



**Curriculum vitae
Europass**

Informații personale

Nume / Prenume **Ionut Marius ENCULESCU**

**Locul de muncă/
Domeniul ocupațional**

**Cercetator stiintific gradul 1, Dr./Director General
INCD Fizica Materialelor/cercetare dezvoltare**

Experiența profesională

| | |
|---|---|
| Perioada | Februarie 2013 – Present |
| Funcția sau postul ocupat | Director general (cu delegatie)/prin concurs |
| Activități și responsabilități principale | Management INCD Fizica Materialelor, cercetare in domeniul materialelor noi si avansate si al nanotehnologiilor |
| Numele și adresa angajatorului | INCD Fizica Materialelor |
| Tipul activității sau sectorul de activitate | Cercetare - dezvoltare |
| Perioada | Ianuarie 2010 – Ianuarie 2013 |
| Funcția sau postul ocupat | Sef laborator 10 Materiale si structuri multifunctionale, cercetator stiintific gradul 1 |
| Activități și responsabilități principale | Management laborator (aprox. 40 de membri)/ management proiecte nationale si internationale/ cercetare in domeniul materialelor si al nanotehnologiilor |
| Numele și adresa angajatorului | INCD Fizica Materialelor |
| Tipul activității sau sectorul de activitate | Cercetare - dezvoltare |
| Perioada | 2009 - 2010 |
| Funcția sau postul ocupat | cercetator stiintific gradul 1 |
| Activități și responsabilități principale | Management grup de cercetare/ management proiecte nationale si internationale/ cercetare in domeniul materialelor si al nanotehnologiilor |
| Numele și adresa angajatorului | INCD Fizica Materialelor |

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| Tipul activității sau sectorul de activitate | Cercetare - dezvoltare |
| Perioada | 2008 – 2009 |
| Funcția sau postul ocupat | cercetator stiintific gradul 2 |
| Activități și responsabilități principale | Management grup de cercetare/ management proiecte nationale si internationale/ cercetare in domeniul materialelor si al nanotehnologiilor |
| Numele și adresa angajatorului | INCD Fizica Materialelor |
| Tipul activității sau sectorul de activitate | Cercetare - dezvoltare |
| Perioada | 2001 – 2008 |
| Funcția sau postul ocupat | Cercetator stiintific gradul 3 |
| Activități și responsabilități principale | Management proiecte nationale si internationale/cercetare in domeniul materialelor si nanotehnologiilor |
| Numele și adresa angajatorului | INCD Fizica Materialelor |
| Tipul activității sau sectorul de activitate | Cercetare - dezvoltare |
| Perioada | 1998 – 2001 |
| Funcția sau postul ocupat | Cercetator stiintific |
| Activități și responsabilități principale | Cercetare in domeniul materialelor piezoelectrice, a proprietatilor optice a materialelor |
| Numele și adresa angajatorului | INCD Fizica Materialelor |
| Tipul activității sau sectorul de activitate | Cercetare - dezvoltare |
| Perioada | 1995 – 1998 |
| Funcția sau postul ocupat | Asistent cercetare |
| Activități și responsabilități principale | Cercetare in domeniul materialelor piezoelectrice, a proprietatilor optice a materialelor |
| Numele și adresa angajatorului | INCD Fizica Materialelor |
| Tipul activității sau sectorul de activitate | Cercetare - dezvoltare |
| Educație și formare | |

Perioada Nov. 2003 – Martie 2004
 Funcția sau postul ocupat Post Doc
 Activități și responsabilități principale cercetare in domeniul materialelor si al nanotehnologiilor
 Numele și adresa angajatorului The Angstrom Lab. University of Uppsala, Suedia
 Tipul activității sau sectorul de activitate Cercetare - dezvoltare

Perioada Aprilie. 2001 – Sept. 2003
 Funcția sau postul ocupat Post Doc
 Activități și responsabilități principale cercetare in domeniul materialelor si al nanotehnologiilor
 Numele și adresa angajatorului Gessellschaft fuer Schwerionen Forschung, GSI Darmstadt, Germania
 Tipul activității sau sectorul de activitate Cercetare - dezvoltare

Perioada 1996 2001
 Calificarea / diploma obținută Doctor in Fizica
 Disciplinele principale studiate / competențe profesionale dobândite Fizica/Optica si spectroscopie
 Numele și tipul instituției de învățământ / furnizorului de formare Universitatea din Bucuresti, Facultatea de Fizica

Aptitudini și competențe personale

Limba Materna Romana

Limbi străine cunoscute **Engleza, franceza**

Autoevaluare

Engleza

| Înțelegere | | Vorbire | | Scriere |
|------------|--------|----------------------------|--------------|------------------|
| Ascultare | Citare | Participare la conversație | Discurs oral | Exprimare scrisă |
| Fluent | Fluent | Fluent | Fluent | Fluent |

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|-----------------|---|------------|--|--------|--|------------|--|------------|--|--------|
| Franceza | | intelegere | | fluent | | intelegere | | intelegere | | fluent |
| | (*) <u>Nivelul Cadrului European Comun de Referință Pentru Limbi Străine</u> | | | | | | | | | |
| Alte competente | Operare calculator, utilizare programe specifice Office, prelucrarea datelor experimentale (Origin, MathCad), programare (Visual Basic) | | | | | | | | | |
| Anexe | lista proiecte, memoriu activitate | | | | | | | | | |

Memoriu de activitate :

