



Curriculum vitae
Europass
Personal information

Name / Surname **Avram Marioara**
Address 19 Feleacu street, Bl.12C, sc.3, ap.31, sector 1, Bucharest
Phone no. +40318035665 Hand phone: +40745082263
E-mail marioara.avram@imt.ro; marioara_avram@yahoo.co.uk; marioara.avram@gmail.com

Nationality Romanian

Birth Datei January 17th 1958

Sex Female

Work place Occupation **National Institute for Research and Development in Microtechnologies –(IMT-Bucharest), Micro- and Nano- Fluidics Laboratory**

Professional Experience

Period 2007 – present

Position Project manager, Senior Scientific Researcher

Main Activities Scientific Research (micro and nanofluidics, lab-on-a-chip, BioMEMS, magnetic immunoassay), process engineer (plasma etching)

Employer name and address National Institute for Research and Development in Microtechnologies – IMT-Bucharest

Activity Scientific research

Period 2007 – 2011

Position Project evaluator

Main Activities Evaluation of scientific project proposals

Employer name and address National Council for Scientific Research – Executive Unite for Funding Higher Education and University Scientific Research, Bucharest

Activity Evaluation

Period 2009

Position Project evaluator

Main Activities Evaluation of scientific project proposals

Employer name and address	Ministry of Education and Science, Structural Funds for the Development of Research Infrastructure, Bulgaria
Activity	Evaluation

Period	1996 - 2007
Position	Project manager, Principal Scientific Researcher
Main Activities	Scientific Research (microfluidics with biomedical applications. GMR nanostructures, SiC and diamond semiconductor microelectronics, magnetoelectronics, microsensors)

Employer name and address	National Institute for Research and Development in Microtechnologies – IMT-Bucharest
Activity	Scientific research

Period	1990 - 1996
Position	Project manager, Principal Scientific Researcher
Main Activities	Scientific Research (micromechanics and bulk micromachining, plasma etching and deposition)

Employer name and address	Research Institute for Electronic Components, Bucharest
Activity	Scientific research

Period	1985 - 1990
Position	Applied Physicist
Main Activities	Implementation of plasma etching and ion implantation technologies in transistor fabrication flux

Employer name and address	Radio and Semiconductor Components Company, Bucharest
Activity	Development of industrial applications

Period	1982 - 1985
Position	Applied Physicist
Main Activities	Resistive sheets for the fabrication of variable resistors

Employer name and address	Electroarges Company for Electrical and Electronic Components, Curtea de Argeş
Activity	Development of industrial applications

Education

Period	2008
Qualification / Diploma	Certificate of Attendance
Studied disciplines	Microfluidics in Life and Science

Institution Name Micro & Nano Engineering, Athens, Greece

Period 2007

Qualification / Diploma Certified of Attendance

Studied disciplines Nanoscience & Nanotechnologies

Institution Name Aristotle University of Thessaloniki

Period 2007

Qualification / Diploma Certified of Attendance

Studied disciplines Biomagnetism and Magnetic Biosystems Based on Molecular Recognition Processes

Institution Name European Science Foundation

Period 2007

Qualification / Diploma **Senior Scientific Researcher**

Studied disciplines Microelectronics, microfluidics with biomedical applications, lab-on-a-chip

Institution Name INCD – Microtehnologie (IMT – București)

Period 2004

Qualification / Diploma **PhD diploma**
Summa cum Laude

Studied disciplines Special magnetic effects, magnetic microsensors, bipolar magnetotransistors, field emission transistors, spin valve nanostructures

Institution Name „Politehnica” University of Bucharest

Period 2002

Qualification / Diploma Certificate of Attendance

Studied disciplines Microsystems and Microtechnologies

Institution Name Ecole Internationale en Microelectronique Avancee – Grenoble, France

Period 2001

Qualification / Diploma Certificate of Attendance

Studied disciplines RDI Project Management
 Institution Name Agency for Scientific Research, Innovation and Technological Transfer – „Politehnica” University of Bucharest

Period 1988 - 1994
 Qualification / Diploma Engineer / Bachelors degree
 Studied disciplines Computer architecture, programming systems engineering, programming in machine code language
 Institution Name Politechnic Institute Bucharest – Faculty of Automatics and Computers

Period 1977 - 1982
 Qualification / Diploma Applied Physicist / Bachelors Degree
 Studied disciplines Mathematics, applied and theoretical physics, programming, chemistry
 Institution Name University of Bucharest – Faculty of Physics

