



**TED UNIVERSITY**

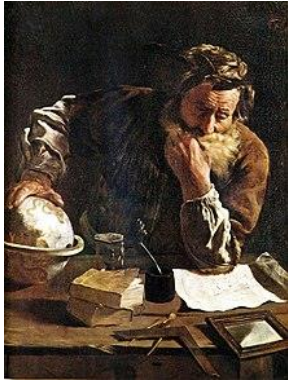
**DEPARTMENT OF MECHANICAL  
ENGINEERING  
2022**

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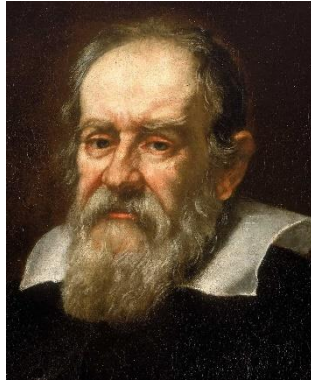
# Mechanical Engineering

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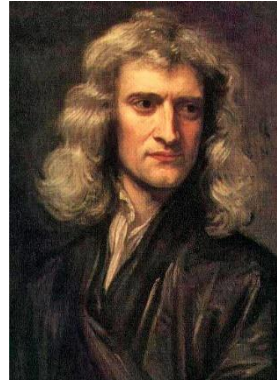
Mechanical engineers apply Physics and Mathematics principles to the design and analysis of thermal and mechanical systems. It is one of the oldest and broadest engineering disciplines.