Etapa actuala a activitatii mele ca cercetator a inceput in 2001 cu o bursa postdoctorala in domeniul folosirii membranelor poroase nucleare (ion track membranes) in prepararea unor nanofire cu proprietati speciale. Bursa a fost finantata de Uniunea Europeana si s-a desfasurat in prima parte in GSI Darmstadt (aprilie 2001 – septembrie 2003) si a doua parte in Universitatea din Uppsala (octombrie 2003 – martie 2004). Principala directie de cercetare a fost legata de realizarea unor nanofire metalice cu proprietati speciale prin metoda template, principalul scop urmarit fiind realizarea unor nanofire cu proprietati de magnetorezistenta gigant. Astfel in acest context principalul scop a fost de realizare a cresterii unor nanofire in membrane continand un singur nanopor. Aceasta a permis contactarea cu precizie a unui singur nanofir multistrat cu proprietati magnetorezistive deosebite. Prima etapa a constituit-o realizarea de nanofire metalice simple (de cupru) in membrane cu un singur por si masurarea caracteristicilor curent tensiune ale acestora. Diametrul minim realizat a fost de 25 nm, obtinandu-se o calitate deosebita a contactului electric si a nanofirului, acesta fiind stabil la densitati de curent de pana la 10^9 A/cm^2 . Metoda este mult superioara din acest punct de vedere tehnicilor de realizare si contactare a nanofirelor metalice prin metode litografice. Ulterior s-a trecut la nanofire cu proprietati magnetice cum ar fi nanofirele de nichel, cobalt si aliaje de cobalt si cupru ce prezinta proprietatea de magnetorezistenta de anizotropie (variati rezistentei a fost de pana la 1% la nanofirele de nichel) datorita raportului lungime/diametru deosebit de mare. Masuratorile de transport au relevat si pentru aceste nanofire o calitate ridicata a contactelor electrice si posibilitatea de a rezista la densitati de curent de pana la 10^8 A/cm^2 . Ulterior au fost realizate si nanofirele multistrat de Cu/Co in care au fost masurate valori ale magnetorezistentei de pana la 10% (magnetorezistenta gigant) unde de asemenea curentii maximi suportati de nanofire au fost mai mari de 10^7 A/cm^2 . Astfel a fost realizat in premiera mondiala un senzor de camp magnetic bazat pe un nanofir. In paralel cu preocuparile de crestere a unor nanofire cu proprietati magnetice in perioada 2001 – 2005 au fost abordate si alte probleme legate de cresterea unor nanostructuri prin metoda template. Astfel un prim set de rezultate a fost obtinut pentru cresterea nanotuburilor metalice prin depunere autocatalitica in aceste sabloane. Primul set de rezultate obtinut a fost legat de nanotuburi de cupru. In acest context in timpul stagiului in Angstrom Laboratory din Universitatea Uppsala au fost realizate astfel de nano si microtuburi pentru diferite aplicatii cum ar fi injectarea subcutanata a moleculelor mari. Au fost realizate in acest caz nanotuburi de forme cilindrice sau conice. Sistemul de productie a nanotuburilor metalice este in prezent dezvoltat pentru cazul nichelului, sistem care va permite realizarea unor aplicatii deosebit de interesante cum ar fi membranele nanoporoase de separare a nanoparticulelor magnetice dar nu numai.

O alta directie de cercetare deosebit de importanta demarata in perioada 2003 – 2005 este legata de cea a nanofirelor semiconductoare. Astfel am fost initiatorul unei colaborari bilaterale intre INCDFM si GSI Darmstadt ce da posibilitatea realizarii unor proiecte de cercetare comune intre cele doua institutii. Accesul la o facilitate de importanta acceleratorului de ioni grei din GSI s-a concretizat prin realizarea prin aceeasi metoda sablon a unor nanofire din PbSeTe, CdTe, CdS, ZnO pure si dopate. De asemenea in urma bursei postdoctorale obtinute prin concurs in cadrul sistemului Marie Curie am putut ulterior participa la un alt concurs de proiecte stiintifice de reintegrare obtinand din partea comunitatii europene finantarea proiectului de cercetare legat de studiul nanofirelor de calcogenite de cadmiu (acronim CdX nanowires) in cadrul FP 6.

Directia de cercetare deosebit de moderna a fost in continuare urmarita si prin proiecte la nivel national in cadrul PNCDI 1 si 2 si CEEX care aveau ca principale obiective prepararea si studiul proprietatilor unor nanofire metalice si semiconductoare a materialelor nanostructurate.

La revenirea in tara in anul 2004 am demarat constructia unui grup de cercetare care in prezent numara 19 membri, grup de cercetare angrenat in numeroase proiecte nationale si in colaborari internationale. Dat fiind evolutia infrastructurii INCDFM am largit domeniul de activitate al grupului integrand activitati ce folosesc camera curata si tehnologiile specifice materialelor semiconductoare. Am combinat astfel mai multe zonele cercetarii, incluzand chimia si electrochimia, fizica, tehnologiile specifice microelectronicii.

In domeniul colaborarilor internationale trebuie mentionate doua proiecte de cercetare castigate ca si co - director avand ca parteneri INCDFM si Ecole Polytechnique Federale de Lausanne (grupul

condus de Prof. Jean Philippe Ansermet) in cadrul programului SCOPES si finantate de statul elvetian.

De asemenea am fost director pentru grupul roman al unui proiect desfasurat sub egida European Science Foundation (ESF), proiect in care colaboratori au fost Austrian Institute of Technology si Universitatea din Neuchatel.

Incepand cu ianuarie 2010 am ocupat functia de sef al laboratorului 10, Materiale si structuri multifunctionale, laborator din care fac parte aproximativ 35 de cercetatori, cu activitate atat in domeniul de cercetare stiintifica fundamentala cat si cu accente pe activitati de cercetare cu caracter aplicativ. In aceasta perioada activitatile au cuprins atat activitati de cercetare cat si activitati de management specifice – administrarea resurselor materiale, coordonarea resursei umane.

In anul 2013 am fost numit Director General al INCD Fizica Materialelor. In aceasta perioada activitatile de management au crescut in importanta. Atragerea de fonduri pentru modernizarea infrastructurii de cercetare a fost pe primul plan. A fost fructificata oportunitatea oferita de fondurile structurale prin aplicatia de proiect depusa (si in calitate de director de proiect) avand scopul de a dezvolta un centru nou, modern de cercetare in domeniul materialelor (Ritec – Research Innovation and Technology Center). Centrul a fost finalizat in decembrie 2015 cu o valoare totala a investitiei de aproximativ 10 000 000 euro.

