

CoBLET 2022

BIOINFORMATICS EDUCATION LANDSCAPE IN TURKEY

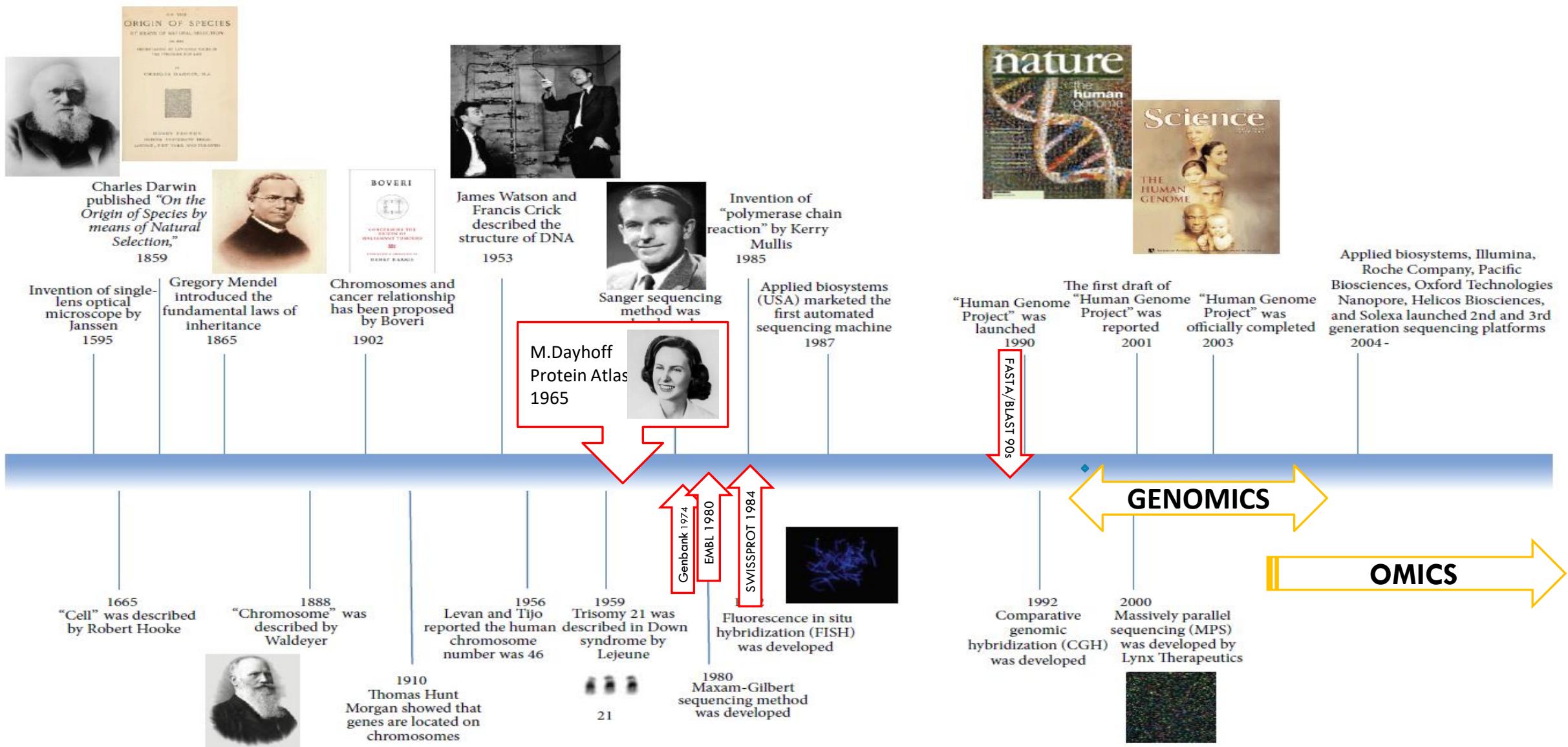
Assoc. Prof.Dr. Yeşim AYDIN SON

