



Institute of Machine and Product Design

Dr Ágnes Takács

institutional Student Research Conference contact

STUDENTS TALENT DAY –Promoting event of the Faculty of Mechanical Engineering and Informatics for the Student Research Conference

22 April 2026





Research Topic Fields

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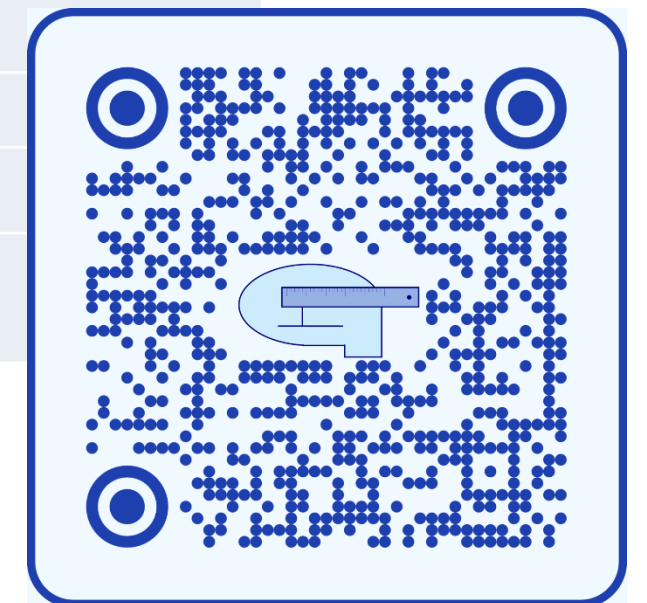
- Analysis and selection of *gear drives*
- *Tooth geometry* researches
- *Lubrication technology* research of sliding bearings, tribology
- Computer Aided *Design*, design theory, *design methodology*
- *Vibration analysis, acoustics*
- Design and engineering of *machine support*, investigation of transient phenomena during start-up and breaking of mechanical systems
- *Finite element analysis* of machine elements, structures, assembly modules
- Research of machine elements produced by *additive manufacturing*



Student Research Topics

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Title of the Topic	Supervisor
Research and systemizing natural analogies	Dr Csaba Dömötör
Examination of the teeth of gears with asymmetrical teeth	Zsuzsa Drágár
1. Investigation of parts manufactured using FDM and SLA 3D printing, focusing on screw pull-out strength under direct fastening conditions 2. Contac pattern analysis of gears with FEM programs 3. Design of functional objects made from paper or wood, with a focus on form design	Dr Ferenc Sarka
Motif, as the tool of solution finding in design projects	Dr Ágnes Takács
Developing a solution for motion inside a tube	Zsolt Tóbis
Numerical Analysis of Heat and Mass Transport in Nanofluids	Dr Gabriella Bognár
Optimisation and redesign of machine components based on VEM simulation (using ANSYS software)	Miklós Gábor Várkuli

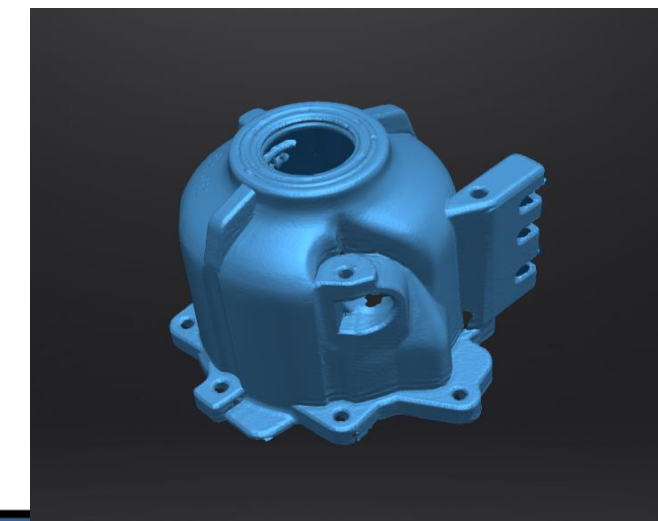


You can have Your topic according to Your idea as well.