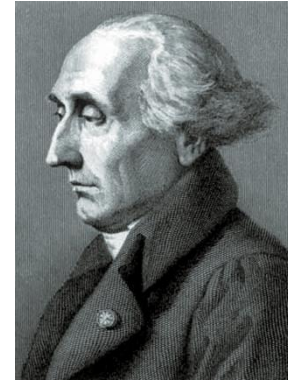
Archimedes  
M.Ö 287- M.Ö. 212



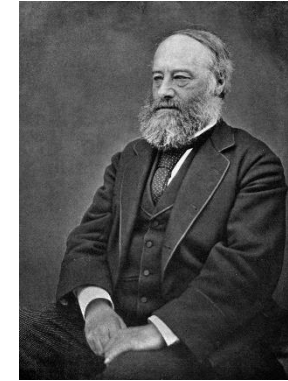
Galileo Galilei  
1564 - 1642



Isaac Newton  
1642 - 1727



Joseph-Louis Lagrange  
1736 - 1813



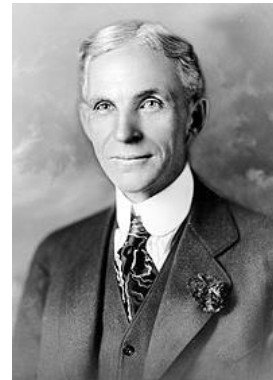
James Prescott Joule  
1818 - 1889



Leonardo da Vinci  
1452 - 1519



James Watt  
1736 - 1819

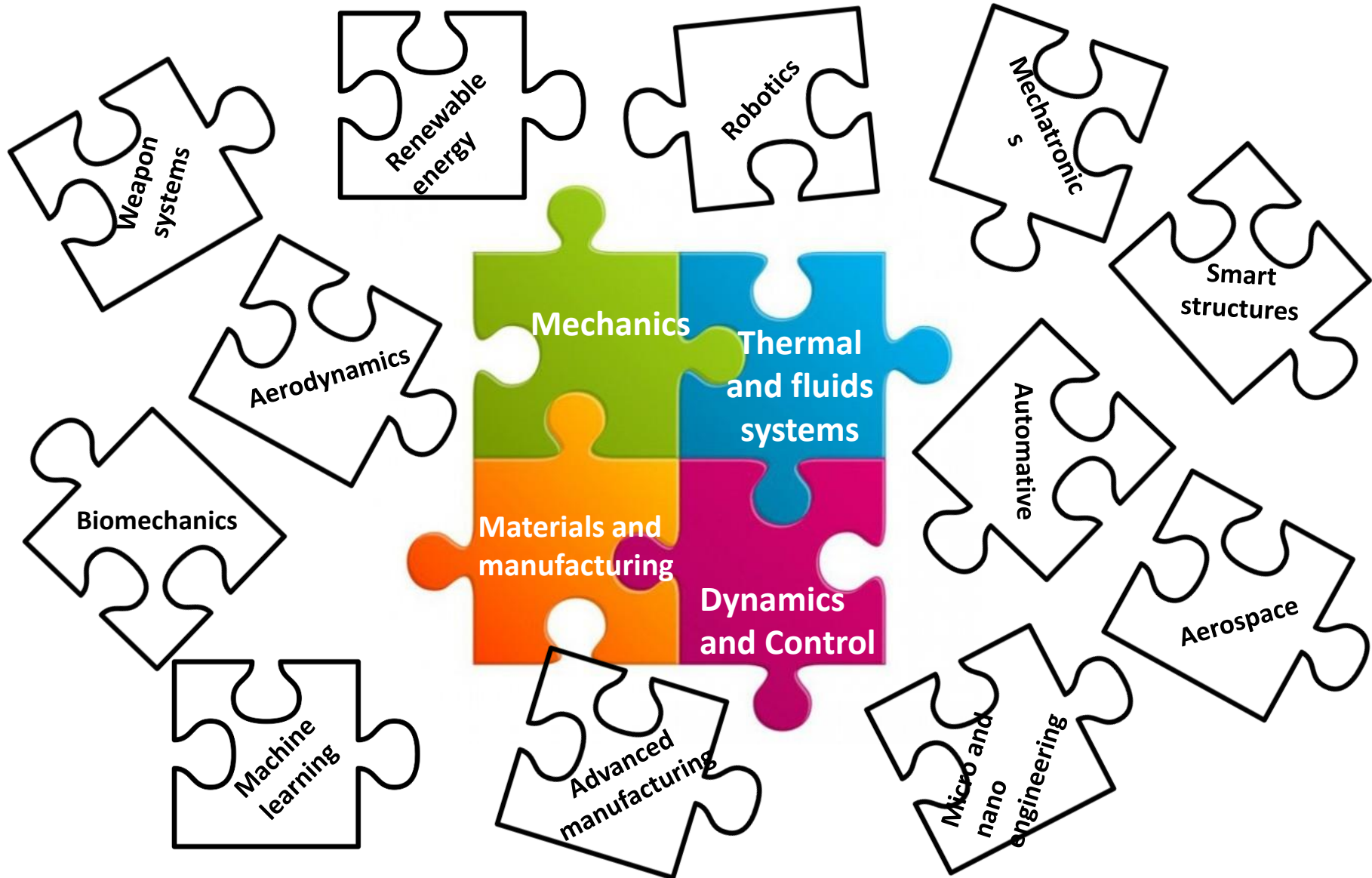


Henry Ford  
1863 - 1947



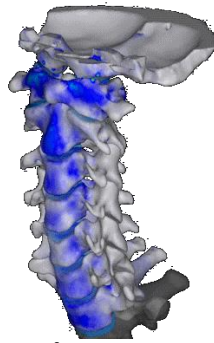
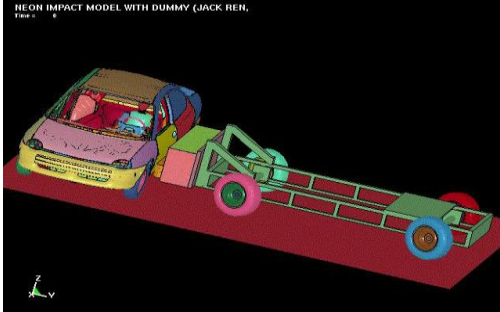
Willis H. Carrier  
1876 - 1950

