

## MEMORIU ȘTIINȚIFIC

Drd. Burcea Irina Madalina

### Studii de doctorat

Perioada: 2020-2025

Conducător științific: Prof.dr.ing. Paul Svasta

Domeniu: Inginerie electronică, telecomunicații și tehnologii informaționale

Titlul tezei de doctorat: Contribuții privind efectul constructiv al structurilor de tip supercondensator asupra caracteristicilor electrice ale acestora

### Activitate științifică

#### A.Lista de lucrări științifice (articole în reviste sau volume)

1. Rodica-Cristina NEGROIU, Cristina-Ioana MARGHESCU, RamonaMihaela BUGA, Cosmin UNGUREANU, Irina-Bristena BACIS, **Madaliana-Irina BURCEA**, Vasile Madalin MOISE, „High-voltage supercapacitors, a viable alternative to conventional electrical energy storage devices”, January 2023, DOI 10.37410/EMERG.2023.2.05
2. RĂDULESCU, Ion Răzvan; PERDUM, Elena; LUPESCU, Cezar; DINCĂ, Laurențiu; VISILEANU, Emilia; BACIS, Irina; NEGROIU, Rodica; **BURCEA, Irina Madalina**; SVASTA, Paul, „SYNTHESIS OF GRAPHENE OXIDE ON COTTON FABRIC FOR MANUFACTURING FLEXIBLE SUPERCAPACITOR ELECTRODE.”, EMERG: Energy. Environment. Efficiency. Resources. Globalization, 2023, Vol 9, Issue 4, p92, ISSN 2457-5011
3. Rodica-Cristina Negroiu,Cristina-Ioana Marghescu,Irina-Bristena Bacis, **Madalina-Irina Burcea**, Andrei Drumea, Laurentiu Dinca, Ion Razvan Radulescu, „Edible Gelatin and Cosmetic Activated Carbon Powder as Biodegradable and Replaceable Materials in the Production of Supercapacitors.”, MDPI: batteries, 2024, 10(7), 237, <https://doi.org/10.3390/batteries10070237> WOS:001276770400001 (4.6 Q2)

#### B.Participări la conferințe/workshop-uri

1. Rodica Negroiu; Paul Svasta; **Irina Madalina Burcea**; Cosmin Ungureanu; Mihaela-Ramona Buga, „Investigations on experimental data obtained by Electrochemical Impedance Spectroscopy on Supercapacitors Structures”, September 2022, DOI: 10.1109/ESTC55720.2022.9939414, Conference: 2022 IEEE 9th Electronics System-Integration Technology Conference (ESTC) WOS:001108538800016
2. Rodica Negroiu; Paul Svasta; **Irina Madalina Burcea**; Cosmin Ungureanu; Mihaela-Ramona Buga, „Investigations regarding the increase of the nominal voltage of the supercapacitors”, October 2022, DOI: 10.1109/SIITME56728.2022.9988309, Conference: 2022 IEEE 28th International Symposium for Design and Technology in Electronic Packaging (SIITME) WOS:000947243400046
3. **Irina Mădălina Burcea**; Rodica Negroiu; Attila Bonyár; Róbert Huszánk; Ciprian Ionescu; Cristina Marghescu, Paul Svasta , „Comparison of Nanocomposites based on PDMS and Conductive Nanomaterials for the realization of Supercapacitors”, May 2023, DOI: 10.1109/ISSE57496.2023.10168474, Conference: 2023 46th International Spring Seminar on Electronics Technology (ISSE)
4. **Irina Madalina Burcea**; Paul Svasta; Rodica Negroiu , „The Influence of the Equivalent

- Series Resistance (ESR) on the Functional Behaviour of Electrochemical Double Layer Capacitors (EDLCs)", May 2023, DOI: 10.1109/ISSE57496.2023.10168419, Conference: 2023 46th International Spring Seminar on Electronics Technology (ISSE)
5. **Irina Madalina Burcea**, Rodica Negroiu, Paul Svasta, „Development of Cost Effective and Environmentally Friendly Supercapacitors", 2023 IEEE 29th International Symposium for Design and Technology in Electronic Packaging (SIITME), Craiova, Romania, 2023, pp. 142-146, doi: 10.1109/SIITME59799.2023.10431223, WOS: 001283808200064
  6. Rodica Negroiu, **Irina Madalina Burcea**, Paul Svasta, C. Marghescu, M.R. Buga, A. Spanu Zaulet, C. Ungureanu, „Comparison between the electrical parameters of high voltage supercapacitor cells", 2023 IEEE 29th International Symposium for Design and Technology in Electronic Packaging (SIITME), Craiova, Romania, 2023, pp. 277-280, doi: 10.1109/SIITME59799.2023.10431353
  7. **Irina Madalina Burcea**, Rodica Cristina Negroiu, Bogdan Mihailescu, Paul Svasta, Madalin Vasile Moise, Ciprian Ionescu, „Realization of Cost-Effective Supercapacitors Utilizing Substitutable Materials", 2024 47th International Spring Seminar on Electronics Technology (ISSE), DOI: 10.1109/ISSE61612.2024.10604057
  8. **Irina Madalina Burcea**, Rodica Cristina Negroiu, Bogdan Mihailescu, Paul Svasta, Madalin Vasile Moise, Cristina Marghescu, „Reliable Fabrication Methodology for Consistent Supercapacitor Performance", 2024 IEEE 10th Electronics System-Integration Technology Conference (ESTC), Berlin, Germany, 2024, pp. 1-5, doi: 10.1109/ESTC60143.2024.10712106, WOS: 001340802800110
  9. **Burcea Irina Madalina**; Rodica Negroiu; Paul Svasta; Adnana Zaulet; Mihaela Buga; Cosmin Ungureanu; „Synthesis, Characterization, and Application of PVDF thin film separator for supercapacitors", Conference: 48th International Spring Seminar on Electronics Technology (ISSE), 2025 DOI: 10.1016/j.surfin.2024.104593;
  10. Rodica Negroiu, Cristina-Ioana Marghescu, Irina-Bristena Bacis, **Madalina-Irina Burcea**, Laurentiu Dinca, Ion Razvan Radulescu, „The Development and Electrical and Morphological Characterization of some Electrodes on the Sponge Structure used in the Realization of Supercapacitors", 2024 IEEE 30th International Symposium for Design and Technology in Electronic Packaging (SIITME), DOI: 10.1109/SIITME63973.2024.10814789

#### F. Stagii de perfecționare

20 - 24 Februarie 2023 la Institutul Național de Cercetare-Dezvoltare pentru Tehnologii Criogenice și Izotopice Ramnicu Valcea, Departament ICSI ENERGY, Laborator Dezvoltare Baterii, pentru a colabora - participa la activitati de cercetare privind dezvoltarea de celule electrochimice de tip CR2032.

**Student-doctorand,**  
Ing. Burcea Irina Madalina