# RAPORT ACTIVITATE [1]

pe anul 2024

**1. Datele de identificare ale unității de cercetare (UC)**

1.1. Denumirea UC[2]: Sisteme integrate de conversie a energiei și conducere avansată a proceselor complexe - **SICECAPC**

1.2. Document de înființare și anul de înființare[3]: Certificat nr. 142-CC-C, CNCSIS, Bucuresti 14.05.2002

1.3. Adresa UC: Str. Stiintei 2, corp Y

1.4. Telefon, fax, pagina web, e-mail: Fax: + 40-336-130 298 / + 40-336-130 299, Marian.Gaiceanu@ugal.ro

https://www.unicer.ugal.ro/index.php/ro/prezentare-sicecapc

https://eeris.eu/ERIF-2000-000U-3131

https://eertis.eu/errf-2300-000z-2522

**2. Scurtă prezentare**

2.1. Domeniul fundamental/ramura de știință[4]: Ştiinţe inginereşti / Inginerie electrică, electronică şi telecomunicaţii

2.2. Directii de cercetare-dezvoltare/obiective de cercetare/priorități de cercetare

a. domenii principale de cercetare-dezvoltare-inovare

Domenii de specializare inteligentă (SNCDI 2014-2020), după cum urmează:

- Energie, mediu și schimbări climatice
- Tehnologii informaționale și de comunicații, spațiu și securitate
- Materiale, procese și produse inovative (servicii/microproducție).

b. domenii secundare de cercetare-dezvoltare-inovare

Centrul SICECAPC dezvoltă direcții de cercetare, dezvoltare si inovare:

- Sisteme integrate de conversie a energiilor regenerabile (microcogenerare, microtrigenerare, fotovoltaică, eoliană)
- Calitatea energiei și eficiența energetică a rețelelor centralizate și descentralizate
- Sisteme regenerative de acționări electrice

[1] La Raportare se va avea in vedere doar activitatea desfășurată de membrii titulari (Mt) ai UC

[2] Inclusiv acronim.

[3] Se specifică numărul Hotărârii de Senat și data aprobării

[4] In acord cu HOTĂRÂREA Nr. 433/2022 privind aprobarea Nomenclatorului domeniilor şi al specializărilor/programelor de studii universitare şi a structurii instituţiilor de învăţământ superior pentru anul universitar 2022-2023

- Conducerea automată a sistemelor de producere/consum a energiei electrice (conducerea automată a sistemelor de conversie a energiei eoliene, optimizarea conversiei electromecanice la receptoarele clasice)
- Conducerea roboților omnidirecționali

c. servicii / microproductie

- Servicii de consultanță, expertize și transfer tehnologic pentru mediul socio-economic (http://ugal.ro/files/cercetare/2017/0_Catalog_SICECAPC1.pdf),:
- Studii privind alegerea și implementarea sistemelor de acționare electrică cu performanțe energetice ridicate
- Studii privind alegerea și dimensionarea sistemelor regenerative de acționare electrică
- Proiectarea, instalarea și punerea în funcțiune a sistemelor cu logică programabilă (PLC) pentru comanda acționărilor electrice
- Acționări electrice și convertoare statice inteligente
- Studii privind modernizarea instalațiilor industriale în vederea reducerii consumului de energie electrică
- Studii privind optimizarea consumului de energie în companii/întreprinderi
- Proiectarea și realizarea sistemelor de acționare electrică optimale
- Studii privind calitatea energiei electrice în rețelele electrice de joasa tensiune, rezolvarea problemelor legate de calitatea energiei electrice
- Proiectarea și realizarea filtrelor active de putere de tip paralel pentru creșterea calității energiei electrice și compensarea puterii reactive
- Proiectarea și realizarea convertoarelor statice de putere, pentru creșterea calității energiei electrice
- Studii privind sursele de energie electrică pe bază de energii regenerabile. Integrarea și funcționarea surselor de energie electrică, pe bază de energii regenerabile în echipamente industriale, în rețele electrice
- Proiectarea și realizarea convertoarelor statice de putere, pentru integrarea și funcționarea surselor de energie electrică pe bază de energii regenerabile în rețele electrice
- Defectoscopia și mentenanța predictivă și preventivă a mașinilor electrice de curent alternativ
- Sisteme integrate de conversie a energiei și conducere avansată a proceselor complexe.

**3. Structura de conducere a UC**

Coordonator (Director/ Responsabil UC): Prof. dr. habil. ing. Marian Găiceanu

Consiliul de coordonare/științific: Conf.dr.ing. Ion Voncilă

**4. Structura resursei umane**

**Numărul total de membri 25, din care:**

a. Număr membri titulari[5]: 17

[5] Numai pe baza adeziunii aprobate de Responsabilul UC

b. Număr membri asociați: 1

c. Conducători de doctorat[6]: 2 (Anexa 2.1)

d. Număr de tineri cercetatori (postoctoranzi, doctoranzi, masteranzi etc): 6

a) Contribuții privind acționarea și conducerea vehiculelor autonome omnidirecționale cu 4 roți motoare și directoare (Seekur), domeniul de doctorat- Inginerie electrică, nume doctorand ing. Razvan Buhosu, nume conducator de doctorat Prof.dr.habil.ing. Marian Găiceanu;

b) Conducerea inteligentă a procesului de laminare a tablei, domeniul de doctorat- Inginerie electrică, nume doctorand ing. Solomon Marius, nume conducator de doctorat Prof.dr.habil.ing. Marian Găiceanu

c) Contribuții privind protecția antipertubativă a sistemelor de comunicații de la bordul navelor militare, domeniul de doctorat- Inginerie electrică, nume doctorand ing. Solcanu Vasile, teza sustinuta public decembrie 2024, nume conducator de doctorat Prof.dr.habil.ing. Marian Găiceanu

d) Contributii privind monitorizarea si controlul calitatii energiei electrice prin convertoare statice de putere, Marin George Andrei, nume conducator de doctorat Prof.dr.habil.ing. Marian Găiceanu

e) Contribuții privind creșterea eficienței energetice în acționări electrice, Doctorand ing. Necula Raluca nume conducator de doctorat Prof.dr.habil.ing. Marian Găiceanu

f) Contribuţii privind sistemele de monitorizare şi control în acţionări electrice, drd.ing. Stănescu Ionel, nume conducator de doctorat Prof.dr.habil.ing. Marian Găiceanu

e. Număr ingineri/tehnicieni: 2

## 5. Infrastructura de cercetare-dezvoltare, facilități de cercetare

5.1. Laboratoare/ compartimente[7]: 6 Anexa 5.2

5.2. Echipamente, instalații și software de interes național pentru cercetare fundamentală, dezvoltare tehnologică și inovare[8]: Anexa 5.3

1.Platformă de cogenerare

2. Platformă de conducere roboți omnidirecționali

3. Platformă de calitatea energiei și eficiență energetică

4. Platformă de sisteme regenerative de acționare electrică

5. Platformă de conducere automată a sistemelor de conversie a energiei eoliene/optimizarea conversiei electromecanice la receptoarele clasice

6. Platformă sisteme eoliene și fotovoltaice/sisteme de microcogenerare

## 6. Contracte de cercetare derulate[9]

[6] Nume, prenume, domeniul de doctorat.

[7] Se vor nominaliza laboratoarele, responsabilul si principale direcțiile de cercetare.

[8] Se se vor enumera numai acele laboratoare si acele echipamente care au fost folosite in activitatea de cercetare din ultimii 2 ani); Se vor nominaliza 1-2 repere reprezentative la nivel de universitate, regional și național.

