

## PERSONAL INFORMATION

**Ruxandra VIDU**

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Sex Female

Date of birth August 23, 1961

Nationality Romanian

## OCCUPATIONAL FIELD

## Education and Research

WORK EXPERIENCE  
September 2016-present**Project Director**

University POLITEHNICA of Bucharest, Romania

- ♦ European research grant (2016-2020), POC 49/2016, ~\$2mil
- ♦ Develop Eco-Nano-Technologies for Water Purifying Module with Double Functionality based on Nanowires (EcoNanoWires)

June 2018 – present

**External expert reviewer to monitor H2020 projects**

European Commission

October 2017 – present

**Associate Adjunct Professor (transferred from CHMS dept.)**

University of California Davis, Davis

Department of Electrical Engineering and Computer Science

- ♦ Taught EEC145, Principles of Electronic Materials and Devices (Winter Quarter 2018)
- ♦ Research: III-V semiconductors, metal oxide nanowires-based electronic devices

January 2011 – December 2017

**Associate Adjunct Professor**

University of California Davis, Davis,

Department of Chemical Engineering and Materials Science (CHMS)

- ♦ Taught EMS L162 with Prof. Joanna Groza (Winter Quarter 2013)
- ♦ Taught EC 190C and ECH 199 (Spring Quarter 2012, Fall Quarter 2012).
- ♦ Established cooperation: UC Davis – University of Tunis El Manar, Tunisia Agreement No: 2013-01,
- ♦ Established cooperation: UC Davis – University “Politehnica” of Bucharest, Romania, Agreement No: 2012-05
- ♦ Established cooperation: UC Davis – National Institute of Materials Physics, Bucharest, Romania, Agreement No: 2012-04

September 2009 – August 2016

**Associate Director, California Solar Energy Center**University of California Davis, Davis, <http://solar.ucdavis.edu/vidu/>

- ♦ Assist the California Solar Energy Commission with development and deployment of solar energy in California
- ♦ Develop technology assessments for CEC and its energy programs on Nanostructured PV solar cells, Storage, Concentrated Solar Power (CSP), Thermal Solar, Thermoelectrics.
- ♦ Developed nano-engineered materials for solar energy applications, including thermal and storage
- ♦ Organized and managed outreach programs.

- 2008 – present **Founder and President**  
NanoRIS, Sacramento CA, Research – Innovation – Solutions
- ◆ Developed technologies to increase efficiency of solar and thermoelectric devices.
  - ◆ Developed technologies to create gas sensors based on nanowires array
  - ◆ Principal investigator on STTR National Science Foundation (NSF) grant (\$150,000).
  - ◆ Principal Investigator on EISG Grant (\$95,000)
- 2004 – 2008 **Founder and Director of RD&D**  
Bloo Solar / Q1 NanoSystems/All Best Materials, West Sacramento, CA
- ◆ Developed nanotechnology practice for solar cells. This generated patentable ideas in nano-architected solar cells.
  - ◆ Obtained 5 US Patents
  - ◆ Principal investigator on four major grants: National Science Foundation (NSF: \$~400,000) and California Energy Commission (CEC, \$500,000).
  - ◆ Consulted for Mitsubishi Chemical, PB Solar (Fairfield, CA)
- 2000-2004 **Postgraduate Researcher (PGR1-7) in Chemical Engineering & Materials Science, and Chemistry**  
University of California at Davis, Davis CA
- 2001 **Lecturer**  
University of California at Davis, Davis CA
- ◆ Managed projects in Li-ion batteries, surfactants, nanostructured composites, biosensors and nanostructured one-dimensional particles (nanotubes, nanocables) using electrochemical atomic force microscopy (EC-AFM) and other investigation techniques (SEM, TEM, XRD etc).
  - ◆ Elucidated fading mechanism in Li-ion batteries.
  - ◆ Developed new coating on LiMnO<sub>2</sub> nanoparticles to improve capacity of Li-ion batteries.
  - ◆ Developed new technology for nanoparticle fabrication with metal/semiconductor junction for PV applications.
  - ◆ Consulted for BP Solar on PV manufacturing and Mitsubishi Chemical on Lithium Ion Batteries.
  - ◆ Used template directed synthesis to make tailor-made nanoporous membranes for protein separation, nanotubes, nanowires and nanocables.
  - ◆ Managed projects in electrochemistry and surface modifications for energy applications.
- 1996-2000 **Researcher, Monbusho fellow (Japanese Ministry of Education and Science)**  
Osaka University, Graduate School of Engineering and Processing, Osaka, Japan
- ◆ Developed new electrochemical epitaxial deposition for CdTe thin films.
  - ◆ Established electrochemical atomic force microscopy studies and procedure on underpotential deposition systems (Cd and Te on Au single crystals) for solar cells.
- 1990-2000 **Lecturer, Assistant Professor**  
University "POLITEHNICA" Bucharest, Bucharest, Romania
- ◆ Taught courses at the Dept. Mat. Sci. & Eng. for undergraduate and graduate students: Solid Physics, Materials Structure and Heat Treatment, Corrosion, Powder Metallurgy; taught university general and material science laboratory classes; conducted tutorial sections for university general material science course; supervised research works of undergraduate and master students.
  - ◆ Established and equipped a new laboratory, course and practice in Corrosion of Metallic Materials. Published the course and seminar workbooks.
  - ◆ Conducted research on ultra-hard thin film deposition, corrosion, wear, surface modification and characterization.
- 1987-1990 **Scientist. Powder Metallurgy**  
National Metallurgical Research Institute (ICEM), Bucharest, Romania
- ◆ Developed process technologies to manufacture cemented carbides (WC-Co system) by powder processing and sintering. Established procedure for liquid phase sintering process for structural gradient materials.

