

High Performance Computational Methods used in Nanomagnetic Materials Modeling and Design

Scientific events:

Tabel sintetic

No.	Scientific event	No of events	No. Of Communications
	a) International Congresses	1	2
	b) Symposiums	3	10
	c) Seminars, Conferences	2/24	2/46
	d) Workshops	7	14

International Congresses

No.	Congresses Name	Communication Title	Author/membership
1.	The Sixth International Congress in Materials Science and Engineering Universitatea Tehnică Gheorghe Asachi Iași 24- 27 May 2007	New model based on ANN for Design and Characterisation of Ferromagnetic Alloys	S. Mohorianu, M. Lozovan INCDFT –IFT IASI / CO – INCDFT IASI
2	The Sixth International Congress in Materials Science and Engineering Universitatea Tehnică Gheorghe Asachi Iași 24- 27 May 2007	<i>On quantum Mechanics Navier-Stokes analogue and some of its applications</i>	V. Bulancea, M. Agop / Universitatea Tehnica Gh. Asachi, Iasi / P5 - UTI

Symposiums

No.	Symposium Name	Communication Title	Author/membership
1.	Al X-lea Simpozion National MATNANTECH-CEEX Cap Aurora 4-8 Iulie 2007	Prezentare Orala Contract 76/2006	S. MOHORIANU / / CO – INCDFT IASI
2.	Al XI-lea Simpozion National MATNANTECH-CEEX Sinaia 19-22 Nov. 2007	Prezentare POSTER Contract 76/2006	S. MOHORIANU / CO – INCDFT IASI
3.	Simpozionul 12 MATNANTECH Sinaia 7-10 Mai 2008,	Raportare Faza 4 Contract C76/2006	S. Mohorianu / CO
4.	Simpozionul 13 MATNANTECH Sinaia 4 -7 Septembrie 2008	Raportare Faza 5 Contract C76/2006	S. Mohorianu / CO
5.	Proc. of XX Symp. Electromagnetic Phenomena in Nonlinear Circuits (EPNC 2008, Lille), ISBN 978-83-921340-5-3, 2008, pp. 81-82	Numerical design of an experimental device for vectorial magnetic measurements	V. Ionita(UPB), M. Rebican(UPB), E.A.PATROI (INCDIE ICPE-CA) / P1 - ICPE-CA
6.	Simpozion organizat de AR-IIT Filiala Iasi	Algoritm genetic segregativ distribuit pentru clustering determinist, vag și semi-supervizat.	Brudaru, O., Buzatu, O., IIT-AR
7.		Echilibrarea liniilor de asamblare: realizări și tendințe.	Copăceanu, C. Brudaru, O., Popovici, D IIT-AR
8.		Optimizare fără restricții cu algoritmi genetici segregativi și căutare tabu.	Brudaru, O. Ibănescu, D., IIT-AR
9.		Algoritm genetic embrionar pentru transport cu sarcină dependentă de timp.	Brudaru, O., Valmar, B., IIT-AR
10.		Algoritm genetic embrionar pentru echilibrarea cu timpi vagi.	Valmar, B., Brudaru, O., IIT-AR

Seminar

No.	Seminar Name	Communication Title	Author/membership
1.	Al 6-lea Seminar National de nanostiinta si nanotehnologie, Academia Romana, 26 martie 2007, ROMNET-ERA suport	<i>Neural Networks based Method for the New Nanomagnetic Materials Design</i>	S. Mohorianu, M. Lozovan, F.-V. Rusu / CO - INCDFT

2.	<i>10-th Granada Seminar on Computational and Statistical Physics : Modeling and Simulation of New Materials,</i>	MAGNETIC NANOMATERIALS MODELLING AND DESIGN USING CLASSIFICATION METHODS: FROM ANN TO SVM	S-H . Mohorianu, Irina I. Mohorianu, F.-V. Rusu, M. Lozovan/ CO - INCDFT
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Conference