6.1. Contracte câștigate în competiții:
- internaționale: 2
- naționale: 2

6.2. Contracte cu agenți economici:
- din străinătate:
- din țară: 7

**7. Finanțarea UC din fonduri proprii UDJG[10]**

**8. Rezultatele activității de cercetare, dezvoltare și inovare (CDI)**

8.1.Rezultate ale activității CDI (cercetare fundamentala și aplicativă)[11]

| | | **Nr.** |
|---|---|---|
| **8.1.1** | Lucrări publicate în reviste cotate ISI | 4 |
| **8.1.2** | Factor de impact cumulat al lucrărilor cotate ISI | 11,45 |
| **8.1.3** | Citări în reviste de specialitate cotate ISI | 83 |
| **8.1.4** | Lucrări ştiinţifice/tehnice in reviste indexate în baze de date internaționale | 8 |
| **8.1.5** | Comunicări ştiinţifice prezentate la conferinţe internaţionale şi publicate în volumele acestora | 7 |
| **8.1.6** | Comunicări ştiinţifice prezentate la conferinţe naţionale şi publicate în volumele acestora | 1 |
| **8.1.7** | Brevete de invenţie (solicitate / acordate) | 1 |
| **8.1.8** | Citări în sistemul ISI ale lucrărilor de cercetare/ brevete | 48 |
| **8.1.9** | Produse/servicii/tehnologii rezultate din activităţi de cercetare, bazate pe brevete, omologări sau inovații proprii. | 9 |
| **8.1.10** | Studii prospective şi tehnologice, normative, proceduri, metodologii şi planuri tehnice, noi sau perfecţionate, comandate sau utilizate de beneficiar. | 14 |

8.2. Teze de doctorat finalizate și în derulare[12] 2+6

8.3. Oportunități de valorificare a rezultatelor CDI

[9] Se vor atasa liste pe categorii care să cuprindă următoarele detalii: nr. contract, titlu, domeniul (care se inscrie in lista domeniilor de cercetare declarate ale UC) de cercetare, director, parteneri (daca este cazul), valoare totala si valoarea regie și valoarea din regie care a fost solicitata pentru intretinerea UC.
[10] Se va specifica valoarea finanțarilor și destinația acestora.
[11] Se vor anexa lista acestor contribuții.
[12] Se va anexa lista tezelor de doctorat în derulare, cu specificarea titlului, domeniul de doctorat, nume doctorand, nume conducator de doctorat.

Perioada de durabilitate 2022-2027 Titlul proiectului: "Transfer de cunoștințe privind creșterea eficienței energetice și sisteme inteligente de putere (CRESC_INTEL)", 2016-2022

- existența a 14 oferte de consultanță, expertize, servicii în Catalogul UDJG (http://ugal.ro/cercetare/infrastructura-de-cercetare/_oferta-analize-expertize-consultanta).

8.4. Rezultate ale activității CDI valorificate și efectele obținute

Implementare algoritmi de control de timp real în filtre active de putere industriale și de laborator- funționalitatea prototipurilor

**9. Măsuri privind creșterea capacității activității CDI**

- Organizare simpozion internațional ISEEE2025
- organizare SCIENTIFIC CONFERENCE OF DOCTORAL SCHOOLS Programmes SCDS – UDJG 2025, 11th Edition of SCDS-UDJG
- Depunere propuneri de proiecte: 3

**10. Măsuri pentru creșterea prestigiului și a vizibilității UC[13]**

10.1. Dezvoltarea de parteneriate:

- dezvoltarea de parteneriate la nivel național și internațional (cu personalități/ instituții / asociații profesionale) în vederea participării la programele naţionale şi internaţionale specifice;
- înscrierea UC în platforme naționale și internaționale care promovează parteneriatele;
- înscrierea UC în rețele de cercetare/asociații profesionale de prestigiu pe plan național/internațional;
- personalități științifice ce au vizitat UC;
- asigurarea de stagii de cercetare pentru specialiști din țară și străinătate;
- cursuri și seminarii susținute de personalitățile științifice invitate;
- membrii în colective editoriale ale revistelor recunoscute ISI sau incluse în baze internaționale de date.

10.2. Prezentarea rezultatelor la târgurile și expozițiile naționale și internaționale;

- târguri și expozitii internaționale;
- târguri și expoziții naționale.

- ENEFM 2024 – in calitate de profesor invitat au fost prezentate realizarile obtinute in urma brevetului, din cadrul proiectului Transfer de cunoștințe privind creșterea eficienței energetice și sisteme inteligente de putere (CRESC_INTEL)",

ENEFM 2024, 10th International Congress on Energy, Efficiency and Energy Related Materials
Chairperson: Marian Gaiceanu
15:30-16:00
Dunarea de Jos University of Galati, Romania
(Marian Gaiceanu invited speaker)
ID603- SHUNT ACTIVE POWER FILTER AS ENERGY EFFICIENCY SOLUTION

[13] Se va descrie detaliat fiecare acțiune realizată.

http://www.enefmcongress.org/images/files/05v.10.09-apmas-enefm-medopt%C4%B1cs-2024_program_timetable.pdf

- Evenimentul s-a desfășurat intre 8 si 11 octombrie 2024, a fost un prilej de realizare a tranferului de idei științifice și tehnice din sfera academică în sfera productivă și a mediului de afaceri, o ocazie de promovare a creativității tehnice instituționale, ce a oferit posibilitatea dezvoltării de parteneriate pentru valorificarea rezultatelor cercetărilor inovative.
- Agenda manifestării cuprindea prezentarea ofertei de servicii de cercetare și tehnologice ale unităților de cercetare acreditate instituțional, precum și un workshop, în care atât gazdele, cât și partenerii invitați au prezentat materiale de informare privind activitatea proprie.

De asemenea, au fost prezentate studii, cercetari in sesiuni invitate, Doctoral School of Fundamental and Engineering Sciences, The 12th Edition, 6th-7th of June 2024

| Lucrare ştiinţifică **invitată** la m.s. internațională organizată de instituții/asociații naționale |
|---|
| 1. Marian Găiceanu, Răzvan Buhosu, Răzvan Șolea, Vasile Solcanu, Marius George Solomon, Wireless Power Transfer of the Machines and Devices for Mine Integration, INVITED LECTURES, ADVANCED RESEARCH IN ELECTRICAL / ELECTRONIC ENGINEERING, SYSTEM ENGINEERING AND INFORMATION TECHNOLOGIES, SECTION 5, SCIENTIFIC CONFERENCE OF DOCTORAL SCHOOLS, Doctoral School of Fundamental and Engineering Sciences, The 12th Edition, 6th-7th of June 2024 https://cssd-udjg.ugal.ro/index.php/programme |
| Lucrare ştiinţifică **prezentata oral sau poster** la m.s. internaţională organizată de instituții/asociații naţionale |
| 1. Marin George-Andrei, Marian Gaiceanu , , Improving Power Factor in a Real Three-Phase Power System, ORAL PRESENTATIONS, ADVANCED RESEARCH IN ELECTRICAL / ELECTRONIC ENGINEERING, SYSTEM ENGINEERING AND INFORMATION TECHNOLOGIES, SECTION 5, SCIENTIFIC CONFERENCE OF DOCTORAL SCHOOLS, Doctoral School of Fundamental and Engineering Sciences, The 12th Edition, 6th-7th of June 2024 https://cssd-udjg.ugal.ro/index.php/programme |
| 2. Marin George-Andrei, Marian Gaiceanu , Optimizing Energy Consumption for Sinter Cooling Fans Motors Within the Control Loop, ORAL PRESENTATIONS, ADVANCED RESEARCH IN ELECTRICAL / ELECTRONIC ENGINEERING, SYSTEM ENGINEERING AND INFORMATION TECHNOLOGIES, SECTION 5, SCIENTIFIC CONFERENCE OF DOCTORAL SCHOOLS, Doctoral School of Fundamental and Engineering Sciences, The 12th Edition, 6th-7th of June 2024 https://cssd-udjg.ugal.ro/index.php/programme |
| 3. Marius-George Solomon, Marian Găiceanu, Vasile Solcanu, Optimizing the Operation of a Three-Phase Asynchronous Motor Considering the Thermal Regime and Technological Requirements, ORAL PRESENTATIONS, ADVANCED RESEARCH IN ELECTRICAL / ELECTRONIC ENGINEERING, SYSTEM ENGINEERING AND INFORMATION TECHNOLOGIES, SECTION 5, SCIENTIFIC CONFERENCE OF DOCTORAL SCHOOLS, Doctoral School of Fundamental and Engineering Sciences, The 12th Edition, 6th-7th of June 2024 https://cssd-udjg.ugal.ro/index.php/programme |
| 4. Ionel Stănescu, Marian Gaiceanu, Architecture of the Telepresence System, ORAL PRESENTATIONS, ADVANCED RESEARCH IN ELECTRICAL / ELECTRONIC ENGINEERING, SYSTEM ENGINEERING AND INFORMATION TECHNOLOGIES, SECTION 5, SCIENTIFIC CONFERENCE OF DOCTORAL SCHOOLS, Doctoral School of Fundamental and Engineering Sciences, The 12th Edition, 6th-7th of June 2024 https://cssd-udjg.ugal.ro/index.php/programme |
| 5. Marin George- Andrei, Marian Gaiceanu, Analysis of the Electrical Installation Used on a Hybrid Ship, POSTER SESSION, ADVANCED RESEARCH IN ELECTRICAL / ELECTRONIC ENGINEERING, SYSTEM ENGINEERING AND INFORMATION TECHNOLOGIES, SECTION 5, SCIENTIFIC CONFERENCE OF DOCTORAL SCHOOLS, Doctoral School of Fundamental and Engineering Sciences, The 12th Edition, 6th-7th of June 2024 https://cssd-udjg.ugal.ro/index.php/programme |