In anul 2015 am castigat prin concurs functia de Director General si presedinte al CA. In perioada trecuta am continuat politica de crestere a vizibilitatii internationale a institutiei pe care o conduc precum si de crestere a impactului activitatii de cercetare.

29.03.2016

Dr. Ionut Enculescu

Anexa CV 1

Lista de proiecte Dr. Ionut Enculescu

| Programul/Proiectul | Funcția | Perioada: de la... până la... |
|---|--|--------------------------------------|
| Centrul de Cercetare, Inovare si tehnologii pentru materiale noi RITecC ID: 1953 SMIS:49185 CTR 654/07.08.2015 | Director de proiect | 2014 - 2015 |
| PNCDI 2 Idei Controlul sarcinii si spinului in tranzistori cu efect de camp cu canal nanofir | Director de Proiect | 2013 - 2016 |
| PNCDI 2 Parteneriate in Domeniile prioritare High efficiency electrospinning Heffes | Director de proiect | 2012 - 2015 |
| European Science Foundation Eurocore: „Insect Odorant-Binding Proteins on Conductive Polymer Nanofibers Based Biosensor to Diagnose Crop Disease” | Co-director proiect Responsabil partea Romana | 2011 - 2014 |
| Programul Nucleu: Cercetari avansate in domeniul fizicii materiei condensate si a materialelor (COMAFI) Proiectul: Materiale nanostructurate si nanocom- pozite :preparare, caracterizare, aplicatii | Dierector de proiect | 2009-2012 |
| SCOPES (proiecte finantate de Elvetia pentru colaborare cu Europa Centrala si de Est: Functional Nanowires | Co-director proiect Responsabil partea Romana | 2009-2012 |
| PNCDI 2 Nanofosfori cu conversie superioara pompata in infrarosu pentru aplicatii in biologie si medicina | Responsabil de proiect | 2008 - 2011 |
| PNCDI 2 Dispozitive electronice transparente realizate cu filme subtiri obtinute prin tehnologia PED | Responsabil de proiect | 2008 – 2011 |
| PNCDI 2 Microtraductoare cu elemente sensibile bazate pe nanofire magnetice | Responsabil de proiect | 2008 – 2011 |
| PNCDI 2 Fotodetectori bazati pe nanofire multisegment | Director de proiect | 2007 – 2010 |
| Programul Nucleu: Cercetari avansate in domeniul fizicii materiei condensate si a materialelor (COMAFI) | Dierector de proiect | 2006-2008 |

| | | |
|---|--|---------------------------|
| Proiectul: Materiale nanostructurate si nanocompozite :preparare, caracterizare, aplicatii | | |
| CEEX 28/2006 | Director de proiect | 2006-2008 |
| CEEX 1/2006 Nanofire de oxizi metalici semiconductori magnetici diluati | Director de proiect | 2006-2008 |
| CEEX 21/2005 Nanofire multistrat cu structura de tip valva de spin. Proprietati de magnetorezistenta gigant. | Director de proiect | 2005-2008 |
| CERES C4/ Proprietati electrice si fotovoltaice ale nanofirelor cu structura metal-CdTe-metal | Director de proiect | 2004-2006 |
| SCOPEs (proiecte finantate de Elvetia pentru colaborare cu Europa Centrala si de Est: Copper and Manganese doped ZnO nanowires (proiect nr. 110869) | Co-director proiect Responsabil partea Romana | 2005-2008 |
| FP6/Marie Curie European Reintegration Grants : Cadmium Chalcogenite Nanowires | Director de Proiect | 2004-2005 |
| FP5/ European Network on Ion Track Technology | Participant | Aprilie 2001- Martie 2004 |
| CERES/Efectele iradierii cu ioni grei in cristalele de halogenuri alcaline | Participant | 2003-2005 |
| Orizont 2000 | Participant; responsabil faza | 1995-2001 |
| Grant ANSTI pentru tineret | Director proiect | 1999-2001 |
| Granturi MCT | Participant | 1996-2001 |
| Granturi Academia Romana | Participant | 1996-2001 |