- 1985-1987 **Engineer**  
 Special Alloys Plant, Targoviste, Romania
- ♦ Provided technical support and quality assurance.

**EDUCATION AND TRAINING**

- 2000-2004 **Post doctoral degree in Materials Science and Engineering**  
 University of California at Davis, Davis CA
- ♦ Worked with Profs. Pieter Stroeve, Margie Longo, Joanna Groza, Jeff Gibeling, Gang-Yu, Ahmet Palazoglu, and Frank Yaghmaie.
- 2000 **Doctoral degree (Ph.D) in Materials Engineering and Processing**  
 Osaka University, Graduate School of Materials Engineering and Processing, 2000.
- ♦ Electrochemical atomic layer epitaxy of CdTe for solar cell applications (Prof. Shigeta Hara)
- 1985 **Master Science and Bachelor degree (M.S., B.Sc) in Materials Science and Engineering**  
 University "POLITEHNICA" Bucharest, Romania
- ♦ Plastic Deformations and Heat Treatment

**PERSONAL SKILLS**

Mother tongue(s)	♦ Romanian									
Other language(s) / self-assessment	<b>UNDERSTANDING</b>				<b>SPEAKING</b>				<b>WRITING</b>	
	<b>Listening</b>		<b>Reading</b>		<b>Spoken interaction</b>		<b>Spoken production</b>			
	<b>English</b>	C1	Proficient user	C1	Proficient user	C1	Proficient user	C1	Proficient user	C1
<b>French</b>	C1	Proficient user	C1	Proficient user	C1	Proficient user	C1	Proficient user	C1	Proficient user
<b>Communication skills</b>	<ul style="list-style-type: none"> <li>♦ Adaptability to multicultural environments</li> <li>♦ Communication and team work capacity;</li> <li>♦ Creativity in solving of work problems;</li> <li>♦ Sociability; Integrity; Flexibility;</li> </ul>									
<b>Organisational / managerial skills</b>	<ul style="list-style-type: none"> <li>♦ Over thirty years experience in teaching and research.</li> <li>♦ Developed advanced nanomaterials and complex technology projects in renewable energy, photovoltaics, wastewater treatments, sustainable advanced materials and innovative technologies.</li> <li>♦ Expertise in commercialization and technology transfer from university to industry.</li> </ul>									

**Established International Agreements of Collaborations**

- ♦ Established Agreements of Collaborations between University of California Davis and the University of Tunis El-Manar (Jan. 2013);
- ♦ Established Agreements of Collaborations between University of California Davis and the National Institute of Materials Physics (2012);
- ♦ Established Agreements of Collaborations between University of California Davis and the University of POLITEHNICA of Bucharest (2012).

Job-related skills	<ul style="list-style-type: none"> <li>◆ Extensive experience in surface science and nanotechnology for clean and renewable energy, advanced material engineering and processing, broad range of surface characterization techniques and the relationship between structure, composition and properties.</li> <li>◆ Awarded over \$2.5 mil in grants (NSF, SBIR/STTR, California Energy Commission, European Union, etc)</li> </ul>
2017	<b>CSP external expert reviewer to monitor H2020 projects</b>
since April 2015	<b>Associate Editor for Frontiers in Neuroscience</b>
since_2014	<b>Editor of the ARA Journals and ARA Books</b> <ul style="list-style-type: none"> <li>◆ Published by the American Romanian Academy of Arts and Sciences, ARA_Publisher, an international academic press</li> </ul>
since Spring 2013	<b>UE Expert Evaluator</b> <ul style="list-style-type: none"> <li>◆ For the Executive Agency for Higher Education, Research, Development and Innovation Funding (<a href="http://www.uefiscdi.gov.ro">www.uefiscdi.gov.ro</a>)</li> </ul>
September 2013-August 2018	<b>Key Reader for Metallurgical Transaction</b>
2010-2015	<b>Board of Advisors,</b> <ul style="list-style-type: none"> <li>◆ of California Energy Commission, Solar Energy Collaborative</li> </ul>
2009-2017	<b>Board of Advisors,</b> <ul style="list-style-type: none"> <li>◆ of Bloo Solar Inc</li> </ul>
2010	<b>Editorial Board</b> <ul style="list-style-type: none"> <li>◆ of the Journal of Optoelectronic and Advanced Materials (JOAM)</li> </ul>
Computer skills / Self-assessment	<ul style="list-style-type: none"> <li>● Proficiency in all Microsoft operating systems, MS Office software package, many specialized software for data acquisition and processing.</li> </ul>
Other skills	<ul style="list-style-type: none"> <li>● Creativity; analytical and negotiation skills.</li> </ul> <p><b>Reviewer:</b></p> <ul style="list-style-type: none"> <li>◆ Reviewed proposals for NSF and DOE projects.</li> <li>◆ Reviewed articles for high Impact Factor journals including: Chemistry of Materials, Journal of Nanoscience and Nanotechnology, Journal of Colloids and Interface Science, Metallurgical Transaction, Surface Science and Journal of Physical Chemistry B, etc.</li> </ul>

