2023 Faaliyet Raporu
Beykoz Yaşam Bilimleri ve Biyoteknoloji Enstitüsü (BILSAB)

19.12.2023

BEZMIALEM VAKIF UNIVERSITY
1845

Two Centuries Of Experience In Health

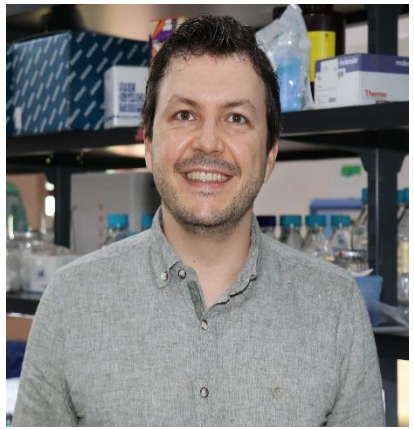
Sunu Planı

BEZMIALEM VAKIF UNIVERSITY 1845

- Giriş
- Öğretim Üyeleri
- Bütçe
- Yayınlar
- Projeler
- Aktiviteler
- Laboratuvarlar

Öğretim Üyeleri

BEZMIALEM VAKIF UNIVERSITY 1845



Cem Albayrak

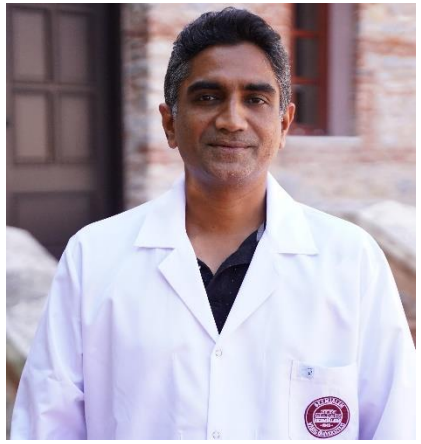
Ahmet Cingöz

Caner Çağlar

Mehmet Z. Doymaz

Şeref Gül

M. Aziz Hatiboğlu



M. Asif Khan

O. Emre Onat

Matteen Rafiqi

Serdar Uysal

Öğretim Üyeleri-Özgeçmişler

BEZMIALEM VAKIF UNIVERSITY 1845

Faculty	Education and Training	Field
Cem ALBAYRAK, PhD	• BSc; Massachusetts Institute of Technology, • MSc; Stanford University • PhD; Stanford University • Post Doc; ETH Zurich - Swiss Federal Institute of Technology • Assist. Professor; Koç University, Istanbul	Biotechnology
Ahmet Cingöz, PhD	• B.Sc; Istanbul University • M.Sc.; Marmara University and • Ph.D. ; Koç University • Post-Doc; Harvard University	Cancer Biology
Caner Çağlar, PhD	• BSc; Bilkent University, • PhD; Rockefeller University	Neuroscience
Mehmet Doymaz, PhD	• BSc; Ankara University, • MSc+PhD; University of Tennessee, • Post-Doc; Mount Sinai Sch Med. • Fellowship; UCLA	Microbiology
Şeref Gül, PhD	• B.Sc; Boğaziçi University • MSc; Boğaziçi University & Michigan State Univ. • Ph.D.; Koç University, • Post-Doc.; Koç University,	Circadian Biology & Drug Development

Öğretim Üyeleri-Özgeçmişler

BEZMIALEM VAKIF UNIVERSITY 1845

Faculty	Education and Training	Field
M. Aziz Hatiboğlu, MD	• MD; Ankara University • Residency; S.B. Okmeydanı E.A. H. • Fellowship; The University of Texas, M.D. Anderson Cancer Center	Neurosurgery
M. Asif Khan, PhD	• BSc; National University of Singapore, • MSc; National University of Singapore • PhD; National University of Singapore • Post Doc; Johns Hopkins, Singapore & National University of Singapore • Assist. Professor; Perdana University	Bioinformatics
O. Emre Onat, PhD	• BSc; Boğaziçi University, Istanbul • MSc; Bilkent University, Ankara • PhD; Bilkent University, Ankara • Assit. Professor; Acıbadem University, Istanbul	Molecular Genetics
Matteen Rafiqi, PhD	• BSc; SK University of Ag. Sci & Tech • MSc; Vaginen Univ. • PhD; Max Planck Ins. Univ. Chicago, • Post-Doc; McGill University	Developmental Biology
Serdar Uysal, PhD	• BSc; Marmara Univ, İstanbul Technical University • MSc+PhD; University of Chicago, • Post-Doc; Harvard Univ.	Biochemistry

Post-Doctoral Araştırmacılar

BEZMIALEM VAKIF UNIVERSITY 1845

Post-Doctoral Fellows	Education and Training	Field
Mauricio ALARCON (Rafiqi Lab)	• BSc; University of Concepcion, Chile • Msc; University of Concepcion, Chile • PhD; National Taiwan University, Taiwan	Entomology
Elif Karaman (Uysal Lab)	• BSc.; Yıldız Technical University • MSc.; Bezmialem Vakıf University • PhD.; Bezmialem Vakıf University	Biotechnoogy
Ayşegül Pirinçal (Doymaz Lab)	• BSc; DumlupınarUniversity, • MSc; Marmara University, • PhD; Marmara University,	Molecular Virology
Pricilla Gomez Polo (Rafiqi Lab)	• BSc; University of Santiago de Compostela • MSc; University of Leida, Spain • PhD; University of Leida, Spain	Developmental Biology
Ehsan Sarayloo (Albayrak Lab)	• BSc; Iranian University of Science and Technology • MSc; Sharif University of Technology • PhD; Koç University,	Biotechnology

Araştırma Görevlileri

BEZMIALEM VAKIF UNIVERSITY 1845

Name	Title	Start Date
Sercan Keskin	Research Assistant (BVU)	08.06.2020
Ümit Yaşar Kına	Research Assistant (BVU)	19.03.2018
Nihan Sultan Milat	Research Assistant (BVU)	18.11.2019
Büşra Karaçam	Research Assistant (BVU)	26.11.2019
Esra Büşra Işık	Research Assistant (BVU)	18.02.2021
Birgül Çolak	Research Assistant (BVU)	18.02.2021
Özlem Bakangil	Research Assistant (BVU)	13.09.2021
Faruk Üstünel	Research Assistant (BVU)	06.12.2021
Yeşim Erol	Research Assistant (TÜBİTAK)	22.12.2022
Demet İnci	Research Assistant (TÜBİTAK)	30.04.2023
Nazlı Sultan Şahin	Research Assistant (TÜBİTAK)	30.04.2023
Hursima İzğiş	Research Assistant (TÜBİTAK)	01.07.2023
Betül Oruçoğlu	Research Assistant (TÜBİTAK)	01.07.2023
İclal Meriç	Research Assistant (TÜBİTAK)	15.05.2023
Özgür Zelal Durmuş	Research Assistant (TÜBİTAK)	12.06.2021

Teknisyenler

BEZMIALEM VAKIF UNIVERSITY 1845

Name	Title	Starting date
Esmahan Avcı	Technician	23.03.2020
Beyza Kinsiz	Technician	06.05.2023
Sevim Nur Akyüz	Technician	01.09.2020
Levise Tenay	Technician	19.09.2023
Elif Kurt	Technician	23.03.2020
Ebru Sarsılmaz	Technician	05.12.2022
Zeynep Kartal	Technician	01.12.2023