METU Graduate School of Informatics

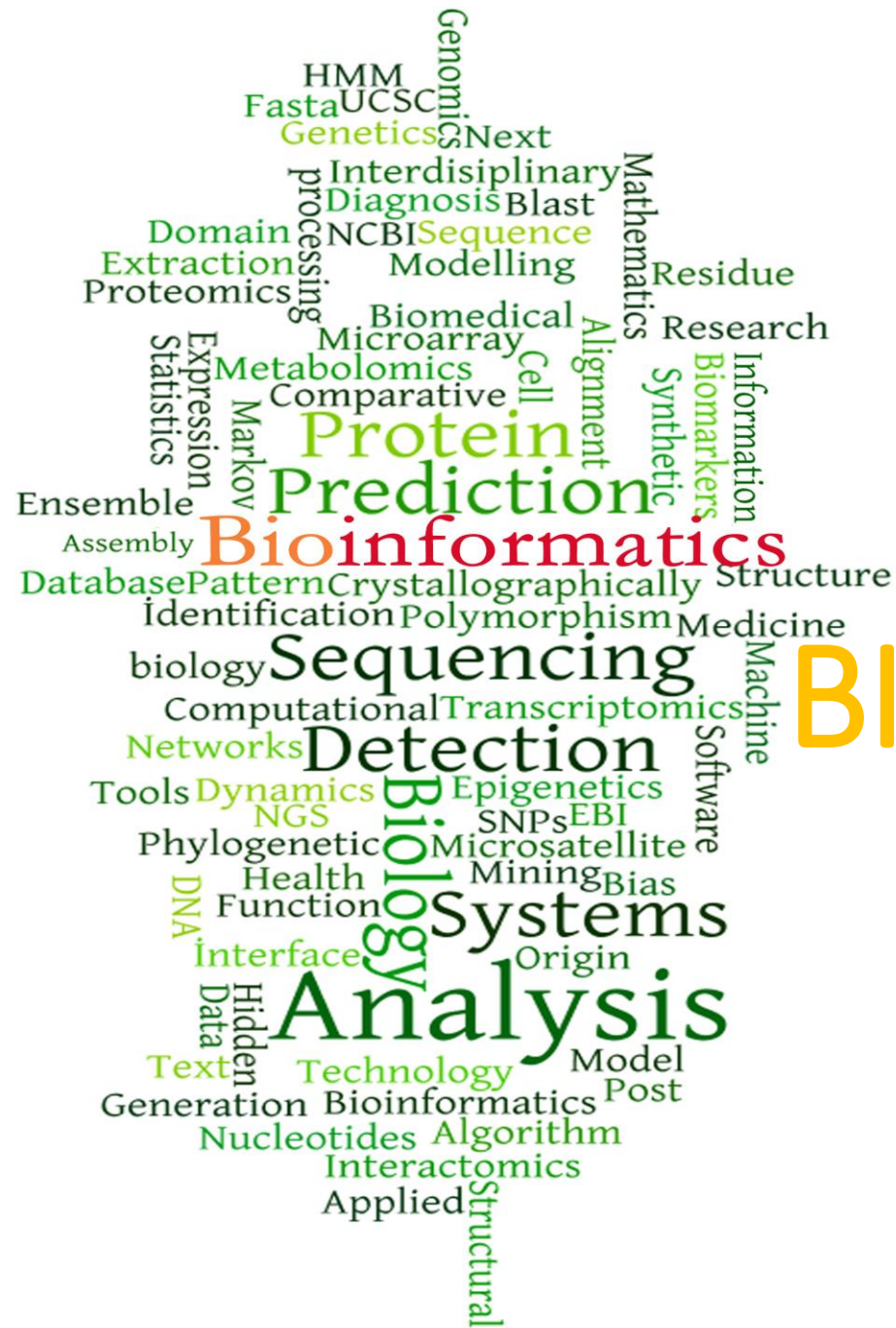
Department of Health Informatics

What is Bioinformatics ?