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| 6. Vasile Solcanu, Marian Găiceanu, Georgiana Marin, Marius Solomon, Electromagnetic Compatibility Issues on Board Military Ships, POSTER SESSION, ADVANCED RESEARCH IN ELECTRICAL / ELECTRONIC ENGINEERING, SYSTEM ENGINEERING AND INFORMATION TECHNOLOGIES, SECTION 5, SCIENTIFIC CONFERENCE OF DOCTORAL SCHOOLS, Doctoral School of Fundamental and Engineering Sciences, The 12th Edition, 6th-7th of June 2024 https://cssd-udjg.ugal.ro/index.php/programme |
| 7. Răzvan Buhosu, Marian Găiceanu, Marin George- Andrei, Marius George Solomon, Power Injection into the Grid by Means of the Synchronous Machine, POSTER SESSION, ADVANCED RESEARCH IN ELECTRICAL / ELECTRONIC ENGINEERING, SYSTEM ENGINEERING AND INFORMATION TECHNOLOGIES, SECTION 5, SCIENTIFIC CONFERENCE OF DOCTORAL SCHOOLS, Doctoral School of Fundamental and Engineering Sciences, The 12th Edition, 6th-7th of June 2024 https://cssd-udjg.ugal.ro/index.php/programme |
| 8. Răzvan Buhosu, Marian Găiceanu, Marin George- Andrei, Marius George Solomon, Electrical Vehicle Wireless Charging System, POSTER SESSION, ADVANCED RESEARCH IN ELECTRICAL / ELECTRONIC ENGINEERING, SYSTEM ENGINEERING AND INFORMATION TECHNOLOGIES, SECTION 5, SCIENTIFIC CONFERENCE OF DOCTORAL SCHOOLS, Doctoral School of Fundamental and Engineering Sciences, The 12th Edition, 6th-7th of June 2024 https://cssd-udjg.ugal.ro/index.php/programme |

10.3. Premii obținute prin proces de selecție/distincții, etc. 3 premii

10.4. Prezentarea activitătii de mediatizare:

- extrase din presa (interviuri);
- participare la dezbateri radiodifuzate / televizate.

## 11.Concluzii

Performanţa în cercetarea ştiinţifică dovedita a membrilor SICECAPC este reflectata prin 4 articole publicate în reviste cotate ISI - Web of Science (Thomson Reuters) si 8 lucrări ştiinţifice/tehnice in reviste indexate în baze de date internaționale. Factorul de impact cumulat al lucrărilor cotate ISI pentru SICECAPC este IF 11,45. Impactul publicațiilor membrilor SICECAPC este relevant prin 83 de citări în reviste de specialitate cotate ISI si 48 de citări în sistemul ISI ale lucrărilor de cercetare/ brevete.

Capacitatea de a atrage fonduri de cercetare este reliefata de numarul de granturi câştigate /derulate de membrii unității de cercetare finanțate din fonduri internaționale si naționale, prin contracte extrabugetare câştigate /derulate de membrii unității de cercetare, finanțate din fonduri naționale, precum si prin propuneri de proiecte elaborate de membrii UC în cadrul competițiilor naționale/internaționale.

De asemenea, SICECAPC organizeaza manifestări ştiinţifice (simpozioane) sau ateliere de lucru.

Capacitatea de a dezvolta servicii, tehnologii, produse se bazeaza pe numarul de cereri de brevet înregistrate la nivel național de către membrii UC, 9 produse/servicii/tehnologii rezultate din activităţi de cercetare, bazate pe brevete, omologări sau inovații proprii si 14 studii prospective şi tehnologice, normative, proceduri, metodologii şi planuri tehnice, noi sau perfecţionate, comandate sau utilizate de beneficiar.

Capacitatea de a pregăti superior tineri cercetători este dovedita prin existenta unui conducător de doctorat in domeniul Inginerie electrice, care activează în unitatea de cercetare, iar un numar de 6 doctoranzi isi desfășoară studii doctorale în unitatea de cercetare.

Prestigiul ştiinţific este accentuat prin activarea ca membru CNATDCU, in perioada 2016-2024, a domnului prof. dr. habil. ing. Marian Găiceanu, respectiv 2024-2025 a domnului prof. dr. ing. Nicolae Badea, precum si calitatea de membri în colectivele editoriale ale unor reviste

internaţionale (cotate de Web of Science, Thomson Reuters) sau ale unor edituri internaţionale, de către membrii UC.

Alte componente doveditoare a prestigiului ştiinţific sunt indeplinite de catre membrii UC in calitate de membri în conducerea unor organizaţii internaţionale de specialitate, referenti ştiinţifici al unor reviste cotate ISI sau al unor edituri internaţionale de renume, referenti ştiinţifici al unor reviste indexate în baze de date internaţionale sau al unor edituri recunoscute la nivel naţional, evaluatori pentru proiecte în competiţii internaţionale şi evaluatori pentru proiecte în competiţii internaţionale.

Data: 31.03.2025

Responsabil/ Director UC

Prof. dr. habil. ing. Marian Găiceanu

**ANEXE**

**4.c. Conducători de doctorat din cadrul UC**

| Nr.crt. | Nume și Prenume | Domeniul de doctorat |
|---|---|---|
| 1. | Prof.dr.habil.ing. Marian Găiceanu | Inginerie Electrică |
| 2. | Prof.emerit dr.ing. Emil ROȘU | Inginerie Electrică |

**5.1 Laboratoare/ compartimente ale UC**

| Nr.crt. | Denumire Laborator/ Compartiment UC | Responsabil Laborator/ Compartiment | Direcții de cercetare |
|---|---|---|---|
| 1. | Sisteme de microtrigenerare | Prof.Badea Nicolae, Ș.l.dr.ing. Ion Paraschiv | Sisteme de microtrigenerare |
| 2. | Sisteme eoliene și fotovoltaice / sisteme de microcogenerare | Prof.dr.ing. Nicolae Badea, Conf.dr.ing. Ion Voncilă | Sisteme eoliene și fotovoltaice/sisteme de microcogenerare |
| 3. | Calitatea energiei și eficiență energetică a rețelelor centralizate și descentralizate | Prof.dr.habil. ing. Marian Găiceanu | Calitatea energiei și eficiență energetică a rețelelor centralizate și descentralizate |
| 4. | Sisteme regenerative de acționare electrică | Prof.dr.habil. ing. Marian Găiceanu | Sisteme regenerative de acționare electrică |
| 5. | Conducerea automată a sistemelor de conversie a energiei eoliene/optimizarea conversiei electromecanice la receptoarele clasice | Conf.dr.ing. Ciprian Vlad, Ș.l.dr.ing. Romeo Păduraru, Ș.l.dr. Traian Munteanu | Conducerea automată a sistemelor de conversie a energiei eoliene/optimizarea conversiei electromecanice la receptoarele clasice |

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|---|---|---|---|
| | Conducerea roboților omnidirecționali | Drd.ing. Buhosu Razvan | Conducerea roboților omnidirecționali |

5.2 **Echipamente, instalații și software de interes național pentru cercetare fundamentală, dezvoltare tehnologică și inovare** – doar repere reprezentative la nivelul UC

| Nr.crt. | Denumire echipament | Anul achiziției |
|---|---|---|
| 1. | Platformă de cogenerare | 2011 |
| 2. | Platformă de calitatea energiei și eficiență energetică | 2023 |
| 3. | Platformă de sisteme regenerative de acționare electrică | 2016 |
| 4. | Platformă de conducere automată a sistemelor de conversie a energiei eoliene/optimizarea conversiei electromecanice la receptoarele clasice | 2017 |
| 5. | Platformă de sisteme eoliene și fotovoltaice/sisteme de microcogenerare | 2007 |
| 6. | Platformă de conducere roboți omnidirecționali | 2018 |
| 7. | Studierea si testarea pe sistemele de distributie | 2023 |
| 8. | Studiul incercarilor electrice la nivelul cladirilor industriale | 2023 |
| 9. | Dedicat analizei tehnico-economice a sistemelor de energii regenerable cu aplicabilitate in industria automotive | 2023 |
| 10. | Convertor atex intrinsicaly safe hasoik I-RF modbus fibra | 2023 |
| 11. | Router WI-FI WA512GM-D DA33769586 | 2023 |