Personal Aptitudes and competencies

Mother tongue **Romanian**

Known foreign languages **English, French**

Self-evaluation <i>European standard</i>	Understanding				Speaking			Writing	
	Listening	Reading		Conversation		Oral speech	Writing		
English	Experienced user	C1	Experienced user	C1	Experienced user	C1	Experienced user	C1	Experienced user
French	Experienced user	C1	Experienced user	C1	Experienced user	C1	Experienced user	C1	Experienced user

Additional information

AWARDS:

- **THE WIPO AWARD FOR THE BEST WOMAN INVENTOR, INVENTIKA 2006:** „Bipolar Magnetotransistor with Enhanced Emitter Injection Modulation and Carrier Deflection”, Geneva and Bucharest, October 2006;
- **Gold medal at the Bruxelles International Inventions Saloon EUREKA:** „Procedure of Realization a Spin Valve Magnetotransistor”, November 2008
- **Gold medal at the Geneva International Inventions Saloon:** „Un procédé de réalisation d'un magnetotransistor á valve de spin”, April 2007;
- **Silver medal at the INVENTIKA 2007:** «Procedeu de realizare a tranzistorului cu valva de spin», Bucharest, October 2007

- **Best Paper Award** - M. Avram, C. Voitincu, A. S. Angelescu, I. A. Kleps, „Giant Magneto-Resistance in Multilayer Amorphous Films”, *IEEE International Semiconductor Conference*, pp. 135 – 138, 2002.
- **Best Paper Award**- M. Avram, A. S. Angelescu, I. A. Kleps, M. L. Simion, M. S. Miu, „Spin-Valve Structures For Giant Magnetoresistive Sensor Applications”, *IEEE International Semiconductor Conference*, pp. 371 – 374, 2002.
- **Best Paper Award** “Two masks process for high aspect ratio inertial sensors with adjustable range”, C. Iliescu, M. Avram, J.M. Miao, F.E.H. Tay and G.L. Xu, *Proc. of Int. Semiconductor Conf. - CAS2004*, vol. 1, pp. 263-266, Sinaia, Romania, 4-6 October 2004
- **Best Paper Award** “Microfluidic dynamic system for biological fluid viscosity measurements”, M. Avram, A. Avram, C. Iliescu, E. Manea and C. Voitincu, *CAS (IEEE) 2005 28th Edition*, vol. 1, pp. 223-226, Sinaia, Romania, 2-4 October 2005

CONSULTANT:

2007 – 2009	CNCSIS – Expert evaluator
2006 – 2009	ANCS - CNMP – Expert evaluator
1999-2008	AMCSIT /UPB –RELANSIN – Expert evaluator

SCIENTIFIC REFERENT

2002-2011	IEEE International Conference of Semiconductors.
2004- 2010	IEEE International Conference of Microelectronics