Bioinformatics is the application of *statistics* and *computer sciences* to the field of *molecular biology* to increase our understanding of biological processes



LANDMARKS IN GENETICS



BIOINFORMATICS

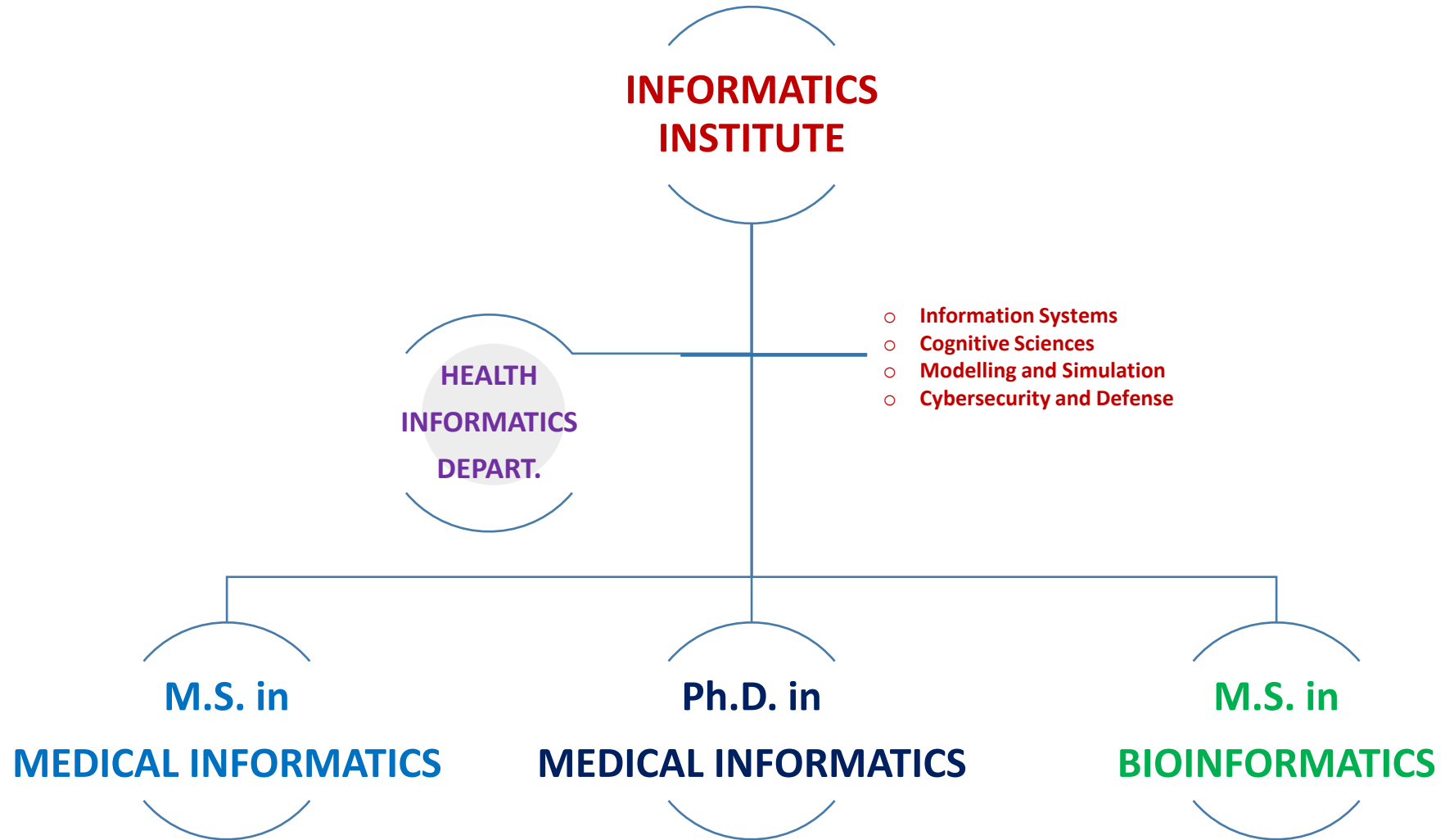
Education and Research

DEPARTMENT of HEALTH INFORMATICS



- 1 Amphitheater ((Ural Akbulut Auditorium)
- 2 Conference Rooms
- 2 Computer Labs
- 5 classes + 1 special class
- 3 meeting rooms
- 1 social room/kitchen
- Dedicated research labs:
 - **BIOINFORMATICS**
 - **GENOMICS**
 - **CANSYL**

