



TÜBİTAK

**The Scientific and Technological
Research Council of Turkey**



**Turkish Research and Business
Organizations**

Agenda

- 1) The Scientific and Technological Research Council of Turkey (TÜBİTAK)
- 2) Turkish Research and Business Organizations (TURBO)
- 3) STI Policy in Turkey and Future Directions
- 4) Research Institutes of TÜBİTAK
- 5) Where else Research can be carried out in TR?

Marie Curie Actions Road Show



1)The Scientific and Technological Research Council of Turkey

- 
- Established in 1963, TUBITAK is an autonomous public institution, governed by a Science Board.
 - The leading agency for management, funding and conduct of research in Turkey;
 - TUBITAK acts as an advisory agency to the Turkish Government on science and research issues.
 - TUBITAK is the secretariat of the Supreme Council for Science and Technology, i.e. the highest S&T policy making body in Turkey.

2) Turkish Research and Business Organizations

TURBO is an international non-profit association (a.i.s.b.l.) set up in Brussels by the public and private sector institutions and represents the Turkish research and business domains.

TURBO officially started its activities in March 2004.



TOBB



TÜBİTAK



KOSGEB



TESK

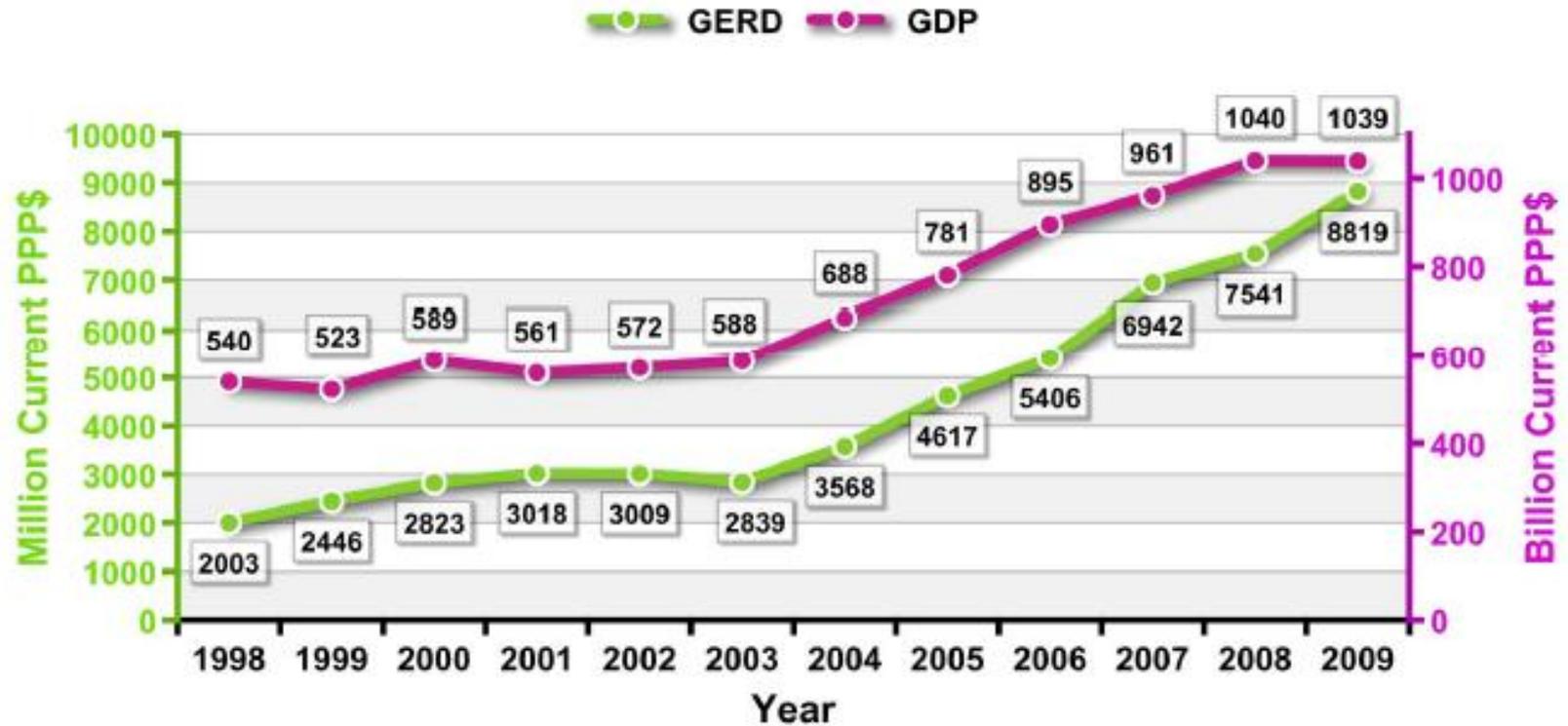
<http://www.turboppp.org>

TURBO - BRUSSELS

3) STI Policy in Turkey

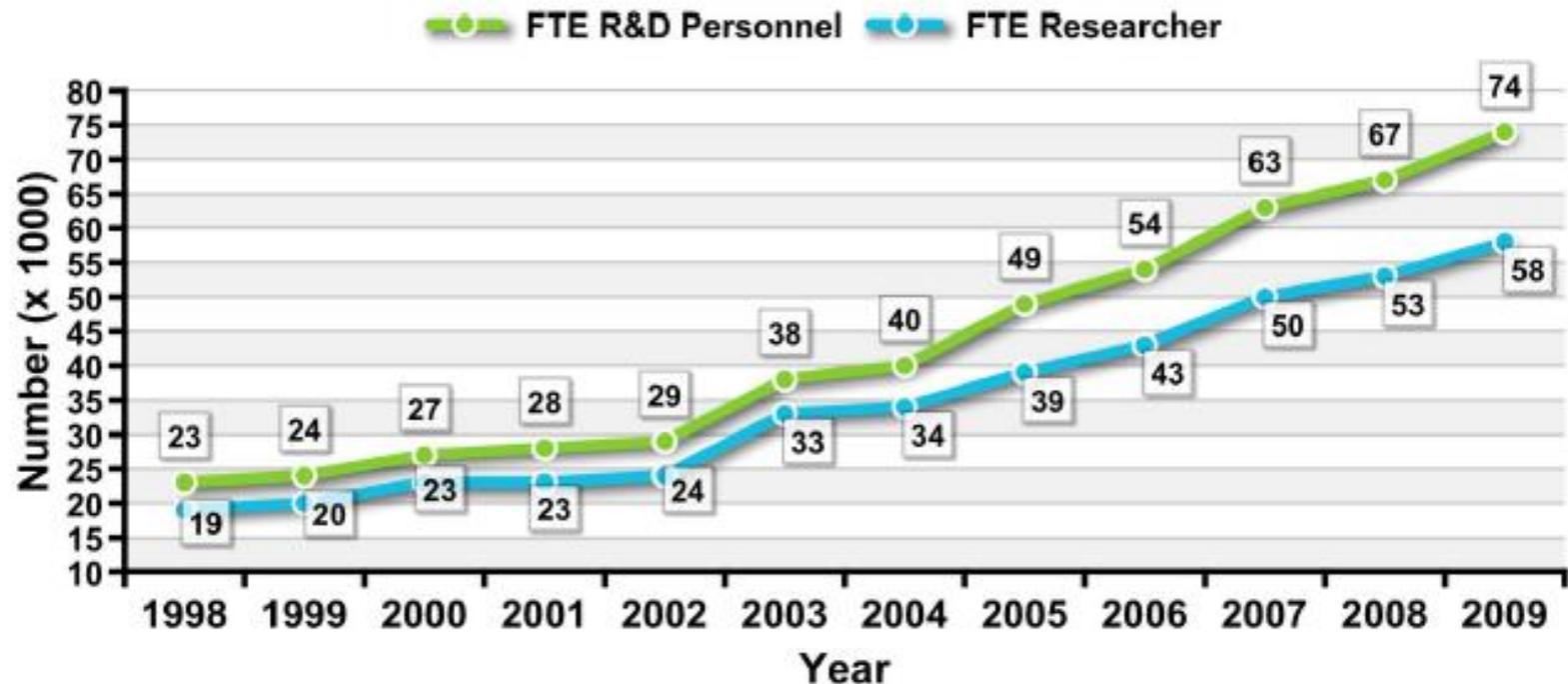
- Launched in 2004, one of the subsequent triggers in the Turkish model is the conceptualization of the Turkish Research Area (TARAL)
- The TARAL objectives that are to be achieved are to:
 - (a) enhance the quality of life,
 - (b) find innovative solutions to societal needs,
 - (c) increase the competitiveness of the country, and
 - (d) foster and diffuse S&T awareness in society.
- According to recent developments, the targets of TARAL in consensus are, to
 - (i) increase GERD as a percentage of GDP to 2% and
 - (ii) raise the number of full-time equivalent (FTE) R&D personnel to 150,000 by 2013.