İdari Personel

BEZMIALEM VAKIF UNIVERSITY 1845

Name	Position	Start date
Şehlem Ertekin	Institute Secretary	20.06.2022
Rümeysa Meriç	Assistant Specialist	06.12.2021
Kadir Utku Topal	Assistant to Admin. Sec.	01.01.2023
Adem Yıldız	Support Personnel	27.08.2018
Berrin Düzgit	Support Personnel	25.06.2018

Bütçe (BVU)

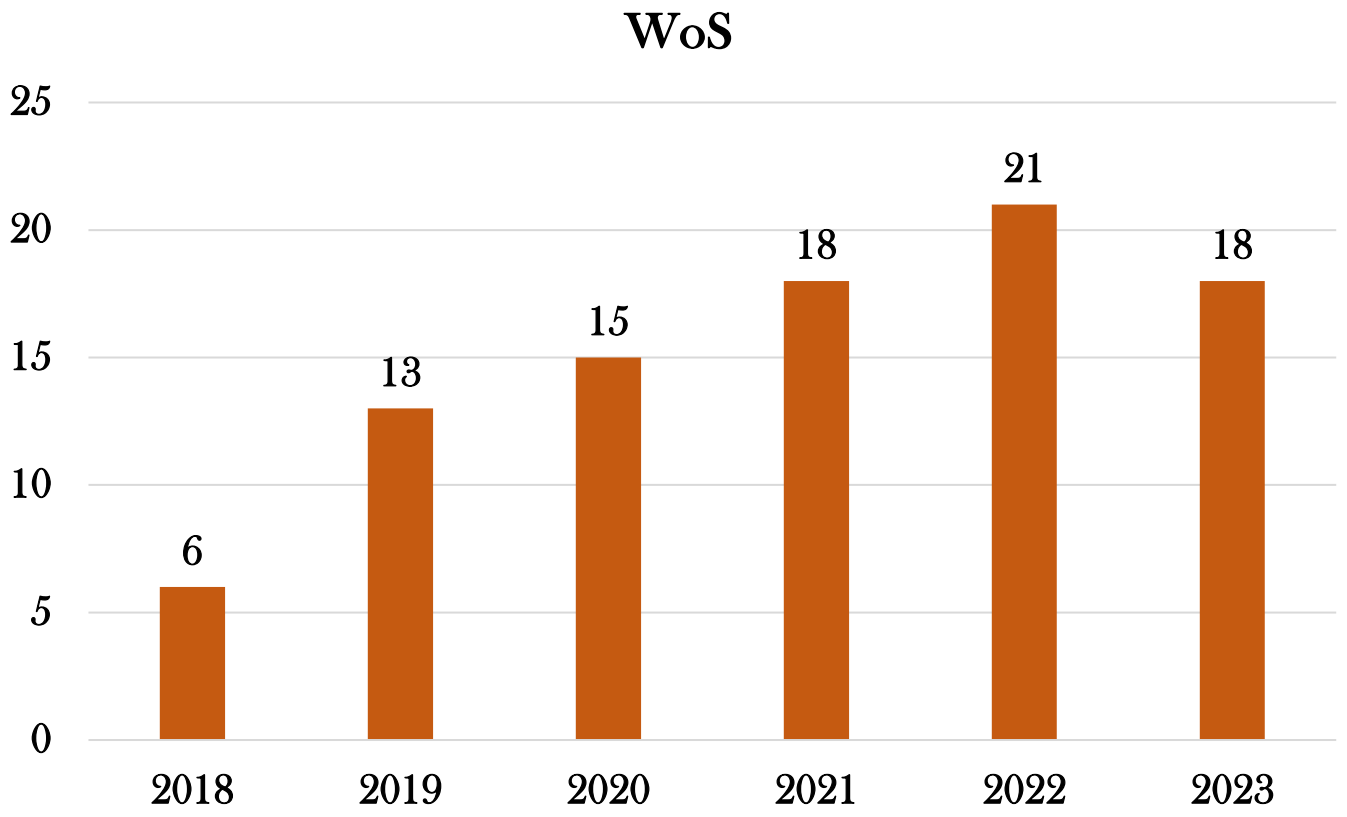
BEZMIALEM VAKIF UNIVERSITY 1845

Budget (TL)	2021	2022	2023
Misc.	2,996,532	5,011,850	10,569,861
Salaries	6,177,500	9,033,013	15,479,767
Total	9,174,032	14,044,863	26,049,628

Budget (USD)	2021 (8.89)	2022 (16.57)	2023 (23.90)
Misc.	337,068	302,465	442,254
Salaries	694,882	545,143	647,689
Total	1,031,950	847,608	1,089,943

Yayınlar

Yayınlar-Web of Science



Total of 91 publications (Dec.10.2023)

Projeler

Projeler

BEZMIALEM VAKIF UNIVERSITY 1845

- Currently, 56 scientific research projects are carried out in **BILSAB.**
- In addition, 42 projects have been completed.
- Extramural funding for the projects by; Scientific and Technological Research Council of Turkey (TUBITAK)
- By Turkish Institutes of Health (TUSEB)
- In addition, a significant number of projects supported by **BAP.**
- The complete list of the projects is given in the tables.

Yayın ve Projeler-Özet

BEZMIALEM VAKIF UNIVERSITY 1845

PI	Printed Papers ('23)	Man. In Preperation	Completed Projects	Ongoing Projects	Posters ('22)	Total Manuscripts	Total Projects	Total Output
Albayrak Lab	-	-	8	4	-	-	12	12
Çağlar Lab	-	1	-	8	-	1	8	9
Doymaz Lab	1	5	6	4	5	6	10	21
Aly-Kamil Lab	5	6	6	-	2	11	6	19
Gül Lab	3	1	-	13	4	4	13	21
Hatiboğlu Lab	3	5	5	13	2	8	18	28
Khan Lab	18	6	7	8	8	24	15	47
Onat Lab	1	-	-	1	5	1	1	7
Rafiqi lab	3	-	4	3	9	3	7	19
Uysal Lab	4	1	6	2	3	5	8	16
Total	38	25	42	56	38	62	98	199

TUBITAK Projeleri

BEZMIALEM VAKIF UNIVERSITY 1845

Project No	Title	PI	Institution	Start Date	End Date	Group	Status	Type	Budget
120C157	The developmental genetics of obligate endosymbiosis and its effect on the evolution of insects	AB. MATTEEN RAFIQI	BEZMİALEM VAKIF Ü	2021	2024	BİDEB	Yürürlükte	BİDEB-2247A	
123Z182	Preparation of Microalgae Chlorella Vulgaris Cell Extract for Cell-Free Protein Synthesis	EHSAN SARAYLOO	BEZMİALEM VAKIF Ü.	2023	2024	KBAG	Yürürlükte	1002 - Rapid	
221Z267	Discovery of SARS-CoV-2 Inhibitor Using Biosafe SARS-CoV-2 Replicon with Drug Repositioning Method	ŞEREF GÜL	BEZMİALEM VAKIF Ü	2022	2024	KBAG	Yürürlükte	3501 – Carrier Dev.	
123Z774	Understanding the Emergence of Cells Housing Endosymbionts using Leafhoppers	MAURICIO ERNESTO ALARCON ALVAREZ	BEZMİALEM VAKIF Ü	2024	2026	KBAG	Yürürlükte	1001-Research	
222S095	Examining the Relationship Between DMHPPP1R17 Neurons, Anxiety and Binge Eating	CANER ÇAĞLAR	BEZMİALEM VAKIF Ü.	2022	2025	SBAG	Yürürlükte	1001 - Research	
222S389	Investigation and Molecular Characterization of the Roles of Obesity-Associated Steap1b, Kcnq5 and Ucp1 Genes in Disease Pathogenesis	O. EMRE ONAT	BEZMİALEM VAKIF Ü.	2023	2026	SBAG	Yürürlükte	1001 - Research	
20AG044	Development of biomarkers and advanced technology pharmaceuticals for monitoring and treating inflammasome-mediated autoinflammatory diseases	AHMET GUL-(S.UYSAL/ C. ALBAYRAK)	ISTANBUL UNIV-BVU	2021	2025	SBAG	Yürürlükte	1004-Center of Excellence Support Grants	
222O123	Identification and investigation of antigenicity of Spherical Body Protein 4 (SBP4) of *Babesia ovis*	MUNIR AKTAŞ (MZD)	FIRAT UNIV-BVU	2023	2026	VHAG	Yürürlükte	1001- Research	
123Z284	Heterologous Production of cannabidiol in Microalgae Nannochloropsis Oceanica	EHSAN SARAYLOO	BEZMİALEM VAKIF Ü.	2023	2025	KBAG	Yürürlükte	1001-Research	