| | | |
|---|---|---|
| 12. | Dedicat modelarii circuitelor electronice de putere PLECS | 2024 |
| 13. | Convertoare dc-dc step-down in vehicule hibride si in toate vehiculele electrice | 2024 |
| 14. | Pentru implementarea modulelor de instruire | 2024 |
| 15. | Modul instruire electronica si tehnologie digitala in automobile | 2024 |
| 16. | diagnoza si intretinerea unei baterii de inalta tensiune de pe vehiculele electrice si hibride | 2024 |
| 17. | Virtualizare OpenNebula Subscription | 2024 |
| 18. | Pentru surse de energie | 2024 |
| 19. | Kit experimental pentru retea inteligenta | 2024 |
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6. **Contracte/Granturi câștigate în competiții naționale/ internaționale**

| Nr. crt. | Nr.contract | Titlu proiect | Tip finanțare (național / internațional) | Domeniul de cercetare | UDJG coordonator / partener | Director contract | Perioada de derulare | Valoarea contractului alocata UDJG |
|---|---|---|---|---|---|---|---|---|
| 1. | Contract nr. 899469/2020 | Innovative high efficiency power system for machines and devices, increasing the level of work | Finanțare din fonduri internaționale | Inginerie Electrică | Partener | Prof.dr.habil. ing. Marian Găiceanu | 2020 – 2023, depunere raport de evaluare finala | 320.000 EURO |

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|---|---|---|---|---|---|---|---|---|
| | | safety in underground mining excavations" (HEET II)" | | | | | 2024 | |
| 2. | 12/01.09.2016 2016 – Programul Operațional Competitivitate, Axa 1, ID/Cod My SMIS: P_40_340/105803 | "Transfer de cunoștințe privind creșterea eficienței energetice și sisteme inteligente de putere (CRESC_INTEL)", 2016-2022 | Finanțare din fonduri naționale | Inginerie Electrică | Coordonator | Prof.dr.habil. ing. Marian Găiceanu | 2020 – 2022, 2024- depunere 2 rapoarte de durabilitate | 16.560.175, 04 lei; |
| 3. | Cod proiect: BSB00264 / acronim T3N-BSB | Transnatinal technology Transfer Network for Black Sea Basin | | Inginerie Electrică | Partener | Conf..dr. ing. Ciprian Vlad | | |
| 4. | PNCDI, CNCS, Platforma de cercetare | cod CNFIS-FDI-2024-F-0042, cu titlul *Acces și integrare universitară pentru succes* | Finanțare din fonduri naționale | Inginerie Electrică | Coordonator | Conf..dr. ing. Ciprian Vlad | | |
| 5. | Grant intern | RF 2642/31.05.2024 "Evaluarea performanțelor unei noi strategii de conducere a proceselor de conversie a energiei electromagnetice bazate pe tehnici RBF-NN, prin comparație cu metodele consacrate de tip MPC, cu referire la | Finanțare din fonduri UDJG | Inginerie Electrică | Coordonator | S.l.dr.ing. Selim Elena | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | motoarele PMSM” | | | | | | |
| 6 | Proiect UE | "EU-PV" nr 2021-1-PL01-KA202-026279, coordonator conf.dr.ing. Emilia PECHEANU | Finanțare din fonduri Uniunea Europeana | | Membru in echipa | S.l.dr.ing. Dumitriu Teodor | | |
| 7 | Grant intern | RF 2642/31.05.2024 Evaluarea performanțelor unei noi strategii de conducere a proceselor de conversie a energiei electromagnetice bazate pe tehnici RBF-NN, prin comparație cu metodele consacrate de tip MPC, cu referire la motoarele PMSM” . | Finanțare din fonduri UDJG | Inginerie Electrică | Coordonator | S.l.dr.ing. Costin Mădălin | | |

| **Propuneri proiecte în cadrul programelor naționale și internaționale** |
|---|
| 1. GREEN4BLUE, BSB01218 |
| 2. KA220-VET, ID KA220-VET-7B0D8197 |
| 3. Grants4HEI, Erasmus-EDU-2024-CBHE, ID 101179716 |
| 4. Propunere proiect grant intern cercetatori UDJG cu tema „Noi căi de investigare a interacțiunilor câmpurilor electrice și magnetice - generate de instalațiile electrice industriale și de pe vehiculele electrice - cu sistemele biotice” E.Selim |

| | **10. ACTIVITĂŢI PE BAZĂ DE CONTRACTE (altele decât cele de cercetare)** |
|---|---|
| | Contract de finanţare din sursa Fondul Social European (FSE) – POSCCE, POCU, TIC, POR (coordonator) – punctaj de câştigare |
| | proiect **PNRR, cod: e-PNRR 2033414941**, cu titlul Digitalizarea pentru viitorul educației și cercetării în Universitatea „Dunărea de Jos” din Galați |
| | Septembrie 2024 Contract anual de cooperare Program pregatire profesionala ATCR Association - Students -Practical Training Center |

**Tabel 7.2**

**Teze de doctorat finalizate și în derulare**

| Nr.crt. | Titlul tezei de doctorat | Finalizat/ în derulare | Domeniul de doctorat | Numele și prenumele doctorandului | Numele și prenumele conducătorului de doctorat |
|---|---|---|---|---|---|
| 1 | *Contribuții la dezvoltarea unui sistem de monitorizare a pierderilor pe liniile electrice de înaltă tensiune prin supravegherea cu avioane fără pilot* | Finalizat 2020 | Inginerie electrică | Vidan J. Cristian | Prof. dr. Găiceanu Marian |
| 2 | Contribuții privind protecția antipertubativă a sistemelor de comunicații de la bordul navelor militare | Finalizat 2024 | Inginerie electrică | SOLCANU M. VASILE | Prof. dr. Găiceanu Marian |
| 3 | *Contribuții privind acționarea și conducerea vehiculelor autonome omnidirecționale cu 4 roți motoare și directoare (Seekur)* | în derulare | Inginerie electrică | BUHOSU C. RĂZVAN | Prof. dr. Găiceanu Marian |
| 4 | *Conducerea inteligentă a procesului de laminare a tablei* | în derulare | Inginerie electrică | SOLOMON M. MARIUS-GEORGE | Prof. dr. Găiceanu Marian |
| 5 | *Contribuţii privind sistemele de monitorizare şi control în acţionări electrice* | în derulare | Inginerie electrică | Stănescu Ionel | Prof. dr. Găiceanu Marian |
| 6 | Contributii privind monitorizarea si controlul calitatii energiei electrice prin convertoare statice de putere | în derulare | Inginerie electrică | Marin George Andrei | Prof. dr. Găiceanu Marian |

**Tabel 7.1.1.**

**Articole în reviste cotate ISI**

| Nr.crt. | Date de identificare articol<br>(Autori,Titlu, cod DOI articol, Titlul revistei, anul publicării) | Factor de impact |
|---|---|---|
| 1. | 1. **Costin, M**.; Lazar, C. Induction Motor Improved Vector Control Using Predictive and Model-Free Algorithms Together with Homotopy-Based Feedback Linearization. Energies **2024**, 17, 875. https://doi.org/10.3390/en1704087 | |
| 2. | 2. **Costin, M**.; Bivol, I. A New Paradigm in AC Drive Control: Data-Driven Control by Learning Through the High-Efficiency Data Set—Generalizations and Applications to a PMSM Drive Control System. *Sensors* **2024**, *24*, 7313. https://doi.org/10.3390/s24227313 | |
| 3. | 1.C. Vlad, N.Badea si altii - *Using Machine Learning Methods for Contactless Monitoring of Abnormality in Breathing Patterns*- BRAIN. Broad Research in Artificial Intelligence and Neuroscience<br>e-ISSN: 2067-3957 \| p-ISSN: 2068-0473, IF=0.8 2025, Volume 16, Issue 1, pages: 31-49. Submitted: September 2nd, 2024 \| Accepted for publication: November 5th, 2024<br>DOI: https://doi.org/10.70594/brain/16.1/3 | |
| 4. | 1. Djamel Ikni, Elena Raducan, 'Stability Analysis of a Wind Turbine Controlled by Direct Torque Control', Journal of Energie, MDPI, Energies 2024, 17, 2488. https:// doi.org/10.3390/en17112488, https://www.mdpi.com/1996-1073/17/11/2488 | |