2007- 2009	Sensors and Actuators- A
2004	Microelectronic Engineering
2007 - 2010	Journal of Micromechanics and Microengineering
2007 - 2010	Thin Films.
2007 - 2011	IEEE Transaction on nanoelectronics

SCIENTIFIC ACTIVITY:

- 14 patents
- Over 100 published papers
- 2 books and 6 book chapters
- over 20 participation in national and international research projects.

10.10.2011

Signature:

AVRAM MARIOARA

**Activitate relevantă
în perioada: 01/01/2004 - prezent**

A. Proiecte câștigate prin competiție națională, în calitate de coordonator/partener (titlu/valoare RON)

1. RELANSIN / "Tehnologie de realizare a tranzistorului bipolar cu poarta izolata integrat pe carbura de siliciu pentru aplicatii speciale de putere si temperatura" 2004-2006, 33000 lei
2. CEEX „Sistem microfluidic integrat pentru analiza in vitro a fluidelor biologice cu aplicatii in diagnoza si tratament medical” (MICRO-DIAG), 2005-2008 valoare 150.000 lei
3. PNII – „Senzor pe diamant pentru aplicatii speciale in industria cimentului”, 2007-2010
4. PNII – Parteneriate „Biochip microfluidic pentru caracterizarea reologica a fluidelor biologice ne-newtoniene cu aplicatii in diagnoza si tratament medical” (MELANOCIHIP), 2008-2011, valoare 2.000.000 lei
5. PNII – Parteneriate „Sistem micro - electro - mecanic cu aplicatii in reconstructia microchirurgicala a nervilor periferici” (RECONNECT), 2008-2011, valoare 2000000 lei
6. PNII – Parteneriate „Nanodispozitive semiconductoare oxidice pentru aplicatii in domeniul nanoelectronica si nanomedicina” (NANOSICOND – NANOMED), 2008-2011, valoare 2.000.000 lei
7. PNII – IDEI „Dezvoltarea unui model conceptual al laboratorului de analiza pe un chip pentru separarea continua a particulelor prin magnetoforeza si dielectrofereza”, 2008-2011, valoare 1.000.000 lei
8. NUCLEU – „Configurarea submicronica a suprafetelor prin corodare cu ioni reactivi din plasmă RF”, 2009-2010, valoare 12250000 lei
9. MATNANTECH ”Microstructuri si microangrenaje cu detectie magnetica”, 2004-2006, valoare 2200 lei, valoare 22000 lei
10. CEEX „Dispozitive Schottky de mare putere si temperaturi inalte realizate pe diamant”, 2006-2008, 150.000 lei
11. POSCCE O2.1.2 „Fabrica microfluidica pentru auto-asamblarea asistata a nanosistemelor”, 2010-2013, 5.900.000 lei