20.09.2015

Dr. Ionut Enculescu

1. Florica, Camelia; Costas, Andreea; Boni, Andra Georgia; Negrea, Raluca; Ion, Lucian; Preda, Nicoleta; Pintilie, Lucian; Enculescu, Ionut Electrical properties of single CuO nanowires for device fabrication: Diodes and field effect transistors APPLIED PHYSICS LETTERS 22 223501 2015
2. Matei, Elena; Florica, Camelia; Costas, Andreea; Toimil-Molares, Maria Eugenia; Enculescu, Ionut Electrical properties of single CdTe nanowires BEILSTEIN JOURNAL OF NANOTECHNOLOGY 444 450 2015
3. Preda, N.; Evanghelidis, A.; Enculescu, M.; Florica, C.; Enculescu, I. Zinc oxide electroless deposition on electrospun PMMA fiber mats MATERIALS LETTERS 238 242 2015
4. Granville, S.; Matei, E.; Enculescu, I.; Toimil-Molares, Maria Eugenia Cu codoping control over magnetic precipitate formation in ZnCoO nanowires APPLIED PHYSICS LETTERS 25 252403 2014
5. Polosan, Silviu; Ciobotaru, Iulia Corina; Enculescu, Ionut; Ciobotaru, Constantin Claudiu Structural characteristics of iridium dual-emitter organometallic compound JOURNAL OF MATERIALS RESEARCH 23 2898 2904 2014
6. Enculescu, Monica; Evanghelidis, Alex; Enculescu, Ionut Influence of morphology on the emissive properties of dye-doped PVP nanofibers produced by electrospinning JOURNAL OF PHYSICS AND CHEMISTRY OF SOLIDS 12 1365 1371 2014
7. Mihalache, V.; Stefan, N.; Enculescu, I.; Mihailescu, I. N.; Socol, M.; Miroi, M. The Influence of the Microstructure and Morphology of CeO₂ Buffer Layer on the Properties of YBCO Films PLD Grown on Ni Tape JOURNAL OF SUPERCONDUCTIVITY AND NOVEL MAGNETISM 11 2475 2485 2014
8. Busuioc, C.; Evanghelidis, A.; Florica, C.; Enculescu, I. INFLUENCE OF PREPARATION STEPS ON THE PROPERTIES OF ELECTROSPUN ZnO FIBERS DIGEST JOURNAL OF NANOMATERIALS AND BIOSTRUCTURES 4 1569 1578 2014
9. Florica, Camelia; Matei, Elena; Costas, Andreea; Molares, Maria Eugenia Toimil; Enculescu, Ionut Field Effect Transistor with Electrodeposited ZnO Nanowire Channel ELECTROCHIMICA ACTA 290 297 2014
10. Florica, Camelia; Preda, Nicoleta; Enculescu, Monica; Zgura, Irina; Socol, Marcela; Enculescu, Ionut Superhydrophobic ZnO networks with high water adhesion NANOSCALE RESEARCH LETTERS 385 2014
11. Florica, Camelia; Preda, Nicoleta; Enculescu, Monica; Enculescu, Ionut Micropatterned ZnO rod arrays prepared by Au-catalyzed electroless deposition PHYSICA STATUS SOLIDI-RAPID RESEARCH LETTERS 7 648 652 2014
12. Enculescu, M.; Evanghelidis, A.; Busuioc, C.; Florica, C.; Costas, A.; Oancea, M.; Preda, N.; Matei, E.; Enculescu, I. DEPENDENCE ON THE DYE'S TYPE AND CONCENTRATION OF THE EMISSIVE PROPERTIES OF ELECTROSPUN DYE-DOPED BEADED NANOFIBERS DIGEST JOURNAL OF NANOMATERIALS AND BIOSTRUCTURES 2 809 816 2014
13. Preda, N.; Enculescu, M.; Enculescu, I. Polysaccharide-assisted crystallization of ZnO micro/nanostructures MATERIALS LETTERS 256 260 2014
14. Preda, N.; Enculescu, M.; Florica, C.; Costas, A.; Evanghelidis, A.; Matei, E.; Enculescu, I. MORPHOLOGY-CONTROLLED SYNTHESIS OF ZnO STRUCTURES BY A SIMPLE WET CHEMICAL METHOD DIGEST JOURNAL OF NANOMATERIALS AND BIOSTRUCTURES 4 1591 1600 2013

15. Matei, E; Enculescu, I; Toimil-Molares, ME; Leca, A; Ghica, C; Kuncser, V, Magnetic configurations of Ni-Cu alloy nanowires obtained by the template method, JOURNAL OF NANOPARTICLE RESEARCH, AUG, 2013, 15, 8
16. Gherendi, F; Nistor, M; Antohe, S; Ion, L; Enculescu, I; Mandache, NB, Self-assembled homojunction In₂O₃ transparent thin-film transistors, SEMICONDUCTOR SCIENCE AND TECHNOLOGY, AUG, 2013, 28, 885002
17. Matei, E; Enculescu, M; Enculescu, I, Single bath electrodeposition of samarium oxide/zinc oxide nanostructured films with intense, broad luminescence, ELECTROCHIMICA ACTA, 15-Apr, 2013, 95, 170, 178
18. Marcu, A; Enculescu, I; Vizireanu, S; Birjega, R; Porosnicu, C, SINGLE CRYSTAL ZnO NANOWIRE LUMINESCENCE SHIFTING BY NANOSTRUCTURED ZnO LAYERS, DIGEST JOURNAL OF NANOMATERIALS AND BIOSTRUCTURES, APR-JUN, 2013, 8, 2, 597, 605,
19. Preda, N; Enculescu, M; Zgura, I; Socol, M; Matei, E; Vasilache, V; Enculescu, I, Superhydrophobic properties of cotton fabrics functionalized with ZnO by electroless deposition, MATERIALS CHEMISTRY AND PHYSICS, 15-Feb, 2013, 138, 1, 253, 261
20. Radu, IC; Polosan, S; Enculescu, I; Iovu, H, Cathodoluminescence and Raman analysis of the finite-size effects in mer-Alq(3) structure, OPTICAL MATERIALS, DEC, 2012, 35, 2, 268, 273
21. Stokker-Cheregi, F; Acsente, T; Enculescu, I; Grisolia, C; Dinescu, G, TUNGSTEN AND ALUMINIUM NANOPARTICLES SYNTHESIZED BY LASER ABLATION IN LIQUIDS, DIGEST JOURNAL OF NANOMATERIALS AND BIOSTRUCTURES, OCT-DEC, 2012, 7, 4, 1569, 1576
22. Enculescu, M; Preda, N; Matei, E; Enculescu, I, Luminescent micro- and nanofibers based on novel europium phthalate complex, MATERIALS CHEMISTRY AND PHYSICS, 14-Sep, 2012, 136, 1, 51, 58
23. Petrescu, L; Cinteza, O; Voiculescu, AM; Rosu, T; Enculescu, I; Matei, E; Georgescu, S; Birjega, R; Avram, S; Mihailescu, D, Interaction of NaYF₄:Er:Yb Nanoparticles with Phospholipid Monolayers as Models of Biological Membranes, REVISTA DE CHIMIE, SEP, 2012, 63, 9, 956, 961
24. Preda, N; Enculescu, M; Gherendi, F; Matei, E; Toimil-Molares, ME; Enculescu, I, Synthesis of CdS nanostructures using template-assisted ammonia-free chemical bath deposition, JOURNAL OF PHYSICS AND CHEMISTRY OF SOLIDS, SEP, 2012, 73, 9, 1082, 1089
25. Matei, E; Enculescu, M; Preda, N; Enculescu, I, ZnO morphological, structural and optical properties control by electrodeposition potential sweep rate, MATERIALS CHEMISTRY AND PHYSICS, 15-Jun, 2012, 134, 3-Feb, 988, 993
26. Vizireanu, S; Ionita, MD; Dinescu, G; Enculescu, I; Baibarac, M; Baltog, I, Post-synthesis Carbon Nanowalls Transformation under Hydrogen, Oxygen, Nitrogen, Tetrafluoroethane and Sulfur Hexafluoride Plasma Treatments, PLASMA PROCESSES AND POLYMERS, APR, 2012, 9, 4, 363, 370
27. Duta, L; Popescu, AC; Dorcioman, G; Mihailescu, IN; Stan, GE; Zgura, I; Enculescu, I; Dumitrescu, I, ZnO Thin Films Deposited on Textile Material Substrates for Biomedical Applications ZnO Thin Films Deposited on Textiles, TECHNOLOGICAL INNOVATIONS IN SENSING AND DETECTION OF CHEMICAL, BIOLOGICAL, RADIOLOGICAL, NUCLEAR THREATS AND ECOLOGICAL TERRORISM, 2012, 207, 210
28. Stan, GE; Pasuk, I; Husanu, MA; Enculescu, I; Pina, S; Lemos, AF; Tulyaganov, DU; El Mabrouk, K; Ferreira, JMF, Highly adherent bioactive glass thin films synthesized by magnetron sputtering at low temperature, JOURNAL OF MATERIALS SCIENCE-MATERIALS IN MEDICINE, DEC, 2011, 22, 12, 2693, 2710