### 8.1.2 Factor de impact cumulat al lucrărilor cotate ISI

| Factor de impact |
|---|
| 1. **Costin, M**.; Lazar, C. Induction Motor Improved Vector Control Using Predictive and Model-Free Algorithms Together with Homotopy-Based Feedback Linearization. *Energies* **2024**, *17*, 875. https://doi.org/10.3390/en1704087=3,25 |
| 2.**Costin, M**.; Bivol, I. A New Paradigm in AC Drive Control: Data-Driven Control by Learning Through the High-Efficiency Data Set—Generalizations and Applications to a PMSM Drive Control System. *Sensors* **2024**, *24*, 7313. =3.4 https://doi.org/10.3390/s24227313 |
| Factor de impact BRAIN. Broad Research in Artificial Intelligence and Neuroscience IF=0.8 |

| |
|---|
| Factor de impact Energies IF=4 |
| Total=3,25+3,4+0,8+4<br>**Total IF=11,45** |

**Tabel 7.1.4.**

**Articole în reviste indexate BDI**

| Nr.crt. | Date de identificare articol<br>(Autori,Titlu articol, Volum, pagină / nr. articol ) | Denumirea bazei de date |
|---|---|---|
| 1. | 1 Power Efficiency and Availability Computation with Stochastic Events Models<br>Dumitrescu, Mariana University 'Dunarea de Jos' Galati, Automation and Electrical Engineering Department, Romania - Proceedings EMES 2023 Oradea; ISBN 979-835031063-4,<br>DOI 10.1109/EMES58375.2023.10171710<br>https://ieeexplore.ieee.org/document/10171710<br>https://www.scopus.com/record/display.uri?eid=2-s2.0-85166327960&origin=resultslist&sort=plf-f&src=s&sid=7bc30d0ea5066dfc09a71092913c5d01&sot=b&sdt=b&s=%28AUTHOR-NAME%28dumitrescu+m%29+AND+AFFIL%28galati%29%29&sl=45&sessionSearchId=7bc30d0ea5066dfc09a71092913c5d01&relpos=1 | Scopus |
| 2. | 2 Operational Risk Analysis for the Electric Power Station Protections<br>Dumitrescu, Mariana University 'Dunarea de Jos' Galati, Automation and Electrical Engineering Department, Romania – Proceedings ISEEE23 Galati 2023 Pages 38 – 43, ISBN 979-835030167-0, DOI10.1109/ISEEE58596.2023.10310549<br>https://ieeexplore.ieee.org/document/10310549<br>***https://www.scopus.com/record/display.uri?eid=2-s2.0-85179507625&origin=resultslist&sort=plf-f&src=s&sid=7bc30d0ea5066dfc09a71092913c5d01&sot=b&sdt=b&s=%28AUTHOR-NAME%28dumitrescu+m%29+AND+AFFIL%28galati%29%29&sl=45&sessionSearchId=7bc30d0ea5066dfc09a71092913c5d01&relpos=0*** | Scopus |
| 3. | 3 Composite Algorithm and Application for Operational Fuzzy Risk Computing<br>Dumitrescu, Mariana University 'Dunarea de Jos' Galati, Automation and Electrical Engineering Department, Romania - Proceedings EMES 2023 IEEE International Conference on Engineering of Modern Electric Systems , Oradea; ISBN 979-835031063-4,<br>DOI 10.1109/EMES58375.2023.10171767 | Scopus |

| | | |
|---|---|---|
| | https://ieeexplore.ieee.org/document/10171767<br>https://www.scopus.com/record/display.uri?eid=2-s2.0-85166295860&origin=resultslist&sort=plf-f&src=s&sid=7bc30d0ea5066dfc09a71092913c5d01&sot=b&sdt=b&s=%28AUTHOR-NAME%28dumitrescu+AND+m%29+AND+AFFIL%28galati%29%29&sl=45&sessionSearchId=7bc30d0ea5066dfc09a71092913c5d01&relpos=2 | |
| 4. | Badea N, Vlad C, Lungu C, GREEN HYDROGEN – THE FUEL OF THE FUTURE. OVERVIEW. The Annals of "Dunarea de Jos" University of Galati. Fascicle III, Electrotechnics, Electronics, Automatic Control, Informatics | |
| 5. | Elena Selim, **Ion Voncilă** - **Predictive control of an induction machine drive system for field-weakening regime** – Studia Universitatis Babeș-Bolyai, Volume 69, No. 1, November 2024, pp. 32 – 41. DOI: https://doi.org/10.24193/subbeng.2024.1.3 **, , *EBSCOhost*** | |
| 6. | 1. **M. Costin** and C. Lazar, "Cascaded Predictive Speed Control and Load Torque Rejection of PMSM," *2024 28th International Conference on System Theory, Control and Computing (ICSTCC)*, Sinaia, Romania, 2024, pp. 200-205, doi: 10.1109/ICSTCC62912.2024.10744679. https://ieeexplore.ieee.org/document/10744679 | |
| 7. | 2. **M. Costin** and I. Bivol, "From Model Predictive Control to Data Driven Control to Meet High Efficiency Objective of a PMSM Drive System," 2024 International Conference on Applied and Theoretical Electricity (ICATE), Craiova, Romania, 2024, pp. 1-6, doi: 10.1109/ICATE62934.2024.10748645. https://ieeexplore.ieee.org/document/10748645 | |
| 8. | . M. Gaiceanu, R. Buhosu, R. Solea, E. Silviu, K. Stankiewicz and M. Skora, "Underground Mine Monitoring System," *2022 IEEE 20th International Power Electronics and Motion Control Conference (PEMC)*, Brasov, Romania, 2022, pp. 715-720, doi: 10.1109/PEMC51159.2022.9962893. https://ieeexplore.ieee.org/document/9962893 (indexata WOS 2024) | |
| | | |

**Comunicări ştiinţifice prezentate la conferinţe naţionale**

| Nr.crt. | Autori, Titlul lucrării | Titlul conferinței | Perioada | Organizator |
|---|---|---|---|---|
| | | | | |
| 1. | Conferinta GALATIA 2024, 15-19 Mai, Galati, lucrare: Investigating the use of machine learning methods to contactless monitoring of abnormality in breathing pattern | | | |

**Tabel 7.1.5.**

**Comunicări ştiinţifice prezentate la conferinţe internaţionale şi publicate în volumele acestora**

| Nr.crt. | Autori, Titlul lucrării | Titlul conferinței | Perioada | Organizator |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| | | | | |

| | |
|---|---|
| **1.** | Ion Voncilă, Nicolae Badea, Ion Paraschiv, Elena Selim - **A New Approach to Energy Efficiency Evaluation of Induction Motor** - 2024 International Conference on Applied and Theoretical Electricity (ICATE), 24-26 October 2024, Craiova, Romania, **IEEE Catalog No. CFP2499S-USB**<br>**ISBN: 979-8-3503-8809-1 IEEE Catalog No. CFP2499S-USB**<br>**ISBN: 979-8-3503-8809-1**<br>https://www.semanticscholar.org/paper/A-New-Approach-to-Energy-Efficiency-Evaluation-of-Voncil%C4%83-Badea/d75304c40aab913a240a457b8952c34eb4af3c60 |
| **2.** | 1. 1. Hydrogen as Energy Sources-Basic Concepts<br>Towards Next Generation Energy Storage Technologies: From Fundamentals to Commercial Applications ,Chapter 11 Fuel Cells ,<br>https://onlinelibrary.wiley.com/doi/abs/10.1002/9783527845316.ch11 |
| **3.** | Embracing the aquaponic systems as a viable option for the future of aquaculture, 16th International scientific conference on Energy and Climate Chande, Athens 11th October 2024 |
| **4.** | 1. HIGHER EDUCATION IN A HYBRID WORLD: HYBRID LEARNING IN TECHNICAL FACULTIES, Mihaela ANDREI, Laurentiu-Marius BAICU, Alina PRICOPIE-FILIP, **Elena SELIM**, Conferința Internațională „Interdisciplinaritate și Cooperare în Cercetarea Transfrontalieră" Cahul ICCR 2024 |
| **5.** | 2. ACCESSIBILITY AND INCLUSION: A PROGRAM FOR INTEGRATING STUDENTS WITH DISABILITIES INTO MAINSTREAM HIGHER EDUCATION SYSTEM<br>**Elena SELIM**, Laurentiu Marius BAICU, Mihaela ANDREI, Alina PRICOPIE-FILIP, Conferința Internațională „Interdisciplinaritate și Cooperare în Cercetarea Transfrontalieră" Cahul ICCR 2024 |
| **6.** | 3. ROLE AND IMPACT OF DECISION FACTORS IN ENERGY EFFICIENCY MANAGEMENT, Alina-Florentina SĂRACU, Claudia-Veronica UNGUREANU, Valentina BUTMĂLAI,<br>**Elena SELIM**, Conferința Internațională „Interdisciplinaritate și Cooperare în Cercetarea Transfrontalieră" Cahul ICCR 2024 |
| **7.** | ENEFM 2024, 10th International Congress on Energy, Efficiency and Energy Related Materials<br>Chairperson: Marian Gaiceanu<br>15:30-16:00<br>Marian Gaiceanu<br>Dunarea de Jos University of Galati, Romania<br>(invited speaker)<br>ID603- SHUNT ACTIVE POWER FILTER AS ENERGY EFFICIENCY SOLUTION<br>http://www.enefmcongress.org/images/files/05v.10.09-apmas-enefm-medopt%C4%B1cs-2024_program_timetable.pdf |