B. Membru în proiecte câștigate prin competiție internațională (titlu/valoare EURO)

1. FP6 SSA, “ROManian inventory and NETworking for Integration in ERA”, contract nr. 510475 finantat de Comisia Europeana, 2004-2007
2. FP6 - European Network Nanofun-Poly, NoE: „Nanostructured and Functional Polymer-Based Materials and Nanocomposites”, 2004 – 2008
3. FP6 - European Network Nano2Life- „European Network of Excellence in nanobiotechnology”, 2004-2008
4. MNT ERA - NET A “system-in-a-microfluidic package” approach for focused diagnostic DNA microchips (DNASIP).
5. MNT ERA – NET, “Nanostructural carbonaceous films for cold emitters” (NANOCAFE).

C. Articole publicate în reviste internaționale cotate/indexate ISI

1. C. Iliescu, M. Avram, B. Chen, A. Popescu, V. Dumitrescu, D.P. poenar, A. Sterian, D. Vrtacnik, S. Amon, P. Sterian, „Residual stress in thin films PECVD depositions: a review”, JOAM, vol.13, No.4, pp. 387-394, 2011.
2. M. Volmer, M. Avram, „Micromagnetic Simulations on Detection of Magnetic Labelled Biomolecules Using MR Sensors”, Journal of Magnetism and Magnetic Materials, 321 (2010), 1683-1685.
3. M. Volmer, M. Avram, „Improving the Detection Sensitivity of Magnetic Micro Beads by Spin Valve Sensors”, The American Institute of Physics Conference Proceedings Series, Vol.1311, pp261-266, 2010, ISBN: 978-0-7354-0866-1
4. Marius VOLMER, Marioara AVRAM, „On Designing a Positioning and Detection System for a Lab-on-a Chip Device”, ROJIST, Volume 13, Number 4, 2010, pp. 378–388
5. F.S. Iliescu, A.P. Sterian , E. Barbarini, M. Avram, C. Iliescu, “Continuous Separation of White Blood Cells From Blood in a Microfluidic Device, UPB. Sci. Bull., Series A, Vol. 71, Is.4, ISSN 1223-7027, 2009.
6. Jia-Shen Wei, Kwong Joo Leck, Philip Gaughwin, Marioara Avram, Ciprian Iliescu, „Low stress nanoporous SiNx membrane for cell culture” Int. J. Computational Materials Science and Surface Engineering, Vol. 2, No. 3/4, 2009, pp..268-281
7. Ciprian Iliescu, Guolin Xu, Elena Barbarini, Marioara Avram, Andrei Avram, „Microfluidic device for continuous magnetophoretic separation of white blood cells” , Microsystem technologies-micro-and nanosystems-information storage and processing systems (2009) 15, pp.1157–1162, DOI 10.1007/s00542-008-0718-9
8. Marius Volmer, Marioara Avram, „Micromagnetic simulations on detection of magnetic labelled biomolecules using MR sensors”, Journal of Magnetism and Magnetic Materials 321 (2009) pp.1683–1685
9. M. Avram, A.M. Avram, R. Vasilco, M. Volmer, A. Popescu, and A. Ghiu, The optimised spin-valve magnetotransistor, Materials Science & Engineering B 152/1-3, (2008) pp. 72-75,
10. M. Volmer, M. Avram, Electrical characterization of magnetoresistive sensors based on AMR and GMR effects used for lab-on-a-chip applications, Reviews on advanced materials science, 15(2008) 220-224,
11. M. Volmer, J. Neamtu, M. Avram, Magnetoresistance sensors with magnetic layers for high sensitivity measurements, Journal of optoelectronics&advanced materials, 10(1), 2008, p.104– 109
12. Marioara AVRAM, Andrei Marius AVRAM, Adina BRAGARU, Andrei GHIU, Ciprian ILIESCU, Plasma Surface Modification for Selective Hydrophobic Control, ROJIST, vol.11, Nr.4, pp. 409–422, (2008).
13. Marius Volmer, Marioara Avram, „Magnetoresistive sensor based on AMR and GMR effects for biomedical applications”, Journal of Optoelectronics and Advanced Materials, vol.9, no. 6, pp. 1808-1812, 2007
14. M. Volmer, M. Avram, J. Neamtu, Development of a rotation sensor based on anisotropic magnetoresistance effect, Journal of optoelectronics and advanced materials, 9(4), 2007, p. 1048-1051
15. M. Brezeanu, T. Butler, N.L. Rupesinghe, G.A.J. Amaratunga, S.J. Rashid, F. Udrea, M. Avram, G. Brezeanu, „Ramp oxide termination structure using high voltage diamond Schottky diodes ”, Diamond & Related Materials 16, pp. 1020-1024, 2007, doi: 10.1016/j.diamond.2007.01.016
16. M. Avram, A. Avram and C. Iliescu, “Biodynamical analysis microfluidic system”, Microelectronic Engineering, vol. 83, issue 4-9, April-September 2006, pp. 1688-1691, doi:10.1016/j.mee.2006.01.158.
17. M. Avram, C. Iliescu, O. Neagoe, C. Voitinicu and S. Nedelcu, “Bipolar magnetic microsensors for longitudinal and transversal magnetic fields”, Sensors and Actuators A, vol. 123-124, September 2005, pp. 296-302, doi:10.1016/j.sna.2005.04.010.