# Mechanical Engineering

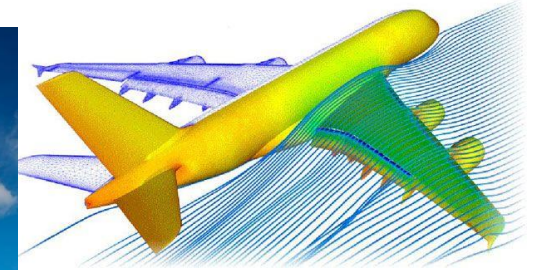




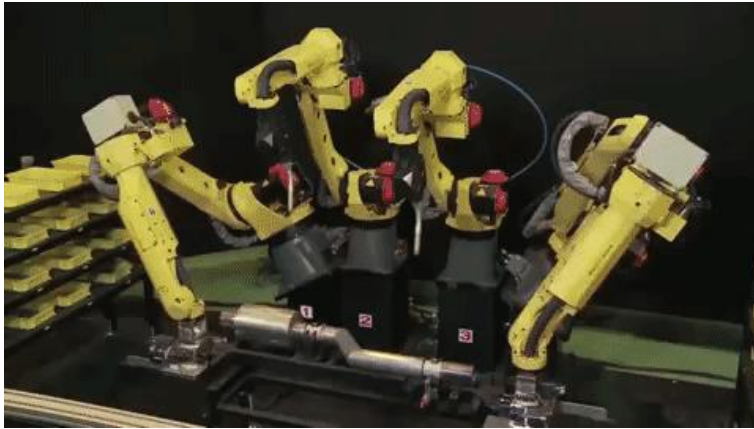
# Scope of ME



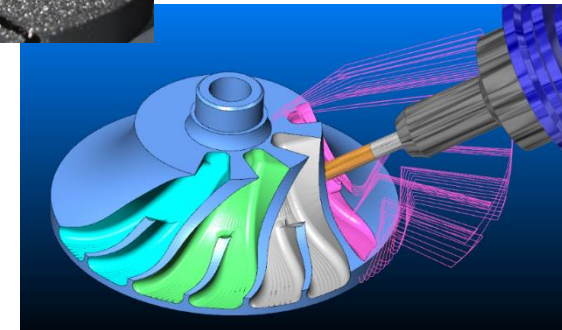
Mechanics



Thermo-fluids engineering



Dynamics and control



Manufacturing

# TEDU ME FACULTY

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**Prof. Dr. Selin Aradağ Çelebioğlu**  
Department Head  
METU, Rutgers, USA  
(US Air Force, TOBB ETU)  
Aerodynamics, Energy, Fluid Mechanics



**Prof. Dr. Kemal Levend Parnas**  
Vice Rector  
METU, Georgia Tech, USA  
(METU)  
Mechanics, Composite materials



**Assoc. Prof. Dr. Yiğit Taşcıoğlu**  
METU, Loughborough, UK  
(TOBB ETU)  
Robotics, machine design



**Dr. Omer Music**  
METU, Cambridge, UK  
(Atılım)  
Mechanics, mechanical simulations



**Dr. Onur Baş**  
METU, METU  
(TAI)  
Aerospace engineering, computational  
fluid dynamics



**Dr. Ayşe Çağıl Kandemir**  
METU, ETH Zurich, Switzerland  
Materials engineering, nanomaterials



**Dr. Kutluk Bilge Arıkan**  
METU, METU  
(Atılım)  
Robotics, machine design



**Dr. Şehram Dizeci,**  
Tabriz University, Iran, METU  
Manufacturing, design

# TEDU ME ADVISORY BOARD

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## **Prof. Dr. Ahmet Yozgatlıgil**

Tubitak Vice President  
Director, Tubitak MAM  
Professor, METU

## **Büryan Turan**

CEO, Simularge

## **Dr. Emre Öztürk**

CEO, Anova ARGE

## **Ekin Ersan**

General Manager, Numesys

## **Murat Anıl Oral**

General Manager, Pulsar Robotik

## **Ersan Tüfekçi**

Vice President, Kalyon PV

## **Dr. Emin Çağlan Kumbur**

Associate Professor, Drexel Univ, PA, USA

## **Dr. Sarp Yalım**

Program Coordinator, Alabama Univ, USA

## **Dr. Tunç İçöz**

General manager, Astrodyne TDI, NJ, USA

## **Dr. Cevat Akın**

Senior engineer, Thermofischer Scientific, CA, USA

## **Dr. Atılğan Toker**

Manager, Roketsan

## **Utku Avgan**

Program Manager, Tofaş

# Mechanical Engineering Program

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## Courses

- Freshman year: Math and Science courses
- Sophomore year: Basic Engineering courses
- Junior year: Mechanical Engineering courses
- Senior year: Elective courses and capstone design Project