Institutional Infrastructure

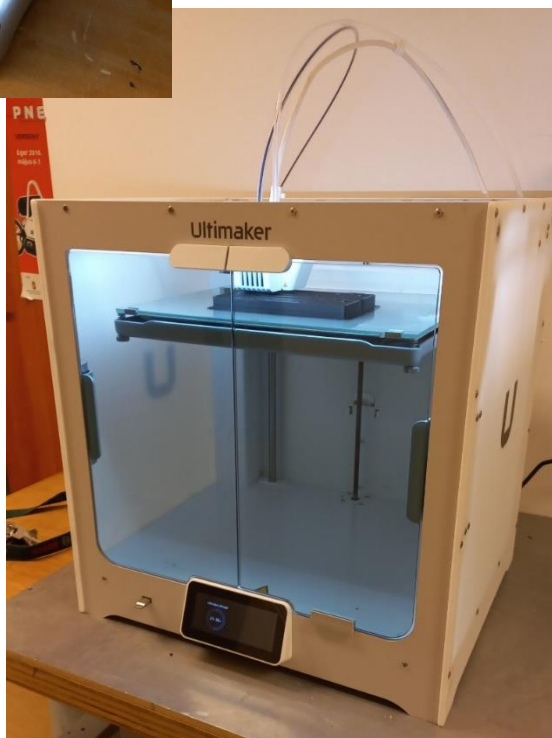
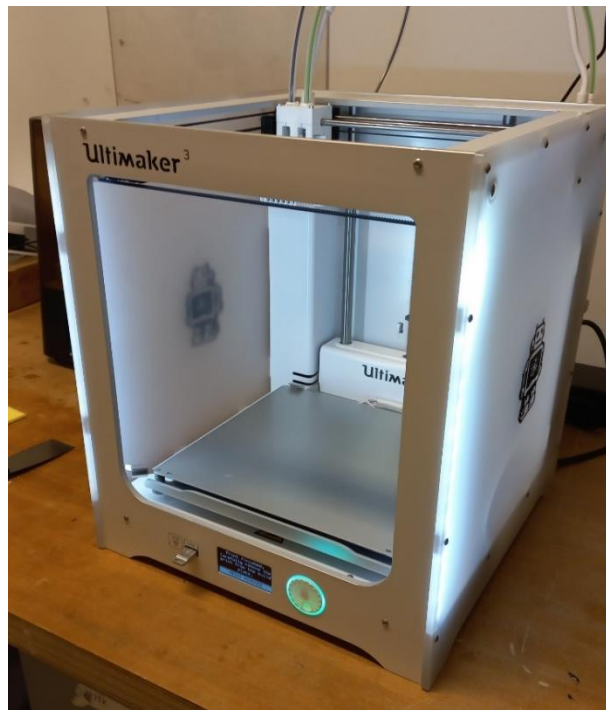
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