

## MEMORIU ȘTIINȚIFIC

Student-doctorand: IULIAN-TEODOR VOICILĂ

### Studii de doctorat

Perioada: 2021-2025

Conducător științific: PROF. DR. ING. GEORGE-CĂLIN SERIȚAN

Domeniu: INGINERIE ELECTRICĂ

Titlul tezei de doctorat: SISTEM INTELIGENT DE SORTARE A BATERIILOR LI-ION DIN INDUSTRIA AUTO CARE ȘI-AU ATINS LIMITA DE VIAȚĂ

### Activitate științifică

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

1. **Voicila, T. I.**, Seritan, G. C., & Enache, B. A. (2024). *Analysis of bidirectional DC-DC power converters for screening systems of retired batteries*. Revue Roumaine des Sciences Techniques-Serie Electrotechnique et Energetique, 69(3), 315-319. IF 0.7, Q4, **WOS:001319210900010**  
<https://journal.iem.pub.ro/rrst-ee/article/download/813/423>
2. **Voicila, T. I.**, Enache, B. A., Argyriou, V., Sarigiannidis, P., Pisla, M. A., & Seritan, G. C. (2025). *Enhanced OCV Estimation in LiFePO4 Batteries: A Novel Statistical Approach Leveraging Real-Time Knee/Elbow Detection*. Batteries, 11(5), 186, IF 4.6, Q2, **WOS:001496608900001**  
<https://www.mdpi.com/2313-0105/11/5/186>
3. **Voicila, T. I.**, Enache, B. A., Mateescu, M. V., Seritan, G. C. (2025). *A HIGH-SPEED MULTI-CHEMISTRY AND MULTI-BATTERY STATE-OF-HEALTH SCREENING SYSTEM FOR RETIRED LITHIUM-ION BATTERIES*. U.P.B. Sci. Bull., Series C, ISSN 2286-3540, 87(3), IF 0.3, Q4, **WOS:001562110500021**  
[https://www.scientificbulletin.upb.ro/SeriaC -  
Inginerie Electrica si Stiinta Calculatoarelor.php?page=revistaonline&a=1&cat=C](https://www.scientificbulletin.upb.ro/SeriaC_-_Inginerie_Electrica_si_Stiinta_Calculatoarelor.php?page=revistaonline&a=1&cat=C)
4. Gkanatsios, S., Vilciu, I., & **Voicila, T. I.** (2023). *Evaluating the state of health of Lead-Acid battery used in UPS*. EMERG: Energy. Environment. Efficiency. Resources. Globalization, 9(3), (pp. 50-61).  
<https://emerg.ro/files/evaluating-the-state-of-health-of-lead-acid-battery-used-in-ups/>
5. **VOICILA, T. I.**, BOGDAN, A.-G., ENACHE, B.-A. (2023). *Guidelines for developing an IOT-enabled application for enhanced hospital management*. University of Pitesti Scientific Bulletin Series: Electronics and Computer Science, 23(2), pp. 1-6.  
[https://bulletin.feccupit.ro/archive/view/2023\\_2\\_1.html](https://bulletin.feccupit.ro/archive/view/2023_2_1.html)