29. Voiculescu, AM; Georgescu, S; Toma, O; Nastase, S; Birjega, R; Petrescu, L; Enculescu, I; Matei, E, Upconversion luminescence of Er, Yb - doped nanolanganite powders synthesized by a citrate sol-gel method, OPTOELECTRONICS AND ADVANCED MATERIALS-RAPID COMMUNICATIONS, NOV, 2011, 5, 11, 1170, 1173
30. Matei, E; Enculescu, I, Electrodeposited ZnO films with high UV emission properties, MATERIALS RESEARCH BULLETIN, NOV, 2011, 46, 11, 2147, 2154
31. Popescu, AC; Duta, L; Dorcioman, G; Mihailescu, IN; Stan, GE; Pasuk, I; Zgura, I; Beica, T; Enculescu, I; Ianculescu, A; Dumitrescu, I, Radical modification of the wetting behavior of textiles coated with ZnO thin films and nanoparticles when changing the ambient pressure in the pulsed laser deposition process, JOURNAL OF APPLIED PHYSICS, 15-Sep, 2011, 110, 664321
32. Preda, N; Rusen, E; Enculescu, M; Matei, E; Marculescu, B; Enculescu, I, Polymer-assisted crystallization of low-dimensional lead sulfide particles, PHYSICA E-LOW-DIMENSIONAL SYSTEMS & NANOSTRUCTURES, AUG, 2011, 43, 10, 1826, 1832
33. Sima, M; Enculescu, I; Sima, A, Preparation of graphene and its application in dye-sensitized solar cells, OPTOELECTRONICS AND ADVANCED MATERIALS-RAPID COMMUNICATIONS, MAR, 2011, 5, 4-Mar, 414, 418
34. Sima, F; Axente, E; Ristoscu, C; Mihailescu, IN; Kononenko, TV; Nagovitsin, IA; Chudinova, G; Konov, VI; Socol, M; Enculescu, I; Sima, LE; Petrescu, SM, Tailoring immobilization of immunoglobulin by excimer laser for biosensor applications, JOURNAL OF BIOMEDICAL MATERIALS RESEARCH PART A, FEB, 2011, 96A, 2, 384, 394
35. Florica, C; Arghir, I; Ion, L; Enculescu, I; Antohe, VA; Radu, A; Radu, M; Chisulescu, G; Dina, N; Antohe, S, PRODUCTION AND CHARACTERIZATION OF CdTe WIRE ARRAYS FOR HYBRID INORGANIC/ORGANIC PHOTOVOLTAIC CELLS, DIGEST JOURNAL OF NANOMATERIALS AND BIOSTRUCTURES, JAN-MAR, 2011, 6, 1, 21, 27
36. Preda, N; Matei, E; Enculescu, M; Rusen, E; Mocanu, A; Marculescu, B; Enculescu, I, Effect of aqueous comonomer solubility on the surfactant-free emulsion copolymerization of methyl methacrylate, JOURNAL OF POLYMER RESEARCH, JAN, 2011, 18, 1, 25, 30
37. Sima, M; Visan, T; Matei, E; Ungureanu, F; Enculescu, I; Sima, M, Electrochemical Growth of Eosin Y/Manganese Doped ZnO as Hybrid Films and Nanowires, ZEITSCHRIFT FUR PHYSIKALISCHE CHEMIE-INTERNATIONAL JOURNAL OF RESEARCH IN PHYSICAL CHEMISTRY & CHEMICAL PHYSICS, 2011, 225, 3, 325, 339
38. Dorcioman, G; Ebrasu, D; Enculescu, I; Serban, N; Axente, E; Sima, F; Ristoscu, C; Mihailescu, IN, Metal oxide nanoparticles synthesized by pulsed laser ablation for proton exchange membrane fuel cells, JOURNAL OF POWER SOURCES, 1-Dec, 2010, 195, 23, 7776, 7780
39. Matei, E; Enculescu, I; Vasilache, V; Teodorescu, CM, Cobalt-doped ZnO prepared by electrochemistry: Chemistry, morphology, and magnetism, PHYSICA STATUS SOLIDI A-APPLICATIONS AND MATERIALS SCIENCE, NOV, 2010, 207, 11, 2517, 2522
40. Preda, N; Enculescu, M; Matei, E; Enculescu, I, THE INFLUENCE OF SYNTHESIS PARAMETERS ON SIZE AND MORPHOLOGY OF POLY(STYRENE-HYDROXYETHYL METHACRYLATE) COLLOIDS, DIGEST JOURNAL OF NANOMATERIALS AND BIOSTRUCTURES, OCT-DEC, 2010, 5, 4, 1055, 1065
41. Matei, E; Preda, N; Enculescu, M; Ansermet, JP; Molares, MET; Enculescu, I, SEQUENTIAL DEPOSITION OF MULTISEGMENT NANOWIRES, DIGEST JOURNAL OF NANOMATERIALS AND BIOSTRUCTURES, OCT-DEC, 2010, 5, 4, 1067, 1076