## ME Education at TEDU (groups of around 30 students)

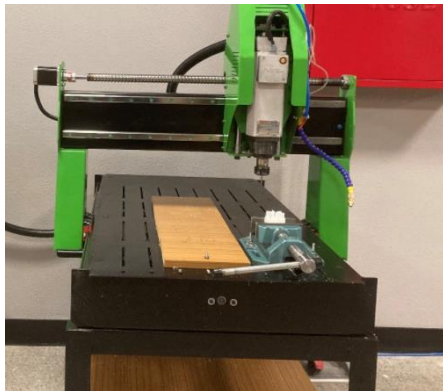
- Theoretical knowledge + application
- Thermal and Mechanical systems design experience
- Experiments at the laboratories, several lab courses
- Computational engineering courses (Mechanics, Fluids and Thermal) at Computational design lab
- Project based learning and team work
- Externally funded undergraduate research opportunities
- Part time work opportunities in companies

# TEDU ME LABORATORIES

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- **Fluid Mechanics and Thermal Sciences Lab:** Wind tunnel, turbomachinery and pipe flow experiments
- **Machine Dynamics and Robotics Lab:** VR equipment and tests, UAV Flight area, 3D printers, small CNC.
- **Machine Shop**
- **Mechanics Laboratory:** Mechanical testing equipment
- **Computer-Aided Technical Drawing Laboratory**
- **Computational Design Laboratory**
- **Material Test Laboratory**