**Citări în reviste de specialitate cotate ISI**

| Nr.crt. | Autori, Titlul lucrării | Titlul conferinței | Perioada | Organizator |
|---|---|---|---|---|
| 1. | 1. Intelligent Models in Power Delivery Management for Economic Damage Computation - ID 5; Dumitrescu Mariana The 23rd International Conference on Informatics in Economy (IE 2024), under the scientific auspices of the Informatio n Science and Technology Section of The Romanian Academy. Bucharest University of Economic Studies and The Faculty o f Economics and Business A dministration from West University of Timisoara, with the Romanian Association for Informatics in Economy Training Promotion – INFOREC – Springer publisher, https://www.conferenceie.ase.ro/ https://link.springer.com/book/9789819601608 | | | |
| 2. | 2 Electric Network Monitoring System - Intelligent Modelling for Economic Damage Analysis - ID 10 Dumitrescu Mariana The 23rd International Conference on Informatics in Economy (IE 2024), under the scientific auspices of the Informatio n Science and Tech nology Section of The Romanian Academy. Bucharest University of Economic Studies and The Faculty of Economics and Busi ness Administration fro m West University of Timisoara, with the Romanian Association for Informatics in Economy Training Promotion – INFOREC, Springer publisher https://www.conferenceie.ase.ro/ https://link.springer.com/book/9789819601608 | | | |
| 3. | 3 Decentralized Renewable Microgrids Consumers Adaptability to DC Electric Network ID 69 Dumitrescu M -SIITME 2024 IEEE 30th International Symposium for Design and Technology in Electronic Packaging, Sibiu, Romania with IEEE and IEEE Hungary & Romania EPS&NTC Joint Chapter, 16th – 19th October 2024 in Sibiu, Romania. https://siitme.ro/2024-edition/oral-poster-sessions-programme/ | | | |
| 4. | 4 Renewable Microgrids Power Supply - Consumers Electric Quality Comparative Study ID 70 Dumitrescu M - SIITME 2024 IEEE 30th International Symposium for Design and Technology in Electronic Packaging, Sibiu, Romania with IEEE and IEEE Hungary & Romania EPS&NTC Joint Chapter, 16th – 19th October 2024 in Sibiu, Romania. https://siitme.ro/2024-edition/oral-poster-sessions-programme/ | | | |
| 5. | 5 Natural doubling of the apparent switching frequency using three-level ANPC converter D Floricau, E Floricau, M Dumitrescu - 2008 International School on Nonsinusoidal Currents …, 2008 https://www.webofscience.com/wos/woscc/full-record/WOS:000261799200016 https://scholar.google.com/citations?view_op=view_citation&hl=ro&user=4IPPXWcAAAAJ&citation_for_view=4IPPXWcAAAAJ:u-x6o8ySG0sC Active Thermal Control and Power Loss Reduction Scheme for Three-Level Active Neutral-Point-Clamped Inverters with Hybrid Modulation Song, Wensheng[a].;He, Wenjun[a];Zhang, Zhiwei[a];Ma, Chenwei[a].;Li, Jiayao[a] IEEE Journal of Emerging and Selected Topics in Power Electronics , Volume 12, Issue 2, Pages 1629 – 16401 April 2024, DOI 10.1109/JESTPE.2023.3349308 https://www.webofscience.com/wos/woscc/full-record/WOS:001244948700006 https://www.scopus.com/record/display.uri?eid=2-s2.0-85181581195&origin=resultslist&sort=plf-f&src=s&sot=b&sdt=b&s=TITLE-ABS-KEY%28Active+Thermal+Control+and+Power+Loss+Reduction+Scheme+for+Three-Level+Active+Neutral-Point-Clamped+Inverters+With+Hybrid+Modulation%29&sessionSearchId=8a16081b3b734c63ec1b05279be8e88b&relpos=0 https://ieeexplore.ieee.org/abstract/document/10379629 | | | |

| | |
|---|---|
| 6. | 6 Natural doubling of the apparent switching frequency using three-level ANPC converter<br>D Floricau, E Floricau, M Dumitrescu - 2008 International School on Nonsinusoidal Currents …, 2008<br>https://www.webofscience.com/wos/woscc/full-record/WOS:000261799200016<br>https://scholar.google.com/citations?view_op=view_citation&hl=ro&user=4IPPXWcAAAAJ&citation_for_view=4IPPXWcAAAAJ:u-x6o8ySG0sC<br>Multiresolution Models of DC Traction Power Supply Systems With Reversible Substations<br>Fan, Fulina, ;Li, Yafangc;Ziani, Smaild;Stewart, Brian G.b<br>IET Electrical Systems in Transportation, Volume 2024, Issue 12024 , Article number 8279648, DOI 10.1049/2024/8279648<br>https://www.webofscience.com/wos/woscc/full-record/WOS:001348310700001<br>https://www.scopus.com/record/display.uri?eid=2-s2.0-85207098866&origin=resultslist&sort=plf-f&src=s&sot=b&sdt=b&s=TITLE-ABS-KEY%28Multiresolution+Models+of+DC+Traction+Power+Supply+Systems+With+Reversible+Substations%29&sessionSearchId=1afe1efad019226d3f4fdcdddc35f806&relpos=0<br>https://ietresearch.onlinelibrary.wiley.com/doi/full/10.1049/2024/8279648 |
| 7. | 7 A new stacked NPC converter: 3L-topology and control<br>D Floricau, G Gateau, M Dumitrescu, R Teodorescu<br>2007 European Conference on Power Electronics and Applications, 1-10<br>https://www.webofscience.com/wos/woscc/full-record/WOS:000255993600028<br>https://scholar.google.com/citations?view_op=view_citation&hl=ro&user=4IPPXWcAAAAJ&citation_for_view=4IPPXWcAAAAJ:u5HHmVD_uO8C<br>Hybrid renewable energy system based on Petri nets control for a single-phase flying capacitor multilevel DC–AC converter<br>Othman, Sana; Barbot, Jean-Pierre[b;] Sbita, Lassaad; Alali, Mohamad Alaaeddin; GHANES, Malek; FEKIK, Arezki[d,]<br>Power Electronics Converters and their Control for Renewable Energy ApplicationsPages 145 - 1661 January 2023 Document type Book Chapter, ISBN 978-032391941-8, 978-032391403-1, DOI 10.1016/B978-0-323-91941-8.00007-X<br>https://www.scopus.com/record/display.uri?eid=2-s2.0-85166130801&origin=resultslist&sort=plf-f&cite=2-s2.0-51049109616&src=s&imp=t&sid=9aa6bb436528467b795e9d4a91225517&sot=cite&sdt=a&sl=0&relpos=4&citeCnt=4&searchTerm= |
| 8. | 8 Natural doubling of the apparent switching frequency using three-level ANPC converter<br>D Floricau, E Floricau, M Dumitrescu - 2008 International School on Nonsinusoidal Currents …, 2008<br>https://www.webofscience.com/wos/woscc/full-record/WOS:000261799200016<br>https://scholar.google.com/citations?view_op=view_citation&hl=ro&user=4IPPXWcAAAAJ&citation_for_view=4IPPXWcAAAAJ:u-x6o8ySG0sC<br>Design for Reliability of DC-Link Capacitors for Multilevel Inverter Topologies Operating in Hostile Environments<br>Silva, Caio Eduardo, Alzamora, Andre M.′ Evo, Marco T. A., De Paula, Helder<br>IEEE Transactions on Industry ApplicationsVolume 60, Issue 4, Pages 5882 – 58922024, DOI 10.1109/TIA.2024.3382268, Date of Publication: 27 March 2024 |