METU GRADUATE SCHOOL of INFORMATICS



FALL 2022-23

Registered **64**

Alumni **43**

Faculty **5**



ODTU HEALTH INFORMATICS DEPARTMENT



Erkan Mumcuoğlu
M.Sc., Ph.D.



Tolga Esat Özkurt
M.Sc., Ph.D.



Yeşim Aydın Son
M.D., Ph.D.



Aybar Can Acar
M.Sc., Ph.D.



Burçak Otlu Sarıtaş
M.Sc., Ph.D.

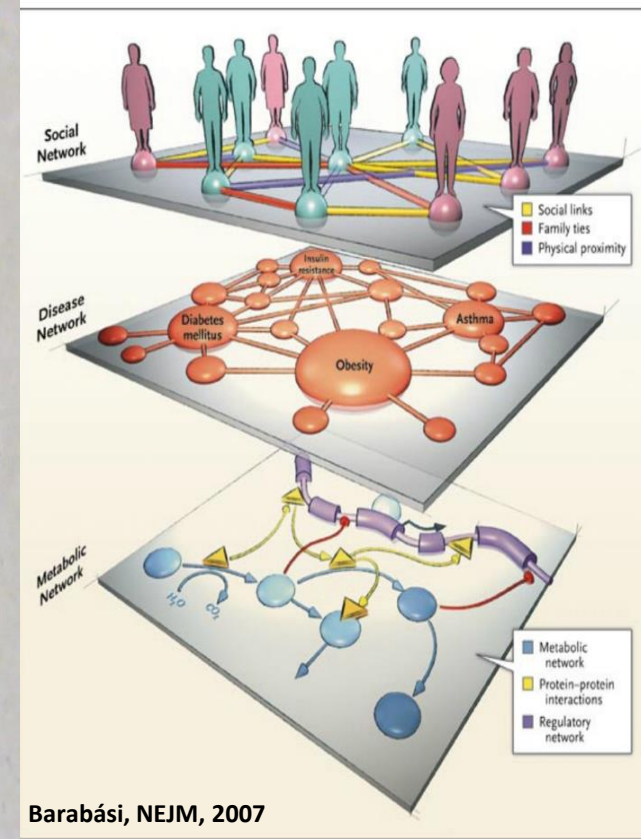
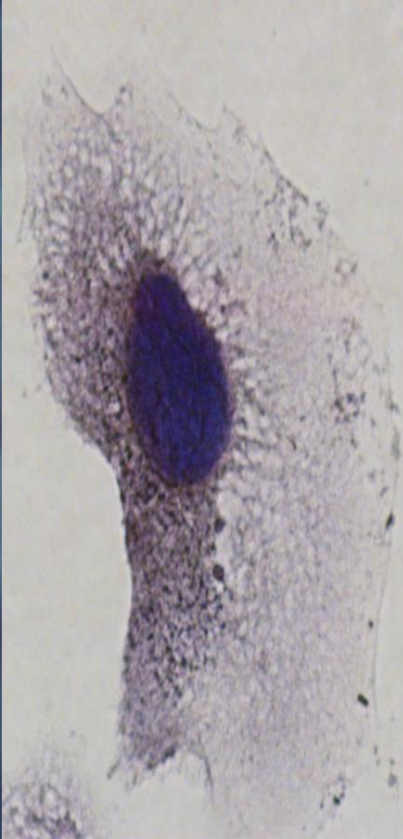
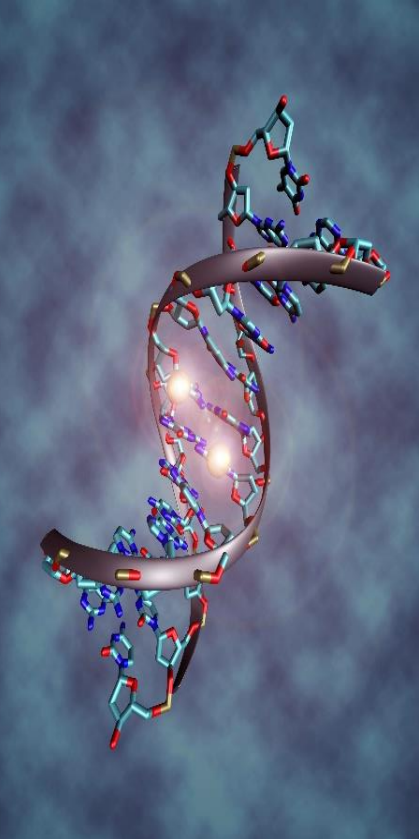
CLINICAL INFORMATICS / Health Information System / Clinical Decision Support Systems

