TRANSLATIONAL ONCOLOGY

GRADUATION PROGRAM INTRODUCTION

DEÜ
ONKOLOJİ
ENSTİTÜSÜ
1992

MISSION

- ***The mission of 'Institute of Oncology'***, is to identify and prevent the causes of cancer, one of the most significant health issues, to provide early diagnosis through contemporary methods, to conduct current scientific and technological research, and to train highly equipped and educated scientists.


TRANSLASYONEL ONKOLOJİ
TRANSLATIONAL ONCOL
DEÜ
ONKOLOJİ
ENSTİTÜSÜ
1992
DOKUZ EYLÜL ÜNİVERSİTESİ
ONKOLOJİ ENSTİTÜSÜ
ve
MUZAFFER M.KAYHAN
ONKOLOJI HASTANESİ

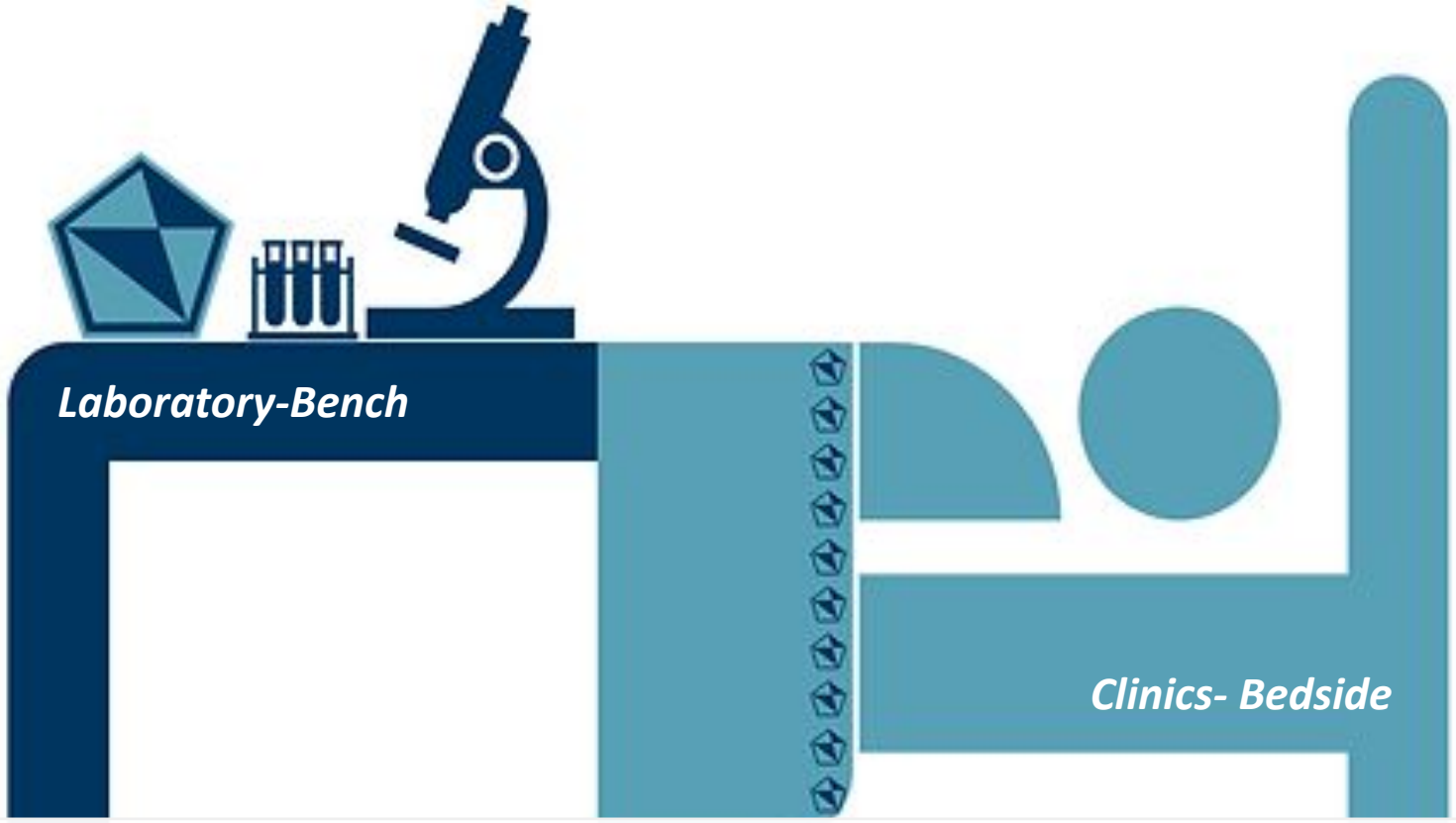
Department of Translational Oncology

- "Department of Translational Oncology" was first established in Turkey in 2018 for ***advanced research focused on cancer diagnosis and treatment.***
- Within this department, ***research and development (R&D) as well as product-oriented projects are carried out through a multidisciplinary approach, in collaboration with other institutions and departments, facilitating the translational flow of information from patients to the laboratory and vice versa.***

https://haber.deu.edu.tr/turkiyenin-tek-translasyonel-onkoloji-anabilim-dali-acildi/

MISSION

- ***The mission of the 'Department of Translational Oncology'*** involves conducting research and development (R&D) projects with a focus on the translational flow of information from patient to laboratory and vice versa. Through a multidisciplinary approach, these R&D projects aim to facilitate the implementation of new diagnostic and treatment methods, bridging the gap between the clinical and laboratory settings.



- Department of Translational Oncology enables the implementation of new diagnostic and treatment methods by facilitating organic and rapid collaborations between different disciplines with the understanding of translational medicine (also called "bench-to-bedside") and aims to transform laboratory-level research in basic sciences into clinical applications.

Department of Translational Oncology
Academic Staff

Prof. Dr.