No.	Conference Name	Communication Title	Author/membership
1.	ROCAM 2006, Bucuresti-Magurele, 11-14 septembrie 2006	<i>A new simulation method based on ANN for a special class of nanomagnetic materials design</i>	S.Mohorianu, M. Lozovan / INCDFT Iasi
2.	Romanian Conference on Advanced Materials - ROCAM 11-14 septembrie 2006	<i>Influence of the recrystallization process on the structure and magnetic properties of the Nd₂Fe₁₄B/α-Fe nanocomposites</i>	Wilhelm KAPPEL, Mirela-Maria CODESCU, Mihaela VALEANU, Nicolae STANCU, Jana PINTEA, Delia PATROI si Eros-Alexandru PATROI / ICPE – CA Bucuresti
3.	Proceedings of the ICMI45 Conference, Bacau, Romania, 2006	<i>Soft computing tools for prediction, optimization and algorithm design</i>	O. Brudaru / Academia Romana – Filiala Iasi, Institutul de Informatica Teoretica
4.	Proceedings of the ICMI45 Conference, Bacau, Romania, 2006	<i>Mixed-model assembly line balancing problem: variants and solving techniques</i>	Copaceanu, Cintia / Academia Romana – Filiala Iasi, Institutul de Informatica Teoretica
5.	ROCAM –Bucharest 2006 11-14 septembrie 2006	<i>Nanostructured magnetic materials obtained by mechanical alloying/milling</i>	V. Pop, I. Chicinas / UBB
6.	ROCAM –Bucharest 2006 11-14 septembrie 2006	<i>Nanocomposite (Nd,Dy)₂Fe₁₄B/α-Fe magnetic materials coupled by exchange interactions</i>	E. Dorolti, V. Pop, O. Isnard, D. Givord, I. Chicinas / UBB
7.	National Conference of Applied Physics 8-9 dec. 2006, Iasi, Romania	<i>Structure Solving for nanocrystalline clusters of Fe-Co Alloys</i>	Gabriela Calin / UAIC Marius Cazacu / UAIC Luiza Focanici / UAIC Valentin Nica / UAIC Nicolae Sulitanu / UAIC Florin BRINZA / UAIC
8.	Conferinta de Fizica TIM 06 Timisoara	<i>Magnetic and functional properties of magnetic clusters embeded in zeolites</i>	Nicolae Sulitanu / UAIC Florin Brinza / UAIC Antonela Marele / UAIC
9.	International Conference on Materials Science and Engineering, BRAMAT 2007, February 22-24, 2007, Brasov, Romania	<i>ANN Based New IT Method for the Nanomagnetic Materials Design</i>	S. Mohorianu, M. Lozovan / CO – INCDFT IASI
10.	IEEE ROMSC 2007, Mai 26-29, 2007, Iasi, România	<i>Efficiency in use of a Database created for new nanomagnetic materials design</i>	S. Mohorianu, F.-V. Rusu, M. Lozovan / CO - INCDFT- IFT
11.	IEEE ROMSC 2007, Mai 26-29, 2007, Iasi, România	<i>Nanomagnetic materials virtual modeling – a new outset</i>	S. Mohorianu, N. Sulitanu, C.C. Hriban / CO - INCDFT- IFT
12.	1st NATIONAL CONFERENCE with international participation NANOSTRUCTURED MULTIFUNCTIONAL MATERIALS NMM01 October 18-20, 2007 SINAIA ROMANIA	<i>SDM in Advanced Nanomaterials fine-tuning for some Perovskites type AHE Study</i>	S. Mohorianu ¹ , F.-V. Rusu ¹ and M. Lozovan ¹ / CO - INCDFT- IFT
13.	ARM 5 05-07 Septembrie 2007	<i>Preparation and Characterization of the Fe-Cu Composites</i>	W. Kappel, M. M. Codescu, N. Stancu, J. Pinteau, E. Patroi, D. Patroi, / P1 – ICPE-CA