TUBITAK & BAP Projeleri

BEZMIALEM VAKIF UNIVERSITY 1845

- **Currently 9 Research Grants funded by TUBITAK at BILSAB**
  - Mateen Rafiqi – TUBITAK 2247A National Leader Investigators Program,
  - Drs. Albayrak & Uysal - TUBITAK 1004 Center of Excellence Support Programs.
  - Drs. Alvarez, Çağlar, Doymaz, Onat, Sarayloo- 5 TUBITAK 1001
  - Dr. Ehsan Sarayloo, TUBITAK 1002, Rapid Funding,
  - Dr. Gül, TUBITAK 3501, Carrier Development,
- **Additionally 47 projects by BVU BAP & BILSAB Sources**

Eğitim ve Aktiviteler

Seminars

BEZMIALEM VAKIF UNIVERSITY 1845

Speaker	Date	Title	Venue
Dr. Elif FIRAT KAYALAR	17.2.2023	Deciphering the biology of centriolar satellites: how they assemble, adapt and function	BILSAB Conf. Room
Dr. Ahmet CİNGÖZ	3.3.2023	Novel Tumor-Specific Therapeutic Approaches and Mechanisms of Therapy-Resistance in Glioblastoma	BILSAB Conf. Room
Dr. Ayşe Nur ÖZDAĞ ACARLI	5.5.2023	Skin Biopsy in Clinical Studies and Animal Models of Peripheral Neuropathy	BILSAB Conf. Room
Dr. Mustafa GÜZEL	12.7.2023	Innovative, Commercial, and Technological Opportunities in our Region: Are We Ready for the Post-pandemic Era?	BILSAB Conf. Room
Dr. Derya KABAOĞLU	14.7.2023	Context-Specific Tumor-Suppressor And Oncogenic Activity of *Nf-Kb* Transcription Factor C-Rel In Pancreatic Cancer	BILSAB Conf. Room
Dr. Zeynep DOĞUSAN	8.8.2023	Hematopetik kök hücre nakli ve laboratuvar işleyişi	BILSAB Conf. Room
Dr. Shoba RANGANATAN	11.8.2023	Navigating Complexity And Insights Into Tumor Biology	BILSAB Conf. Room
Dr. İbrahim Çağrı KURT	20.10.2023	Discovering Novel and Potentially non-immunogenic CRISPR effectors	BILSAB Conf. Room
Dr. Derya BÜYÜKTANIR KARACAN	3.11.2023	Science Diplomacy, History, Concepts and Current Issues	Online
Doç. Dr. Umut ŞAHİN	17.11.2023	SUMOylation in health and disease and its potential for targeted therapies	BILSAB Conf. Room
Dr. Ali Özgür ARGUNŞAH	30.11.2023	Progressive engagement of SST+ interneurons via *Efn*-1 regulates the Barrel-Septa reponse identity	BILSAB Conf. Room
Dr. Kaya BİLGÜVAR	1.12.2023	Genetics, modelling and beyond: 20 years on neurodevelopmental disorders.	BILSAB Conf. Room
Dr. Nilüfer SAYAR	5.12.2023	AgRP Neurons Encode Circadian Feeding Time	BILSAB Conf. Room
Dr. Şükrü Anıl DOĞAN	12.12.2023	Modeling and Alleviating Mitochondrial Myopathy in Mice	BILSAB Conf. Room
Dr. Perinur BOZAYKUT	15.12.2023	Omics in Action: Translational Insights into Aging Research	BILSAB Conf. Room

Aktiviteler

BEZMIALEM VAKIF UNIVERSITY 1845

Activity	Date
Winter Break School	24.2.2023
Summer School	13-23.6.2023
Visit by TUSEB	15.08.2023
Visit by Vakıflar Gen. Müd.	23.9.2023
Visit by Uzbekistan Physician Group	28.9.2023
Visit by Accredition Dept of Turkish Higher Education Council	5.12.2023


METALLICA


BEZMİÂLEM
VAKIF ÜNİVERSİTESİ


BEZMİÂLEM
VAKIF ÜNİVERSİTESİ

Laboratuvarlar

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Albayrak Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Research Area	**In vivo and cell free protein synthesis**
Personnel	**Post-Doctoral Fellow: Ehsan Sarayloo**

Albayrak Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Projects	**Ongoing Projects** 1. **Heterologous Production of cannabidiol in Microalgae *Nannochloropsis Oceanica* (TUBITAK 1001 project: 123Z284)** 2. **Microalgae *Chlorella vulgaris* Cell Extract Preparation for Cell Free Protein Synthesis (TUBITAK 1002 project: 222Z204)** 3. **Heterologous Production of Cannabigerolic Acid in Microalgae *Nannochloropsis Oceanica* (BVU BAP-20220405)** 4. **Microalgae Cell Extract Preparation For Cell Free Protein Synthesis (BVU BAP-20211219)**

Albayrak Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Projects

Completed Projects

1. **TÜBİTAK Covid-19 Project; "Production of Recombinant IL-1Ra for Treating Cytokine Storm Related to Covid-19 Pneumonia". April 2020-January 2021. (Role: Researcher)**
2. **TÜBİTAK 2516 (South Korea Bilateral Cooperation Grant); "Studying Oxygen Tolerance of the Hydrogenase Enzyme at a Molecular Level", 694,000 TL. May 2019-November 2021. (Role: PI)**
3. **TÜBİTAK 1001; "Catalytic Biomaterial Synthesis by Selective Conjugation of Enzymes", 585,000 TL. November 2018-May 2022. (Role: PI)**
4. **TÜBİTAK 3501 Career; "Investigation of Vascularization using Bioactive Biomaterials with Conjugated Growth Factors", 382,500 TL. May 2018-November 2021. (Role: PI)**
5. **TÜBİTAK 1004 Center of Excellence Support Grant; "Biomarker and Drug Development for Monitoring and Treating Inflammasome-Mediated Autoinflammatory Diseases", 4,000,000 TL, May 2021- June 2023 (This is a consortium grant that supports 11 research projects. Each sub-PI manages one of these 11 research projects. The stated award amount is for the research project, not the entire consortium.)**
6. **Koç University Seed Research Fund (similar to BAP); "Cell-free synthesis of alternate affinity proteins", 50,000 TL. September 2018-September 2020. 2. Catalytic biomaterial synthesis for producing glutathione**
7. **Studying oxygen tolerance of the hydrogenase enzyme**
8. **Creating a microfluidic platform for cell-free evolution of proteins**