Yasemin BAŞBINAR
Head of Department

Prof. Dr.
Serdar BAYRAK

Assoc. Prof. Dr.
Gizem ÇALIBAŞI KOÇAL

Asst. Prof. Dr.
Meltem ALPER

Department of Translational Oncology
Founding Faculty Members

Prof. Dr.
Yasemin Başbınar

Prof.Dr.
İlhan Öztop

Prof.Dr.
Ender Ellidokuz

Prof.Dr.
Sülen Sarıoğlu

Prof.Dr.
Selman Sökmen

Prof.Dr.
Tarkan Ünek

Assoc.Prof. Dr.
Gizem Çalıbaşı Koçal

- Translational oncology master's and doctoral programs were the ***first programs opened in Turkey.***

Translational Oncology
Graduate Program

- Considering the thematic and unique structure of Translational Oncology in Turkey, students enrolled in the programs of the department, which has a rich project portfolio, have the opportunity to receive scholarships within the scope of **TÜBİTAK, TÜSEB, YÖK 100/2000.**

- Within the research laboratories of the department, research and development (R&D) qualified and product-oriented thesis projects are carried out in cooperation with other departments, institutions and universities, aiming at the flow of information from patient to laboratory and from laboratory to patient.

Course Structure of Translational Oncology Graduate Programs

- The Translational Oncology Graduate Training Program aims to provide a versatile education within the concept of ‘Bench-to-Bedside’.
- Program offers a comprehensive curriculum to provide students with in-depth knowledge and skills in cancer biology, new technologies including omics technologies, drug development, laboratory practices, and biostatistical research methods.
- The program includes core courses, elective courses, and research seminars.
- Students also have the opportunity to participate in applied research projects and collaborate with experts in the field.

Translational Oncology Graduate Program Academic Staff

Prof. Dr.
Yasemin Başbınar

Prof. Dr.
Hülya Ellidokuz

Prof. Dr.
İlhan Öztop

Prof. Dr.
Selman Sökmen

Prof. Dr.
Serdar Bayrak

Prof. Dr.
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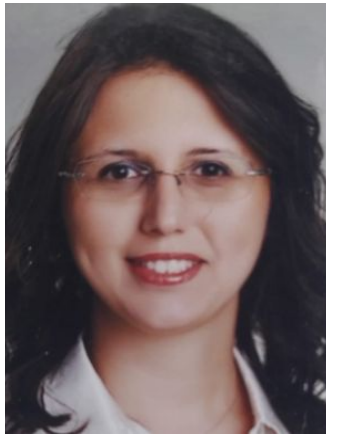