42. Ion, L; Enculescu, I; Iftimie, S; Ghenescu, V; Tazlaoanu, C; Besleaga, C; Mitran, TL; Antohe, VA; Gugiu, MM; Antohe, S, EFFECTS OF PROTON IRRADIATION ON THE SPECTRAL PERFORMANCE OF PHOTOVOLTAIC CELLS BASED ON CdS/CdTe THIN FILMS, CHALCOGENIDE LETTERS, AUG, 2010, 7, 8, 521, 530
43. Preda, N; Rusen, E; Musuc, A; Enculescu, M; Matei, E; Marculescu, B; Fruth, V; Enculescu, I, Synthesis and properties of poly(methyl methacrylate-2-acrylamido-2methylpropane sulfonic acid)/PbS hybrid composite, MATERIALS RESEARCH BULLETIN, AUG, 2010, 45, 8, 1008, 1012
44. Matei, E; Ion, L; Antohe, S; Neumann, R; Enculescu, I, Multisegment CdTe nanowire homojunction photodiode, NANOTECHNOLOGY, 12-Mar, 2010, 21, 10105202
45. Stanculescu, A; Socol, M; Albu, AM; Rasoga, O; Stanculescu, F; Ionita, I; Enculescu, I, Investigations of the Correlation Between the Preparation Method and the Properties of Anilinic Derivative Functionalised Polymer Thin Films for Non-Linear Optical Applications, ADVANCED MATERIALS FORUM V, PT 1 AND 2, 2010, 636-637, 798, 804
46. Tiseanu, C; Parvulescu, VI; Cojocar, B; Lorenz-Fonfria, VA; Kumke, M; Gessner, A; Enculescu, I, Polymer-microporous host interactions probed by photoluminescence spectroscopy, PHYSICAL CHEMISTRY CHEMICAL PHYSICS, 2010, 12, 12, 3031, 3037
47. Georgescu, S; Voiculescu, AM; Cotoi, E; Toma, O; Gheorghe, L; Achim, A; Matei, C; Enculescu, I; Matei, E; Osiac, M, Optical and morphologic properties of YVO(4):Eu phosphor, ROMOPTO 2009: NINTH CONFERENCE ON OPTICS: MICRO- TO NANOPHOTONICS II, 2010, 7469, 74690C
48. Sima, M; Grecu, MN; Sima, M; Enculescu, I, Growth and Characterization of ZnO:Mn Submicron Wires via Electrodeposition from Nitrate-Lactic Acid Solution, SEMICONDUCTORS, METAL OXIDES, AND COMPOSITES: METALLIZATION AND ELECTRODEPOSITION OF THIN FILMS AND NANOSTRUCTURES, 2010, 25, 27, 163, 171
49. Enculescu, M; Matei, E; Preda, N; Enculescu, I, Influence of dye concentration on optical properties of rhodamine 6G doped KAP crystals, OPTOELECTRONICS AND ADVANCED MATERIALS-RAPID COMMUNICATIONS, NOV, 2009, 3, 11, 1210, 1212
50. Matei, E; Preda, N; Enculescu, M; Sima, M; Sima, M; Enculescu, I, Optical properties of CdS electrodeposited nanowires, OPTOELECTRONICS AND ADVANCED MATERIALS-RAPID COMMUNICATIONS, OCT, 2009, 3, 10, 1018, 1022
51. Bazavan, D; Bazavan, R; Enculescu, I; Matei, E; Necula, C; Ion, L; Antohe, S, Magnetic properties of NiCu thin films obtained by electrodeposition, OPTOELECTRONICS AND ADVANCED MATERIALS-RAPID COMMUNICATIONS, MAY, 2009, 3, 5, 484, 488
52. Bazavan, R; Ion, L; Socol, G; Enculescu, I; Bazavan, D; Tazlaoanu, C; Lorinczi, A; Mihailescu, IN; Popescu, M; Antohe, S, Optical properties of pulsed-laser deposited ZnO thin films, JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS, APR, 2009, 11, 4, 425, 428
53. Mateescu, I; Georgescu, S; Iliescu, B; Enculescu, I; Georgescu, R; Oproiu, C; Ghita, G, Influence of Ionizing Radiations (Electrons and Gamma) on the Electrical Characteristics of LGS Resonators, FERROELECTRICS, 2009, 389, 25, 31
54. Sandu, V; Popa, S; Pasuk, I; Enculescu, I; Nicolescu, MS; Radicescu, S, Nanostructured Ferrite Formation in Borosilicate Glass, MULTI-FUNCTIONAL MATERIALS AND STRUCTURES II, PTS 1 AND 2, 2009, 79-82, 445, 448
55. Enculescu, I; Matei, E; Vasilache, V; Teodorescu, CM, Cobalt doped ZnO prepared by electrochemistry: chemistry, morphology, and magnetism, NANOTECH CONFERENCE & EXPO 2009, VOL 3, TECHNICAL PROCEEDINGS, 2009, 231, 234