Thesis	**1. Fulya Akşit MS Thesis Title: In Silico and Experimental Determination of IL1β-Receptor Inhibitor Peptides. (completed at Koç University)** **2. Yağmur Ersoy MS Thesis Title: Towards Heterogeneous Biocatalysis of Glutathione Production by Selective Conjugation of Enzymes (Koç University, Department of Chemical and Biological Engineering)** **3. Beste Tunalı MS Thesis Title: Human Growth Factor Production Towards In Vitro Vascularization (Koç University, Department of Chemical and Biological Engineering)** **4. Selin Turan MS Thesis Title: Towards In Vitro Synthesis of Oxygen-Tolerant CpI Hydrogenase Variants for Photosynthetic Hydrogen Production (Koç University, Department of Molecular Biology and Genetics)**

Aly-Kamil Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Research Area	Molecular Studies of Rodent Malaria Parasites
Personnel	1. Postdoctoral Fellow Mohd Kamil 2. Research Assistant Ümit Yaşar Kına 3. Research Assistant Gözde Deveci 4. MSc Student Sevim Nur Akyüz 5. MSc Student Sinem Ünal 6. Lab Technician Elif Kurt

Aly-Kamil Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Projects	**Completed Projects** 1. EMBO Scientific Exchange Grant (No: 9911), Ümit Yaşar Kına, "Spatial-Temporal Connectivity of Two Endosymbiont Organelles during Life Cycle Progression of the Malaria Parasite" 2. BAP 2022 – 2023 "Mechanistic Characterization of Plasmodial Autophagy under Different Chemical Stress Conditions" Kamil M. (Yürütücü), Deveci G., Kına Ü. Y. 3. BAP 2021 – 2022 "Development of Whole Blood Stage Vaccine for Malaria Treatment via CRISPR-Gene Editing Technology" Deveci G., Aly A. S. I., Temel B. 4. BAP 2020 – 2021 "Multiplex targeting of CRISPR/Cas9 system by using ribozymes for multiple gene editing in rodent malaria parasites; Plasmodium berghei and Plasmodium yoelii" Aly A. S. I., Kına Ü. Y. 5. BAP 2018 – 2019 "Recombinant Protein Expression of Conserved Plasmodium Egress Proteins as Targets for the Development of Novel Malaria Therapy Vaccines and Diagnostic Reagents" Deveci G., Aly A. S. I. 6. BAP 2018 – 2019 "Establishing the CRISPR/Cas9 platform to generate live attenuated malaria vaccines by deleting essential malarial genes" Deveci G., Aly A. S. I.

Aly-Kamil Lab

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Thesis	1. Ümit Yaşar Kına, PhD Thesis, "Cytolysins Expressing Liver Stage Parasites As Novel Live Attenuated Malaria Vaccines" (2023) 2. Gözde Deveci, PhD Thesis, Completed, Development of whole blood stage vaccine for malaria treatment via CRISPR-gene editing technology (2022) 3. Sinem Ünal, MSc Thesis, Completed, "Characterization of endoplasmic reticulum stress-induced cell death pathways in rodent malaria parasites" (2022) 4. Sevim Nur Akyüz, MSc Thesis, Completed, "Functional analysis of ght5 hexose transporter under iron stress in Schizosaccharomyces pombe" (2021) 5. İlknur Yılmaz, MSc Thesis, Completed, "Gene targeting studies of the malaria parasite dna photolyase gene using CRISPR-Cas9 genome editing technology" (2021)

Posters	1. Kına Ü. Y., Rafıqı A. M. Cytolysins Expressing Liver Stage Parasites As Novel Live Attenuated Malaria Vaccines, 6. International Health Sciences and Life, Burdur, Türkiye, 2 - 05 Mart 2023 2. Deveci G., Temel B., Aly A. S. I. Single Dose Mixed Species Malaria Vaccination of Genetically Attenuated Blood Stage Malaria Parasites Induce Sterile Immunity Against Lethal Challenge by Both Species, BioTürkiye Uluslararası Biyoteknoloji Kongresi, İstanbul, Türkiye, 9 - 11 Eylül 2021

Aly-Kamil Lab

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Publications

1. **Susgun, S., Yucesan, E., Goncu, B., Hasanoglu Sayin, S., Kina, U.Y., Ozgul, C., Duzenli, O.F., Kocaturk, O., Calik, M., Ozbek, U., and Ugur Iseri, S.A. (2023) Two rare autosomal recessive neurological disorders identified by combined genetic approaches in a single consanguineous family with multiple offspring. Neurol Sci.**
2. **Kina, U.Y., Kamil, M., Deveci, G., Rafiqi, A.M., Matuschewski, K., and Aly, A.S.I. (2023) A Candidate Bacterial-Type Amino Acid Decarboxylase Is Essential for Male Gamete Exflagellation and Mosquito Transmission of the Malaria Parasite. Infection and Immunity 91: e0016723.**
3. **Gezen-Ak, D., Alaylıoğlu, M., Yurttaş, Z., Çamoğlu, T., Şengül, B., İşler, C., Yaşar Kına, Ü., Keskin, E., Atasoy, İ.L., Kafardar, A.M., Uzan, M., Annweiler, C., and Dursun, E. (2023) Vitamin D receptor regulates transcription of mitochondrial DNA and directly interacts with mitochondrial DNA and TFAM. The Journal of Nutritional Biochemistry 116: 109322.**
4. **Deveci, G., Kamil, M., and Aly, A.S.I. (2023) A single dose of genetically-attenuated malaria blood-stage parasites protects against two Plasmodium species infections. Vaccine 41: 1281-1285.**
5. **Akyüz, S.N., Kina, U.Y., Aly, A.S.I., and Palabiyik, B. (2023) Iron affects localization of Ght5 in fission yeast. FEMS Microbiology Letters 370.**

Aly-Kamil Lab

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Publications (in-prep)	1. Kamil, M., Kina, U.Y., Atmaca, H.N, Unal, S., Deveci, G., Burak, P., Aly, A.S.I. (2024) Endoplasmic Reticulum Localized TMEM33 Domain Containing Protein is Crucial for all Life Cycle Stages of the Malaria Parasite. Mol Microbiol (Revision submitted) 2. Çamoğlu, T., Yurttaş, Z., KINA, U.Y., Akkuş S.P,. Sahin, F., Dursun, E., Gezen-Ak, D. (2024) Fibrillar Alpha-Synuclein Alters the Intracellular Chaperone Levels Within Hours of Its Internalization. (Manuscript submitted to ACS Omega) 3. Kina, U.Y., Kamil, M., Deveci, G., and Aly, A.S.I. (2024) Functional characterization of HSP90 paralogs throughout the life cycle of the Malaria parasite. (Manuscript in prep) 4. Kina, U.Y., Kamil, M., and Matuschewski, K., and Aly, A.S.I. (2024) Cytolysins Expressing Liver Stage Parasites As Novel Live Attenuated Malaria Vaccines. (Manuscript in prep) 5. Unal, S., Kina, U.Y., Aly, A.S.I., and Palabiyik, B. (2024) Characterization of endoplasmic reticulum stress-induced cell death pathways in rodent malaria parasites. (Manuscript in prep) 6. Ozsamur, N.G., Sarı, V., Kina, U.Y., B., Palabiyik, B. (2024) Cellular effects of ER stress in Schizosaccharomyces pombe. (Manuscript in prep)