Asst.Prof.Dr.
Meltem Alper

Translational Oncology-
MASTER OF SCIENCE (MSc) Program

- Translational Oncology Master of Science (MSc) program was established in 2015 with the approval of Council of Higher Education (YÖK).
- The program provides education, research, and laboratory applications from a translational perspective.
- ***The program contributes to the potential of experienced academic scientists and a competent workforce who can work in the industry in result-oriented scientific studies in cancer diagnosis and treatment.***
- The duration of the program is 2 years in total, 1 year of coursework and 1 year of thesis. Students are expected to graduate in at least two (2) and at most three (3) years.
- The language of the program is Turkish.

Master of Science (MSc)
Application and Admission Requirements

- Undergraduate degree holders from the Faculty of Science, Engineering, Dentistry, Pharmacy, Veterinary Medicine, and Medical Schools can pursue a master's degree in Translational Oncology.

- **ALES result document**
  At least 55 points from ALES exam (within the last 5 years)

- **Foreign Language Certificate**
  It is mandatory to get at least 55 points from the foreign language proficiency exam held by Dokuz Eylül University School of Foreign Languages (YDS and YÖKDİL), or at least 50 points from the central foreign language exams accepted by the Council of Higher Education, or an equivalent score from the international foreign language exams accepted as equivalent
  **The foreign language proficiency exam held by DEU, School of Foreign Languages is valid for 3 years from the exam date. YDS and YÖKDİL results are valid for 5 years from the exam date.*

- **Science Exam:** Written 40%+ Interview 60% *(Minimum Required Score: 70)*
- **Evaluation:** ALES 50%+ TRANSCRIPT 25%+ SCIENCE EXAM 25%

Translational Oncology

DOCTOR OF PHILOSOPHY (PhD) Program

- Translational Oncology PhD program is established in 2016 with the approval of Council of Higher Education (YÖK).

- The aim of the program is to train PhD scientists and R&D personnel who can work in the field of oncology, especially in universities and R&D Institutes, and who can follow international scientific and technological developments, as well as to train competent managers and personnel who will ensure national development in the medical device and pharmaceutical industry.

- The duration of the program is 4 years in total, 2 years of which are courses and 2 years of which are thesis. Students are expected to graduate in a period of at least four (4) and at most six (6) years.

- The language of the program is Turkish.

Doctor of Philosophy (PhD)
Application and Admission Requirements

- Those who are medical doctors and those who have a Master of Science (MSc) degree in the field of Science and Health Sciences can apply to the PhD program.

- **ALES result document**
  At least 60 points from ALES exam (within the last 5 years)
  TUS certificate for those who have specialized in medicine (within the last 5 years)

- **Foreign Language Certificate**
  It is mandatory to get at least 55 points from the central foreign language exams accepted by the Council of Higher Education (YDS and YÖKDİL) or an equivalent score from the international foreign language exams accepted as equivalent
  **YDS and YÖKDİL results are valid for 5 years from the exam date.*

- **Science Exam:** Written 40% + Interview 50% + Scientific Portfolio 10% *(Minimum Required Score: 70)*
- **Evaluation:** ALES 50%+ TRANSCRIPT 25%+ SCIENCE EXAM 25%

TRANSLATIONAL ONCOLOGY LABORATORIES
AND
SOME EXAMPLES OF PROJECTS CONDUCTED

In vitro Cancer Models Laboratory

- In the *In Vitro* Cancer Models Laboratory, 2D and 3D modeling of cancer is done by growing cancer cells under controlled conditions.

- The organoid models we create within the scope of three-dimensional models are frequently used in cancer drug studies as they are models that enable the screening of tumor cell plasticity and its regulators.