GERD vs GDP (Turkey)



- In GERD increase, quadruple the OECD average
- More than doubled the level of GERD/GDP from 0.37% to 0.85%

R&D Human Resources – FTE* (Turkey)



* Full Time Equivalent

- Nearly tripled in quantitative terms the stock of FTE researchers
- Remarkably increased the stock of FTE R&D personnel in each sector in which the private enterprise sector increased to five-fold in one decade

From 2002 to 2007; Turkey Outpaced



- Seven countries regarding GERD (Belgium, Denmark, Finland, Norway, Singapore, Mexico, Iran)



- Seven countries regarding FTE R&D Personnel (Argentina, Austria, Belgium, Denmark, Finland, Switzerland, Thailand)



- Four countries regarding FTE Researchers (Belgium, Finland, Sweden, The Netherlands)



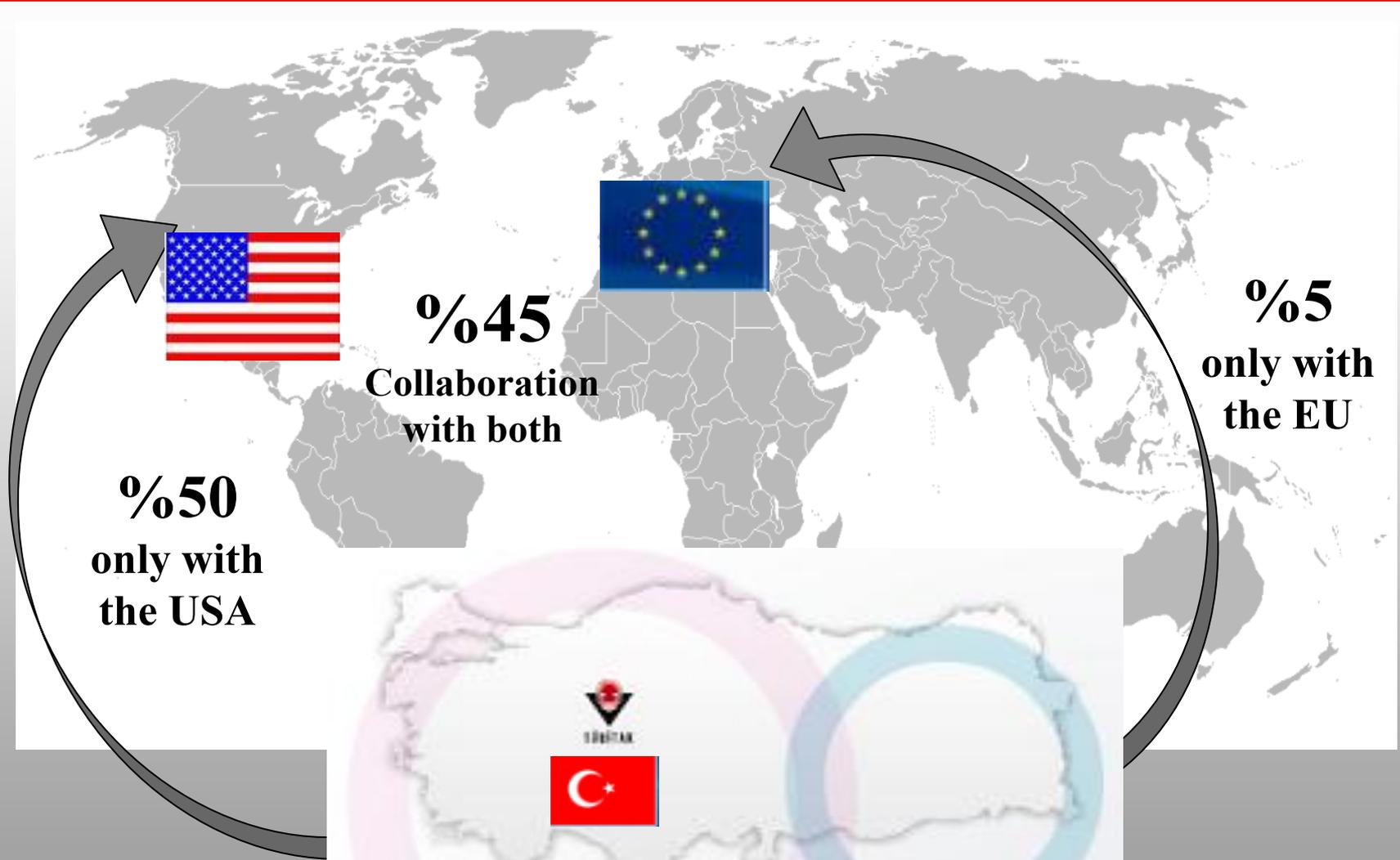
- Four countries regarding Scientific Publications (Belgium, Israel, Poland, Taiwan)