14.	ARM 5 05-07 Septembrie 2007	<i>Recovering of The Useful Elements From The Ashes Wastes</i>	W. Kappel, M. M. Codescu, N. Stancu, E. Manta, P. Lungu, E. Patroi , / P1 – ICPE-CA
15.	ARM 5 05-07 Septembrie 2007	<i>New Materials, Recovered by Ashes Wastes, with Potential Applications for Electromagnetic Shielding</i>	W. Kappel, E. Patroi , M. M. Codescu, E. Manta, S. Hodoroagea, L. Gurgiu, N. Stancu, P. Lungu, I. Iordache / P1 – ICPE-CA
16.	ARM 5 05-07 Septembrie 2007	<i>Properties of Mesophase Pitch Modified With Different Iron Compounds</i>	Cristina Banciu, Adela Bara, Ioana Ion, Ana Maria Bondar, Radu Mirea, Gratiela Stoian, Eros Patroi / P1 – ICPE-CA
17.	ARM 5 05-07 Septembrie 2007	<i>Preparation and Characterization of MgB2 Wires</i>	Georgeta Alecu, Andreea Cosac, Stefania Zamfir, Silvia Hodoroagea, E. Patroi , N. Stancu / P1 – ICPE-CA
18.	ARM 5 05-07 Septembrie 2007	<i>Preparation and Characterization of the Nanocomposites based on RE₂TM₁₄B/a-Fe</i>	W. Kappel, M. M. Codescu, N. Stancu, E. Patroi , E. Manta, D. Patroi, S. Hodoroagea / P1 – ICPE-CA
19.	9th International Symposium on Symbolic and Numeric Algorithms for Scientific Computing , September 26-29 2007, Timisoara, Romania. (IEEE Conference Publishing) .	<i>Designing fast and accurate fuzzy approximators with Kohonen networks and genetic algorithms</i>	Brudaru, O., Buzatu, O., /P2- AR-IIT
20.	PPAM 2007 - 7th International Conference on Parallel Computing and Applied Mathematics, September 9-12 2007, Gdansk, Polonia.(LNCS, Springer Verlag)	<i>Distributed Segregative Genetic Algorithm for Solving Fuzzy Equations,</i>	Brudaru, O., Buzatu, O., /P2- AR-IIT
21.	Proc.of 6th Eurosim Congress on Modelling and Simulation, B. Zupancic, R. Karba, S. Blazic (eds.) Ljubljana, Slovenia, Sept. 9-13, 2007 , vol. 2, pp. 1-7	<i>Hybrid genetic-algorithm / branch & bound technique to solve a time-dependent transportation problem,</i>	Brudaru, O., Valmar, B., /P2- AR-IIT
22.	UKCI - The 2007 UK Workshop on Computational Intelligence, University of Aberdeen, UK, July 23-24, 2007 .	<i>Kohonen networks with fuzzy arithmetic: an empirical study,</i>	Brudaru, O., Buzatu, O., /P2- AR-IIT
23.	The 5th IFAC Intl. WS DECOM-TT 2007, May 17-20, Cesme, Turkey	<i>"Genetic Algorithm For Designing Fuzzy Rational Approximators",</i>	Brudaru, O., Buzatu, O., /P2- AR-IIT
24.	CSCS16, 16th International Conference on Control Systems and Computer Science, May 22-25, 2007, POLITEHNICA University of Bucharest.	<i>"The Service Layer of the Academic Grid GRAI",</i>	Craus, M. Teodorescu, H.N., Croitoru, C., Brudaru, O., Arotaritei, D., Calin, M., Archip, A. /P2- AR-IIT
25.	IEEE ROMSC, Iasi 2007	Magnetic and Structural Behaviour of Some Hard/Soft Magnetic Heterostructures Obtained by Mechanical Milling and Annealing	V. Pop - Faculty of Physics, Babes-Bolyai University, 4000480 Cluj-Napoca, Romania / P3-UBB
26.	Third Seeheim Conference on Magnetism, Frankfurt 2007	Inter-Phase Exchange Coupling in Sm(Co,Cu) ₅ /α-Fe Nanocomposite Obtained by Mechanical Milling and Annealing	V. Pop - Faculty of Physics, Babes-Bolyai University, 4000480 Cluj-Napoca, Romania /P3 - UBB
27.	IEEE Magnetics Society Chapter Romanian Section IEEE ROMSC 2007	Magnetic properties of nanostructured materials in polyurethane template	V. Țura, F. Brînză, N. Sulitanu, M.M. <u>Cazacu</u> , /P4 UAIC
28.	IEEE Magnetics Society Chapter Romanian Section IEEE ROMSC 2007	Synthesis and characterization of Ni-Co alloy in MCM-41 template	V. Nica, /P4 UAIC, E. Dvininov, N. <u>Sulitanu</u> , /P4 UAIC, E. Popovici, R. Hempelmann /P4 UAIC