Çağlar Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Research Area	Neural basis of feeding related behaviours
Personnel	Research Assistant Miraç Keleştemur Technician Beyza Nur Keskin Tecnician Fatmanur Deniz Undergraduate Researcher Feyza Emre Undergraduate Researcher Betül Berre Yılmaz Undergraduate Researcher Şevval Yılmaz

Projects	Ongoing Projects 1. Investigating the role of intra-tumor heterogeneity of mTOR activity in the development of GBM- BAP-22.330 TL 2. Investigating the Relationship Between Dmhppp1r17 Neurons, Anxiety, and Binge Eating- TUBITAK 1001-576.520 TL 3. Investigation of the roles of obesity-associated STEAP1B, KCNQ5 and UCP1 genes in the pathogenesis of the disease TUBITAK 1001-1.247.000 TL 4. The role of Leprb neurons located in the claustrum in the regulation of food related behaviors, External joint effort; cost covered by Yeditepe University 5. The role of Leprb neurons located in the claustrum in the regulation of anxiety, External joint effort; cost covered by Yeditepe University 6. The role of Pdyn neurons located in the parafascicular nucleus in the regulation of food related behaviors, External joint effort; cost covered by Yeditepe University 7. The role of Pdyn neurons located in the parafascicular nucleus in the regulation of anxiety, External joint effort; cost covered by Yeditepe University 8. The role of Pdyn neurons located in the dorsomedial hypothalamus in the regulation of maternal behaviors, External joint effort; cost covered by Yeditepe University

Publications	1. Human iPSC-derived cerebral organoids implicate mTOR pathway dysregulation in lissencephaly– 2023 – Nature Medicine - Submitted 2. Caglar C. Clinical Application of Next Generation Sequencing: Complex Diseases, 2023. 3. Kars, M., et al. "The genetic structure of the Turkish population reveals high levels of variation and admixture." Proceedings of the National Academy of Sciences 118.36 (2021): e2026076118. 4. Caglar, Caner, and Jeffrey Friedman. "Restriction of food intake by PPP1R17-expressing neurons in the DMH." Proceedings of the National Academy of Sciences 118.13 (2021): e2100194118.

Meeting / Seminar / Conference / Session Chair	1. Caglar C, Chairperson for Keynote Speaker, "Bioinformatics Education Landscape in Turkey". 1st Colloquium on Bioinformatics Learning Education and Training (CoBLET2022), Online meeting, October 14 2022, Istanbul, Turkey. 2. Caglar C, Chairperson for Keynote Speaker, "New machine learning approaches to estimate the functional consequence of mutations in diverse human populations". 5th International Symposium on Bioinformatics(InSyB) 2021, Online meeting, December 16 2021, Istanbul, Turkey. 3. Caglar C, Session Co-Chair, "Genetic Basis of Rare and Complex Diseases in Humans". 47th National Physiology Congress, 2-4 November 2022, Antalya, Turkey.

Presentations	1. Caglar C, Invited Speaker, "Regulation of Food Intake by Hypothalamus". 5th Neuroscience Day, 2-3 December 2023, Boğaziçi University, Istanbul, Turkey. 2. Caglar C, Invited Speaker, "Regulation of Food Intake by Hypothalamus". 23 November 2023, Kadir Has University, Istanbul, Turkey. 3. Caglar C, Invited Speaker, "Restriction of Food Intake by Dorsomedial Hypothalamic Nuclei". 47th National Physiology Congress, 2-4 November 2022, Antalya, Turkey. 4. Caglar C, Invited Speaker, " Hypotalamic control of food intake and body weight". 2nd Neuroscience Congress, 16 April 2022, Acıbadem University, Istanbul. 5. Caglar C, Invited Speaker, " Role of Dorsomedial Hypothalamus in the regulation of food intake". Neuroscience Congress, 21 May 2022, Bezmialem Vakıf University, Istanbul. 6. Caglar C, Invited Speaker, "Restriction of Food Intake by Dorsomedial Hypothalamic Nuclei". 19th National Neuroscience Congress, 22nd November 2021, Istanbul, Turkey.

Doymaz Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Research Area	Immunological and Virological Aspects of Crimean Congo-Hemorhagic Fever Virus Proteins
Personnel	1. Postdoctoral Fellow Ayşegül Prinçal 2. Research Assistant Sercan Keskin 3. Research Assistant Özlem Bakangil 4. Technician Esmahan Avcı 5. MSc Molecular Biolog Filiz (Güney) Kaptan

Projects	Ongoing Projects 1. 'Identification and investigation of antigenicity of Spherical Body Protein 4 (SBP4) of Babesia ovis'. TUBITAK 1001, 222O123, Budget 1.332.600 TL, 2023-2026. 2. Immunological Characterization of the Crimean-Congo Hemorrhagic Fever Virus Nucleocapsid Protein mRNA Product. (BVU BAP-20220402) 3. Identification of Antigenic Regions in Cellular Th17 Responses to Crimean-Congo Hemorrhagic Fever Virus Nucleoprotein (NP). (BVU BAP-20220213) 4. Stable Expression of Crimean-Congo Hemorrhagic Fever Virus Kelkit Strain Proteins in Eukaryotic Cells. (BVÜ BAP-20230204). (2023)

Projects	Completed Projects 1) Investigation of possible cross-neutralization between Hazara Virus and Crimean-Congo Hemorrhagic Fever Virus. (BVÜ BAP-20210802E). Budget; 22.154,88 TL. (2022) 2) Investigation of the effect of increased gene copy numbers of Hepatitis B Virus Surface Antigen (HBsAg) on protein yield in Pichia pastoris. (BVÜ BAP-20200611). Budget; 22.048,24 TL. (2022) 3) Studies on identification and characterization of Hazara Virus Proteins. (BVÜ BAP-20210226). Budget; 22.335,44 TL. (2022) 4) Evaluation of the Inactivation Effect of Triton X-100 on Influenza Virus (BVÜ BAP- 20210225). Budget; 22.450,34 TL. (2022) 5) Investigation of clinical *Neisseria gonorrhoeae is*olates with Whole Genome Sequencing Method. (BVÜ BAP-20210403E). Budget; 22.479,00 TL. (2022) 6) Optimization and increasing the yield of therapeutic monoclonal antibody Cetuximab. (İÜC BAP-35157). Budget; 23.466,10 TL . (2022)

Publications	1. Özkaya E. , Yazıcı M. , Baran I. , Çetin N. S. , Tosun İ. , Buruk C. K. , Kaklıkkaya N. , Aydın F. , Doymaz M. Z. Neutralization of Wild-Type and Alpha SARS-CoV-2 Variant by CoronaVac® Vaccine and Natural Infection- Induced Antibodies. Current Microbiology (2023) 80:162. https://doi.org/10.1007/s00284-023-03248-6. 2. Pirinçal A. , Doymaz M. Z. Use of Molecular Methods in Human Immunodeficiency Virus (HIV) Diagnosis, Treatment and Epidemiology. Molecular Microbiology Diagnosis and Epidemiology, Book Chapter 32. ISB 9786258259124. Ed. R. Durmaz and B. Otlu. DOI 10.37609/akya.2149