Medical Signal & Image Analysis

NEUROINFORMATICS

BIOINFORMATICS

OVER 20 AFFILIATED FACULTY FROM **ODTÜ BIO, CENG, EE** and **STAT** DEPARTMENTS



METU BIOINFORMATICS

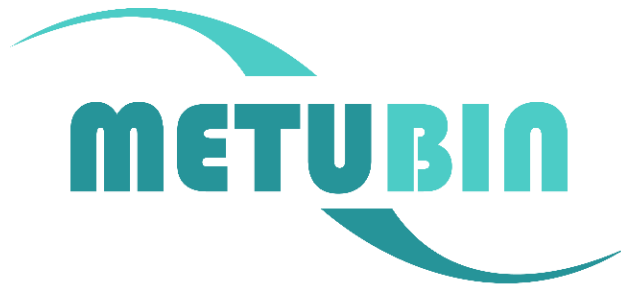
Current Student Body

22 M.S.

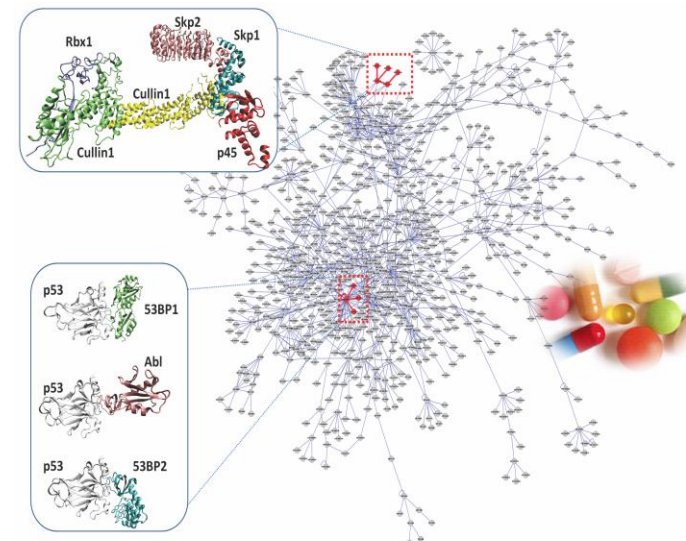
42 Ph.D.

Trend Topics in Research

- Multi-Omics Research
- Personalized Diagnostics
- Pharmaco-transcriptomics
- Translational Bioinformatics
- Turkish Genome Project
- Digital Pathology
- Disease Models



MIDDLE EAST TECHNICAL UNIVERSITY
INFORMATICS INSTITUTE
BIOINFORMATICS PROGRAM



BIOINFORMATICS

Core Curriculum



Deficiency Courses

BIN 500 Programming for Informatics
BIN 502 Statistics for Informatics
COGS 546 Research Methods
BIO 317 Molecular Biology
BIO 420 Biochemistry

Core Courses

BIN 501 Introduction to Bioinformatics
BIN 503 Biological Databases and Analysis Tools
BIN 504 Probabilistic and Statistical Modelling