29.	Nanostructured Multifunctional Materials Conference NMM 1	Preparation and Magnetic Properties of Fe ₃ O ₄ Nanostructures Grown in Zeolites	N. Sulitanu, F. Brînză /P4 UAIC /P4 UAIC
30.	Nanostructured Multifunctional Materials Conference NMM 1	Magnetic nanostructures grown in porous polymer structures	N Sulitanu, F. Brînză / P4 UAIC, V. Ţura /P4 UAIC
31.	Conferinta Nationala de Fizica Aplicata, Universitatea Tehnica Gh. Asachi, Iasi, decembrie 2006	<i>El Naschie's $\epsilon^{(\infty)}$ space time and Scale Relativity Theory in the topological dimension D=3</i>	M. Agop, Liliana Chicos, Anca Harabagiu, P. Nica / Universitatea Tehnica Gh. Asachi, Iasi / P5 - UTI
32.	Conferinta Nationala de Fizica Aplicata, Universitatea Tehnica Gh. Asachi, Iasi, decembrie 2006	<i>El Naschie's $\epsilon^{(\infty)}$ space time and Scale Relativity Theory in the topological dimension D=4,</i>	M. Agop, M. Vasilica, D. Abacioaiei / Universitatea Tehnica Gh. Asachi, Iasi / P5 - UTI
33.	The 7th Conference Constructive and Technological Design Optimization in the Machines Building Field, Bacau, 1-3 Noiembrie 2007.	<i>On the heat transfer in nanofluids</i>	M. Agop, P. Vizureanu, P. Nica, V. Enache / Universitatea Tehnica Gh. Asachi, Iasi / P5 - UTI
34.	8-th International Conference on Physics of Advanced Materials, ICPAM 2008, June 4-7, 2008, Iasi, Romania	ON SOME PEROVSKITES TYPE MAGNETIC MATERIALS PROPERTIES AND STRUCTURE CORRELATION USING COMPUTER SIMULATION METHODS	S-H . Mohorianu, F.-V. Rusu, M. Lozovan / CO - INCDFT
35.	Proc.of 13th Biennial IEE Conference on Electromagnetic Field Computation (CEFC2008) May 11-15 Athens, Grece	NUMERICAL MODEL OF VECTOR HYSTERESIS FOR MAGNETIC MATERIALS	M.Rebican, R.Popa, G.Preda, V.Ionita. L.Petrescu. E.A. Patroi / P1 - ICPE-CA
36.	Conferinta JEMS 2008, Dublin oral	The exchange coupling in hard/soft nanocomposite obtained by mechanical milling and annealing	V. Pop, O. Isnard, D. Givord, I. Chicinas, J. M. Le Breton /P3 - UBB
37.	8 th international Conference on Physics of Advanced Materials – ICPAM 8, June 4-7 2008, Iasi, Romania	<i>AN POSSIBLE MODEL FOR NUCLEATION AND GROWTH OF Fe-Co ALLOY NANOCCLUSERS</i>	Cristina Carmen Hriban ¹ , Florin Brinza ¹ , Valentin Nica ¹ , Nicolae Sulitanu ¹ / P4 - UAIC
38.	8 th international Conference on Physics of Advanced Materials – ICPAM 8, June 4-7 2008, Iasi, Romania	NUCLEATION MECHANISM OF Fe AND Co CLUSTERS INSIDE OF MEMBRANES NANOPORES	Cristina Carmen Hriban ¹ , Florin Brinza ¹ , Nicolae Sulitanu ¹ / P4 - UAIC
39.	8 th international Conference on Physics of Advanced Materials – ICPAM 8, June 4-7 2008, Iasi, Romania	ON THE PREPARATION AND STRUCTURAL PROPERTIES OF Fe-S NANOCRYSTALLINE THIN FILMS	Nicolae Sulitanu, Florin Brînză, Valentin Nica / P4 - UAIC
40.	8 th international Conference on Physics of Advanced Materials – ICPAM 8, June 4-7 2008, Iasi, Romania	<i>ALTERNATIVE TECHNOLOGY TO OBTAIN POLYMER-METAL COMPOSITE MATERIALS</i>	Florin Brinza ¹ , Nicolae Sulitanu ¹ / P4 - UAIC
41.	8 th international Conference on Physics of Advanced Materials – ICPAM 8, June 4-7 2008, Iasi, Romania	REVERSE MICELLE TECHNIQUE FOR Fe-Co NANOCCLUSERS SYNTHESIS	Valentin Nica, Nicolae Sulitanu and Florin Brinza / P4 - UAIC
42.	8 th international Conference on Physics of Advanced Materials – ICPAM 8, June 4 2008, Iasi, Romania	<i>SYNTHESIS AND CHARACTERIZATION OF FeO(OH)/Fe₂O₃ NANOPARTICLES ENCAPSULATED IN ZEOLITE MATRIX</i>	Radu Bosînceanu, Nicolae Sulitanu / P4 - UAIC