6. **VOICILA, T. I.**, BOGDAN, A.-G., ENACHE, B.-A. (2023). *Comparative analysis of medical equipment identification techniques: A multifaceted approach for enhanced hospital operations*. University of Pitesti Scientific Bulletin Series: Electronics and Computer Science, 23(2), pp. 7-12.  
[https://bulletin.feccupit.ro/archive/view/2023\\_2\\_2.html](https://bulletin.feccupit.ro/archive/view/2023_2_2.html)
7. Pislă, M.-A.; Enache, B.-A.; Argiriou, V.; Sarigiannidis, P.; **Voicila, T.-I.**; Seritan, G.-C. *High-Speed SMVs Subscriber Design for FPGA Architectures*. Electronics 2025, ISSN: 2079-9292, IF 2.6, Q2, 14, 2135. **WOS:001505875500001**  
<https://www.mdpi.com/2079-9292/14/11/2135>
8. **Voicilă, T. I.**, Seritan, G. C., Enache, B. A., Stănculescu, M., & Porumb, R (2023). *Design and implementation of a multi-battery, multi-chemistry state of health screening system*. In 2023 10th International Conference on Modern Power Systems (MPS), (pp. 1-4). (INDEX IEEE XPLORE)  
<https://0d106okae-y-https-ieeeexplore-ieee-org.z.e-nformation.ro/document/10187442/>
9. Voicilă, T. I., Seritan, G. C., Enache, B. A., Porumb, R., & Stănculescu, M. (2023). *First Steps Towards the Design of a multi-Chemistry, multi-Battery State of Health Screening System*. In 2023 13th International Symposium on Advanced Topics in Electrical Engineering (ATEE) (pp. 1-6). (INDEX IEEE XPLORE)  
<https://0d106okae-y-https-ieeeexplore-ieee-org.z.e-nformation.ro/document/10108169/>
10. Constantinescu, L. M., Enache, B. A., Dogaru, V. G., Voicila, T. I., Vilciu, I., & Vasile, S. C. (2023). *Statistical Analysis of Capacity Loss for Stored Batteries*. In 2023 15th International Conference on Electronics, Computers and Artificial Intelligence (ECAI) (pp. 01-04). (INDEX IEEE XPLORE)  
<https://0d106okae-y-https-ieeeexplore-ieee-org.z.e-nformation.ro/document/10193945/>
11. Grigorescu, S. D., Seritan, G. C., Enache, B. A., Adochiei, F. C., Argatu, F. C., Vilciu, I., & Voicila, T. I. (2022). *A Multipurpose Video Immersion Laboratory*. In 2022 E-Health and Bioengineering Conference (EHB) (pp. 1-4). (INDEX IEEE XPLORE)  
<https://0d106okae-y-https-ieeeexplore-ieee-org.z.e-nformation.ro/document/9991365/>
12. Vilciu, I., Enache, B. A., Seritan, G. C., & Voicilă, T. I. (2023). *An Indoor Air Quality Score Computation and System*. In 2023 13th International Symposium on Advanced Topics in Electrical Engineering (ATEE) (pp. 1-4). IEEE. (IEEE XPLORE)  
<https://0d106okae-y-https-ieeeexplore-ieee-org.z.e-nformation.ro/document/10108307>
13. Gandescu, C. H., Gkanatsios, S., Cepisca, C., Vilciu, I., & Voicila, T. I. (2022). *Accurate Modelling of an Online Uninterrupted Power Supply*. Journal of Electrical Engineering, Electronics, Control and Computer Science, 8(4), 45-50.  
<https://jeeccs.net/index.php/journal/article/download/307/234>

## B. Cărți și manuale



1. Îndrumar de laborator: Seritan, G. C., Enache, B. A., Vilciu, I., **Voicila, T. I.** (2024). Electrical Experiments – From fundamentals to advanced measurements Vol. 1. Editura POLITEHNICA Press, 95 pag., ISBN 978-630-339-001-7.
2. Îndrumar de laborator: Seritan, G. C., Enache, B. A., Vilciu, I., **Voicila, T. I.** (2025). Electrical Experiments – From fundamentals to advanced measurements Vol. 2. Editura POLITEHNICA Press, 91 pag., ISBN 978-630-339-006-2.

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

1. Voicilă, T. I., Seritan, G. C., Enache, B. A., Stănculescu, M., & Porumb, R. Design and implementation of a multi-battery, multi-chemistry state of health screening system. In MPS Cluj 22 June 2023 – online session 4 (14:30-16:00), room Ambassador, paper 58.
2. Voicilă, T. I., Seritan, G. C., Enache, B. A., Porumb, R., & Stănculescu, M. (2023, March). First Steps Towards the Design of a multi-Chemistry, multi-Battery State of Health Screening System. In 2023 13th International Symposium on Advanced Topics in Electrical Engineering (ATEE) (pp. 1-6). IEEE. – physical session, UPB library 24.03.2023.
3. Constantinescu L. M., Enache B. A., Dogaru V. G., Voicila T. I., Vilciu I. & Vasile S. C. Statistical Analysis of Capacity Loss for Stored Batteries. In ECAI 2023 – Library UPB, paper 1854.

### D. Brevete

1. Cerere de brevet: Enache, B. A., **Voicila, T. I.**, Seritan, G. C. (2024). Metoda și sistem de sortare automată a bateriilor care și-au atins limita de viață în vederea reutilizării lor. Cerere înregistrată la OSIM, nr. 7/2025, nr. publicare **139035 A2**. (Anexa 17.1)

### E. Proiecte de cercetare științifică

1. Inginer de cercetare în Electrotehnică (membru): Evaluation and Valorization of Social Services for a Sustainable Transition (EVOSST), HORIZON-CL2-2024-DEMOCRACY-01, Grant agreement ID: 020256118, 01/02/2025-01/01/2028 (Anexa 17.2)
2. Inginer de cercetare în Electrotehnică (membru): Digital Twin for Europe (TwinEU), H2020-CL5-2023-D3-03, Grant agreement ID: 101136119, 01/01/2024-01/01/2026 (Anexa 17.3)
3. Inginer de cercetare în Electrotehnică (membru): rEsilient and seLf-healed EleCTRical pOwer Nanogrid (ELECTRON), H2020-SU-DS-2020, Grant agreement ID: 101021936, 01/10/2021-30/09/2024 (Anexa 17.4)

### F. Stagii de perfecționare

### G. Cursuri de perfecționare

1. Certificat de absolvire al cursului: Learn Streamlit Python, Jesse E. Agbe, Link <https://www.udemy.com/certificate/UC-8273ca12-f0b9-4238-a4a6-0a52e161a77b/>, 03/09/2025.

