Loving the problem is the greatest way to invent.
Five academic units

- Material Science and Engineering
- Biomedical Engineering
- Electrical Engineering
- Industrial Engineering
- Mechanical Engineering

- 2700 undergraduates
- 1500 graduates
Welcome to the Future - the World in 2050

- 90% of the Cars will be Autonomous
- 80% of the work will be by robots
- 237 Trillion ‘things’ Will be connected to the Internet
21 Century Engineering

Entrepreneurship And Innovations

Liberal Arts Engineering

Working with Industry

Active Learning

Loving the problem is the greatest way to invent
ISRAEL- THE START UP NATION

“Europe’s leading tech hub”
Wall Street Journal

“One of the world’s top three tech cities alongside San Francisco and Austin”
Savills

“2nd best place in the world to open a startup”
Startup Genome
Tel Aviv-2nd Most innovative City (after SF)
Tel Aviv University: Facts and Figures

1\textsuperscript{st} choice of students and employers in Israel

Established 1956

150,000 alumni

1,000 senior faculty

30,000 students, of whom 40\% are at the graduate level

400 laboratories

3,500 research projects annually

200 acre campus
Tel Aviv University is #8 in the world based on the number of alumni founders that received VC funding (2013-2018)
Israel turns 70 – the Leading Inventions (@TAU)

1. [Image of rocket launch]
2. [Image of Waze logo]
3. [Image of USB drive]
4. [Image of Waze logo]
5. [Image of Check Point logo]
6. [Image of drone]

Loving the problem is the greatest way to invent
Developed by our Faculty

- High capacity flash memories
- Cellphone lenses with extended depth of focus
- Hollow optical fiber for medical applications
- Improving cellular phone imaging

- Protecting airplanes against heat seeking missiles
- Signal processing for flash memories
- Barcode scanners
Established by our Faculty
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Dual Lens smartphone – photography, Prof. David Mendelovich
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Research in Universities or Industry?

- In some fields industry is leading
- Teaching helps research
- Basic engineering research is essential
- Collaborate with industry!
The Future Manufacturing: 3D Printing

T700 Stage 1 blisk after LENS leading edge repair

“Dental” 3D Printers

Outsourced SLS (150K)
Duell 3D DLP ($10,000)
Form2 SLA ($3500)
CEI Hobox FDM ($1500)

Loving the problem is the greatest way to invent
Smart Mobility (Shmelzer Institute)

Mobility Data Analysis

Operating vehicle sharing systems
Faculty of Engineering Broadcom Building
21 Century Engineering

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Steve Jobs: “It is in Apple’s DNA that technology alone is not enough—it’s technology married with liberal arts, married with the humanities, that yields us the results that make our heart sing.”

Albert Einstein: “Imagination is more important than knowledge, knowledge is limited, imagination circles the world”
How to teach the Y generation?

The ‘Y generation’ is different

Self/Active-Learning : A private lesson with the best teacher that suits me, +class interaction

A problem- most Professors want to teach the way they were taught….
Women to Engineering

- Why is it important?
- A good research requires a variety of ‘voices’
- Israel needs the best researchers
- Real gender equality
International EE Program

- Full English undergraduate EE program
- In other units- at least several courses in english
- All graduate courses can be given in english
Thank you for your attention