TITLES OF BIOINFORMATICS GRADUATE PROGRAMS IN TURKEY

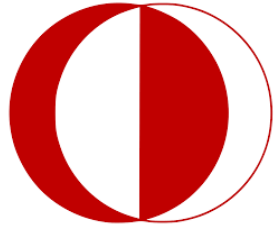
DEDICATED

- Biyo**e**nformatik Ana Bilim Dalı
- Biyo**e**nformatik ve Bilişimsel Biyoloji Ana Bilim Dalı
- Biyoinformatik Sistemler Biyolojisi Ana Bilim Dalı
- Biyoinformatik Ana Bilim Dalı (Disiplinlerarası)
- Biyoinformatik ve Genetik Ana Bilim Dalı

RELATED

- Biyomedikal Mühendisliği Ve Biyo**e**nformatik
- Hesaplamalı Biyoloji Ve Biyo**e**nformatik
- Biyoistatistik ve Biyoinformatik Ana Bilim Dalı
- Biyoistatistik ve Tıbbı Bilişim Ana Bilim Dalı
- Sağlık Biyoinformatiği
- Sağlık Bilişimi

UNIVERSITIES ACTIVE IN BIOINFORMATICS EDUCATION and RESEARCH



Sabancı
Universitesi

ACIBADEM



Bioinformatics Curriculums



Course Code	Course Name
BIN500	PROGRAMMING FOR INFORMATICS
BIN501	INTRODUCTION TO BIOINFORMATICS
BIN502	STATISTICAL METHODS FOR INFORMATICS
BIN503	BIOLOGICAL DATABASES AND DATA ANALYSIS TOOLS
BIN504	PROBABILISTIC AND STATISTICAL MODELING FOR BIOINFORMATICS
BIN505	FOUNDATIONS OF SYSTEMS BIOLOGY
BIN506	PROTEIN AND DNA SEQUENCE ANALYSIS
BIN508	NEXT GENERATION SEQUENCE ANALYSIS AND INFORMATICS
BIN510	INTRODUCTION TO PATHWAY BIOINFORMATICS
BIN511	APPLICATIONS OF BIOINFORMATICS IN MOLECULAR BIOLOGY
BIN515	STRUCTURAL BIOINFORMATICS
BIN590	GRADUATE SEMINAR IN BIOINFORMATICS
BIN595	MOLECULAR BIOLOGY FOR BIOINFORMATICS
BIN599	MASTERS THESIS
BIN712	COMPUTATIONAL METHODS IN BIOINFORMATICS
BIN714	MICROARRAY DATA ANALYSIS AND INFORMATICS
BIN717	CLINICAL BIOINFORMATICS
BIN7999	INTERNATIONAL GRADUATE STUDENT PRACTICE



BIO 610	Computational Drug Design Techniques
BIO 621	Advanced Medicinal Chemistry
BIO 622	Special Topics in Medicinal Chemistry
BIO 623	Object-Oriented Programming
BIO 624	Advanced Computational Structural Biology
BIO 625	Membrane Proteins and Molecular Neurobiology
BIO 631	Advanced Cell Biology
BIO 651	Advanced Quantum Chemistry
BIO 653	Statistical Thermodynamics
BIO 655	Molecular Modeling, Simulation and Visualization Methods
BIO 681	Human Genetics
BIO 682	Ethics and Intellectual Properties in Biology
BIO 684	Special Topics in Spectroscopy
BIO 688	Computational Systems Biology



BIN755 – Linux Operation Systems for Advanced Bioinformatics Analysis

BIN756 – Bioinformatics in Human Genetics

BIN757 – Microarray Data Analysis and Informatics

BIN758 – Next Generation Sequencing (NGS) Analysis And Informatics

BIN759 – Protein Modelling and Pathway Analysis

BIN760 – Python for Advanced Bioinformatics Analysis

BIN769 – Fundamentals of Systems Biology

BIN781 – Biological Databases And Data Analysis Tools

BIN782 – Current Topics in Bioinformatics

BIN783 – Advanced Statistical Methods In Genetic Researches

BIN784 – Bioinformatics in Population Genetics

BIN785 – Advanced Machine Learning

THESIS COMPLETED with keyword BIOINFORMATICS (2001-2022 cnt)