18. L.M. Yu, G.L. Xu, F.E. H. Tay, C. Iliescu, M. Avram, "Theoretical analysis and experiment research of a novel DEP chip with 3-D silicon electrodes", International Journal of Software Engineering and Knowledge Engineering (IJSEKE), vol. 15, no. 2, pp. 231-236, April 2005.
19. M. Avram, „Deposition experiments of thin metallic multilayers with magnetoresistive properties”, Journal of optoelectronics and advanced materials, Volume: 6 Issue: 3 Pages: 987-990
20. M. Avram, O. Neagoe, C. Codreanu, „Bipolar magnetic microsensors for longitudinal fields”, Sensors and Actuators A, Volume: 110 Issue: 1-3 Pages: 259-263, 2004

D. Articole publicate în reviste internaționale neindexate ISI dar indexate în Baze de date internaționale (BDI) de referință sau articole publicate în volumele conferințelor internaționale.

1. Avram M., Petrescu I., Volmer M., Bălan C. M., Mărculescu C., Avram. A., Cellular uptake of gold covered maghemite superparamagnetic nanoparticles and their effects on mouse melanoma B16 cells, Euromat 2011, Montpellier, France, Sept. 12-15. A 24- O - pm 1 – 3.
2. Avram M., Petrescu I., Rădoi A., Avram A., Bălan C.M., Popescu A., 2011, „Gold nanoparticle uptake by tumor cells of melanoma B16”, International Conference on Nanosciences and Nanotechnologies, NN11, Thessaloniki, Greece, July 12-15, pp. 87.
3. Mărculescu C., Bălan C. M., Avram A., Avram M., 2011, „Experimental and numerical flow characterization of microfluidic hydrodynamic focusing of liposomes”, International Conference on Nanosciences and Nanotechnologies, NN11, Thessaloniki, Greece, July 12-15, pp. 459.
4. Avram M., Schiopu V., Avram A., Mărculescu C., Bălan C.M., Popescu A., Volmer M., 2011, „Melanoma cells apoptosis induced by magnetic hyperthermia”, International Conference on Nanosciences and Nanotechnologies, NN11, Thessaloniki, Greece, July 12-15, pp. 453.
5. Bălan C. M., Avram M., Avram A., Guolin Xu, Rhensheng Deng, Iliescu C., 2011, „A 3D chaotic microfluidic mixer”, Conference on Micromechanics and Micro Systems, Europe Workshop, Toensberg, Norway, June 19-22, 2011, pp. 268-271.
6. A. Avram, A. Radoi, V. Schiopu, M. Avram and H. Gavrilă, „Synthesis and Characterization of γ -Fe₂O₃ Nanoparticles for Applications in Magnetic Hyperthermia”, SMM 2011, Kos, Grece
7. M. Avram, M. Volmer, A. Avram, R. Vasilco, „Blood Viscosity Measurements for the Detection of Changes in Cardiovascular Diseased Patients”, AMN-APLOC, Singapore, 5-7 Jan, 2011
8. M. Avram, O. Neagoe, A. Avram, A. Popescu, C. Voitincu, „Severed Nerve Reconstruction by Means of Measuring the Speed of Electrical Signal Propagation”, AMN-APLOC, Singapore, 5-7 Jan, 2011
9. M. Volmer, M. Avram, „Lab-on-chip – a new platform for basic research and for rapid diagnosis purposes” in „Bioanalytical Methods for Life Sciences. Chromatography. Sensors and Biosensors”, pag. 85-98, Editura Universitatii Transilvania din Brasov, ISBN 978-973-598-723-7, 2010, Editori Mihaela Badea, Monica Florescu
10. Marius Volmer, Marioara Avram, Andrei Avram, „Using a planar Hall effect sensor for single bead detection”, CAS, Sinaia, Romania, 11-13 Oct. 2010, p. 221-4, ISBN 978-1-4244-5781-6
11. M. Avram, A. Avram, A. Bragaru, B. Chen, D.P. Poenar, C. Iliescu, „Low stress PECVD amorphous silicon carbide for MEMS applications”, CAS, Sinaia, Romania, 11-13 Oct. 2010, p. 239-41, ISBN 978-1-4244-5781-6
12. Andrei Avram, Marioara Avram and Horia Gavrilă, Microfluidic magnetic platform for handling and separating blood cells, IEEE-ROMSC, Iasi, Romania, 7-8 June 2010.
13. M. Volmer, M. Avram, „Improving the Detection Sensitivity of Magnetic Micro Beads by Spin Valve Sensors”, AIP Conference Proceedings Volume 1311, pp. 261-266, 2010, 8TH International Conference on the Scientific and Clinical Applications of Magnetic Carriers, Rostock, Germany
14. M. Volmer and M. Avram, „Microbeads detection using spin-valve structures; a micromagnetic approach”, Hysteresis Modeling and Micromagnetics 2009 - NIST, Gaithersburg, Maryland, USA