43.	8 th international Conference on Physics of Advanced Materials – ICPAM 8, June 4 2008, Iasi, Romania	<i>DISCREET NANOSTRUCTURES OBTAINED USING ARC DISCHARGE METHOD</i>	Felicia Carmen Dascălu, Gabriela Calin, F. Brinză and N. Sulițanu / P4 - UAIC
44.	8 th international Conference on Physics of Advanced Materials – ICPAM 8, June 4 2008, Iasi, Romania	ELECTROSPUN GELATIN NANOFIBERS FUNCTIONALIZED WITH SILVER NANOPARTICLES	Florentina Tofoleanu, Tudorel Balau Mindru, <u>Florin Brinza</u> , <u>Nicolae Sulitanu (UAIC)</u> , Ion Sandu, Dan Raileanu, Viorel Floristean, Bogdan Hagi, Cezar Ionescu, Vasile Tura / P4 - UAIC
45.	Conference INVENTICA 2008	A SYNTHESIS METHOD OF LOW DIMENSIONAL MATERIALS BY CHEMICAL REDUCTION IN RADIOFREQUENCY FIELD (POSTER)	V. Nica, N. Sulitanu, F. Brinza / P4 - UAIC
46.	The 8 th International Conference on Physics of Advanced Materials (ICPAM-8) Iasi, Mai 2008	The electrical conductance quantification in nanostructures: a theoretical approach,	I. Casian-Botez, M. Agop, P. Nica

