th Conference of the Balkan Union of Physics, Istanbul, Turkey*, August 2006; published in *American Institute of Physics Conference Proceedings*, Volume 899, pp. 437-438 (2007); O.G. DULIU, M. IOVEA, M. NEAGU, G. MATEIASI O.G. DULIU, M. IOVEA, M. NEAGU, G. MATEIASI <http://scitation.aip.org/getabs/servlet/GetabsServlet?prog=normal&id=APCPCS000899000001000437000001&idtype=cvips&gifs=yes>
  49. An on-board dual-energy X - ray computer tomograph: preliminary experiments and results, *The XX<sup>th</sup> International Sedimentology Conference, August 2006, Fukuoka, Japan 2006* - M. IOVEA, G. OAIE, O.G. DULIU, M. NEAGU, S. SZBOTKA
  50. DIGITAL RADIOGRAPHY AND X-RAY COMPUTER TOMOGRAPHY INVESTIGATIONS OF UNCONSOLIDATED GEOLOGICAL SAMPLES (DANUBE RIVER, DANUBE DELTA AND BLACK SEA SEDIMENTS), *European Geoscience Union General Assembly, April 2006, Viena, Austria* (abstract: *Geophysical Research Abstracts*) 8, 03165, 2006 - M. Iovea, G. Oaie, O.G. Dului, M. Neagu, G. Mateiasi <http://www.cosis.net/abstracts/EGU06/03165/EGU06-J-03165.pdf>
  51. Recent results in X-Ray Radioscopy and Tomography for improving the explosives detection technique in luggage control - *Safety and Security Systems in Europe Conference; Nov30-Dec01 2006 Potsdam Germany- CD-ROM*; Mihai IOVEA, Gabriela MATEIASI, Marian NEAGU. <http://www.safety-and-security.de/conference-2006/conference-2006>



52. Single and Dual-energy X-ray Computer Tomography and Digital Radiography Study of Sedimentary Cores; *Proceedings of the Seventh International Conference on the Mediterranean Coastal environment, MEDCOAST 05*, 25-29 October 2005, Kusadasi, Turkey; M. lovea, G. Oaie, O.G. Dului, M. Bodale, G. Mateiasi and M. Neagu
53. Dual - energy X - ray computer axial tomography investigation of some objects of geological interest; *International Interdisciplinary Conference for Creativity in Science and Technique* , Bucuresti 25 - 26 februarie 2005, ISBN 973 - 663-165-6; lovea Mihai, Ricman Sorin, Mateiasi Gabriela, Neagu Marian, Dului Octavian
54. Dual energy X-ray computer axial tomography and digital radiography investigation of cores and other objects of geological interest; M. lovea, G. Oaie, C. Ricman, G. Mateiasi, M. Neagu, S. Szobotka and O.G. Dului; *32nd International Geological Congress*, 20th -28th August 2004, Florence, Italy
55. TOMOGRAMS ReconSTRUCTION ALGORITHM FOR X-RAY INDUSTRIAL TOMOGRAPHY APPLICATION; M. lovea, G. Mateiasi, V.Georgiou, G. Samoilis, *4th National Conference of HSNT and 2nd Balkan Conference of BSNDT*, Athens 2nd of November, 2002
56. Development of digital radiography control and industrial tomography for non-destructive testing in Greece; M. lovea, A Vamvakoussis, G. Mateiasi, V. Georgiou, G. Samoilis and M. Neagu, *INSIGHT September 2001 - Vol 43 No 9*
57. MULTILAYER MIRROR AND FOIL FILTER AXUV DIODE ARRAYS ON CDX-U SPHERICAL TORUS; V.A. Soukhanovskii, D. Stutman, M. lovea, M. Finkenthal, H.W. Moos; *Review of Scientific Instruments*, Volume 72, Number 1, January 2001
58. OPERATION OF THE ULTRASOFT X-RAY SYSTEM ON NSTX; D. Stutman, M. lovea, M. Finkenthal; *Review of Scientific Instruments*, Volume 72/1, January 2001
59. ULTRASOFT X-RAY TELESCOPES FOR FLUCTUATION IMAGING IN FUSION PLASMAS; D. Stutman, M. Finkenthal, M. lovea, V. Soukhanovskii et. al., Johns Hopkins U.; *Review of Scientific Instruments*, Volume 72 Number 1, January 2001
60. FIRST OBSERVATIONS OF MHD ACTIVITY IN NSTX USING ULTRASOFT X-RAY ARRAYS; D. Stutman, M. lovea, M. Finkenthal, and the NSTX Team; *NSTX Research Forum, Princeton*, January 2000