15. M. Volmer, M. Avram, A.M. Avram, „On Manipulation and Detection of Biomolecules Using Magnetic Carriers”, IEEE International Semiconductor Conference, pp.155 -158, vol.1, 2009, ISBN: 978-1-4244-4413-7; ISSN: 1545-827X
16. Josan, C. Boianceanu, G. Brezeanu, V. Obreja, M. Avram, D. Puscasu, A. Ioncea, Extreme Environment Temperature Sensor Based On Silicon Carbide Schottky Diode, IEEE International Semiconductor Conference, pp.525-528, vol.2, 2009, ISBN: 978-1-4244-4413-7; ISSN: 1545-827X.
17. M. Avram, A. Avram, M. Purica, A.M. Popescu, C. Voitincu, Characterization of Defects Generated During Reactive Ion Etching, IEEE International Semiconductor Conference, pp.249-252, vol.1, 2009, ISBN: 978-1-4244-4413-7; ISSN: 1545-827X.
18. M. Avram, A. Avram, F. Comanescu, A.M. Popescu, C. Voitincu, Reactive Ion Etching for Patterning High Aspect Ratio and Nanoscale Features, IEEE International Semiconductor Conference, pp.253-256, vol.1, 2009, ISBN: 978-1-4244-4413-7; ISSN: 1545-827X.
19. Marioara Avram, Andrei Avram, “Spin Valve Platform for Blood Cells Magnetophoresis”, The 21st Conference of the Society for Medical innovation and Technology, SMIT 2009, Sinaia
20. Vasile Obreja, Marioara Avram, „On The Origin of Leakage Reverse Current in SiC Diodes”, International Semiconductor Device Research Symposium (ISDRS '09), University of Maryland SUA
21. E. Barbarini, M. Avram, A.R. Sterian, G. Xu and C. Iliescu, „Theoretical and experimental considerations regarding magnetic separation in microfluidic devices”, 8th World Congress on Computational Mechanics (WCCM8) and 5th European Congress on Computational Applied Sciences and Engineering, Venice, Italy, 30 June-4 July 2008.
22. M. Volmer, M. Avram, Micromagnetic Simulations on Detection of Magnetic Labeled Biomolecules Using MR Sensors, “7th International Conference on the Scientific and Clinical Applications of Magnetic Carriers”, Vancouver, Canada, 21-24 Mai, 2008, pag. 229
23. Ciprian Iliescu, Elena Barbarini, Marioara Avram, Guolin Xu, Andrei Avram, Microfluidic Device for Continuous Magnetophoretic Separation of Red Blood Cells, DTIP of MEMS & MOEMS, Nice, April. 2008, p. 279-282
24. Marioara Avram, Ciprian Iliescu, Marius Volmer, Andrei Avram, Magnetic microfluidic device for biorheological analysis in lab-on-a-chip systems, MNE08, Athens, Sept. 2008, Bio 3, P22
25. Marioara Avram, Ciprian Iliescu, Marius Volmer, Andrei Avram, Microfluidic device for magnetic separations in lab-on-a-chip systems, MNC2008, 29D-9-146, Fukuoka, Japan, Oct. 2008, p. 442-443
26. M. Avram, C. Iliescu, M. Volmer, F.S. Iliescu, M.A. Avram, Microfluidic device for biocells manipulation and measurement, CAS 2008 Proceedings, Vol. 1, pag. 159-162, ISBN 978-1-4244-2004-9
27. M. Volmer, J. Neamtu, M. Avram, Magnetoresistance sensors with magnetic layers for high sensitivity measurements, Lucrare invitata, 8th International Balkan workshop on applied physics, 5-7 Iulie, 2007, Constanta, Romania, ISBN 978-973-614-391-5
28. M. Kusko, A.M. Avram, D. Apostol, Design and fabrication of Fresnel lenses, CAS 2008 Proceedings, Vol. 2, pag. 445-448, ISBN 978-1-4244-2004-9
29. C. Iliescu, E. Barbarini, G. Xu, M. Avram, A. Avram, „Microfluidic device for continuous magnetophoretic separation of red blood cells”, Proc. of Design, Test, Integration and Packaging (DTIP) 2008, 9-11 April 2008, Nice, France, ISBN: 978-2-35500-006-5
30. Marioara Avram, Marius Volmer, Andrei Avram „Advanced MR Sensing of the Rotation Rate for Biomedical Applications, ESF-EMBO Symposium Biomagnetism and Magnetic Biosystems Based on Molecular Recognition Processes, Sant Feliu de Guixols (Costa Brava) Spain, 2007.
31. Marioara Avram, Marius Volmer, „Detection of Magnetic-Based Bio-Molecules Using MR Sensors, ESF-EMBO Symposium Biomagnetism and Magnetic Biosystems Based on Molecular Recognition Processes, Sant Feliu de Guixols (Costa Brava) Spain, 2007.
32. Marioara Avram, Marius Volmer, Alina Popescu, Andrei Avram, Roxana Vasilco „The Optimised Spin Valve Magnetotransistor”, Nanoscience & Nanotechnologies, Thessaloniki , 2007.