#### ADDITIONAL INFORMATION

Publications	Books, book chapters, Patents issued, Patent applications and articles published in ISI Journals, articles in Conference Proceedings
Selected papers (last 10 years)	<ol style="list-style-type: none"> <li>1. R. Vidu, AM. Predescu, E. Matei, A. Berbecaru, C. Pantilimon, C. Dragan, M. Sohaciu, C.Predescu, Co-Ni Nanowires Arrays with Tunable Properties Obtained by Template Synthesis, <i>Advanced Materials Letter</i>, 11(2020)6,</li> <li>2. Opris, MA. Lebedev, VM. Pulgar, R. Vidu, M. Enachescu, M.F. Casanova, Editorial: Nanotechnologies in Neuroscience and Neuroengineering, <i>Frontiers in Neuroscience</i>, Article 33, February (2020)</li> <li>3. B. Alhalaili, R. Vidu, M.S. Islam, The Growth of Ga<sub>2</sub>O<sub>3</sub> Nanowires on Silicon for Ultraviolet Photodetector, <i>Sensors</i>, 2019, 19, 5301,</li> <li>4. 75. M.N. Ardeleanu, I.N. Popescu, I.N. Udriou, E.M. Diaconu, S. Mihai, E. Lungu, B. Alhalaili, R. Vidu Novel PDMS-Based Sensor System for MPWM Measurements of Picoliter</li> </ol>

- Volumes in Microfluidic Devices, Sensors, 2019, 19, 4886,
5. R. Vidu, A.M. Predescu, E. Matei, A. Berbecaru, C. Pantilimon, C. Dragan and C. Predescu, Template-Assisted Co-Ni Nanowire Arrays, *Nanomaterials* 9(2019) 1446;
  6. B. Alhalaili, R. Bunk, R. Vidu, M.S. Islam, Dynamics Contributions to the Growth Mechanism of Ga<sub>2</sub>O<sub>3</sub> Thin Film and NWs Enabled by Ag Catalyst, *Nanomaterials* 9(2019)9, 1272,
  7. M.N. Ardeleanu, S. Mihai, R. Vidu, E.M. Diaconu, I.N. Popescu, Design of Microfluidic Device and Measurements of MPWM for Single Cell/Particle Manipulation, *Scientific Bulletin of Valahia University-Materials and Mechanics* 17 (16), 39-43,
  8. O. Kamoun, A. Mami, M.A. Amara, R. Vidu, M. Amlouk, Nanostructured Fe, Co-Codoped MoO<sub>3</sub> Thin Films, *Micromachines* 10 (2019) 2, p. 138,
  9. A.M. Predescu, R. Vidu, A. Predescu, E. Matei, C. Predescu, Synthesis and characterization of bimodal structured Cu-Fe<sub>3</sub>O<sub>4</sub> nanocomposites, *Powder Technology*, 342 (2019) 938-953,
  10. Gassoumi, A. Al-Shahrani, S. Alfaify, H. Algarni, R. Vidu, Modified Becke-Johnson calculations applied to the electronic and optical properties of Mg and Mn doped PbS, *Journal of Optoelectronics and Advanced Materials*, 20(2018) 9-10, p.453-458
  11. M. Souli, C. Nefzi, Z. Seboui, A. Mejri, R. Vidu, N. Kamoun-Turki, Improved structural properties, morphological and optical behaviors of sprayed Cu<sub>2</sub>ZnSnS<sub>4</sub> thin films induced by high gamma radiations for solar cells, *Materials Science in Semiconductor Processing*, 2018, Vol.83, p.50-57.
  12. I.N. Popescu, R Vidu, Densification Mechanism, Elastic-Plastic Deformations and Stress-Strain Relations of Compacted Metal-Ceramic Powder Mixtures, *Scientific Bulletin of Valahia University-Materials and Mechanics (De Gruyter)* 16 (2018) 14, p.7-12,
  13. B. Alhalaili, D.M. Dryden, R. Vidu, S. Ghandiparsi, H. Cansizoglu, Y. Gao, M.S. Islam, High-aspect ratio micro- and nanostructures enabled by photo-electrochemical etching for sensing and energy harvesting applications, *Applied Nanoscience* (2018), p.1-7.
  14. I.N. Popescu, R Vidu, Compaction Behavior Modelling of Metal-Ceramic Powder Mixtures. A Review, *Scientific Bulletin of Valahia University-Materials and Mechanics (De Gruyter)* 16 (2018) 14, 28-37
  15. A.M. Predescu, E.Matei, A.C.Berbecaru, C.Pantilimon, C.Dragan, R.Vidu, C.Predescu, V.Kuncser, Synthesis and Characterization of Dextran-coated Iron Oxide Nanoparticles, *Royal Society Open Science*, 5 (2018) 3,
  16. I.N. Popescu, R Vidu, V Bratu, Porous Metallic Biomaterials Processing (Review) Part 1: Compaction, Sintering Behavior, Properties and Medical Applications, *Scientific Bulletin of Valahia University-Materials and Mechanics (De Gruyter)* 15 (2017) 13, 28-40.
  17. M. Mihai; V. Tanasiev; C. Dinca, A. Badea, R. Vidu, Passive House Analysis in Terms of Energy Performance, *Energy and Buildings*, 144 (2017), pages: 74-86,
  18. P. Palade; C. Plapcianu; I. Mercioniu; C. Comanescu; G. Scinteie; A. Leca; R. Vidu, Structural, Magnetic, and Mossbauer Investigation of Ordered Iron Nitride with Martensitic Structure Obtained from Amorphous Hematite Synthesized via the Microwave Route, *Industrial and Engineering Chemical Research*, 56 (2017) 11, Pages: 2958-2966,
  19. D.M. Dryden, T. Sun, R. McCormick, R. Hickey, R Vidu, P. Stroeve, Anomalous Deposition of Co-Ni Alloys in Film and Nanowire Morphologies from Citrate Baths, *Electrochimica Acta* 220 (2016) 595-600
  20. D.M. Dryden, R. Vidu, P. Stroeve, Nanowire formation is preceded by nanotube growth in templated electrodeposition of cobalt hybrid nanostructures, *Nanotechnology* 27 (44), 445302
  21. M Pérez-Page, E Yu, J Li, M Rahman, DM Dryden, R Vidu, P Stroeve, Template-based Syntheses for Shape Controlled Nanostructures, *Advances in colloid and interface science*, 234 (2016), p.51-79
  22. M. Mihai, A. Badea, R. Vidu, Analysis of The PV System Performance Through Simulation: A Case Study, *University Politehnica of Bucharest Scientific Bulletin Series C-Electrical Engineering and Computer Science (ISSN 2286-3540)*, 78 (2016) 4, p. 183-194,
  23. R. Vidu, M. Perez-Page, D.V. Quach, X. Y. Chen, Pieter Stroeve, Electrodeposition of Ni and Te-Doped Cobalt Triantimonide in Citrate Solutions, *Electroanalysis* 27 (2015) 12, 2845
  24. G. Tepes, R. Vidu, D. Bojin, Template Based Synthesis of Ni Nanowires by Electrochemical Deposition, *Advanced Materials Research*, 1114 (2014) p.121.