2. Certificat de absolvire al cursului: Machine Learning Model Deployment with Streamlit, Marco Peixeiro, Link <https://www.udemy.com/certificate/UC-28ed3d6c-c7d9-4a98-9781-d02954329838/>, 08/09/2025.
3. Certificat de absolvire al cursului: ISO26262 Crash Course: Functional Safety Mastery, Paul Danci, Link <https://www.udemy.com/certificate/UC-4f61df96-a3c8-498e-96bd-cec46a2ab59a/>, 20/05/2025.
4. Certificat de absolvire al cursului: Master statistics & machine learning: intuition, math, code. Mike X Cohen, Link [ude.my/UC-2f8d75b7-afa2-4d54-86aa-13ed78198038](https://www.udemy.com/certificate/UC-2f8d75b7-afa2-4d54-86aa-13ed78198038/), 15/04/2025.
5. Certificat de absolvire al cursului: Microsoft Excel: Excel Data Visualization & Dashboard Design. Maven Analytics, Enrique Ruiz, Link [ude.my/UC-619213dd-66c3-4d77-8005-66583dfbb8ed](https://www.udemy.com/certificate/UC-619213dd-66c3-4d77-8005-66583dfbb8ed/), 21/03/2025.
6. Certificat de absolvire al cursului: Raspberry Pi For Beginners – 2025 Complete Course. Edouard Renard, Link [ude.my/UC-07b540a6-a12e-45ba-b9ec-2ea869bc3a58](https://www.udemy.com/certificate/UC-07b540a6-a12e-45ba-b9ec-2ea869bc3a58/), 02/03/2025.
7. Mobilitate program ERASMUS+, Universitatea Western Macedonia ZEP campus, Grecia, Kozani, sesiune dedicată de cursuri intitulată: Cutting-edge architectures in data acquisition and communication systems, 09/02/2025-15/02/2025. (Anexa 17.5)
8. Certificat de absolvire al cursului: Microsoft Excel – Excel from Beginner to Advanced. Kyle Pew, Office Newb, Link [ude.my/UC-3e235020-53c7-42d7-ace8-844e8ada06c1](https://www.udemy.com/certificate/UC-3e235020-53c7-42d7-ace8-844e8ada06c1/), 06/02/2025.
9. Certificat de absolvire al cursului: The Complete Train the Trainer Bootcamp BeginnersAdvanced TJ Walker, Link <https://www.udemy.com/certificate/UC-200552c6-1078-4039-8f79-d60f479d2c99/>, 17/01/2025.
10. Certificat de absolvire al cursului: Learn to Repair & Troubleshoot Electronics. Shubham Tiwari, Link [ude.my/UC-d41256b0-8833-44d1-b455-78faf2478794](https://www.udemy.com/certificate/UC-d41256b0-8833-44d1-b455-78faf2478794/), 30/12/2024.
11. Certificat de absolvire al cursului: Integrating Python Code in LabVIEW. Gorkem Sungur, Link [ude.my/UC-4bc60418-cead-4158-b496-03faf4286b63](https://www.udemy.com/certificate/UC-4bc60418-cead-4158-b496-03faf4286b63/), 08/12/2024.
12. Certificat de absolvire al cursului: Measurement System Analysis (MSA) Expert (Accredited). San deep Jumar, Quality Gurus INC, Link [ude.my/UC-639e30ac-92c6-466a-b1b7-a038810a53fa](https://www.udemy.com/certificate/UC-639e30ac-92c6-466a-b1b7-a038810a53fa/), 05/12/2024.
13. Certificat de absolvire al cursului: Ultimate Power Electronics and Electrical Protection Bundle. Eng. Ahmed Mahdy, Link [ude.my/UC-f2065ce0-b0f6-40d2-a1d5-670dc276a5df](https://www.udemy.com/certificate/UC-f2065ce0-b0f6-40d2-a1d5-670dc276a5df/), 09/11/2024.
14. Certificat de absolvire al cursului: Mastering Advanced Battery Management for Electric Vehicle. Ritul Shah, Link [ude.my/UC-9ff85a7c-da8f-4d51-80e0-74b216c6f87c](https://www.udemy.com/certificate/UC-9ff85a7c-da8f-4d51-80e0-74b216c6f87c/), 29/10/2024.
15. Certificat de absolvire al cursului: Basics of Power Electronics. Walid Issa, Link [ude.my/UC-5d35208a-b18f-41d7-95dd-1b6b24e13498](https://www.udemy.com/certificate/UC-5d35208a-b18f-41d7-95dd-1b6b24e13498/), 15/10/2024.
16. Certificat de absolvire al cursului: Lithium-Ion Batteries – From Chemistry to Engineering. Sebastian Weiss, Link [ude.my/UC-39127ca3-f9ca-44a4-a8a7-f58a7f25ea7e](https://www.udemy.com/certificate/UC-39127ca3-f9ca-44a4-a8a7-f58a7f25ea7e/), 07/10/2024.
17. Certificat de absolvire al cursului: MATLAB/Simulink Bible | Go From Zero to Hero + ChatGPT!. Dr. Ryan Ahmed, Ph.D., MBA, Mitchell Bouchard, Stemplicity School Online, Link [ude.my/UC-2074ef3e-036b-47f5-8a52-2392da65770b](https://www.udemy.com/certificate/UC-2074ef3e-036b-47f5-8a52-2392da65770b/), 29/09/2024.