33. Marioara Avram, Andrei Avram, Adina Bragaru, Andrei Ghiu, Ciprian Iliescu, „Plasma surface modification of polimer substrates for selective hydrophobic control”, IEEE International Semiconductor Conference, pp.91-94, vol.1, 2007, ISBN: 1-4244-0847-4; ISSN: 1545-827X
34. Brezeanu, M. Avram, M. Brezeanu, C. Boianceanu, F. Udrea, G.A.J. Amaratunga, „Fabrication of diamond based Schottky barrier diodes with oxide ramp termination” IEEE International Semiconductor Conference, pp.411-414, vol.2, 2007, ISBN: 1-4244-0847-4; ISSN: 1545-827X
35. Andrei Avram, Marioara Avram, „Design and fabrication of microfluidic valves” IEEE International Semiconductor Conference, pp.559-562, vol.2, 2007, ISBN: 1-4244-0847-4; ISSN: 1545-827X
36. A. Popescu, C. Podaru, R. Vasilco, E. Manea, R. Gavrilă, M. Avram “Manufacturing of Nanoporous Silicon Membranes for Bio-Medical Applications”, , 4th International Conference on Nonosciences & Nanotechnologies, Aristotle University of Thessaloniki, 16-18 July, 2007, Salonic, Grecia, Abstract Book–N&N07, pp.169.
37. M. Avram, M. Volmer, A.M. Avram, C. Iliescu, A. Bragaru, “Advance magnetoresistance sensing of rotation rate for biomedical applications”, Proc. Of 29th edition of Int. Semiconductor Conf. – CAS 2006, Sinaia, Romania, vol. 1, pp. 231-234, 27-29 September 2006.
38. M.A. Avram, M. Avram, C. Iliescu, A. Bragaru, “Flow of non-Newtonian fluids” Proc. Of 29th edition of Int. Semiconductor Conf. – CAS 2006, Sinaia, Romania, vol. 2, pp.433-436, 27-29 September 2006.
39. L. Yu, F.E.H. Tay, G. Xu, B. Chen, M. Avram and C. Iliescu, “Adhesive bonding with SU-8 at wafer level for microfluidic devices”, International MEMS Conference (iMEMS), 9-12 May 2006, Singapore
40. M.A. Avram, M. Avram and C. Iliescu, “A biodynamic microsystem for fluids viscosity measurements” International MEMS Conference (iMEMS), 9-12 May 2006, Singapore.
41. M.A. Avram, M. Avram, „Double Bridge Magnetic Sensor”, 4th International Student Conference of the Balkan Physical Union, Bodrum, Turcia, aug. – sept. 2006.
42. M.A. Avram, M. Avram, M. Volmer, „Magnetic Sensor Array”, 3rd Workshop on Nanosciences & Nanotechnologies, Thessaloniki, Grecia, 2006.
43. M. Volmer, M. Avram, „Electrical characterization of magnetoresistive sensors based on AMR and GMR effects used for lab-on-a-chip applications”, EMRS, Varsovia, Polonia, 2006.
44. A.M. Avram, M. Avram, A. Bragaru, „Microelectromechanical System for Non-Newtonian Fluids Flow Measurements”, Materials for Electrical Engineering, UPB, 2006.
45. M. Brezeanu, M. Avram, J. Rashid, G. Amaratunga, T. Butler, N. Rupesinghe, F. Udrea, A. Tajani, M. Dixon, D. Twitchen, A. Garraway, D. Chamund, P. Taylor, G. Brezeanu, „Termination structures for diamond Schottky barrier diodes”, ISPSD, Portugalia, 2006.
46. M.A. Avram, M. Avram M. Volmer and C. Iliescu, “BioMEMS for the determination of rheological properties of biological fluids” to Smart Materials, Nano-, and Micro-Smart Systems 2006, Adelaide, Australia, 10-13 December 2006.
47. M. Volmer, M. Avram, J. Neamtu, „Development of a rotation sensor based on anisotropic magnetoresistance effect”, JEMS, Spania, San Sebastian, 2006.
48. L.M. Yu, G.L. Xu, F.E. H. Tay, C. Iliescu, M. Avram, “Theoretical analysis and experiment research of a novel DEP chip with 3-D silicon electrodes”, 1st Int. Embedded and System Conf. (IEHSC), Singapore, 10-13 May 2005.
49. M. Avram, M.A. Avram, Ciprian Iliescu, “The Biodynamical Analysis Microfluidic System”, MNE05, pp. 3_o-11, 2005.
50. M. Avram, M.A. Avram, C. Iliescu, C. Codreanu, C. Voitincu, „Silicon Integrated Magnetic Sensor for Accurate Magnetic Field Measurement”, EUROSENSORS XIX, pp. Wpb52, 2005
51. A.Bragaru, T. Ignat, M. Simion, I. Kleps, A. Angelescu, M. Miu, F. Craciunoiu, M. Avram, E. Condac, „Porous Silicon Surface Functionalization with Polymers for Biomolecules Attachment” 3rd Workshop of the Network of Excellence “NANOFUN-POLY” on „Chemistry, Processing, Structure and Properties, and Applications of Nanostructured Polymers and Nanocomposites Life-Cycle Engineering, Gender Issues, 2005.

52. V.V.N.Obreja, E. Manea, C. Codreanu, M. Avram, C. Podaru, „The Junction Edge Leakage Current and The Blocking I-V Characteristics of Commercial Glass Passivated Thyristor Devices IEEE International Semiconductors Conference, pp. 223 – 226, 2005.
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E. Patents