MIT-KOCH INSTITUTE COLLABORATIVE ORGANOID PROJECT

KOCH INSTITUTE for Integrative Cancer Research at MIT

Massachusetts Institute of Technology

Increasing the chemotherapeutic effect of tumor metabolism through the modification of lactate dehydrogenase in COLORECTAL CANCER ORGANOID

TÜBİTAK 1001 PROJECT

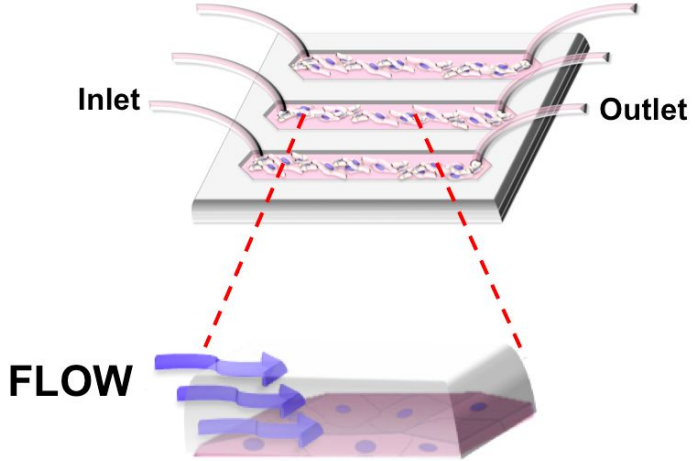
TÜBİTAK

1001 Bilimsel ve Teknolojik Araştırma Projelerini Destekleme Programı

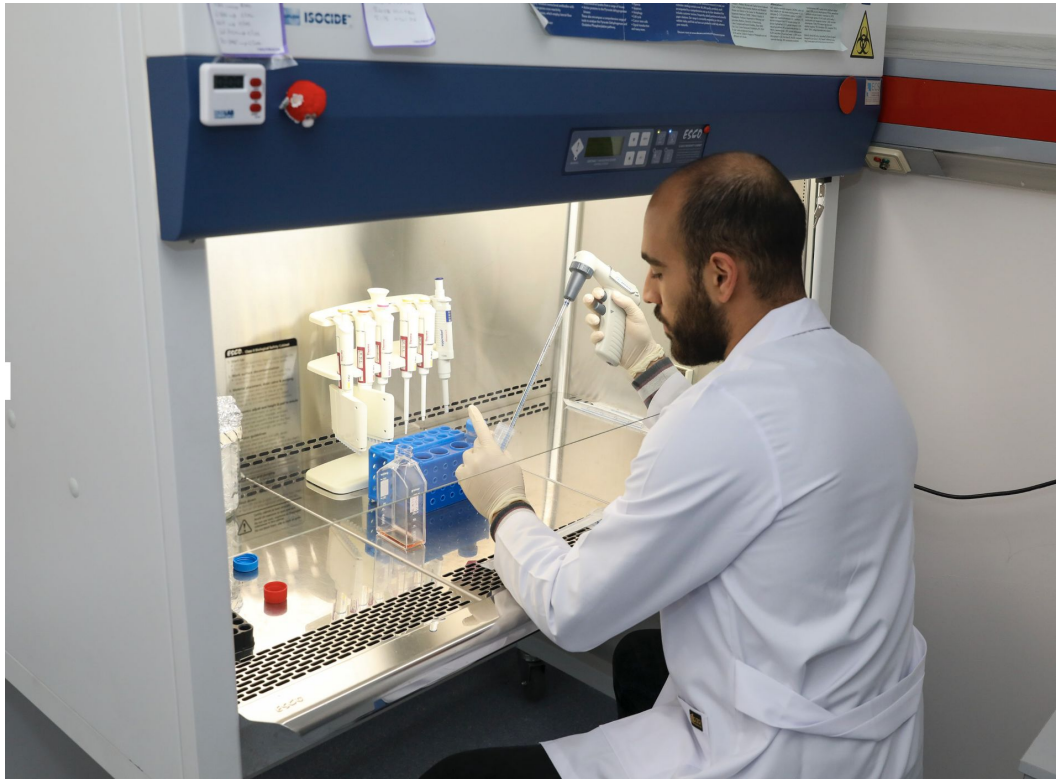
Effect of Ceramides of Different Carbon Lengths on Apoptotic and Metastatic Phenotype in Ex vivo/3D Ovarian Cancer Organoid Model: A New Look at the Sphingolipid Rheostat