56. Ghica, C; Enculescu, I; Nistor, LC; Matei, E; Van Tendeloo, G, Electrochemical growth and characterization of nanostructured ZnO thin films, JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS, DEC, 2008, 10, 12, 3237, 3240
57. Ion, L; Enculescu, I; Antohe, S, Physical properties of CdTe nanowires electrodeposited by a template method, for photovoltaic applications, JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS, DEC, 2008, 10, 12, 3241, 3246
58. Diamandescu, L; Vasiliu, F; Tarabasanu-Mihaila, D; Feder, M; Vlaicu, AM; Teodorescu, CM; Macovei, D; Enculescu, I; Parvulescu, V; Vasile, E, Structural and photocatalytic properties of iron- and europium-doped TiO(2) nanoparticles obtained under hydrothermal conditions, MATERIALS CHEMISTRY AND PHYSICS, 15-Nov, 2008, 112, 1, 146, 153
59. Enculescu, I; Matei, E; Sima, M; Neumann, R; Granville, S; Ansermet, JP, Preparation and Properties of Cobalt Doped ZnO Nanowires, IEEE TRANSACTIONS ON MAGNETICS, NOV, 2008, 44, 11, 2678, 2680
60. Bazavan, D; Bazavan, R; Enculescu, I; Matei, E; Ion, L; Antohe, S, Structural and morphological properties of NiCu magnetic thin films, JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS, NOV, 2008, 10, 11, 3054, 3057
61. Marcu, A; Sima, C; Grigoriu, C; Enculescu, I; Iliescu, B, Luminescence tuning of Si/SiO(2) nanoparticles in aqueous solutions, JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS, NOV, 2008, 10, 11, 3131, 3134
62. Ghenescu, M; Ion, L; Enculescu, L; Tazlaoanu, C; Antohe, VA; Sima, M; Enculescu, M; Matei, E; Neumann, R; Ghenescu, O; Covlea, V; Antohe, S, Electrical properties of electrodeposited CdS nanowires, PHYSICA E-LOW-DIMENSIONAL SYSTEMS & NANOSTRUCTURES, MAY, 2008, 40, 7, 2485, 2488
63. Sima, M; Enculescu, L; Grecu, MN; Secu, M; Sima, M; Matei, E; Vasile, V, Luminescence and EPR study of ZnO : Mn : Cu nanowire array, PHYSICA E-LOW-DIMENSIONAL SYSTEMS & NANOSTRUCTURES, MAY, 2008, 40, 7, 2494, 2498
64. Tazlaoanu, C; Ion, L; Enculescu, I; Sima, M; Enculescu, M; Matei, E; Neumann, R; Bazavan, R; Bazavan, D; Antohe, S, Transport properties of electrodeposited ZnO nanowires, PHYSICA E-LOW-DIMENSIONAL SYSTEMS & NANOSTRUCTURES, MAY, 2008, 40, 7, 2504, 2507
65. Nicoara, I; Lighezan, L; Enculescu, M; Enculescu, L, Optical spectroscopy of Yb²⁺ ions in YbF₃-doped CaF₂ crystals, JOURNAL OF CRYSTAL GROWTH, APR, 2008, 310, 9-Jul, 2026, 2032
66. Matei, E; Enculescu, I; Enculescu, M; Neumann, R, Effect of additives on nickel nanowires electrochemical deposition, JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS, MAR, 2008, 10, 3, 508, 511
67. Enculescu, I; Sima, M; Enculescu, M; Matei, E; Molares, MET; Cornelius, T, Nickel nanotubes prepared by electroless deposition in ion track templates, OPTOELECTRONICS AND ADVANCED MATERIALS-RAPID COMMUNICATIONS, MAR, 2008, 2, 3, 133, 136
68. Enculescu, I; Matei, E; Sima, M; Enculescu, M; Sima, M; Ghica, C, Influence of polyvinylpyrrolidone as an additive in electrochemical preparation of ZnO nanowires and nanostructured thin films, SURFACE AND INTERFACE ANALYSIS, MAR-APR, 2008, 40, 4-Mar, 556, 560
69. Sima, M; Enculescu, I; Sima, M; Vasile, E; Visan, T, EIS studies of electrodeposition process of manganese and copper doped ZnO wires, SURFACE AND INTERFACE ANALYSIS, MAR-APR, 2008, 40, 4-Mar, 561, 565
70. Sima, M; Enculescu, I; Sima, M, PbSe nanowires grown by the template method, OPTOELECTRONICS AND ADVANCED MATERIALS-RAPID COMMUNICATIONS, 2008, 2, 2, 67, 70

71. Zet, C; Damian, C; Fosala, C; Enculescu, I, Remote automated system for nanowire electrodeposition, PROCEEDINGS OF THE 11TH INTERNATIONAL CONFERENCE ON OPTIMIZATION OF ELECTRICAL AND ELECTRONIC EQUIPMENT, VOL IV, 2008, 101, 105
72. Enculescu, I; Sima, M; Enculescu, M; Enache, M; Vasile, V; Neumann, R, Influence of geometrical properties on light emission of ZnO nanowires, OPTICAL MATERIALS, SEP, 2007, 30, 1, 72, 75
73. Tazlaoanu, C; Ion, L; Socol, G; Socol, M; Mihailescu, IN; Stanculescu, F; Enculescu, I; Ionescu, F; Magherusan, L; Antohe, S, Photosensitization of ZnO nanostructured thin films with organic dyes, JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS, MAY, 2007, 9, 5, 1342, 1346
74. Enculescu, I; Sima, M; Enculescu, M; Ghica, C; Enache, M; Neumann, R, Preparation of metallic nanowires with magnetic properties using the template method, JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS, MAY, 2007, 9, 5, 1468, 1470
75. Sima, M; Enculescu, I; Sima, M; Vasile, E, Semiconductor nanowires obtained by template method, JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS, MAY, 2007, 9, 5, 1551, 1554
76. Enculescu, M; Enculescu, I; Sima, M; Neumann, R; Trautmann, C, Micro and nanorods of alkali halides grown in polymer templates, JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS, MAY, 2007, 9, 5, 1561, 1563
77. Sima, M; Enculescu, I; Sima, M; Enache, M; Vasile, E; Ansermet, JP, ZnO : Mn : Cu nanowires prepared by template method, PHYSICA STATUS SOLIDI B-BASIC SOLID STATE PHYSICS, MAY, 2007, 244, 5, 1522, 1527
78. Enculescu, I; Sima, M; Enculescu, M; Enache, M; Ion, L; Antohe, S; Neumann, R, Deposition and properties of CdTe nanowires prepared by template replication, PHYSICA STATUS SOLIDI B-BASIC SOLID STATE PHYSICS, MAY, 2007, 244, 5, 1607, 1611
79. Enculescu, I; Toimil-Molares, ME; Zet, C; Daub, M; Westerberg, L; Neumann, R; Spohr, R, Current perpendicular to plane single-nanowire GMR sensor, APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING, JAN, 2007, 86, 1, 43, 47
80. Enculescu, M; Enculescu, I, Fractal characteristics of metal clusters self-assembled in alkali halide matrices, Physica Status Solidi C - Current Topics in Solid State Physics, Vol 4, No 3, 2007, 4, 3, 727, 731
81. Ohgai, T; Enculescu, I; Zet, C; Westerberg, L; Hjort, K; Spohr, R; Neumann, R, Magneto-sensitive nickel nanowires fabricated by electrodeposition into multi- and single-ion track templates, JOURNAL OF APPLIED ELECTROCHEMISTRY, OCT, 2006, 36, 10, 1157, 1162
82. Enculescu, M; Enculescu, I; Topa, V, Fractal structures of gold obtained by diffusion limited aggregation in alkali halide crystals, JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS, JUN, 2006, 8, 3, 1230, 1233
83. Sima, M; Enculescu, I; Vasile, E, Growth of ZnO micro and nanowires using the template method, JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS, APR, 2006, 8, 2, 825, 828
84. Sima, M; Enculescu, I; Ghiordanescu, V; Mihut, L, Absorption and photoluminescence properties of Cds : Mn²⁺: Cu⁺ nanostructures, JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS, AUG, 2005, 7, 4, 1949, 1955
85. Daub, M; Enculescu, I; Neumann, R; Spohr, R, Ni nanowires electrodeposited in single ion track templates, JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS, APR, 2005, 7, 2, 865, 870