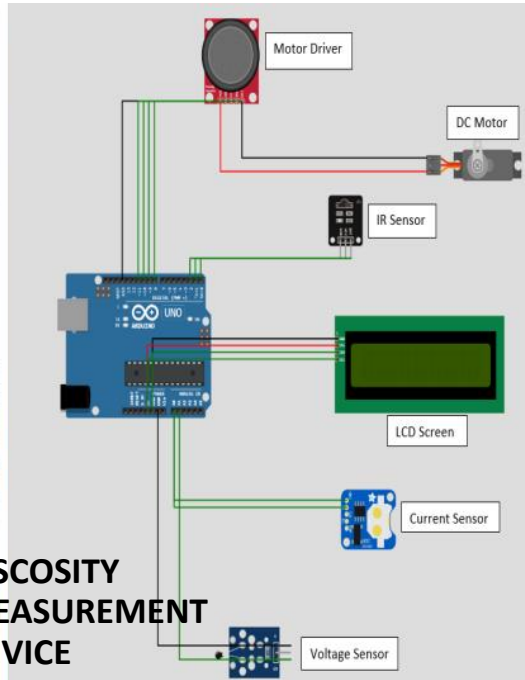




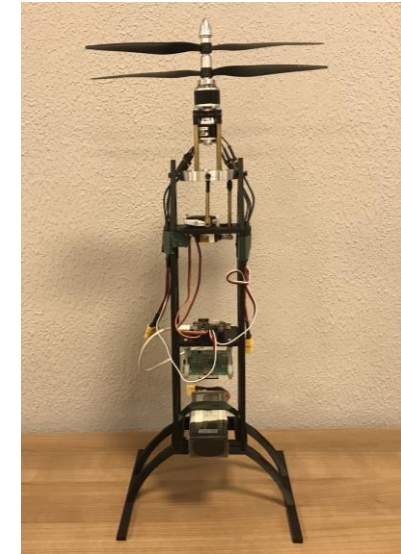
# Some Senior Design Projects



**VISCOSITY MEASUREMENT DEVICE**



**CHALLENGER: COAXIAL PLATFORM**



**BICOPTER**



# Student Societies

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**ALECTED**  
TED UNIVERSITY  
ALTERNATIVE ENERGY CAR TEAM



**AIM**  
Efficient, alternative energy vehicle  
design and manufacturing

**TEAM**  
33 students

**BUDGET**  
~250 000 TL

2020 Shell Eco-Marathon

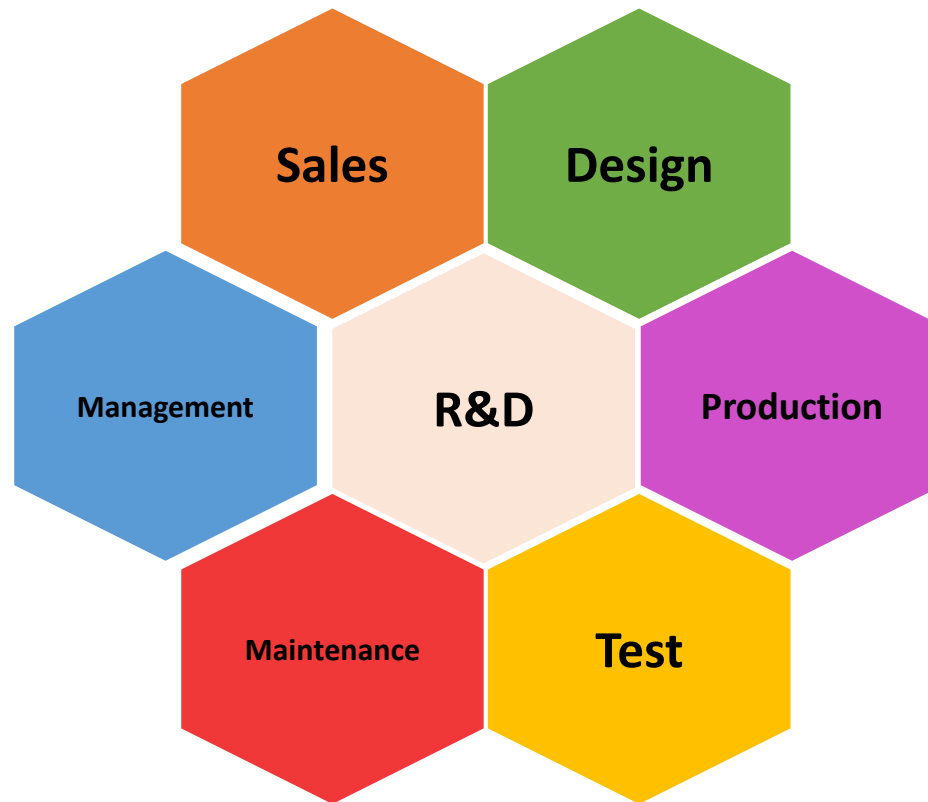


# Career in ME

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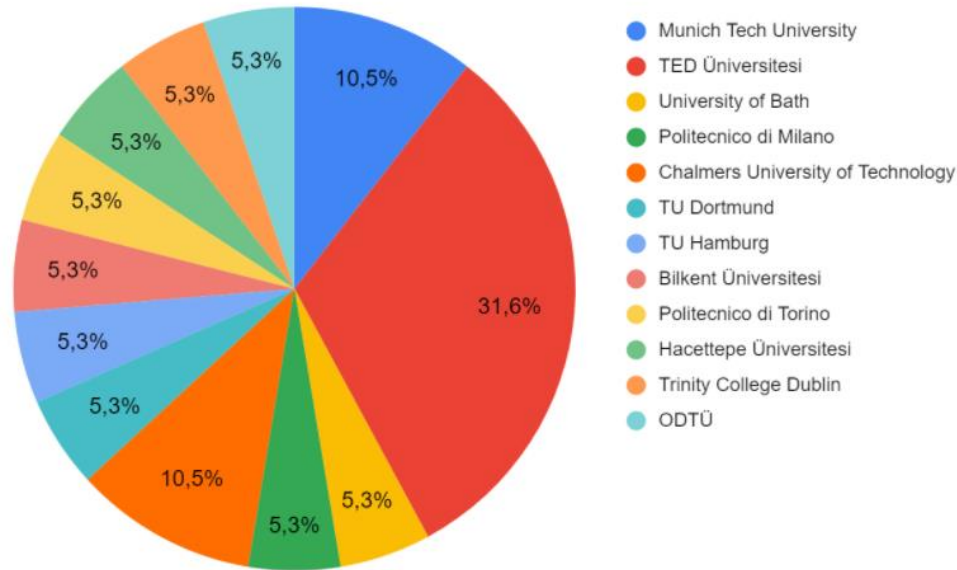
- Automotive (~%20) and Machine (~%9) industries are the first two sectors in Turkey's export.

i.e: In 2018, 176/1186 Research and Development centers are in Machinery and 124/1186 are in Automotive.



# TEDU ME GRADUATES

TEDU ME graduates who went to grad school: 53%abroad, 47% in Turkey



Graduates who directly started working:



# Summary

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- ME discipline is old and we are proud of this fact. It transforms itself especially with the improvements in digital technology.
- It covers a huge area of expertise, everyone who is interested in engineering can find something for themselves in it.
- The world needs more mechanical engineers, our graduates find good jobs easily.
- Project based learning, international standards in the curriculum, hands on and computer based engineering experience.
- TEDU ME faculty has international and national experience, PhD's from around the world with good networks.
- Our advisory board consists of experts in every aspect of ME.





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