Doymaz Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Manuscripts in Preparations	1) Kaptan F. , Doymaz M. Z. 2023. Authentic antigenicity of the Crimean Congo Hemorrhagic Fever Virus Glycoprotein GC. Beykoz Institute of Life Sciences & Biotechnology, Bezmialem Vakif University, Istanbul, Turkey . 2) Karaaslan E. , Bakangil Ö. , Hasanoğlu Sayın S. , Keskin S. , Doymaz M. Z. 2023. Expression, Purification and Immunogenic Characterization of Multi Copy Recombinant Hepatitis B Surface Antigen in Methylotrophic *Pichia pastoris.* 3) Aydın B. N. , Çetin N. S. , Keskin S. , Kaygusuz A. ,Doymaz M. Z. 2023. The utility of CRISPR/Cas9 Technology to Attenuate Apoptotic Pressure in Monoclonal Antibody (mAb) Broducing Cells. 4) Kalkan- Yazıcı M. , Çetin N. S. ,Karaaslan E. , Doymaz M.Z. 2023. Comparison of cellular immune responses of Nucleocapsid Proteins (NP) Crimean Congo Hemorrhagic Fever Virus (CCHFV) and Hazara Virus (HAZV) in mice. 5) Güler Çetin N. S. , Bakangil Ö. , Kalkan Yazıcı M. , Keskin S. , Doymaz M. Z. 2023. Development of a Novel Plasmid-Based Eukaryotic Model to Investigate Crimean-Congo Hemorrhagic Fever Virus. Bezmialem Science.

Presentations & Posters	1. Keskin S., Sak R., Bahadorı F., Doymaz M. Z. 'Immunological Characterization of PLGA Encapsulated mRNA Expressing CCHFV-NP'. 17th World Immune Regulation Meeting (WIRM), 5-8 July 2023 | Congress Center Davos | Switzerland. 2. Kalkan-Yazıcı M. ,Güler-Çetin N. S. , Karaaslan E. , Doymaz M. Z. 'Comparative Analyses of Cellular Immune Responses to Nucleoproteins of CCHFV and Hazara Virus'. 3rd International Conference on Crimean-Congo Hemorrhagic Fever, Thessaloniki, Yunanistan, 19 - 21 Eylül 2023, ss.10 3. Keskin S. , Hasanoğlu Sayın S. , Kaptan F. ,Doymaz M. Z. Immunological Characterization of scFv Specific for NP of CCHFV; a Novel Reagent for Diagnosis and Identification. 17th World Immune Regulation Meeting (WIRM), 5-8 July 2023 | Congress Center Davos | Switzerland. P28 4. Keskin S., Sak R., Bahadorı F., Doymaz M. Z. Encapsulation of CCHFV-Np mRNA With PLGA: Potential Utility of PLGA-mRNAs. 3rd International Conference on Crimean-Congo Hemorrhagic Fever, Thessaloniki, Greece, 19 - 21 Sep. 2023, ss.12 5. Bakangil Ö., Yazıcı M., Çetin N. S., Doymaz M. Z. Stable Expression of Proteins of Crimean-Congo Hemorrhagic Fever Virus (CCHFV) in Eukaryotic Cells: A Reliable Model for Investigating Virus Biology and Pathogenesis. 3rd International Conference on Crimean-Congo Hemorrhagic Fever, Thessaloniki, Greece, 19 - 21 Sep. 2023, ss.10

Thesis	1. Sercan Keskin, PhD Thesis, Continuing; 'Immunological characterizations of mRNA based nucleocapsid proteins of CCHFV'. 2. Özlem Bakangil, MSc, Continuing; 'Graduate Student Researcher; 'Stable Expression of Crimean-Congo Hemorrhagic Fever Virus Kelkit Strain Proteins in Eukaryotic Cells'. 3. Burcu Aydın, MSc, Completed; 'Optimization and Increasing Efficiency of Production of Therapeutic Monoclonal Antibodies (mAbs)'. 4. Nesibe Çetin, PhD Thesis, Completed; 'Production of plasmid-based virus-like particles for Crimean-Congo Hemorrhagic Fever Virus'. 5. Merve Kalkan, PhD Thesis, Completed; 'Investigation of Hazara virus as Model organism for Crimean-Congo Hemorrhagic Fever Virus. 6. Elif Karaaslan, PhD Thesis, Completed; 'The non-structural proteins of Crimean-Congo hemorrhagic fever virus and their role in humoral immunity'. 7. Filiz Güney, MSc Thesis, Completed; 'The expression of Gc glycoprotein of Crimean-Congo hemorrhagic Fever Virus in eukaryotic expression system'. 8. Nesibe Çetin, MSc Thesis, Completed; 'Investigation of Delayed Type Hypersensitivity against Crimean Congo Hemorrhagic Fever Virus Nucleoprotein'.

Gül Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Research Area	Circadian Clock and Drug Design
Personnel	1. Graduate Student Betül Oruçoğlu 2. Graduate Student Hursima İzgiş 3. Graduate Student Handan Şimşek 4. Technician Selahattin Aydoğan

Gül Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Projects	Ongoing Projects 1. Discovery of SARS-CoV-2 3C-like protease (3CLpro) inhibitor by drug repurposing approach using biosafe SARS-CoV-2 Replicon (TÜBİTAK-221Z267-PI) 2. Examination of the Effects of Pathogenic SNPs Located in the PAS B Domain and C-terminal Oscillation Regulatory Regions of Bmal1 on BMAL1 Function (BAP-FYL-2023-40061-PI) 3. Examination of the effects of pathogenic SNPs located in the bHLH and PAS A regions of BMAL1 on BMAL1 functio. (BAP-FYL-2023-40057-PI) 4. Identification of Proteins Interacting with Biotinylated-terpinolene in Mcf7 Cells and Modeling These Interactions (TÜSEB – 31728-Researcher) 5. Improving the Activity of the Small Molecule CLK8 Molecule Regulating the CLOCK/BMAL1 Interaction with the Fragment-Based Lead Molecule Optimization Method and Conducting Preclinical Studies (TÜSEB – 6808-Researcher) 6. Pharmacokinetics of CLK8 Compound in Mouse, Which Regulates the Function of CLOCK Protein. (BAP-TSA-2023-39301-Researcher) 7. Understanding the effects of molecules binding to the cryptochrome1 secondary pocket on the circadian clock. (BAP-FBA-2022-38958-Researcher) 8. Investigation of the long-term effects of boric acid-supplemented mouse embryo culture medium on in vivo developmental potential. (BAP-TSA-2022-38829-Researcher) 9. Determining the Effect of Pathogenic BMAL1 SNPs on the Circadian Clock Mechanism. (BAP-FAB-2022-38660-PI) 10. Analyzing the in vivo effects of CLK 8 Molecule. (BAP-FBA-2022-38487)

Projects Submitted	Projects Submitted 1. Understanding the Mechanism of Activity of Small Molecule JET1 Regulating the Circadian Rhythm Amplitude and Its Effects on Jet-Lag (TÜSEB-B-2023-02-35578-PI) 2. Improving the Efficacy of CRY1 Destabilizer Small Molecule M47 that Enhances Apoptosis in p53 Knockout Cells by Fragment Based Optimization Method (TÜSEB-B-2023-02-35805-PI) 3. Heterologous Expression and Purification of Circadian Clock Proteins in Bacterial Systems (TÜSEB-A4-04-37984-PI)