Lab-on-a-Chip Laboratory

- Studies are being carried out by using miniaturized small-scale chips in small volumes.
- Cancer is modeled with experimental setups created by using microfluidics technologies.
- Advanced analyses: Active ingredient trials, nanoparticle trials, viability measurements, apoptosis and cell cycle detection, invasion-migration experiments, fluorescent immunocytochemistry, flow cytometry, molecular analyses, gene expression studies…



'Microfluidic 3-D Dynamic Culture'



TÜBİTAK 1003-SAB-BMED-2016-1
BİYOENSTRÜMANTASYON SİSTEMLERİ PROJEMİZ

TÜBİTAK

SINGLE CELL IMAGING TECHNIQUE OF CIRCULATING CANCER CELLS (CTCS); Our project proposal within the scope of LAB-ON-A-CHIP has been selected as one of the 10 projects supported within the scope of the call titled bioinstrumentation systems.

TUBITAK 1001 PROJECT

TÜBİTAK

Damping the Effect of Flow Pressure on Colorectal Cancer Metastasis via Mechanosensitive Ion Channels as a Potential Drug Target

COST ACTION PROJECT

cost
EUROPEAN COOPERATION
IN SCIENCE AND TECHNOLOGY

"The Role and Molecular Mechanism of Peritoneal Natural Fluid Flow as a Component of the Physical Microenvironment in the Peritoneal Metastasis of Ovarian Cancer"

Molecular Oncology Laboratory

- In this laboratory, research is carried out on the development and application of molecular targeted therapies, as well as research on cancer biochemistry using molecular applications.

- In addition, analyzes are carried out to determine mutations in cancer genes and evaluate chemotherapy and radiotherapy responses in our laboratories with the infrastructure of molecular techniques.

TÜBİTAK 1001 PROJECTS

TÜBİTAK

Evaluation of the Efficacy of Anti PD-1 Monoclonal Antibody and C Novvi-NT Intramural Application in Malignant Melanoma Mouse Model

TÜBİTAK

Transcriptional Regulation of the ADAMTS-8 Gene in Colon Cancer and the Effects of Inflammation Cytokines (TNF-α and IL-6) on This Regulation

TUSEB B PROJECT

TÜSEB
TÜRKİYE SAĞLIK ENSTİTÜLERİ BAŞKANLIĞI

Elucidating the Mechanisms Associated with Oxaliplatin Resistance and Cyanidin-3-O-Glucoside Reversing Oxaliplatin Resistance in Colorectal Cancer

TÜBİTAK 1003 PROJECT
BREATH BIOPSY PROJECT IN LUNG CANCER

TÜBİTAK

Use of Liquid and Volatile Biopsy in Individualized Molecular Diagnosis and Monitoring of Lung Cancer Patients

Nanomedicine Laboratory

- In the nanomedicine laboratory, where nanotechnological developments are used with a focus on cancer, studies are carried out to develop nano-sized drug carrier and targeting systems and to test them in cancer and related conditions.

TÜBİTAK 1001 PROJECT

TÜBİTAK

1001 Bilimsel ve Teknolojik Araştırma Projelerini Destekleme Programı

Comparative Investigation of the Efficacy of Cisplatin Combined with Gold, Silver and Platinum Nanocarriers along with Radiotherapy in Oral Cavity and Laryngeal Cancer Cell Lines

TÜBİTAK 3001 PROJECT

TÜBİTAK

Başlangıç Ar-Ge Projeleri Destekleme Programı 3001

Evaluation of the Effect of Pulsed Laser Hyperthermia Combined with Cisplatin-Loaded Graphene-Based Nanomaterials in the Treatment of Oral Cavity Cancer: An In Vitro Study

TÜBİTAK 2209 PROJECT

TÜBİTAK

Using Bioaerogel as a Drug Delivery System

Angiogenesis and Vascular Functions Laboratory

- Angiogenesis-vasculature formation has an important role both at the beginning and end of the metastatic process. The fact that the primary tumor has a dense vascular network causes malignant cells to enter the circulation more effectively and accelerates metastasis formation.

- For this reason, studies on cancer angiogenesis are carried out in the Angiogenesis and Vascular Functions laboratory.