Future Directions

- Continuing Investment in S&T
- Preparing New Strategies for 2011-2016
 - Science, Technology and Innovation Implementation Plan
 - STI Human Resources Development
- Continuing Efforts to Make Turkey a More Attractive Destination for Qualified Researchers
- Continuing Efforts to enhance Research Infrastructures
- Furthering proven demand side policies to address societal needs

**Turkey supports
both inflows and outflows**

Cooperation Trends of the Reintegrated Researchers



- Turkey ranked the 2nd during the years 2007-2010 among 40 European countries (IRG-March 2010 call)
- 102 researchers from various non-European Countries has reintegrated to Turkey (IRG-March 2010 call)

4) Research Institutes of TÜBİTAK

GEBZE (İSTANBUL)

a) Marmara Research Ctr.

- Environment Institute
- Energy Institute
- Food Institute
- Genetic Engin.& Biotec. Ins.
- Chemistry Institute
- Materials Institute
- Earth & Marine Sciences Ins.

b) Center of Research for Advanced Tech. of Informatics and Information Security

c) National Metrology Ins.

ANKARA

a) TÜBİTAK Defence Industries Research And Development Institute

b) TÜBİTAK Space Technologies Research Institute



a) Marmara Research Center

Research Institutes:

- Energy Institute (EI)
- Food Institute (FI)
- Genetic Engineering & Biotechnology Ins. (GEBI)
- Materials Institute (MI)
- Chemistry Institute (CE)
- Environment Institute (EI)
- Earth & Marine Sciences Institute (EMSI)

TÜBİTAK Marmara Research Center Presentation Movie:

<http://www.mam.gov.tr/english/index.html>

Advanced Energy Technologies

Fuel Cell and Fuel Technologies

Hydrogen Technologies

Coal and Biomass Combustion and Gasification Tech.

Power Electronics and Control Technologies

Power Electronics Technologies

Vehicle Technologies

Battery Technologies



Picture 4 - Wind Turbine



Gaslaştırma sonucu elde edilen gazın yanması



Food Science and Technologies

Food Processing Technologies

Residues and Contaminants in Foods

Food Preservation and Packaging

Nutrition and Functional Foods

Food Composition database management

Biochemical analyses and clinical studies

Food fortification and formulation development studies

Properties of functional foods and evaluation in terms of healthy nutrition

Phytochemicals Bioactive compounds and nutraceuticals

Food Microbiology and Biotechnology

Food Microbiology

Food Biotechnology



Animal Biotechnology

Transgene and Experimental Animals

Hybridoma

Spectroscopy



Medical Biotechnology

Molecular Cell Biology

Immunogenetics

Immunology of Vaccine



Enzyme and Microbial Biotechnology

Enzyme and Fermentation Technology

Enzyme and Microorganism Molecular Genetics

Plant Biotechnology

Plant biotechnology

Plant Molecular Biology

Ceramic, Coating, Electromagnetic-Electronic Materials, Sensor and Metal Technologies