Gül Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Publications	1. TW68, cryptochromes stabilizer, regulates fasting blood glucose levels in diabetic ob/ob and high fat-diet-induced obese mice (October 2023, Biochemical Pharmacology) 2. Functional characterization of the CRY2 circadian clock component variant p.Ser420Phe revealed a new degradation pathway for CRY2 (November 2023, Journal of Biological Chemistry) 3. Dynamic regulation of the serine loop by distant mutations reveals allostery in cryptochrome1 (September 2023, Journal of Biomolecular Structure & Dynamics) 4. Discovering Lassa Virus Nucleoprotein Inhibitors via In Silico Drug Repositioning Approach (Under revision, Journal of Biomolecular Structure & Dynamics)

Posters	1. H. Simsek, S Gul. 2023. Drug Repurposing Against Lassa Virus Proteins By Using In Silico Methods. (9th İnternational BAU Drug Design Congress 2023, İstanbul, Turkiye, 29 November 2023.) 2. B. Orucoglu, I. Cetin, M.R. Topcul, S Gul. 2023. Discovery of SARS-CoV-2 3C-like protease (3CLpro) inhibitor by drug repurposing approach using biosafe SARS-CoV-2 Replicon. (2023, Health and Life Sciences and Technologies Summit Project , BVU, İstanbul, Türkiye) 3. B. Orucoglu, I. Cetin, M.R. Topcul, S Gul. 2023. Discovery of SARS-CoV-2 3C-like protease (3CLpro) inhibitor by drug repurposing approach using biosafe SARS-CoV-2 Replicon. (9th İnternational BAU Drug Design Congress 2023, İstanbul, Turkiye, 29 November 2023.) 4. H. Simsek, S Gul. 2023. Drug Repurposing Against Lassa Virus Proteins By Using In Silico Methods. (2023.Bezmiâlem Researchers' Night,BVU,İstanbul,Türkiye)

Gül Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Thesis	1. Handan Şimşek, MSc Thesis, Continuing, 'Production of plasmid based virus-like particles for Crimean-Congo Hemorrhagic Fever Virus' (Ongoing) 2. Betül Oruçoğlu, MSc, 'Discovery of SARS-CoV-2 3C-like protease (3CLpro) inhibitor by drug repurposing approach using biosafe SARS-CoV-2 Replicon' (Ongoing) 3. Hursima İzgiş, MSc Thesis, 'Analyzing the effect of pathogenic SNPs found on the bHLH and PAS-A domain of BMAL1' (Ongoing) 4. Selahattin Aydoğan, MSc Thesis, 'Analyzing the effect of pathogenic SNPs found on the PAS-B and C-terminal oscillator regulatory domains of BMAL1' (Ongoing)

Gül Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Awards	1. TGC 47. Sedat Simavi Science Award (Discovery of a Small Molecule that Extends Lifespan in p53 Knockout Mice by Accelerating the Half-Life of Cryptochrome 1) 2. 2023 Turkish Academy of Sciences 2023 Outstanding Young Scientist Award (TÜBA-GEBİP) (Natural Sciences, Molecular Biology)

Hatiboğlu Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Research Area	Brain Tumor Research Laboratory
Personnel	1. Postdoctoral Fellow Mohammad Haseeb 2. Research Assistant Büşra Karaçam 3. Technician Zeynep Kartal

Hatiboglu Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Projects	Ongoing Projects 1. Investigation of the potential of glioma-derived exosomes and free-DNA to transform normal astrocytes into tumors. (BVU BAP-20200808) 2. Investigation of the Tumor Microbiome in Patients with Glioma. (BVU BAP-20200904) 3. Identification of novel therapeutic miRNA candidate for targeting the NOTCH signaling pathways in temozolomide resistant glioblastoma cells. (BVU BAP-20210607) 4. In vitro investigation of the kynurenine pathway and the role of NAD in the pathogenesis of glioblastoma. (BVU BAP- 20211008) 5. Obtaining stem cells and primary tumor cells in gliomas and investigating the mechanisms of resistance to treatment. (BVU BAP-20211209) 6. Examination of metabolic profiles of brain tumors. (BVU BAP-20211210) 7. Investigation of therapeutic microRNAs targeting NOTCH1 gene in Temozolomide-Resistant glioblastoma cell line (BVU BAP-20221014) 8. Evaluation of Bifidobacterium and Anti-PD-1 Combination Therapy in a Mouse Intracerebral Melanoma Metastasis Model – 1 (BVU – 20230207) 9. Evaluation of Bifidobacterium and Anti-PD-1 Combination Therapy in a Mouse Intracerebral Melanoma Metastasis Model – 2 (BVU - 20230204E)

Hatiboğlu Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Projects	Ongoing Projects 10. Investigation of STAT3-Related MicroRNAs Responsible for Chemotherapy Resistance in Glioblastoma (TUBITAK – 2209-A) 11. Investigation of the Effect of Intestinal Microbiota on Tumor Development in the Mouse Intracerebral Melanoma Metastasis Model (TUBITAK – 2209-A) 12. Liposomal mRNA Vaccine Therapy in Glioblastoma: Transport of Anti-Tumor Ripk-3 mRNA-Loaded Liposomes via Mesenchymal Stem Cells. (TUBITAK-221N240) 13. Investigation of NOTCH Signaling Pathway-Related Non-Coding RNAs in Glioblastoma and Development of Potential Therapies (TUSEB – 32385/2023)

Hatiboğlu Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Projects	Completed Projects 1. BAP, 'Effect of Urolithin A on Mitophagy and Apoptosis in an Experimental Spinal Cord Injury Model.' Project No: 20210417. Budget: 22.499,00 TL. 03.06.21- 03.12.22 2. BAP, 'Anti-cancer effects of Phoenix dactylifera (Ajwa Date) against murine glioma 261 model.' Project No: 20201202. Budget: 22.499,00 TL 23.02.21-23.02.23 3. BAP, 'Developing Gamma Knife treatment schema overcoming radio-resistance and identifying related mechanisms.' Project No: 20200810. Budget: 22.499,00 TL. 08.10.20-08.04.22 4. BAP, 'Investigation of immune mechanisms associated with Gamma Knife radiosurgery in an in vivo glioblastoma mouse tumor model.' Project No: 20201201. Budget: 22.499,00 TL. 23.02.21-23.02.23 5. BAP, 'Investigation of effective chemotherapy combination therapy in U87 glioma cell line'. Project No; 11.2018/26. Budget: 22.499,00 TL. 25.12.18-07-01-22.

Hatiboğlu Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Publications	1. Khan, I., Isik, E.B., Mahfooz, S., Khan, M.A.,* & Hatiboglu, M. A,* 'Identification of Genetic Alterations in Rapid Progressive Glioblastoma by Use of Whole Exome Sequencing', Diagnostics (2023) 2. Khan I, Akdur K, Mahfooz S, Elbasan EB, Sakarcan A, Karacam B, Sinclair G, Selek S, Akbas F, Hatiboglu MA. Gamma Knife Radiosurgery Modulates micro-RNA Levels in Patients with Brain Metastasis. Curr Radiopharm. 2023 Feb 2. doi: 10.2174/1874471016666230202164557 3. Karimi, H., Mahfooz, S., Khan, I., Karacam, B, Akdur, K., Gonen, G., Dagdeviren, O., Cavusoglu, M., Elbasan, E.B., Hatiboglu, M.A., (2023). Investigating the role of biomarkers using liquid biopsy in the diagnosis of meningiomas. Gazzetta Medica Italiana Archivio Per Le Scienze Mediche.