61. DIAGNOSTICS FOR LIQUID LITHIUM EXPERIMENTS IN CDX-U, PRINCETON PLASMA PHYSICS LABORATORY REPORT FOR U.S. DEPARTMENT OF ENERGY; R. Kaita, P. Efthimion, D. Hoffman, B. Jones, H. Kugel, R. Majeski, T. Munsat, S. Raftopoulos, G. Taylor, J. Timberlake, V. Soukhanovskii, D. Stutman, M. lovea, M. Finkenthal, R. Doerner, S. Luckhardt, R. Maingi, and R. Causey, June 2000 <http://www.osti.gov/bridge/servlets/purl/756819-JjWPch/webviewable/756819.PDF>
62. THE CDX-U MULTILAYER MIRROR ARRAY; M. lovea, D. Stutman, V. Soukhanovskii, M. Finkenthal, et. al.; *Bull. Am. Phys. Soc., Seattle*, November 15, 1999
63. THE NSTX ULTRASOFT X-RAY IMAGING SYSTEM; D. Stutman, M. lovea, M. Finkenthal, et al.; *Bull. Am. Phys. Soc., Seattle*, November 1999
64. RADIATED POWER ACCOUNTING AND IMPURITY TRANSPORT ESTIMATES AT THE CDX-U SPHERICAL TORUS USING PHOTODIODE ARRAYS AND FUV SPECTROSCOPY; V.A. Soukhanovskii, D. Stutman, M. lovea, M. Finkenthal, H.W. Moos, D. Hoffman, T. Munsat, et al.; *Bull. Am. Phys. Soc., Seattle*, November 1999
65. SOME ASPECTS CONCERNING THE 2D AND 3D INDUSTRIAL TOMOGRAPHY APPLIED IN NON-DESTRUCTIVE TESTING; *July 1999 Issue of E-NDT Journal on Internet at <http://www.ndt.or>*; M. lovea, C. Rizescu, Gh. Georgescu, P. Chitescu <http://www.ndt.net/article/v04n07/lovea/lovea.htm>
66. NON-DESTRUCTIVE EVALUATION OF ARCHAEOLOGICAL AND WORK OF ART OBJECTS BY USING COMPUTERIZED TOMOGRAPHY - "*International Restoration and Conservation Session*", Satu-Mare, Romania, October 19-23, 1997; [pg. 26-32]; M. lovea, C. Rizescu, Gh. Georgescu, A. Marinescu
67. THE COMPUTERIZED STAND FOR ELECTRICAL MOTORS TESTING "ELMOTE 03" - FACILITIES AND PERFORMANCE; *The XVII - th Session of Scientific Papers "Progress in Electrical Motors Under 10 kW Design"*, Pitesti, 14-15 mai 1998; Mihai lovea, Paul Chitescu, Marian Neagu
68. ADVANCED NON-DESTRUCTIVE TECHNIQUES USING GAMMA RAY COMPUTERIZED TOMOGRAPHY - *3rd General Conference of the Balkan Physical Union*, Cluj-Napoca, 2-5 September 1997, [abstract pg. 467]: M. lovea, C. Rizescu, A. Marinescu, Gh. Georgescu, P. Chitescu

69. RECONSTRUCTION ALGORITHM FOR ELECTRICAL IMPEDANCE TOMOGRAPHY; *3rd General Conference of the Balkan Physical Union*, Cluj-Napoca, 2-5 September 1997, [abstract pg. 396]; M.lovea, Gh. Georgescu, A. Marinescu, C. Rizescu, P. Chitescu
70. ADVANCED NON-DESTRUCTIVE TECHNIQUES USING GAMMA RAY COMPUTERIZED TOMOGRAPHY ; *3rd General Conference of the Balkan Physical Union*, Cluj-Napoca , 2-5 September 1997, [abstract pg. 467]; M.lovea, C. Rizescu, A. Marinescu, Gh. Georgescu, P. Chitescu
71. A DIRECT GAMMA RAY CALIBRATION METHOD FOR DENSITY MEASUREMENT WITH APPLICATIONS IN INDUSTRIAL TOMOGRAPHY ; *3rd General Conference of the Balkan Physics Union*, Cluj-Napoca , 2-5 September 1997, [abstract pg. 466]; M.lovea, A. Marinescu, C. Rizescu, Gh. Georgescu, I. Dumitrescu
72. AN OBJECT ORIENTED MODELLING SYSTEM FOR INTERACTION SIMULATION IN 3D INDUSTRIAL TOMOGRAPHY; *Proceedings of the 19th International Conference on INFORMATION TECHNOLOGY INTERFACES*, Poulta, Croatia, 17-20 June 1997, [pg. 457-462]; M.lovea, A. Marinescu, C. Rizescu, Gh. Georgescu, I. Dumitrescu
73. COMPUTERIZED MONITORING OF VESSELS BY ACOUSTIC EMISSION EVALUATION *XXIII-rd National Conference of Thermo-energy*; Brasov, Romania, December 4-6, 1996; Gabriela Mateiasi, Mihai lovea
74. NON DESTRUCTIVE TESTS OF PIPES USING INDUSTRIAL COMPUTERIZED TOMOGRAPHY; *National Conference of Energy*, Neptun-Olimp, Romania, 1-5 September 1996 [pg. 201-205]; M.lovea, C.Rizescu, Gh.Georgescu, A.Marinescu, P.Chitescu, et al.