Ceramic Processing and Technologies

Functional Coating Processing and Technologies

Electromagnetic-Electronic Materials and Systems

Sensor Systems, Processes and Technologies

Metallic Materials



Aluminum, Casting, Nanotechnology-Composite and NDT & Acoustics

Aluminum Process Technologies

Casting Technologies

Nano-technology Composite and Carbon Technologies

Non-destructive testing and acoustics



Process and Inorganic Chemistry Technologies

Industrial Mineral Technologies

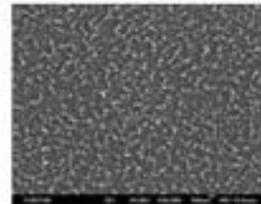
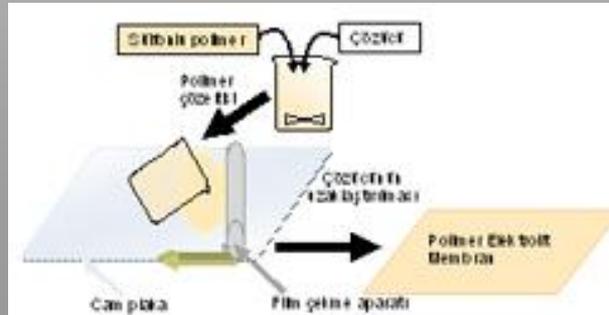
Process Engineering



Polymer and Organic Chemistry Technologies

Polymer Technologies

Organic Chemistry Technologies



Water and Waste Water Management

Application and Development of Treatment Technologies

Water Resources Management

Marine and Inland Water Management

Coastal Water Monitoring and Management

Inland Water Monitoring and Management



Air Quality Management

Emission Management, Pollution Control Technologies

Air Quality Modelling

Development of pollution maps

Solid and Hazardous Waste Management

Recovery Technologies for Solid Waste

Sludge Disposal and Recovery Technologies

Hazardous Waste Management

Persistent Organic Pollutants



Earthquake Processes

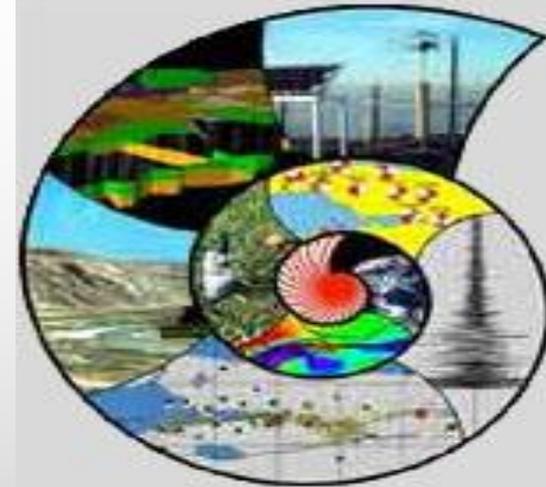
Earthquake seismology
Seismic micro-zonation
Crustal deformation and structure
Earthquake risk studies
Active tectonics

Geophysical Processes

Seismic, gravity-magnetic, electric-electromagnetic data acquisition and processing
Marine geophysics and sea bottom characterization techniques
Geodetic applications

Geologic and Geochemical Processes

Bio-geochemical and organic geochemical studies oriented towards environment and petroleum studies
Petroleum, earth gas and coal gas research
Hydro-geochemical studies
Quantitative sedimentary basin analysis and modeling
Medical geology application



b) Center of Research for Advanced Tech. of Informatics and Information Security

a) TÜBİTAK National Electronics & Cryptology Research Ins.

b) Information Technologies Institute



Research Areas

- **Information security**
- **Microelectronics**
- **Electro-optics**

c) National Metrology Institute (UME)

Established in 1992, the mission of TÜBİTAK UME is to ensure measurement uniformity and reliability and thus contribute to improved quality of life for the nation and enhanced competitive power for the country, and to form, develop, maintain and disseminate reference measurement standards and techniques recognised internationally.



Research Institutes of TÜBİTAK – ANKARA

a) TÜBİTAK Space Technologies Research Institute



A satellite image of Kuala Lumpur, Malaysia, showing a dense urban area with a complex network of roads and buildings, surrounded by greenery and water bodies.

RESEARCH AREAS

TÜBİTAK UZAY conducts its research and development activities in the following areas with a total of 235 staff members, out of which 151 are researchers and technical support personnel.

- Space Technologies:** Satellite systems, satellite sub-systems, satellite ground station sub-systems, satellite test and integration systems.
- Electronics:** Communication systems, electronics system design, electro-optic mission payload, high-speed digital design, IC design.
- Software:** Computer vision, speech processing, pattern recognition, remote sensing, multimedia technologies, data mining, machine learning, natural language processing, artificial intelligence.
- Power Electronics:** Power quality, compensation systems, electrical motor drives, switching power supplies, renewable energy resources.
- Power Distribution Systems:** Analysis of electric production and transmission systems, strategic research and development in distribution automation, Supervisory Control and Data Acquisition (SCADA) Systems, criteria setting for planning, design and operation of distribution systems.