TÜSEB PROJECT

TÜSEB
TÜRKİYE SAĞLIK ENSTİTÜLERİ BAŞKANLIĞI

IN VITRO EVALUATION OF THE EFFECT OF METFORMIN ON METABOLIC REPROGRAMMING ADAPTATION OF CANCER CELLS IN THE HYPOXIC TUMOR MICROENVIRONMENT

DEU BAP PROJECT

Dokuz Eylül Üniversitesi
Bilimsel Araştırma Projeleri
Koordinasyon Birimi

ANGIOGENESIS AND ENDOTHELIAL CELL FUNCTIONS MODELS IN CANCER RESEARCH

In silico and Artificial Intelligence Laboratory

- Artificial intelligence and machine learning-based studies in oncology cover many areas, such as cancer diagnosis, determination of cancer subtypes, optimization of cancer treatments, and identification of new candidate drugs in drug discovery.

- Our *In Silico*- Bioinformatics Studies researchers use various bioinformatics tools to identify genes involved in cellular pathways, gene-gene interactions, prediction and modeling of effective polymorphisms in the structure and function of proteins, and drug interactions.

- In this laboratory, TÜBİTAK/TÜSEB supported projects are carried out in line with our joint work with the ***Department of Preventive Oncology - Cancer Epidemiology Graduate Programs and the Department of Computer Engineering.***

TÜBİTAK 1003-SAB-HZMT-2018-1
BİOSTATISTICS PROJECT

DEVELOPMENT OF A NEW GENE DISCOVERY AND DRUG REPOSITATION PLATFORM BASED ON MACHINE LEARNING TO IMPROVE THE EFFICACY OF IMMUNOTHERAPY IN CANCER

TÜSEB
SYSTEMS BIOLOGY AND BIOINFORMATICS STRATEGIC R&D PROJECTS

TÜSEB
TÜRKİYE SAĞLIK ENSTİTÜLERİ BAŞKANLIĞI

DETECTION OF PATHWAYS AND BIOMARKERS AFFECTING THE DEVELOPMENT OF COLORECTAL CANCER AND LIVER METASTASIS WITH A NETWORK-BASED SYSTEMS BIOLOGY APPROACH (2019-TA-01 Group)

TÜSEB
TÜRKİYE SAĞLIK ENSTİTÜLERİ BAŞKANLIĞI

IN-SILICO DETERMINATION OF THE SUITABLE MOLECULE FOR THE FULLY TYROSINE KINASE RECEPTOR FAMILY WITH INCREASED EXPRESSION IN COLORECTAL CANCER

Our Project Supporters

SCHOLARSHIP OPPORTUNITIES FOR STUDENTS

- TÜBİTAK
  - Project scholarships (1001, 1003 etc.)
  - International research scholarships (2214, 2219 etc.)
- TUSEB (Health Institutes of Türkiye)
- YÖK 100/2000 PhD Scholarship
- Erasmus

Internationalization

in the Department of Translational Oncology

- Student mobility
- Academician mobility
- Partnership in research and development

Our Students' Experiences Abroad

- Massachusetts Institute of Technology, Koch Cancer Institute, *Cambridge/United States of America (USA)*
- Harvard University, *Cambridge /United States of America (USA)*
- Stanford University, *Palo Alto/United States of America (USA)*
- Institute for Systems Biology, *Seattle/United States of America (USA)*
- SciLifeLab, *Stockholm/Sweden*
- Donders Institute for Brain, Cognition, and Behaviour, Netherlands
- University of Iceland, *Reykjavik/Iceland*
- Cancer Research Center, *Heidelberg/Germany*

TÜBİTAK

Erasmus+

**** TUBITAK and Erasmus supported our students during their abroad experiences.*

International Collaborations

Massachusetts Institute of Technology

HARVARD

UNIVERSITY OF ICELAND

CANARY CENTER AT STANFORD

LUNDS UNIVERSITET

SciLifeLab

National Collaborations

- Yıldız Technical University
- Ege University
- Marmara University
- Gebze Technical University
- Celal Bayar University
- Istanbul Medipol University

CONTACT US

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Translational Oncology Graduate Program Manager

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