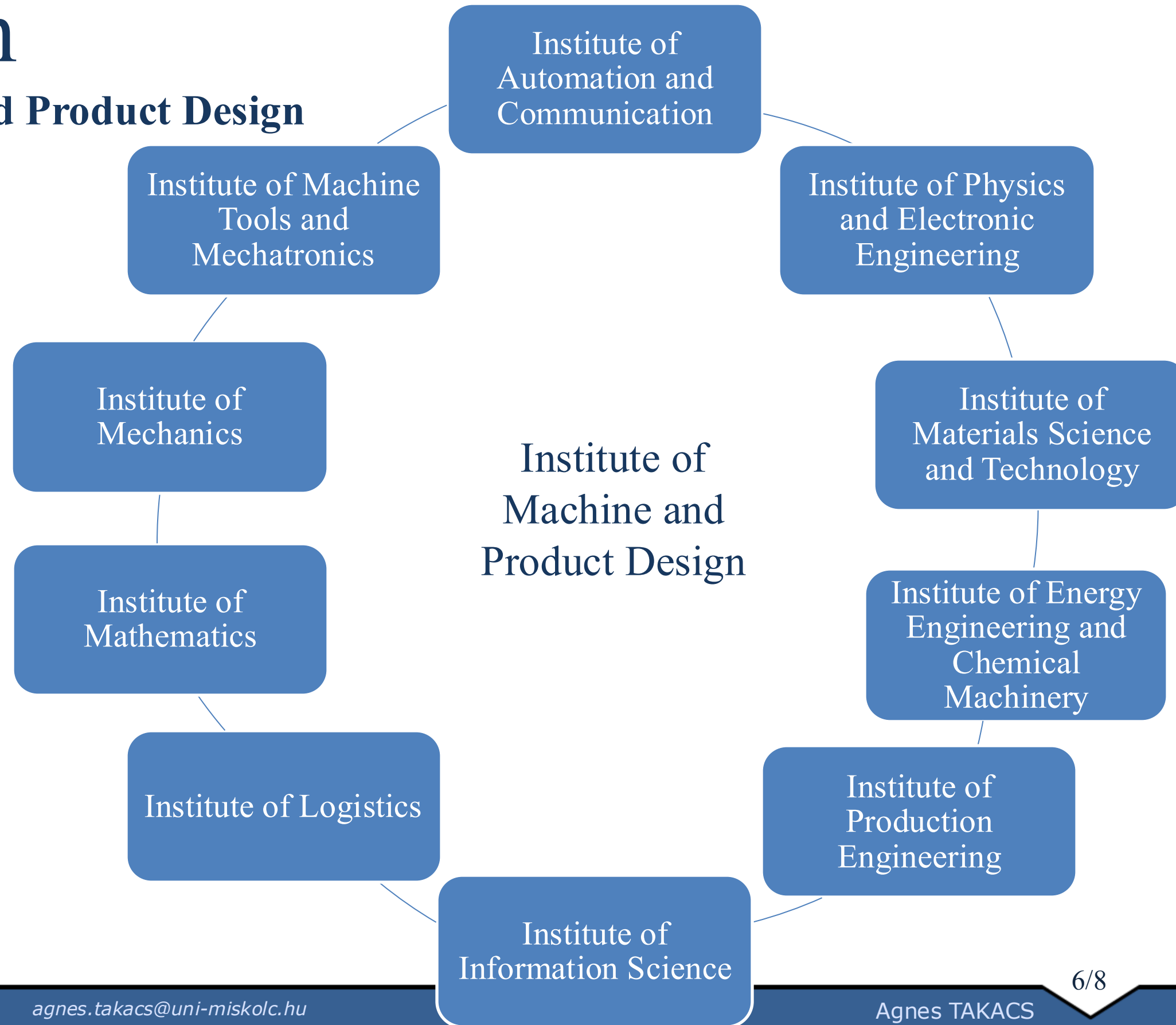
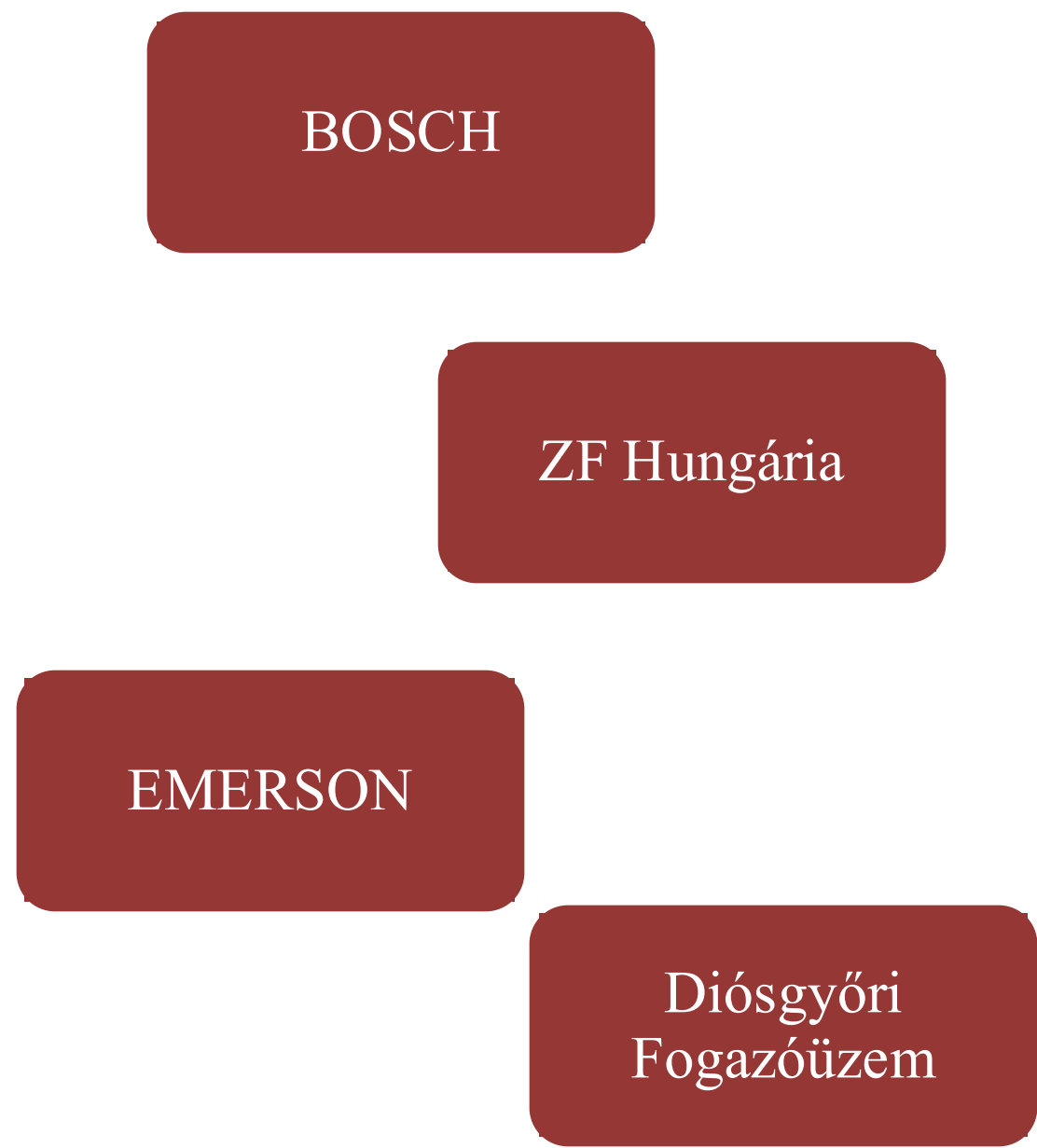
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Cooperation