Kuala Lumpur, Malaysia
by BİLSAT

b) TÜBİTAK Defence Industries R&D Institute

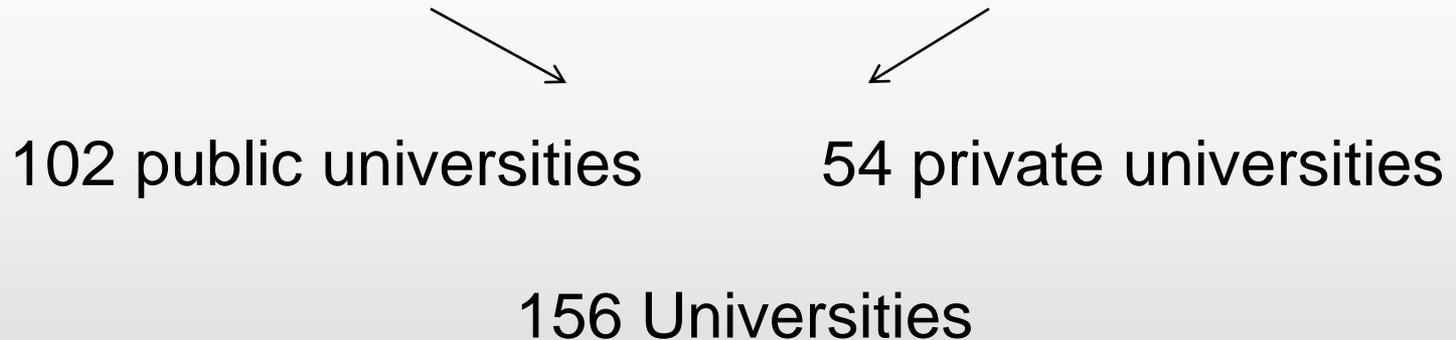


The Institute is engaged in research on

- ✓ composite solid fuels,**
- ✓ rocket engine design,**
- ✓ missile aerodynamics and flight mechanics,**
- ✓ materials, mechanical design methods,**
- ✓ electro-optics and defence support systems and control systems.**

5) Where else research can be carried out in Turkey?

Universities and affiliated laboratories



Universities mainly attracting foreign researchers:

- *Middle East Technical University
- *Boğaziçi University
- *İstanbul Technical University
- *Bilkent University
- *Koç University
- *Sabancı University
- *Dokuz Eylül University
- *İzmir Institute of Technology
- *TOBB ETU
- *Özyeğin University
- *Ege University
- *Bahçeşehir University
- *Ankara University
- *Gazi University

Where else research can be carried out in Turkey?

Private Companies attracting researchers from foreign countries:

- * Aselsan
- * Turkcell Technology
- * Turkish Telecom
- * Arçelik
- * Yıldız Holding / Ülker
- * Kordsa Global
- * Avea (Telekom)
- * Vodafone
- * Ford Otosan

TURKEY

İSTANBUL

- ARCELİK
- BAHCESEHIR UNIVERSITY
- BOGAZICI UNIVERSITY
- ISTANBUL TECHNICAL UNIVERSITY
- TURKCELL TECHNOLOGY
- SABANCI UNIVERSITY
- KOC UNIVERSITY
- ÖZYEĞİN UNIVERSITY
- TURKISH TELECOM
- ÜLKER

ANKARA

- ASELSAN
- ANKARA UNIVERSITY
- MIDDLE EAST TECHNICAL UNIVERSITY
- BİLKENT UNIVERSITY
- TOBB UNIVERSITY
- GAZİ UNIVERSITY