| | |
|---|---|
| | https://www.webofscience.com/wos/woscc/full-record/WOS:001273958700025<br>https://www.scopus.com/record/display.uri?eid=2-s2.0-85189331866&origin=resultslist&sort=plf-f&src=s&sot=b&sdt=b&s=TITLE-ABS-KEY%28Design+for+Reliability+of+DC-Link+Capacitors+for+Multilevel+Inverter+Topologies+Operating+in+Hostile+Environments%29&sessionSearchId=a6cb6d8dec22cb96524b3e461ad4d9a7&relpos=0<br>https://ieeexplore.ieee.org/abstract/document/10480635 |
| 9. | 9 Natural doubling of the apparent switching frequency using three-level ANPC converter<br>D Floricau, E Floricau, M Dumitrescu - 2008 International School on Nonsinusoidal Currents …, 2008<br>https://www.webofscience.com/wos/woscc/full-record/WOS:000261799200016<br>https://scholar.google.com/citations?view_op=view_citation&hl=ro&user=4IPPXWcAAAAJ&citation_for_view=4IPPXWcAAAAJ:u-x6o8ySG0sC<br>Design for Reliability (DFR) of DC-Link Capacitors for Multilevel Inverter Topologies Operating in Hostile Environments<br>Silva, Caio Eduardo′ Alzamora, Andre, Evo, Marco T. A.,,De Paula,<br>Record of Conference Papers – Annual Petroleum and Chemical Industry Conference, Pages 383 – 392 2023 IEEE IAS Petroleum and Chemical Industry Technical Conference, PCIC 2023, New Orleans11 September 2023, code 197055, DOI 10.1109/PCIC43643.2023.10414338<br>https://www.webofscience.com/wos/woscc/full-record/WOS:001204460700036<br>https://www.scopus.com/record/display.uri?eid=2-s2.0-85185553451&origin=resultslist&sort=plf-f&src=s&sot=b&sdt=b&s=TITLE-ABS-KEY%28Design+for+Reliability+of+DC-Link+Capacitors+for+Multilevel+Inverter+Topologies+Operating+in+Hostile+Environments%29&sessionSearchId=a6cb6d8dec22cb96524b3e461ad4d9a7&relpos=1 |
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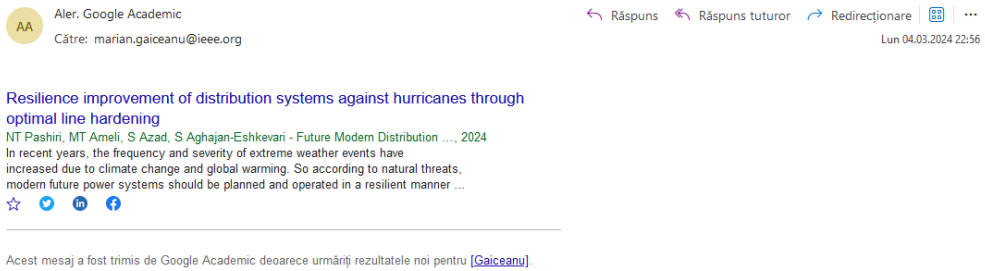
| 61. | 1. 2. https://www.sciencedirect.com/science/article/abs/pii/B9780443160868000099<br>Ameli MT, Jalil Poor K, Azad S, Daneshvar M, Sepasian MS, Mohammadi-Ivatloo B, et al., editors. Future modern distribution networks resilience: from passive operation to strategic active paradigms. Elsevier; 2024.<br>https://biblio.ugent.be/publication/01J9R1GS1FRMCRWQF7D0VPBHT2<br>ref to<br>  <br>Aler. Google Academic<br>Către: marian.gaiceanu@ieee.org<br>Răspuns Răspuns tuturor Redirecționare<br>Lun 04.03.2024 22:56<br>Resilience improvement of distribution systems against hurricanes through optimal line hardening<br>NT Pashiri, MT Ameli, S Azad, S Aghajan-Eshkevari - Future Modern Distribution …, 2024<br>In recent years, the frequency and severity of extreme weather events have increased due to climate change and global warming. So according to natural threats, modern future power systems should be planned and operated in a resilient manner …<br>Acest mesaj a fost trimis de Google Academic deoarece urmăriți rezultatele noi pentru [Gaiceanu]. |
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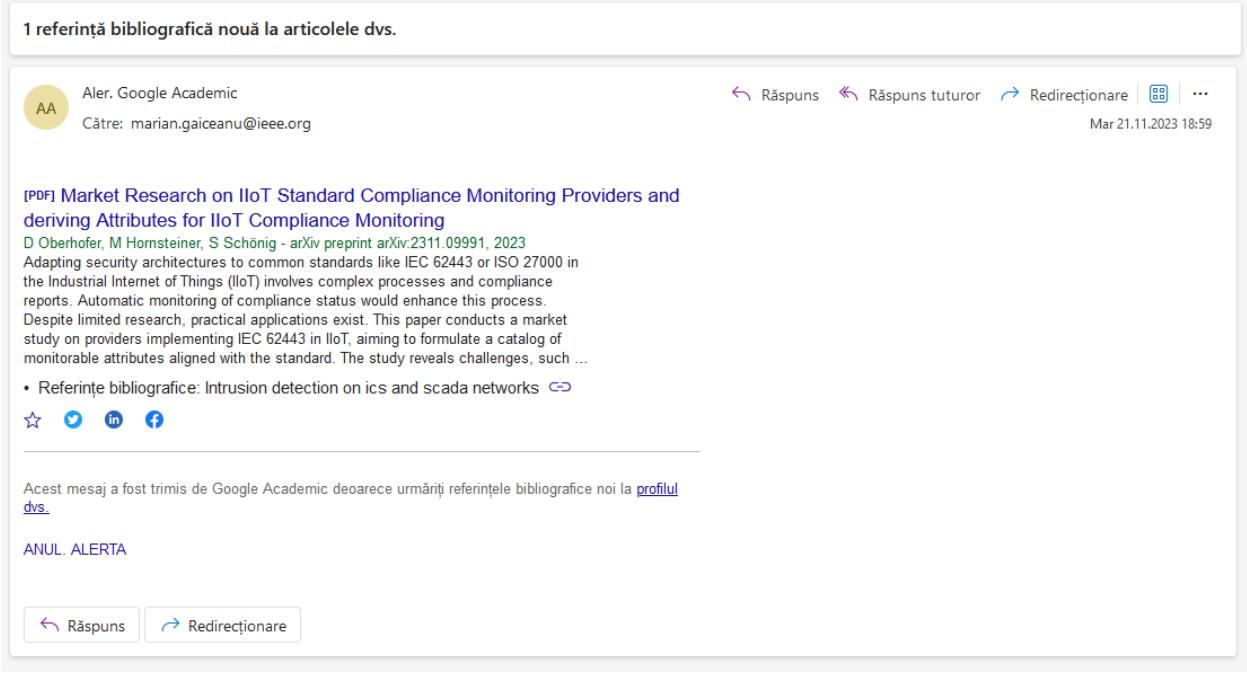
| |  <br>Refvto<br>Marian Gaiceanu, Marilena Stanculescu, Paul Cristian Andrei, Vasile Solcanu, Theodora Gaiceanu, and Horia Andrei. Intrusion Detection on ICS and SCADA Networks. In Recent Developments on Industrial Control Systems Resilience, pages 197–262. Springer International Publishing, oct 2019. |
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| 70. | **The Optimization of the Dynamic Regime of the Asynchronous Vectorial AC Motor in Flying Shear**<br>[HTML] mdpi.com<br>**[HTML] Experimental Design and Simulation of a Fly-Cutting Plant for Academic Environment Practices**<br>1. DF Ramírez-Jiménez, CA Torres Valencia - Machines, 2024 - mdpi.com<br>Test plants or laboratory prototypes are essential for developing training activities in engineering. In the field of automation and control, simulators or high-fidelity equipment …<br>Salvați Citați Articole cu conținut similar Toate cele 2 versiuni<br>**[** |
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| | A Kubule, J Kramens, M Bimbere, N Pedišius… - Energies, 2024 - mdpi.com<br>Reliable heat and power supply are among the basic household needs nowadays. It is especially topical in rural or distant locations that may be cut off from the energy grid due to …<br>Salvați Citați Citat de 3 ori Articole cu conținut similar Toate cele 4 versiuni |
| 79. | **MATLAB/simulink-based grid power inverter for renewable energy sources integration**<br>[PDF] mdpi.com<br>**1. Enhancement of LVRT capability in DFIG-based wind turbines with STATCOM and supercapacitor**<br>MK Döşoğlu - Sustainability, 2023 - mdpi.com<br>Overvoltage and overcurrent resulting from various faults cause instability in Doubly Fed Induction Generator (DFIG)-based wind turbines connected to a grid. The grid code …<br>Salvați Citați Citat de 11 ori Articole cu conținut similar Toate cele 6 versiuni |
| 80. | **Optimal control for AC drive with quadratic criteria**<br>[HTML] mdpi.com<br>**1. [HTML] Optimized Discrete Nonlinear Control of Alternating Current Three-Phase Motors via an Industrial Variable Frequency Drive**<br>N Cervantes-Escorcia, OJ Santos-Sánchez… - Applied Sciences, 2024 - mdpi.com<br>This article presents a suboptimal nonlinear control strategy to improve the dynamics of a three-phase alternating current (AC) motor. Using dynamic programming, the calculation of …<br>Salvați Citați Articole cu conținut similar Toate cele 2 versiuni |
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**Tabel 7.1.1.**

