



Scoala Doctorală Interdisciplinară
(SDI)

Domeniul de doctorat:
Inginerie Electrica
Conducător doctorat:
Prof dr ing Corneliu Marinescu

TEME (TEMATICĂ) PENTRU CONCURS

TEMA 1: Statii de incarcare domestice pentru Vehiculele Electrice utilizand energii regenerabile

Principalele aspecte abordate :
Surse regenerabile utilizabile in domeniul casnic
Statii de incarcare pentru VE
Vehicule Electrice, VE, urbane
Stocarea Energiei electrice
Incarcarea bateriilor electrice performante
Tehnici de control a incarcarii in Microretele

Bibliografie recomandată:

1. **Marinescu C.**, et a. *Rețele Hibrade cu Surse Regenerabile de Energie. Evolutii moderne,(Hibrid Networks with Renewable Energy Sources)* 2011, Ed Univ Transilvania, ISBN 978 973 -598-049-1
2. *Hatzargyriou, Nikos (2014). Microgrids Architectures and Control. John Wiley and Sons Ltd. p. 4. ISBN 978-1-118-72068-4.*
3. Eric Tervoa et al., An economic analysis of residential photovoltaic systems with lithium ion battery storage in the United States, *Renewable and Sustainable Energy Reviews*, 94, 2018
4. H.S. Das et al. Electric vehicles standards, charging infrastructure, and impact on grid integration: A technological review, 2020, 120, *Renewable and Sustainable Energy Reviews*

Note /Precondiții / Obs:
studii: *Inginerie Electrica*

TEMA 2: Microretele domestice hibride utilizand energii regenerabile

Principalele aspecte abordate
Surse regenerabile utilizabile in domeniul casnic
Microretele inteligente
Consumatorii casnici si incarcarea energetica
Stocarea Energiei electrice
Incarcarea bateriilor electrice performante
Tehnici de comunicatie si control a Microretelelor casnice

Bibliografie recomandată:

1. **Marinescu C.**, et a. *Rețele Hibrade cu Surse Regenerabile de Energie. Evolutii moderne,(Hibrid Networks with Renewable Energy Sources)* 2011, Ed Univ Transilvania, ISBN 978 973 -598-049-1
2. *Hatzargyriou, Nikos (2014). Microgrids Architectures and Control. John Wiley and Sons Ltd. p. 4. ISBN 978-1-118-72068-4.*
3. Eric Tervoa et al., An economic analysis of residential photovoltaic systems with lithium ion battery storage in the United States, *Renewable and Sustainable Energy Reviews*, 94, 2018
4. David Bakken editor, *SMARTGRIDS Clouds, Communications, Open Source, and Automation*, CRC Press, 2014.

Conducător doctorat:

Prof dr ing Corneliu Marinescu

A handwritten signature in blue ink, appearing to read 'Corneliu Marinescu', is written below the printed name. The signature is fluid and cursive, with a long horizontal stroke at the end.



Interdisciplinary Doctoral School
(SDI)

Field of doctoral studies:
Electrical Engineering
PhD supervisor:
Prof dr ing Corneliu Marinescu

TOPICS FOR THE ADMISSION TO DOCTORAL STUDIES

TOPIC 1: EVs Residential charging stations based on Renewable sources
Main aspects to be considered <ol style="list-style-type: none">1. Renewable Energy sources suitable for Residential Electric microgrids;2. EV charging stations3. Urban EVs , Electric Vehicles4. Electric energy storage5. Charging batteries6. Charging control in Smart Residential Microgrids
Recommended bibliography: <ol style="list-style-type: none">1. <i>Hatzigargyriou, Nikos (2014). Microgrids Architectures and Control. John Wiley and Sons Ltd. p. 4. ISBN 978-1-118-72068-4.</i>2. Eric Tervoa et al., An economic analysis of residential photovoltaic systems with lithium ion battery storage in the United States, <i>Renewable and Sustainable Energy Reviews</i>, 94, 20183. H.S. Das et al. Electric vehicles standards, charging infrastructure, and impact on grid integration: A technological review, 2020, 120, <i>Renewable and Sustainable Energy Reviews</i>
Prerequisites Degree in Electrical Engineering

TOPIC 2: Residential hybrid microgrids energized by Renewable Sources
Main aspects to be considered <ol style="list-style-type: none">1. Renewable Energy sources suitable for Residential Electric microgrids;2. EV charging stations3. Urban EVs , Electric Vehicles4. Electric energy storage5. Charging batteries and Charging control in Smart Residential Microgrids6. Control and communication in Smart microgrids
Recommended bibliography: <ol style="list-style-type: none">1. <i>Hatzigargyriou, Nikos (2014). Microgrids Architectures and Control. John Wiley and Sons Ltd. p. 4. ISBN 978-1-118-72068-4.</i>2. Eric Tervoa et al., An economic analysis of residential photovoltaic systems with lithium ion battery storage in the United States, <i>Renewable and Sustainable Energy Reviews</i>, 94, 20183. H.S. Das et al. Electric vehicles standards, charging infrastructure, and impact on grid integration: A technological review, 2020, 120, <i>Renewable and Sustainable Energy Reviews</i>4. David Bakken editor, <i>SMART GRIDSCLOUDS, COMMUNICATIONS, OPEN SOURCE, and AUTOMATION</i>, CRC Press, 2014.
Prerequisites Degree in Electrical Engineering

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