



ADMISSION TO DOCTORAL STUDIES

Session September 2026

Field of doctoral studies: Mechanical engineering

Doctoral supervisor: Prof. dr. eng. Mircea NEAGOE

TOPICS FOR THE ADMISSION TO DOCTORAL STUDIES

TOPIC 1: <i>Mechanical flight control systems used on light aircraft</i>
Contents / Main aspects to be considered - <i>to be adapted/ completed/ deleted</i>
Recommended bibliography: <ol style="list-style-type: none">1. Dudita, Fl., Diaconescu, D., Gogu, G. Mecanisme articulate. Inventica cinematică în abordare filogenetică, Ed. Tehnică, Bucureşti, 1989.2. Neagoe, M., Diaconescu, D., Jaliu, C., Munteanu, O., Saulescu, R., Cretescu, N. Linkage accuracy modelling. Ed. Universităţii Transilvania, Braşov, 2010.3. Visa, I., Alexandru, P. , Talaba, D., Alexandru, C. Proiectarea funcţională a mecanismelor. Metode clasice şi moderne, Ed. Lux LIBRIS, Braşov, 2004.4. Postelnicu, A. Aerodinamica aeronavelor : lucrări de laborator şi probleme, Universitatea Transilvania din Braşov, 1997.
Prerequisites / Remarks: <i>to be adapted/ completed/ deleted</i>
<input checked="" type="checkbox"/> Scientific Doctorate
<input checked="" type="checkbox"/> Professional Doctorate
<input type="checkbox"/> without tuition fee (state budget funded)
<input checked="" type="checkbox"/> with tuition fee or with funding from other sources than the state budget

TOPIC 2: <i>Planetary speed increasers for counter-rotating wind turbines</i>
Contents / Main aspects to be considered - <i>to be adapted/ completed/ deleted</i>
Recommended bibliography: <ol style="list-style-type: none">1. Neagoe, M., Saulescu, R., Jaliu, C., Neagoe, I. Dynamic Analysis of a Single-Rotor Wind Turbine with Counter-Rotating Electric Generator under Variable Wind Speed. Applied Sciences 2021, 11(19):8834.2. Neagoe, M., Saulescu, R., Jaliu, C., Munteanu, O., Cretescu, N. A Comparative Performance Analysis of Four Wind Turbines with Counter-Rotating Electric Generators. Applied Sciences 2022, 12(19):4233.3. Saulescu, R., Neagoe, M., Jaliu, C. Amplificatoare de turaţie pentru sisteme eoliene şi

hidroenergetice. Vol. 1. Modelarea răspunsului mecanic al sistemelor cu generator electric de curent continuu, Ed. Universității Transilvania, Brașov, 2018, ISBN: 978-606-19-0973-5.

4. Saulescu, R., Neagoe, M., Jaliu, C. Amplificatoare de turație pentru sisteme eoliene și hidroenergetice. Vol. 2. Modelarea răspunsului mecanic al sistemelor cu generator electric contrarotativ, Ed. Universității Transilvania, Brașov, 2021, ISBN: 978-606-19-1406-7.
5. Visa, I., Jaliu, C., Duță, A., Neagoe, M., Comsit, M., Moldovan, M., Ciobanu, D., Burduhos, B., Săulescu, R. The role of mechanisms in sustainable energy systems, Transilvania University Pub. House, 2015, ISBN 978-606-19-0571-3.

Prerequisites / Remarks: *to be adapted/ completed/ deleted*

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TOPIC 3: *Tracking systems and algorithms for solar energy converters*

Contents / Main aspects to be considered - *to be adapted/ completed/ deleted*

Recommended bibliography:

1. Visa, I., Duta, A., Moldovan, M., Burduhos, B., Neagoe, M. Solar energy conversion systems in the built environment, Springer, 2020, ISBN 978-3-030-34829-1.
2. Neagoe, M., Visa, I., Burduhos, B.G., Moldovan, M.D. Thermal Load based Adaptive Tracking for Flat Plate Solar Collectors, Energy Procedia, Vol. 48, 2014.
3. Burduhos, B.G., Visa, I., Neagoe, M., Badea, M. Modeling and optimization of the global solar irradiance collecting efficiency, International Journal of Green Energy, Vol. 12, Issue 7, 2015.
4. Neagoe, M., Visa, I., Duta, A., Cretescu, N. A New Approach on the Protection Against Overheating of Flat Plate Solar-Thermal Collectors, Proceedings of the Conference for Sustainable Energy (CSE), Brasov, 2017.

Prerequisites / Remarks: *to be adapted/ completed/ deleted*

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Doctoral supervisor,

Prof. dr. eng. Mircea NEAGOE

Signature

Coordinator of the field of doctoral studies,

Prof. dr. eng. Maria Luminița SCUTARU

Signature