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## Citare în articol publicat în anul evaluat indexat în ISI Proceedings sau în revistă BDI

| Citare în articol publicat în anul evaluat indexat în ISI Proceedings sau în revistă BDI | |
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| 6. | 6 Natural doubling of the apparent switching frequency using three-level ANPC converter<br>D Floricau, E Floricau, M Dumitrescu - 2008 International School on Nonsinusoidal Currents …, 2008<br>https://ieeexplore.ieee.org/abstract/document/4627496<br>https://www.webofscience.com/wos/woscc/full-record/WOS:000261799200016<br>https://scholar.google.com/citations?view_op=view_citation&hl=ro&user=4IPPXWcAAAAJ&citation_for_view=4IPPXWcAAAAJ:u-x6o8ySG0sC<br>https://scholar.google.com/scholar?hl=ro&as_sdt=2005&sciodt=0%2C5&cites=15022103813338540480&scipsc=&as_ylo=2024&as_yhi=2024<br>Loss Equalization Strategy of 3L Active Neutral Point Clamped Inverter based on Optimization Algorithm<br>Chen, Jianxiang; Pei, Yunqing; Wang, Laili; Zhao, Yuanyuan; Chen, Siying<br>2024 IEEE 10th International Power Electronics and Motion Control Conference, IPEMC 2024 ECCE Asia, Pages 3620 – 3625, 2024 10th IEEE International Power Electronics and Motion Control Conference, IPEMC 2024 , 17 May 2024, Code 200752<br>https://www.scopus.com/record/display.uri?eid=2-s2.0-85199066704&origin=resultslist&sort=plf-f&src=s&sot=b&sdt=b&s=TITLE-ABS-KEY%28Loss+Equalization+Strategy+of+3L+Active+Neutral+Point+Clamped+Inverter+based+on+Optimization+Algorithm%29&sessionSearchId=6bc6f463fbf3e268d455def565edf5a3&relpos=0<br>https://ieeexplore.ieee.org/abstract/document/10567305 |
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**Tabel 7.1.7.**

**Brevete de invenţie (solicitate / acordate)**

| Nr.crt. | Nr.cerere de brevet/ H.G. Brevet acordat | Titlu brevet | Autori |
|---|---|---|---|
| 1 | A/00512/2022 | Unificarea Implementării Și Testării Algoritmilor De Control A Filtrelor Active De Putere Trifazate, De Joasă Tensiune, De Tip Paralel, În Stand Experimental Și În Prototipuri, Filtre Active De Putere | GĂICEANU MARIAN; EPURE SILVIU IONUȚ; ȘOLEA RĂZVAN CONSTANTIN; BUHOSU RĂZVAN. |

**Tabel 7.1.9**
**Produse/servicii/tehnologii rezultate din activităţi de cercetare, bazate pe brevete, omologări sau inovații propria**

| Nr. crt. | Denumire produs/ serviciu/ tehnologie |
|---|---|
| 1 | Șapte prototipuri industriale filtre active de putere (7 industriale) |
| 2 | Prototip de laborator – testarea filtrelor active de putere |
| 3 | Emulator hardware și software de calitate a energiei electrice |

**Tabel 7.1.10.**

**Studii prospective şi tehnologice, normative, proceduri, metodologii şi planuri tehnice, noi sau perfecţionate, comandate sau utilizate de beneficiar**

| Nr. crt. | Denumire studiu, normativ, procedura, metodologie etc. |
|---|---|
| 1. | -Studii privind alegerea și implementarea sistemelor de acţionare electrică cu performanțe energetice ridicate |
| 2. | -Studii privind alegerea și dimensionarea sistemelor regenerative de acţionare electrică |
| 3. | Proiectarea, instalarea şi punerea în funcţiune a sistemelor cu logică programabilă (PLC) pentru comanda acţionărilor electrice. |
| 4. | -Acţionări electrice şi convertoare statice inteligente |
| 5. | -Studii privind modernizarea instalațiilor industriale în vederea reducerii consumului de energie electrică. |
| 6. | -Studii privind optimizarea consumului de energie în companii/întreprinderi. |

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| 7. | Proiectarea și realizarea sistemelor de acționare electrică optimale. |
| 8. | -Studii privind calitatea energiei electrice în rețelele electrice de joasa tensiune, rezolvarea problemelor legate de calitatea energiei electrice |
| 9. | -Proiectarea și realizarea prototipurilor filtrelor active de putere de tip paralel pentru creşterea calităţii energiei electrice și compensarea puterii reactive |
| 10. | -Proiectarea și realizarea convertoarelor statice de putere pentru creşterea calităţii energiei electrice. |
| 11. | -Studii privind sursele de energie electrică pe bază de energii regenerabile. Integrarea și funcționarea surselor de energie electrică pe baza de energii regenerabile în echipamente industriale, în rețele electrice. |
| 12. | -Proiectarea și realizarea convertoarelor statice de putere pentru integrarea si funcționarea surselor de energie electrică pe baza de energii regenerabile în rețele electrice. |
| 13. | -Defectoscopia și mentenanța predictivă și preventivă a mașinilor electrice de curent alternativ. |
| 14. | -Sisteme integrate de conversie a energiei și conducere avansată a proceselor complexe. |

| **10. ACTIVITĂŢI PE BAZĂ DE CONTRACTE (altele decât cele de cercetare)** |
|---|
| Contract de finanţare din sursa Fondul Social European (FSE) – POSCCE, POCU, TIC, POR (coordonator) – punctaj pentru dotări |
| **1. PNRR, cod: e-PNRR 2033414941, Digitalizarea pentru viitorul educației și cercetării în Universitatea „Dunărea de Jos” din Galați** |
| Alte tipuri de contracte cu firme, instituții, organizații din România - punctaj de câştigare |

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| **2. 5196/23.10.2024 Contract anual de cooperare**<br>Program pregatire profesionala studenti ATCR Association - Students -Practical Training Center |
| **3. Grant intern de cercetare - RF 2642/31.05.2024, având titlul "Evaluarea performanțelor unei noi strategii de conducere a proceselor de conversie a energiei electromagnetice bazate pe tehnici RBF-NN, prin comparație cu metodele consacrate de tip MPC, cu referire la motoarele PMSM" – membru în echipă** |

## Propuneri de proiecte

1. Project Title: Control the Magnetic Confinement of Fusion Plasma in a Toroidal Reactor with Alternating Current Drive (ALCUTOR).

2. Topic: ERC Synergy Grant (ERC-2025-SyG) **Horizon Europe (HORIZON)**

## 10.3. Premii obținute prin proces de selecție/distincții

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|---|---|---|
| | 1. | **Conf.dr.ing. Ion Vonvila, Coordonare echipa U3A la a șaptea ediție a concursului "Brad Engineering 2024", echipă ce a luat un premiu special al juriului** |
| | 2. |  Premiul I- Marius Solomon,* Marian Găiceanua, Vasile Solcanu CSSD-UDJG 2024 - The XIIth edition of the Scientific Conference organized by the Doctoral Schools of "Dunărea de Jos" University of Galati, Secțiunea nr. 5 Advanced research in Electrical / Electronic Engineering, Systems Engineering and Information Technologies, Optimizing the Operation of a Three-Phase Asynchronous Motor Considering the Thermal Regime and Technological Requirements |
|  | 3. | Premiul II- Marin George- Andrei, Marian Gaiceanu, CSSD-UDJG 2024 - The XIIth edition of the Scientific Conference organized by the Doctoral Schools of "Dunărea de Jos" University of Galati, Secțiunea nr. 5 Advanced research in Electrical / Electronic Engineering, Systems Engineering and Information Technologies, Optimizing Energy Consumption for Sinter Cooling Fans Motors Within the Control Loop |

ENEFM 2024, 10th International Congress on Energy, Efficiency and Energy Related Materials
Chairperson: Marian Gaiceanu