25. C. Predescu, C. Matei, A. Predescu, A. Berbecaru, R. Vidu, D. Ficai, L. Favier, Application of Iron Oxides Nanoparticles as Adsorbent for Pb and Zn Removal from Industrial Wastewaters, *Materials Science and Materials Engineering* (2014) p. 384.
26. I.N. Popescu, R. Vidu, V. Bratu, A. B. Olei, D. N. Ungureanu, F. V. Anghelina, Effects of Silicon Carbide Proportion and Artificial Aging Parameters on Microstructure and Hardness of Al-Cu/SiCp Composites, *Solid State Phenomena*, 216 (2014) 122.
27. R. Vidu, M. Rahman, M. Mahmoudi, M. Enachescu, T.D. Poteca, I. Opris, Nanostructures: a platform for brain repair and augmentation, *Frontiers in systems neuroscience*, 8 (2014) Article 91.
28. R. Vidu, C. Plapcianu, C. Bartha, Multivalence Ce and Sn Oxide Doped Materials with Controlled Porosity for Renewable Energy Applications, *Industrial and Engineering Chemical Research*, 53 (2014) 7829-7839.
29. M.M. Ombaba, R. Vidu, L.V. Jayaraman, M. Triplett, J. Hsu, and M. Saif Islam, Seamless Integration of an Elastomer with Electrode Matrix and its In-Situ Conversion into a Solid-State Electrolyte for Robust Li-Ion Batteries, *Advanced Functional Materials*, 23 (2013) 47, p. 5941-5951
30. C. Plapcianu, A. Agostino, P. Badica, G.V. Aldica, E. Bonometti, G. Ieluzzi, S. Popa, M. Truccato, S. Cagliero, Y. Sakka, O. Vasylyk, R. Vidu, Synthesis by Microwave Technique of MgB<sub>2</sub> Doped with Fullerene, *Industrial and Engineering Chemical Research*, 51 (2012) 11005-11010.
31. R. Vidu, S.Li, D.V.Quach, P.Stroeve, Electrochemical Deposition of Co-Sb Thin Films on Nano-structured Gold, *Journal of Applied Electrochemistry*, 42 (2012), 333-339.
32. J. Moule, L. Chang, C. Thambidurai, R. Vidu, P. Stroeve, Hybrid solar cells: basic principles and the role of ligands, *Journal of Materials Chemistry*, 22 (2012) 6, 2351-2368.
33. D. Barlev, R. Vidu, P. Stroeve, Review: Innovation in Concentrated Solar Power, *Solar Energy Materials and Solar Cells* 95 (2011) 2703-2725.
34. Y. Hou, R. Vidu, P. Stroeve, Solar Energy Storage Methods, *Industrial & Engineering Chemistry Research*, 50 (2011) 15, 8954-8964.
35. D.V. Quach, R. Vidu, J.R. Groza, P. Stroeve, Electrochemical Deposition of Cobalt Antimonide Thin Films and Nanowires, *Journal of Chemical Engineering Research*, 49 (2010), 11385-11392.