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Thesis work

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With the help of the Student Research Conference

- Thesis work from the research work of more semesters
- Preparing for the final exam by improving the presentation skills
- Hard task the Student Research Conference Committees have: contradiction of the institutional interests and the students' interests



OTDK results

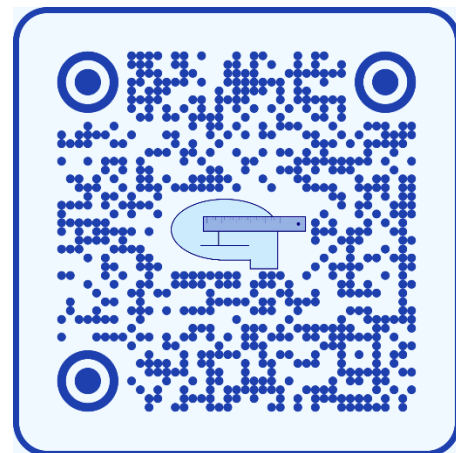
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35. OTDK - 2021

Technical Sciences Session:

II. place: Pintér Ádám Sándor ME-GÉIK

(supervisor: Dr Ferenc Sarka)



37. OTDK - 2025

Technical Sciences Session:

II. place: Bányai Kristóf ME-GÉIK

(supervisor: Prof Dr Gabriella Bognár, Dr Máté Czagány)

THANK YOU FOR YOUR KIND ATTENTION!