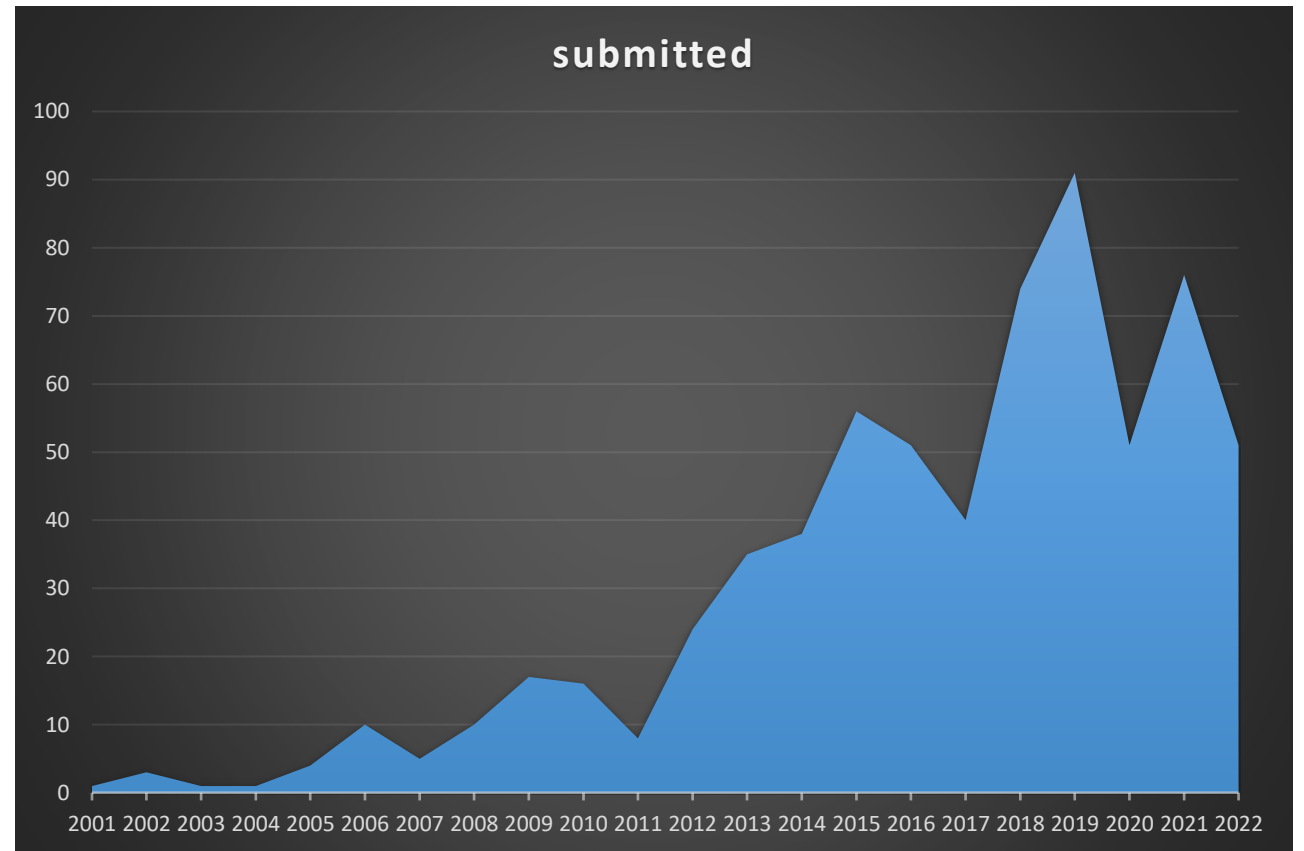
YÖK Keywords

- “Biyoenformatik”
- “Biyoinformatik”
- “Bioinformatics”

M.Sc. 488

Ph.D. 277

<https://tez.yok.gov.tr/UlusalTezMerkezi/>





THANK YOU !

yesim@metu.edu.tr