Selected Presentations  
(last 10 years)

**Conference Presentations (posters, presentations and publications): 63**

63. Luige Vladareanu, Ruxandra Vidu, Sergiu Boris Cononovici, Hongnian Yu, Mihai Radulescu, Real-time control system of the cooperative intelligent nano-micro manipulators platform for the design and characterization of semiconductor nanowires on the same layer, **SISOM 2019 and Symposium of Acoustics, Opening session, Romanian Academy, Bucharest, Romania, May 16 – 17, 2019.**
62. Ileana Nicoleta Popescu, Ruxandra Vidu, Nicolae Pop, Compressibility, densification mechanism and compaction behavior modeling of metallic or composite powders, **SISOM 2019 and Symposium of Acoustics, Opening session, Romanian Academy, Bucharest, Romania, May 16 – 17, 2019.**
61. Laslau A., Favier L., Sescu A.-M., Rusu L., Simion A. I., Harja M., Hlihor R., Vidu R., Efficient TiO<sub>2</sub> assisted degradation of a relevant organic water pollutant under UV light irradiation. **International conference on multi-scale approaches in environmental chemistry (AMARE), Rennes, France, April 23-25, 2019.**
60. Kamoun O., Vidu R., Amlouk M., MoO<sub>3</sub> Nanoparticles for photocatalytic Study, **6<sup>th</sup> International Renewable and Sustainable Energy Conference, Rabat, Morocco, Dec. 5-8, 2018.**
59. Favier L., Simion A.I., Rusu L., Couriol C., Kadmi Y., Barka N., Vidu R., Titanium Oxide Nanomaterials as Highly Active Photocatalysts for Efficient Water Purification: Case Study with Carbamazepine, **the International Conference on Functional Materials ICFM 2019, Hammamet, Tunisia, March 24-28, 2019.**
58. B. Alhalaili, D. Dryden, R. Vidu, S. GhandiParsi, H. Cansizoglu, Y. Gao. M.S. Islam, “High-aspect ratio micro-and nanostructures enabled by photo-electrochemical etching for sensing and energy harvesting applications”, **Nanotech Middle East 2017 Conference and Exhibition, NANOTECH ME 2017, Dubai, United Arab Emirates, December 4-6,**



2017.

57. M. Mihai, V. Tanasiev, R. Vidu, Self-Sustaining and Energy Efficient Buildings in Residential Area, (Poster), **the 41<sup>st</sup> Congress of the American Romanian Academy of Arts and Sciences, University of Craiova, Romania, July 19-22, 2017.**

56. R. Vidu, L. Flavier, P. Stroeve, A. Predescu, E. Matei, A. Berbecaru, C. Pantilimon, C. Dragan, C. Predescu, "Template Synthesis of AB<sub>3</sub> Compound Nanowires for High-Temperature Thermoelectric Materials" (Poster), **the 41<sup>st</sup> Congress of the American Romanian Academy of Arts and Sciences, University of Craiova, Romania, July 19-22, 2017.**

55. L. Favier, A.I. Simion, L. Rusu, R. Vidu, Does the refractory organic molecules can be efficiently removed from aqueous solutions by advanced oxidation processes? (Poster) **the 41<sup>st</sup> Congress of the American Romanian Academy of Arts and Sciences, University of Craiova, Romania, July 19-22, 2017.**

54. P. Palade, C. Plapcianu, I. Mercioniu, C. Comanescu, G. Schinteie, A. Leca, R. Vidu, Ordered Iron Nitride with Martensitic Structure Synthesized from Amorphous Hematite via microwave route: structural, magnetic and Mössbauer investigation, (Poster) **the 41<sup>st</sup> Congress of the American Romanian Academy of Arts and Sciences, University of Craiova, Romania, July 19-22, 2017.**

53. L. Favier, E. Matei, A. Simion, Y. Kadmi, L. Rusu, AM. Predescu, R. Vidu, Experimental Study on the Degradation of a Blood Lipid Regulator Molecule with Nano-sized Catalyst and UV Irradiation, **the 8<sup>th</sup> International Conference on Materials Science and Technologies, RoMat 2016 Bucharest, Romania, November 9-12, 2016.**

52. D.M. Dryden, T. Sun, R. McCormick, R. Hickey, R. Vidu, and P. Stroeve, Growth and Characterization of Co-Ni Fluted Nanowires by Templated Electrodeposition, **UC Davis Prospective Graduate Students Open House, University of California Davis, March 17 & 18, 2016.**

51. MI. Mihai, A. Badea, R. Vidu, Contributions to the Development of an Integrated Management of Energy in a Passive House, **POSDRU 132397, Excellence in Research, University POLITEHNICA Bucharest, Romania, October 17, 2014.**

50. G. Tepes, D. Bojin, R. Vidu, Studies and research on the synthesis and Characterization of Nanostructures with Magnetic properties, **POSDRU 132397, Excellence in Research, University POLITEHNICA Bucharest, Romania, October 17, 2014.**

49. G. Tepes, R. Vidu, C.M. Cotrut, M.D. Vrânceanu, A. Matei, F. Miculescu, D. Bojin, Template Based Synthesis of Ni Nanowires by Electrochemical Deposition, **the 5<sup>th</sup> International Conference on Materials Science and Technologies, Bucharest, Romania, October 15-17, 2014.**

48. R. Vidu, M. Perez-Page, D.V. Quach, X. Chen, and P. Stroeve, Electrodeposition of Co(1-X)Sb<sub>3</sub> in Citrate Solutions: Effect of Doping with Ni and Te, **2014 UC Solar Research Symposium, California Public Utilities Commission Auditorium, San Francisco, October 17th, 2014.**