75. ON-LINE MONITORING OF THE METALLIC STRUCTURE USING ACOUSTIC EMISSION ANALYSIS; *The Session of Scientific Papers of the Acoustical Commission of the Romanian Academy*, Bucharest, Romania, September 15-16, 1996 [pg. 141-144]; G.Mateiasi, M.lovea, N.Cupcea
76. COMPUTERIZED TOMOGRAPHY USED IN NON-DESTRUCTIVE TESTING OF WELDED PIPES; *National Energy Conference*, Neptun-Olimp, Romania, September 1-5, 1996 [pg. 201-205]; M.lovea, C.Rizescu, Gh.Georgescu, A.Marinescu, P.Chitescu, T.Sava, M.Neagu, D.Avram
77. SOME ASPECTS OF COMPUTERIZED TECHNOLOGIES BY USING GAMMA-RAY COMPUTERIZED TOMOGRAPHY AND ULTRASONIC IMAGING IN NDT; *The 3rd edition of the National Symposium of the Romanian Association of Non-Destructive Testing*, Mamaia, Romania, May 29-31, 1996 [pg. 104-111]; M.lovea, C.Rizescu, A.Marinescu, P.Chitescu, Gh.Georgescu
78. GRAPHIC ENVIRONMENT FOR INDUSTRIAL COMPUTERIZED TOMOGRAPHY; *The Fourth International Conference in Central Europe on Computer Graphics and Visualization'96*, University of West Bohemia, Plzen, Czech Republic, February 12-16, 1996 [pg. 267-268]; M.lovea, A.Marinescu, P.Chitescu, T.Sava, C.Rizescu, Gh.Georgescu [http://wscg.zcu.cz/wscg96/papers96/IOvea\\_96.pdf](http://wscg.zcu.cz/wscg96/papers96/IOvea_96.pdf)
79. TRIDIMENSIONAL ANALYSIS BY COMPUTERIZED TOMOGRAPHY; *National Physics Conference*, Baia Mare, Romania, Nov.-Dec. 30-02, 1995 [abs., pg. 54]; M.lovea, A.Marinescu, P.Chitescu, C.Rizescu, T.Sava, Gh.Georgescu, M.Neagu, D.Avram
80. DEFECTS ANALYSIS BY IMMERSION ULTRASOUND TRANSDUCERS; *The Session of Scientific Papers "Electro technique. Present and Perspectives"*, Bucharest, Romania, October 30-31, 1995 [pg. IC 88-93]; M.lovea, C.Rizescu, Gh.Georgescu, A.Marinescu, P.Chitescu, D.Avram, M.Neagu
81. SOME ASPECTS CONCERNING THE COMPUTERIZED MONITORING OF VIBRATIONS *The Session of Scientific Papers of the Acoustical Commission of the Romanian Academy*, Bucharest, Romania, October 17-18, 1995, [pg. 23-26]; G.Mateiasi, M.lovea, T.Sava, P.Chitescu
82. COMPUTERIZED RECONSTRUCTION OF OBJECTS BY ULTRASOUND SCANNING *The Session of Scientific Papers of the Acoustical Commission of the Romanian Academy*, Bucharest, Romania, October 17-18, 1995 [pg. 81-86]; M.lovea, Gh.Georgescu, C.Rizescu, A.Marinescu et.al.