1. Title: Process for making spin valve transistor includes emitter, semiconductor collector, metallic base and structured nano multilayer with gigantic magnetoresistance
Patent Number(s): RO122168-B1
Assignee: INST NAT CERC DEZVOLTARE MICROTehnologie
Inventor(s): AVRAM M; ANGELESCU A; KLEPS I
2. Title: Monolithic silicon based Hall sensor fabrication technique has symmetry, to minimise the main effects of parasitic elements on precision
Patent Number(s): RO120515-B1
Assignee: INST NAT CERC DEZVOLTARE MICROTehnologie
Inventor(s): AVRAM M; CODREANU C
3. Title: Production of bipolar magneto transistors provides two vertical npn transistors in an antisymmetrical configuration, (THE WIPO AWARD FOR WOMAN INVENTOR)
Patent Number(s): RO120681-B1
Assignee: INST NAT CERC DEZVOLTARE MICROTehnologie
Inventor(s): AVRAM M; CODREANU C
4. Title: Production of a nano electrodes network employs silicon to yield an electrochemical cell with integrated electrodes
Patent Number(s): RO119032-B1
Assignee: INST NAT CERC DEZVOLTARE MICROTehnologie
Inventor(s): KLEPS I; ANGELESCU A; AVRAM M.
5. Title: Production of field emission based magnetic field sensors consists of controlled corrosion by MOSFET technique with regulated oxide formation
Patent Number(s): RO118499-B
Assignee: INST NAT CERC DEZVOLTARE MICROTehnologie
Inventor(s): AVRAM M; KLEPS I; ANGELESCU A
6. Microincalzitor cu retea distribuita de senzori pentru detectarea gradientilor de temperatura, Cecilia Codreanu, Vasile Obreja, Marioara Avram, Irina Codreanu, Nr. 013928 / 09.06.2005.
7. Topografie magnetotranzistor bipolar, Marioara Avram, Nr. 4/11.02.2005 – TCI din 15.03.2005.
8. Topografie microsenzor Hall integrat pe siliciu, Marioara Avram, Nr. 3/11.02.2005 – TCI din 15.03.2005.
9. Microangrenaj cu roti dintate realizat prin tehnica straturilor de sacrificiu, Marioara Avram, Andrei Avram, brevet Nr. 016154 / 07.06.2006
10. Topografie (layout) de diode Schottky pe carbura de siliciu si diamant pentru aplicatii de putere si temperatura ridicata, Gheorghe Brezeanu, Marioara Avram, Puscasu Doru, Draghici Florin, Rusu Ioan, Ionca Anghel
11. Anemometru cu rezistoare fierbinti ingropate pentru detectia turbulentelor in canale microfluidice, Marioara Avram, Andrei Marius Avram, Corneliu Voitincu, Certificat Nr. 13 – TPS/2011
12. Sistem magnetoforetic activ pentru separarea celulelor in camp magnetic, Marioara Avram, Andrei Marius Avram, Corneliu Voitincu, Certificat Nr. 14 – TPS/2011
13. Sistem de filtre microfluidice pentru separarea microparticulelor in functie de proprietatile morfologice, electrice si magnetice, Marioara Avram, Andrei Marius Avram, Corneliu Voitincu, Certificat Nr. 15 – TPS/2011
14. Sistem magnetoforetic pentru detectia moleculelor marcate magnetic, Marioara Avram, Andrei Marius Avram, Corneliu Voitincu, Certificat Nr. 16 – TPS/2011

F. Realizări excepționale (premier, prezentări invitate, etc.)

1. THE WIPO AWARD FOR THE BEST WOMAN INVENTOR, INVENTIKA 2006, pentru inventia: „Bipolar Magnetotransistor with Enhanced Emitter Injection Modulation and Carrier Deflection”, Geneva and Bucharest, October 2006;
2. MEDALIE DE AUR la Salonul International de Inventii EUREKA de la Bruxelles, pentru inventia „Procedure of Realization a Spin Valve Magnetotransistor”, noiembrie 2008
3. MEDALIE DE AUR la Salonul International de Inventii de la GENEVA, pentru inventia „Un procédé de réalisation d`un magnetotransistor á valve de spin”, aprilie 2007;
4. MEDALIE DE ARGINT la INVENTIKA 2007, pentru inventia «Procedeu de realizare a tranzistorului cu valva de spin», Bucuresti, octombrie 2007
5. BEST PAPER AWARDS “Two masks process for high aspect ratio inertial sensors with adjustable range”, C. Iliescu, M. Avram, J.M. Miao, F.E.H. Tay and G.L. Xu, Proc. of Int. Semiconductor Conf. - CAS2004, vol. 1, pp. 263-266, Sinaia, Romania, 4-6 October 2004
6. BEST PAPER AWARDS “Microfluidic dynamic system for biological fluid viscosity measurements”, M. Avram, A. Avram, C. Iliescu, E. Manea and C. Voitincu, CAS (IEEE) 2005 28th Edition, vol. 1, pp. 223-226, Sinaia, Romania, 2-4 October 2005

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