47. MI. Mihai, R. Vidu, C. Ionescu, A. Badea, The Efficiency of PV and Heating System Integrated in a Passive House, **2014 Fall Scientific Session, Academy of Romanian Scientists (AOSR), Constanta, Romania, September 19-20, 2014.**

46. A. Predescu, E. Matei, A. Berbecaru, R. Vidu, "Synthesis Of Magnetic Nanoparticles For The Removal Of Heavy Metal Ions From Wastewaters" (poster), **the 38th Congress of the American-Romanian Academy of Art and Science, Caltech, Pasadena CA (USA), 23-27 July. 2014.**

45. R. Vidu, D.V. Quach, P. Stroeve, On the Electrodeposition of Antimony and Cobalt in Citrate Solutions, **Materials Challenges in Alternative & Renewable Energy 2014 (MCARE 2014), Feb.16-20, 2014, Clearwater, FL.**

44. R. Vidu, University of California, Davis, CA/USA; M. Prodana, F. Golgovici, A. Negru, D. Bojin, M. Enachescu, CSSNT, "Electrochemically doped CoSb<sub>3</sub> nanowires for high-temperature thermoelectric materials", Poster# 1.02-08, **2nd International Conference on Materials for Energy, Convention Center Karlsruhe, Germany, May 12 – 16, 2013**

43. R. Vidu, "Template Synthesis for Energy Applications", **the 37th Congress of the American-Romanian Academy of Art and Science, Chisinau, Republic of Moldavia.**

#### 4-9 June 2013

42. R. Vidu, F. Golgovici, M. Prodana, D. Bojin, A. Negru and M. Enachescu, "Fe-Doped CoSb<sub>3</sub> Nanowires Using Electrochemical Methods" **the 37th Congress of the American-Romanian Academy of Art and Science, Chisinau, Republic of Moldavia. 4-9 June 2013**

41. R. Vidu, "Zero Net Energy Community at UC Davis West Village", **RAAS Conference: Remapping Urban Spaces – American Challenges, Constanta, Romania, October 4-6, 2012**

40. Joanna R. Groza (PI), Jean-Pierre Delplanque, Alan Williamson, Tien B. Tran, Dat V. Quach, Ruxandra Vidu, Adam MacMillan, MA GOALI: Rapid Sintering to Manufacture Fully Dense and Bioactive Nanocrystalline Hydroxyapatite, Grant #0523063, Grant Opportunities for Academic Liaison with Industry (GOALI), **NSF CMMI Engineering Research and Innovation Conference 2012 Engineering Transformation Through Partnerships July 9–12, 2012, Boston, MA National Science Foundation.**

39. Joanna R. Groza, Jean-Pierre Delplanque, Ruxandra Vidu, Alan Williamson, Dat V. Quach, T. Tran, Field Activated Sintering Technique Vertebrae Scale-up Study, **MPIF Conference, June 12, 2012, Nashville, TN.**

38. R. Vidu, D.V. Quach, P. Stroeve, Electrochemically Doped CoSb<sub>3</sub> Nanowires for High-Temperature Thermoelectric Materials, **Session: Nanocomposites and Nanomaterials for Energy, Materials Challenges in Alternative & Renewable Energy, Feb.26-Mar.1, 2012, Clearwater, FL.**

37. C. Plapcianu, C. Bartha, L. Stanciu, R. Vidu, Thermal behavior studies of Ceria doped precursors produced by sol-gel method, **Session: Nanocomposites and Nanomaterials for Energy, Materials Challenges in Alternative & Renewable Energy, Feb.26-Mar.1, 2012, Clearwater, FL.**

36. R. Vidu, D.V. Quach, P. Stroeve, Doped CoSb<sub>3</sub> Nanowires for High Temperature Thermoelectric Materials Applications, **Session: Emerging Technologies, 2011 NanoTechnology for Defense Conference, October 24-27, 2011, Bellevue, WA.**

35. R. Vidu, D.V. Quach, P. Stroeve, Fabrication of Doped CoSb<sub>3</sub> Nanowires for High Temperature Thermoelectric Materials Applications, **Session T7: Nanoscale/Low Dimension, the 30<sup>th</sup> International Conference on Thermoelectrics, ICT 2011, July 17-21, 2011, Traverse City, MI.**

34. C. Thambidurai, P. Stroeve, R. Vidu and A. Moule, **the 241<sup>st</sup> ACS National Meeting & Exposition, Anaheim, CA, March 27-31, 2011**

33. C. Thambidurai, P. Stroeve, R. Vidu and A. Moule, Deposition of Ag Electrode on Bulk Heterojunction Layer in Organic Photovoltaic Cell, **2011MRS Spring Meeting in (San Francisco, April 25-29, 2011.**

32. D.V. Quach, R. Vidu, J.R. Groza, P. Stroeve, Synthesis of Thermoelectric CoSb<sub>3</sub> Nanowires by Electrochemical Methods, **Session DD: Thermoelectric Materials - Growth, Properties, Novel Characterization Methods, and Applications, 2010 MRS Spring Meeting in San Francisco, April 5-9, 2010.**