BURSA

- ULUDAG UNIVERSITY

İZMİR

- EGE UNIVERSITY
- İZMİR INSTITUTE OF TECH.
- YASAR UNIVERSITY
- ISTANBUL SEHIR UNIVERSITY
- 9 EYLÜL UNIVERSITY



Technology parks



ODTÜ Teknokent - Metutech

Tübitak MAM

İzmir TGB

Bilkent Cyberpark

Gebze OSB Teknopark

İTÜ ARI Teknokent

Hacettepe Üniv. TGB

Kocaeli Üniv. TGB

Eskişehir TGB - ATAP

Yıldız Teknik Üniv. TGB

İstanbul Üniv. TGB

Konya Teknokent

Antalya Teknokent

Erciyes Üniv. TGB

Trabzon TGB

Çukurova TGB

Erzurum Üniv. TGB

Mersin Technoscope

Uludağ Üniv TGB - Ulutek

Göller Bölgesi TGB

Ankara Üniversitesi TGB

Gaziantep TGB

Gazi Mağusa TGB

Cumhuriyet TGB

Fırat TGB

Pamukkale Üniversitesi TGB

Trakya Üniversitesi TGB

Gazi Teknopark TGB

Dicle Üniversitesi TGB

Ankara

Kocaeli

İzmir

Ankara

Kocaeli

İstanbul

Ankara

Kocaeli

Eskişehir

İstanbul

İstanbul

Konya

Antalya

Kayseri

Trabzon

Adana

Erzurum

Mersin

Bursa

Isparta

Ankara

G.Antep

Kıbrıs

Sivas

Elazığ

Denizli

Edirne

Ankara

Diyarbakır

www.metutech.metu.edu.tr

www.marmarateknokent.com.tr

iztekgeb.iyte.edu.tr

www.cyberpark.com.tr

www.gosbteknopark.com

www.ariteknokent.com.tr

www.hacettepeteknokent.com.tr

teknopark.kou.edu.tr

www.atap.com.tr

www.teknopark.yildiz.edu.tr

www.konyateknokent.com.tr

www.bateknokent.org

www.erciyesteknopark.com

teknokent.ktu.edu.tr

teknokent.cukurova.edu.tr

www.atateknokent.com.tr

www.technoscope.com.tr

ulutek.uludag.edu.tr

teknopark.sdu.edu.tr

www.gantepsteknopark.com

tekmer.emu.edu.tr

www.trakyateknopark.com.tr

www.gaziteknopark.com.tr

Support for Brain Circulation



Selçuk Saatçi



**University of
Washington**



Koç University



Halil Kavaklı

Selim Aksoy



Behic Mert

Support for Brain Circulation



Banu & Serdar Özen

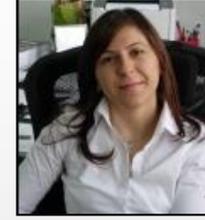


Kürşat Şendur Hitay Özbay Defne Aktaş

Support for Brain Circulation



University
of Houston



Sebnem Kalemli Özcan



Michigan
State
University



Burcu Taşoluk Volkan Patoğlu



Rana Sanyal

Müjdat Çetin

Support for Brain Circulation



Hilmi Volkan Demir Murat Kaya

European Young Investigator Award

Dr. Demir is an awardee of EURYI (European Young Investigator Award) and TUBA-GEBIP (Turkish Academy of Sciences Distinguished Young Scientist Award).

Support for Brain Circulation



Alper Elçi



Uluç Saranlı

Güllü Kızıtaş



Şebnem Elçi

Support for Brain Circulation



Koç University



Funda Yağci Acar



Sabancı
Universitesi

Hikmet Budak



University
California



Sabancı
Universitesi

Emrah Kalemci

NATIONAL[®]
CANCER
INSTITUTE

MARIE-CURIE EXCELLENCE AWARD goes to TURKEY :)

Sabancı
Üniversitesi



Batu Erman



Support for Brain Circulation



Dr. Barış Salihoğlu
EIF Marie Curie Fellow



Trophic controls in the Black Sea ecosystem





Osman Tolga Bozkurt

THE SAINSBURY LABORATORY

Host target proteins of Phytophthora secreted effectors&



FDI and EU Integration

Ceylan Onay



London Cass
Business School

Removing Barriers beyond Mobility

EURAXESS TURKEY

Home

EURAXESS Turkey

Research in Turkey

Invest in Turkey

Services

RESEARCH TALENTS' DESTINATION: TURKEY

TÜBİTAK

ÇSGB

STB

MEB

YÖK

Turkish Scientific and Technological Research Council

News & Events

Bitti

<http://euraxess.tubitak.gov.tr/euraxess/>

TÜBİTAK Marie Curie Team



**Burçak
ÇULLU**

**Marie Curie
Delegate for Turkey**



**Tuğba Arslan
KANTARCIOĞLU**

**Marie Curie
NCP for Turkey**



**Selcen Gülsüm
ASLAN**

**Marie Curie
Actions**

ncpmobility@tubitak.gov.tr



Thank you...



TÜBİTAK