Workshop

No.	Workshop Name	Communication Title	Author/membership
1.	8-th INTERNATIONAL BALKAN WORKSHOP ON APPLIED PHYSICS, CONSTANTA, ROMANIA, July 5-7, 2007	A Database for Nanomagnetic Materials – is it really a necessity	CO -INCDFT <u>S. Mohorianu</u> , F.-V Rusu, M. Lozovan INCDFT –IFT IASI / CO – INCDFT IASI
2.	8-th INTERNATIONAL BALKAN WORKSHOP ON APPLIED PHYSICS, CONSTANTA, ROMANIA, July 5-7, 2007	A Theoretical Approach of the heat transfer in nanofluids by means of Nano-Dilatons	CO -INCDFT <u>S. Mohorianu</u> ¹ , M. Agop ² , C. Bejinariu ² ¹ INCDFT –IFT IASI ² Univ. Tehnica Gh. Asach, Iasi
3.	4th International Workshop Amorphous and Nanocomposite Magnetic Materials – ANMM 2007 Iasi, August 29-31, 2007	A New technique to study the Magnetic Nanomaterials – the Virtual Experiment	CO -INCDFT <u>S. Mohorianu</u> ¹ , F.-V. Rusu ¹ and M. Lozovan ¹ INCDFT –IFT IASI
4.	4th International Workshop Amorphous and Nanocomposite Magnetic Materials – ANMM 2007 Iasi, August 29-31, 2007	Dendritic Morphogenesis process through the Fractal Space-time Theory	CO -INCDFT <u>S. Mohorianu</u> ¹ , M. Agop ² , P. Vizureanu ² ¹ INCDFT –IFT IASI ² Univ. Tehnica Gh. Asach, Iasi
5.	“Bio-electromagnetic Compatibility: Methods of Characterization and Shielding Materials” 21-22 May 2007, Timisoara	Recovering of the useful elements from the pyrite ashes	P1 - ICPE-CA W. Kappel, M. M. Codescu, N. Stancu, E. Manta, P. Lungu / P1 – ICPE-CA
6.	“Bio-electromagnetic Compatibility: Methods of Characterization and Shielding Materials” 21-22 May 2007, Timisoara	Properties and applications of nanostructured MP-Iron compounds	C. Banciu, A. M. Bondar, A. Bara, G. Stoian, E. Patroi / P1 – ICPE-CA
7.	5-th International Workshop on Electrodeposited Nanostructures EDNANO 5	Magnetic polymer nanocomposites by electrodeposition	<u>N. SULITANU, F. BRINZA</u> / P4 UAIC V. TURA / P4 UAIC
8.	5-th International Workshop on Electrodeposited Nanostructures EDNANO 5	New polyurethane-based nanostructured magnetic polymers by electrolysis	<u>F. BRINZA, N. SULITANU</u> / P4 UAIC V. TURA / P4 UAIC
9.	8-th International Balkan Workshop on applied physics	Magnetism of diluted nanoclusters materials from hard magnetic materials	<u>F. Brinza, N. Sulitanu</u> / P4 UAIC / P4 UAIC

10.	8-th International Balkan Workshop on applied physics	Synthesis of some bimetallic systems in PVA si PVP matrixes	N. Sulitanu, V. Nica / P4 UAIC / P4 UAIC
11.	9-th Internrtional Balkan Workshop on Applied Physics, July 7-9, 2008 Constanta	RomaniaAdvanced Knowledge-Based Computer Simulation Methods for the Nanomagnetic Materials Investigation	S-H . Mohorianu, F.-V. Rusu, M. Lozovan/ CO - INCDFI
12.	Woprkshop - NANOMAG-MAT Sinaia 2008, poster	Structural and Magnetic Evolution of (Pr,Dy) ₂ Fe ₁₄ B/ α -Fe Nanocomposite Coupled by Exchange Interactions	V. Pop, O. Isnard, E. Dorolti, D. Givord, I. Chicinas, M. Lupsa, A. Tunyagi /P3 - UBB
13.	9th INTERNATIONAL BALKAN WORKSHOP on APPLIED PHYSICS, 7-9 iulie 2008, CONSTANTA, ROMANIA	CRYSTALLINE STRUCTURE OF NANOCLUSTERS FROM Fe-Co ALLOYS	Gabriela CĂLIN, Valentin NICA, Florin BRINZA and Nicolae SULITANU /P4 - UAIC
14.	9th INTERNATIONAL BALKAN WORKSHOP on APPLIED PHYSICS, 7-9 iulie 2008, CONSTANTA, ROMANIA	MAGNETIC CHARACTERIZATION OF NANOSTRUCTURED Fe-S FILMS	Nicolae SULITANU, Florin BRINZĂ and Valentin NICA /P4 - UAIC