- Projects**
- 2016-2020 "Eco-Nano-Tehnologii pentru dezvoltarea unui modul cu dublă funcționalitate pe bază de nanofire - EcoNanoWires", PI
  - 2007 SBIR Phase I: "Surface Engineering Processes of Au Nanostructures Array", PI
  - 2007 SBIR Phase I: "CVD Growth of Silicon Nanocables Using Patterned Silicon Dioxide Mask", PI
  - 2006 SBIR Phase I: "Nanocable Structures - Material Growth and Characterization", PI
  - 2009-2010 STTR Phase I: "Fabrication of Low-Cost and High-Efficiency Thermoelectric Materials", PI
  - 2012-2013 Fulbright Grant Award: "Mutual Education and Cultural Exchange Act PI
  - 2013 Solar Energy in California's Future: Barriers, Opportunities and Research Need.
  - 2013 Romanian-American Foundation (RAF),

#### Conferences

#### Seminars

1. R. Vidu, Material research for energy applications, **University of Tunis El-Manar,**



Faculty of Sciences, Tunis, Tunisia, April 4, 2019.

2. R. Vidu, Electrochemical template synthesis of nanowires/nanocables and characterization, University of Tunis El-Manar, Faculty of Sciences, Tunis, Tunisia, April 5, 2019.
3. R. Vidu, 2012-13 Fulbright Nanostructures and Nanotechnology Seminar, (10 seminars), University "POLITEHNICA" of Bucharest, Faculty of Materials Science and Engineering, and the Center of Surface Science and Nanotechnology (CSSNT), Bucharest, Romania, Oct. 2012-June. 2013.
4. R. Vidu, (invited) "Nanostructures: synthesis and energetic applications", University "POLITEHNICA" of Timisoara, Scientific Seminar organized by the Institute of Renewable Energies (ICER) Timisoara, Romania, June 12, 2013
5. R. Vidu, (invited) "Nanostructures: synthesis and energetic applications", Renewable Energy seminar, University "Eftimie Murgu" Resita, Romania, June 10, 2013
6. R. Vidu, (invited) "Nanostructures: Synthesis and Energy Application", Scientific Seminar on "Advanced Solar Cells and Energy Applications" organized by the Renewable Energy Commission of the Romanian Academy, April 19, 2013
7. R. Vidu, F. Golgovici, M. Prodana, D. Bojin and M. Enachescu, "CoSb<sub>3</sub> Nanowires Doped with Iron Obtained by Electrochemical Deposition", the 12th Edition of the National Seminar on Nanoscience and Nanotechnology organized by the Romanian Academy, Bucharest, Romania, May 16, 2013
8. R. Vidu, (invited) "Nanostructures: synthesis and energetic applications", International Centre of Biodynamics, Bucharest, Romania, June 18, 2013.
9. R. Vidu, (invited) "Nanostructures for Energy Applications", Solid State Physics group seminars, Torino, Italy, April 8, 2013
10. R. Vidu, (invited) "Present and Future in Renewable Energy in Romania", University of Craiova and Drobeta Turnu-Severin, Workshop on April 5, 2013
11. R. Vidu, (invited) "Zero Net Energy Community at UC Davis West Village", Bihor County Council, Oradea, Romania, February 5-8, 2012
12. R. Vidu, (invited) "Stadiul actual al cercetarii in domeniul nanomaterialelor pentru energia solara", Oradea University, Oradea, Romania, February 5-8, 2012
13. R. Vidu, (invited) "Nanostructured Materials for Energy Applications", Valahia University of Targoviste, Faculty of Materials and Mechanical Engineering, Targoviste, Romania, January 25, 2013
14. R. Vidu, Invited to present at the 202<sup>nd</sup> Meeting of The Electrochemical Society, Inc., Salt Lake City, Utah October 20-25, 2002 on surface alloying.
15. R. Visu, Invited to give seminars at the Tokyo University of Science from April 16 to May 29, 2011

#### HONOURS AND AWARDS

- Received **Excellence Innovation Award**, from the Toronto International Society of Innovations and Advanced Skills (TISIAS), at the International Invention Innovation Competition in Canada, iCAN-Toronto, August 24, 2019.
- Received **Gold Medal** from the Toronto International Society of Innovations and Advanced Skills (TISIAS), at the International Invention Innovation Competition in Canada, iCAN-Toronto, 2019
- Received **Euroinvent Medal** from the Romanian Inventors Forum, at the International Invention Innovation Competition in Canada, iCAN-Toronto, 2019
- Received **Gold Medal Award** at the 2019 EUROINVENT, the 11<sup>th</sup> Edition, May 15, 2019, Iasi, Romania.
- **2018 Constantin Brancoveanu International Award**,
- **2018 IAAM Scientist Medal, European Advanced Materials, August 23, 2018, Stockholm, Sweden.**
- 2017 Research Topic entitled *Augmentation of Brain Function: Facts, Fiction and Controversy* with more than 1.2 million views and downloads was awarded **The Frontiers Spotlight Award; I was one of the guest Editors.**
- Received Gold Medal, 3 medals and 6 awards at the 2016 EUROINVENT, the 8<sup>th</sup> Edition, May 20-21, 2016, Iasi, Romania.
- **2016 "Prof. Dr. Mircea Sabau" ARA Awards for Excellence in**