18. Certificat de absolvire al cursului: Crash Course Electronics and PCB Design. Andre LaMothe, Link [ude.my/UC-8742ae1d-db2f-4fe5-9a96-626972f48871](https://ude.my/UC-8742ae1d-db2f-4fe5-9a96-626972f48871), 23/09/2024.
19. Certificat de absolvire al cursului: Advanced Kalman Filtering and Sensor Fusion. Steven Dumble, Link [ude.my/UC-137fe9cd-73da-49d2-8d71-0596c0b9d92c](https://ude.my/UC-137fe9cd-73da-49d2-8d71-0596c0b9d92c), 10/09/2024.
20. Certificat de absolvire al cursului: The Complete Prompt Engineering for AI Bootcamp (2024) Mike Taylor, James Phoenix, Link <https://www.udemy.com/certificate/UC-407f5d18-a862-4188-a66f-13fd86640ef1/>, 02/09/2024.
21. Diplomă de participare sesiunea de instruire Enformation Universitatea POLITEHNICA București, 02/03/2022. (Platforma Enformation)
22. Certificat de absolvire al cursului: Honeywell Industrial Process Automation, Honeywell, 10/05/2022. (ANEXA 17.6)
23. Certificat de absolvire – Programul de formare psihopedagogică Nivel II PU Universitatea Valahia din Târgoviște, Departamentul pentru Pregătirea Personalului Didactic, 01/10/2021-30/06/2022. (ANEXA 17.7)
24. Diplomă de participare sesiunea de comunicări științifice în cadrul programului de formare psihopedagogică Nivel II PU Universitatea Valahia din Târgoviște, Departamentul pentru Pregătirea Personalului Didactic, Lucrarea prezentată: Integrarea aplicațiilor interactive moderne în educație, Kahoot și învățarea, 11/2022. (ANEXA 17.8)
25. Certificat de absolvire – Programul de formare psihopedagogică Nivel I PU Universitatea Valahia din Târgoviște, Departamentul pentru Pregătirea Personalului Didactic, 01/10/2020-14/07/2021. (ANEXA 17.9)
26. Diplomă de participare sesiunea de comunicări științifice în cadrul programului de formare psihopedagogică Nivel I PU Universitatea Valahia Târgoviște, Departamentul pentru Pregătirea Personalului Didactic, Lucrarea prezentată: Dezvoltarea inteligenței emoționale la elevi, 11/2021. (ANEXA 17.10)
27. Certificat de absolvire al cursului: Practical Python for AI Coding 1 Korean Advanced Institute of Science and Technology (KAIST), 14/12/2021, Link <https://coursera.org/share/0456d89de366b380b2c9ebcd3bf0e531>, 01/12/2021-14/12/2021.

**H. Membru în comitete de organizare sau comitete științifice ale conferințelor/colective de redacție ale unor reviste**

1. Responsabil logistic în Comitetul de organizare al celei de a 13-a ediție a International Symposium on ADVANCED TOPICS IN ELECTRICAL ENGINEERING, București, 23/03/2023-05/03/2023. (ANEXA 17.11)

Conducător de doctorat,

PROF. DR. ING. GEORGE-CĂLIN SERIȚAN

Student-doctorand,

IULIAN-TEODOR VOICILĂ