83. NON-DESTRUCTIVE TESTING USING IMMERSED ULTRASOUNDS SYSTEM; *The 5th National Conference on Non-Destructive Testing*, Bucharest, Romania, September 27-29, 1995 M.lovea, Gh.Georgescu, C.Rizescu, A.Marinescu
84. 2D AND 3D COMPUTERIZED CONTROL USING INDUSTRIAL TOMOGRAPHY *The 5th National Conference on Non-Destructive Testing*, Bucharest, Romania, September 27-29, 1995; M.lovea, A.Marinescu, P.Chitescu, T.Sava, C.Rizescu, Gh.Georgescu
85. COMPUTERIZED SYSTEM FOR VIBRATION MONITORING WITH APPLICATION TO STEAM TURBINES; *The 5th National Conference on Non-Destructive Testing*, Bucharest, Romania, September 27-29, 1995; G.Mateiasi, M.lovea, P.Chitescu, T.Sava

86. USING COMPUTERIZED TOMOGRAPHY IN NON-DESTRUCTIVE TESTING OF SOLID MATERIALS; *The Annual Symposium of the Institute of Solid Mechanics, Romanian Academy*, Bucharest, Romania, December 15-16, 1994 [pg. 357-364]; M.Iovea, A.Marinescu, P.Chitescu, T.Sava, Gh.Georgescu, C.Rizescu
87. THE USE OF ULTRASONIC WAVES IN COMPUTER-BASED SYSTEMS WITH IMMERSSED TRANSDUCERS; *The Annual Symposium of the Institute of Solid Mechanics, Romanian Academy*, Bucharest, Romania, December 15-16, 1994 [pg. 365-370]; M.Iovea, Gh.Georgescu, C.Rizescu. A.Marinescu, P.Chitescu
88. THE STRUCTURAL INTEGRITY EVALUATION FOR METALLIC MATERIALS BY ACOUSTIC EMISSION; *The Session of Scientific Papers of the Acoustical Commission of the Romanian Academy*, Bucharest, Romania, October 18-19, 1994 [pg. 167-170]; G.Mateiasi, M.Iovea
89. APPLICATION OF ACOUSTIC EMISSION TECHNIQUES FOR DETECTION OF DISCONTINUITIES IN ELECTRIC POWER STATIONS; *The National Conference on Physics*, Sibiu, Romania, September 21-24, 1994 [abs., pg.38]; G.Mateiasi, M.Iovea
90. SOME ASPECTS OF INDUSTRIAL NON-DESTRUCTIVE EVALUATION BY GAMMA RAY COMPUTED TOMOGRAPHY; *The National Conference on Physics*, Sibiu, Romania, September 21-24, 1994 [abs., pg.38]; M.Iovea, A.Marinescu, P.Chitescu, T.Sava
91. THREE-DIMENSIONAL METHOD OF REPRESENTATION IN INDUSTRIAL COMPUTERIZED TOMOGRAPHY; *International Conference on Physics Computing*, Lugano, Switzerland, August 22-26, 1994; M.Iovea, A.Marinescu, P.Chitescu
92. MULTI-CHANNEL EQUIPMENT FOR STEAM TURBINES VIBRATION DIAGNOSIS; *The National Energy Conference*, Neptun, Romania, June 13-16, 1994 [vol. IX, pg. 80-86]; G.Mateiasi, A.Zabunov, M.Iovea, P.Chitescu, T.Sava
93. SOME ASPECTS CONCERNING THE STAGE OF APPLYING COMPUTERIZED INDUSTRIAL TOMOGRAPHY IN ROMANIA; *International Symposium on Computerized Tomography for Industrial Applications*, Berlin, Germany, June 8-10, 1994 [pg. 316-321]; M.Iovea, A.Marinescu, P.Chitescu, T.Sava
94. VIBRATION DIAGNOSIS EQUIPMENT FOR 50 MW STEAM TURBINES; *The Conference "New Methods of Computer Aided Analysis for Energetic Equipment"*, Arad, Romania, May 20-21, 1993; G.Mateiasi, M.Iovea, V.Toader
95. THE CONTINUOUS SURVEILLANCE OF TURBINE VIBRATIONS; *The 9th International FASE Symposium of Romanian Academy Acoustical Commission*, Bucharest, Romania, September 15-17, 1993 [pg. 67-70]; G.Mateiasi, A.Cavaleru, M.Iovea, V.Toader
96. ACOUSTIC EMISSION AS A TOOL FOR TESTING VESSELS UNDER HYDROSTATIC PRESSURE; *The Annual Symposium of the Institute of Solid Mechanics, Romanian Academy*, Bucharest, Romania, November 26-27, 1992 [pg. 214-218]; G.Mateiasi, M.Iovea