**Physics/Chemistry**, American Romanian Academy of Arts and Sciences, California, USA.

- ♦ **2014 Award for Excellence in Sciences** from the American Romanian Academy of Arts and Sciences, California, USA.
- ♦ Honorary President of the 3<sup>rd</sup> International Teleconference of Young Researchers “Conscience Creation Society” Bacău – București – Chicago – Chișinău – Cluj Napoca – Iași – Los Angeles – (April 11-12, 2014)
- ♦ **President of the American Romanian Academy of Arts and Sciences** (since June 2013; re-elected in 2017)
- ♦ **Received 2012-13 Fulbright Scholar Award**
- ♦ Received the **2011 and 2015 The President’s Volunteer Service Award** (lifetime) from the Romanian Community Center of Sacramento, CA
- ♦ Received **UNESCO Silver Medal**, International Exhibition for Creativity and Innovation, Bucharest, 5-10 June 1995.
- ♦ Received **Research Fellowship**, Osaka University, Japanese Ministry of Education and Science, January 1996-March 1997.
- ♦ Received **Ph.D. Scholarship**, Osaka University, Japanese Ministry of Education and Science, April 1997-March 2000.
- ♦ University of California Institute of Energy, **2001-02 Awards**, UC Energy Institute Energy Science and Technology Projects.
- ♦ Received **Travel Award**, UC Davis Postdoctoral Scholars Association (PSA).
- ♦ California Energy Commission (CEC), 2002 & 2006 Energy Innovations Small Grant (EISG) Award.
- ♦ 2005-2009 National Science Foundation SBIR/STTR Grant.
- ♦ Received U.S. Patent.

#### MEMBERSHIPS

##### Member of Academies or Research Society

- ♦ Elected **Senior Member** of the **National Academy of Inventors** (NAI), since 2019
- ♦ Member of the International Association of Advanced Materials (IAAM), since 2018
- ♦ Elected Membro Honoris, Academia Scientiarum Medicinae, 2017;
- ♦ Elected Honorary Member of the Academy of Romanian Scientists, 2017;
- ♦ Elected Member of the American Association for the Advancement of Science since 2017
- ♦ Elected Member of the IEEE, since 2017
- ♦ Elected Member of the American Romanian Academy of Art and Science since 2003.
- ♦ Elected Member of the Electrochemical Society, since 1998
- ♦ Elected Member of the Materials Research Society, since 2004

- ♦ Member of the Scientific Review Committee
- ♦ The Scientific Bulletin of Valahia University, Materials and Mechanics Faculty, ISSN 1844–1076 (published by Degruyter), a publication of the Romanian Academy of Sciences, Targoviste branche, Branch President Prof. Dr. Ion Cucui, Honorary President Academician Prof. Dr. Eng. Oprea Florea, <http://fsim.valahia.ro/sbmm.html/>

##### Member of the UC Davis Conflict of Interest Committee

- ♦ 2013-2016

##### Conference/Congress Program Committee:

- ♦ Member of the Technical Program Committee, 6<sup>th</sup> International Renewable and Sustainable Energy Conference, Dec. 5-8, 2018, Rabat, Morocco
- ♦ President of the ARA-42 Congress, American Romanian Academy of Arts and Sciences, University of Babes-Bolyai, Cluj-Napoca, Romania, May 23-26, 2018.
- ♦ President of the ARA-41 Congress, American Romanian Academy of Arts and Sciences, University of Craiova, Craiova, Romania, July 19-22, 2017.
- ♦ President of the ARA-40 Congress, American Romanian Academy of Arts and Sciences, University of Montreal, Montreal, Canada, July 28-31, 2016.
- ♦ President of the ARA-39 Congress, American Romanian Academy of Arts and

- Sciences, National Institute of Nuclear Physics, Frascati, Roma, Italy, July 28-31, 2015.
- President of the ARA-38 Congress, American Romanian Academy of Arts and Sciences, CALTECH, Pasadena, CA, USA, July 23-27, 2014.
  - Fulbright Commission, reviewer for Romania (since 2013).
  - Member of the Organizing Committee, UC Energy Week 2010, Inventing a New Energy Future, Solar Workshop, May 10-12, 2010.
  - Member of the Organizing Committee, UC Davis Discovery Conference, “University of California Conference on Nanowires, Nanotubes and Nanocables Array and Their Applications”, Davis, May 5-6, 2006.
  - Member of the Technical Program Committee, Nanostructure Integration Techniques for Mass-Manufacturing of Devices, Circuits and Systems: Interfaces, Interconnects, and Nanosystems – II, SPIE’s International Symposium on Optics East 2006, Boston, MA.
  - Member of the Technical Program Committee, Nanomaterial Synthesis and Integration for Sensors, Electronics, Photonics and Electro-Optics, Conference organized by SPIE, 1-4 October, 2006, Boston, MA.

**MEDIA AND OUTREACH**

My work has been featured in the Sacramento Bee newspaper, the UC Davis web site, Fulbright website, ABC News, and international web sites. Our work has had a significant impact on a broad range of research, including renewable energy: Nanostructured Solar Cells and Thermoelectric Materials. For example, we have fabricated nanostructured surfaces for photovoltaic solar cells and founded the company “BlooSolar”. BlooSolar recently received three rounds in investments (\$20 millions) and was featured on ABC News. I am still a member of the Advisory Board for BlooSolar.