86. Ghiordanescu, V; Sima, M; Enculescu, I; Grecu, MN; Mihut, L; Secu, M; Neumann, R,Photoluminescence of manganese- and copper-doped CdS nanowires,PHYSICA STATUS SOLIDI A-APPLIED RESEARCH,FEB,2005,202,3,449,454
87. Sima, M; Enculescu, I; Ioncea, A; Visan, T; Trautmann, C,Manganese and copper doped CdS nanowire arrays preparation,JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS,DEC,2004,6,4,1193,1198
88. Bercu, B; Enculescu, I; Spohr, R,Copper tubes prepared by electroless deposition in ion track templates,NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION B-BEAM INTERACTIONS WITH MATERIALS AND ATOMS,OCT,2004,225,4,497,502
89. Sima, M; Enculescu, I; Visan, T,The electrodeposition of semiconductor nanowires with thermoelectric properties using "template" method,REVISTA DE CHIMIE,OCT,2004,55,10,743,746
90. Toimil-Molares, ME; Chtanko, N; Cornelius, TW; Dobrev, D; Enculescu, I; Blick, RH; Neumann, R,Fabrication and contacting of single Bi nanowires,NANOTECHNOLOGY,APR,2004,15,4,S201,S207
91. Sima, M; Enculescu, I; Trautmann, C; Neumann, R,Electrodeposition of CdTe nanorods in ion track membranes,JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS,MAR,2004,6,1,121,125
92. Sima, M; Enculescu, I; Visan, T; Spohr, R; Trautmann, C,Electrochemical deposition of $PBSe_{1-x}Tex$ nanorod arrays using ion track etched membranes as template,MOLECULAR CRYSTALS AND LIQUID CRYSTALS,2004,418,749,755
93. Enculescu, I; Siwy, Z; Dobrev, D; Trautmann, C; Toimil-Molares, ME; Neumann, R; Hjort, K; Westerberg, L; Spohr, R,Copper nanowires electrodeposited in etched single-ion track templates,APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING,NOV,2003,77,6,751,755
94. Enculescu, M; Enculescu, I; Topa, V; Vasile, E,Fractal patterns formed by thermal treatment in alkali halide crystals,PHYSICA B-CONDENSED MATTER,NOV-DEC,2002,324,4-Jan,387,392
95. Enculescu, I; Iliescu, B; Enculescu, M; Covalcica, I,A model for structures growth by sodium electrodiffusion in quartz crystals,CRYSTAL RESEARCH AND TECHNOLOGY,2002,37,8,868,874
96. Iliescu, B; Enculescu, I; Pera, I; Alexe, G; Polosan, S; Stanculescu, A,Chemical composition of structures obtained inside quartz crystals by sodium electrodiffusion,CRYSTAL RESEARCH AND TECHNOLOGY,2001,36,5-Apr,403,410
97. Enculescu, I; Iliescu, B; Teodorescu, V,Kinetics of silver structures growth by electrodiffusion in quartz crystals,SOLID STATE IONICS,JAN,2001,138,4-Mar,315,321
98. Iliescu, B; Enculescu, I; Klapper, H; Stamatina, I,DLA type metal structures in quartz crystals,EUROPEAN PHYSICAL JOURNAL-APPLIED PHYSICS,MAY,1999,6,2,147,150
99. Iliescu, B; Enculescu, I; Vasiliu, F; Secu, M,Growth of metal structures in quartz crystals by electrodiffusion,JOURNAL OF CRYSTAL GROWTH,MAR,1999,198,507,510
100. Enculescu, I; Iliescu, B,Current voltage characteristics of alpha-quartz,EUROPEAN PHYSICAL JOURNAL-APPLIED PHYSICS,JUN,1998,2,3,203,207
101. Enculescu, I; Iliescu, B,Ionic space charge limited currents in natural quartz crystal,FIFTH CONFERENCE ON OPTICS (ROMOPTO '97), PTS 1 AND 2,1998,3405,262,266

102. Logofatu, C; Iliescu, B; Enculescu, I; Grigorescu, CEA; Manea, SA, Study of Al₂O₃ single crystalline substrates for optoelectronic applications, FIFTH CONFERENCE ON OPTICS (ROMOPTO '97), PTS 1 AND 2, 1998, 3405, 897, 901
103. Enculescu, I; Iliescu, B, Electrical conductivity of quartz crystals, CRYSTAL RESEARCH AND TECHNOLOGY, 1997, 32, 7, 879, 891
104. Iliescu, B; Enculescu, I; Chirila, R, Dynamics of the dauphine twins in quartz crystal up to the transition point, FERROELECTRICS, 1997, 190, 4-Jan, 119, 124