Hatiboğlu Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Posters	1. Karacam B, Elbasan EB, Khan I, Akdur K, Mahfooz S, Sakarcan A, Cavusoglu M, Hatiboglu MA, Poster presented "Role of cell-free DNA and exosome for diagnosis and surveillance in patients with glioma" in Brain Tumors 2022: From Biology to Therapy, 21-24 June 2022, Warsaw, Poland. 2. Karacam B, Khan I, Mahfooz S, Akdur K, Elbasan EB, Coban G, Hatiboglu MA, Poster presented "Investigating the Effect of Hypofractionated Radiotherapy in vitro and in vivo in a Murine Cerebral Glioblastoma Model" in EACR 2023 Innovative Cancer Science, 12-15 June 2023, Torino, Italy. Molecular Oncology, Volume 17, Supplement 1, June 2023.

Hatiboğlu Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Publications	<u>Submitted</u> 1. Mahfooz, S., Khan, I., Elbasan, E.B., Karacam, B., Oztanir, M.N. and Hatiboglu, M.A., (2023). Adjuvant treatment of cyclophosphamide enhanced altiratinib mediated inhibition of c-MET in glioblastoma cells. (submitted) 2. Fatmanur Köktaşoğlu, Mehtap Alim, Ufuk Sarıkaya, Öykü Dağdeviren, Merve Çavuşoğlu, Kerime Akdur, Büşra Karacam, Şahabettin Selek, Mustafa Aziz Hatiboglu (2023). Characterizing Hormone Secretion Patterns in PitNETs with Metabolomics: Implications for Understanding Tumor Biology. (submitted) 3. Karacam, B., Elbasan, E.B., Khan, I., Mahfooz, S., Cavusoglu, M., Cicek, Y., Hatiboglu, M.A., (2023). Role of cell-free DNA and exosome for diagnosis and surveillance in patients with glioma. (submitted) 4. Imran Khan, Sadaf Mahfooz, Busra Karacam, Elif Burce Elbasan, Kerime Akdur, Ganime Coban, Mustafa Aziz Hatiboglu (2023). Hypofractionation supresses radioresistance in U87 human glioma cells through inhibiting Yap1 and Hsp90 proteins. (submitted) 5. Mustafa Aziz Hatiboglu, Busra Karacam, Imran Khan, Elif Burce Elbasan, Sadaf Mahfooz, Yusuf Çiçek, Guven Cetin. Liquid biopsy for CNS Lymphoma: CSF Exosome and CSF Exosomal miR15a, miR155, miR19b and miR21 are potential bio-markers for diagnosis. (manuscript in preparation).

Hatiboğlu Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Thesis	1. Büşra Karaçam, PhD Thesis, Continuing, 'Examining the relationship between NOTCH-mediated chemotherapy resistance and microRNAs in glioblastoma and investigating potential treatments ' 2. Berrin Saracoglu, PhD Thesis, Continuing 'A *LIPOsomal* mRNA *VA*ccine for treatment of *G*lioblastoma: Delivery of anti-tumor RIPK-3 mRNA-loaded liposomes via mesenchymal stem cell '.

Khan Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Research Area	Biological data warehousing and applications of data science to the study of immune responses, vaccines, viruses, venom toxins, drug design, and disease biomarkers.
Personnel	1. Research Assistant, Esra Büşra Işık 2. Technician, Ebru Sarsılmaz

Khan Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Projects	Ongoing Projects (Selected) 1. Investigating possible inhibitors against Factor H in relation to glioblastoma. In-house joint effort; cost covered by collaborating PIs of Bezmialem Vakif University. 2. Mapping and characterising sequences shared between coronaviruses and human proteomes: structural, functional and immunological implications. 3. Mapping T-cell epitopes in the Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) proteome. 4. Development of AI-powered clinical decision-support system based on big-data analytics for molecular genetic diagnosis. 5. Reference Genome Generation for Horse Fly Using Whole Genome Sequencing, 6. Development of Machine Learning Based Genetic Analysis Platform for Sustainable Agriculture, 7. Mapping and characterization of shared sequences between viral and human proteomes: a bioinformatics approach, 8. Addressing the Grand Challenges in Bioinformatics Education and Training,

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BEZMIALEM VAKIF UNIVERSITY 1845

Projects	Completed Projects (Selected) 1. The development of a Viral Variome Analyzer (ViVA) with application to surveillance, diagnostics, drug design and vaccine target discovery. 3, 590, 359 TL. Main PI; TUBITAK 2232 International Fellowship for Outstanding Researchers Programme. 2020-2023. 2. Grand Challenges in Bioinformatics Education and Training, Bioinformatics Grand Challenges Consortium. 3. Comparative Diversity Dynamics of Influenza A Virus Subtypes. 4. Cheminformatics-based, high-throughput virtual screening for candidate inhibitory peptides against the spike protein of Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). 20,000 TL. In-house joint effort with Dr Serdar Uysal; BAP funding from Bezmialem Vakif University. 5. Dissecting the dynamics of Zika virus protein sequence diversity . In-house project; cost will be covered under the TUBITAK 2232 Programme. 6. Dissecting the dynamics of Primate erythroparvovirus 1 virus protein sequence diversity. In-house project; cost will be covered under the TUBITAK 2232 Programme. 7. NGS of Glioblastoma.

Khan Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Publications (2023)

1. Tajuddin, S., **Khan, A.M.,** Chong, L.C. et al. Genomic analysis and biological characterization of a novel Schitoviridae phage infecting Vibrio alginolyticus. Appl Microbiol Biotechnol 107, 749–768 (2023). https://doi.org/10.1007/s00253-022-12312-3
2. Khan, Imran, **Esra Büşra Işık**, Sadaf Mahfooz, **Asif M. Khan**, and Mustafa Aziz Hatiboglu. 2023. "Identification of Genetic Alterations in Rapid Progressive Glioblastoma by Use of Whole Exome Sequencing" Diagnostics 13, no. 6: 1017. https://doi.org/10.3390/diagnostics13061017.
3. Lena Mahmoudi Azar, Muhammed Miran Öncel, Elif Karaman, Levent Faruk Soysal, **Ayesha Fatima**, Sy Bing Choi, Alp Ertunga Eyupoglu, Batu Erman, **Asif M. Khan**, Serdar Uysal,Human ACE2 orthologous peptide sequences show better binding affinity to SARS-CoV-2 RBD domain: Implications for drug design,Computational and Structural Biotechnology Journal,Volume 21,2023,Pages 4096-4109,https://doi.org/10.1016/j.csbj.2023.07.022.
4. **Işık EB**, Brazas MD, Schwartz R, Gaeta B, Palagi PM, van Gelder CWG, Suravajhala P, Singh H, Morgan SL, Zahroh H, Ling M, Satagopam VP, McGrath A, Nakai K, Tan TW, Gao G, Mulder N, Schönbach C, Zheng Y, De Las Rivas J, **Khan AM**. Grand challenges in bioinformatics education and training. **Nature Biotechnol. 2023** Aug;41(8):1171-1174. doi: 10.1038/s41587-023-01891-9. [Public link: https://rdcu.be/djhh8].
5. Najihah Hussein, Reena Rajasuriar, **Asif M. Khan**, Yvonne Al-Lian Lim, Gin Gin Gan. The role of the gut microbiome in hematological cancers, Mol Cancer Res (2023), https://doi.org/10.1158/1541-7786.MCR-23-0080
6. Hekimoglu H, Che Wahid NS, **Sarsilmaz E, Mohammad Asif Khan**. Book of Abstracts of the 21st International Conference on Bioinformatics (InCoB) [version 1; not peer reviewed]. F1000Research 2023, 12:1180 (document) (https://doi.org/10.7490/f1000research.1119618.1)

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BEZMIALEM VAKIF UNIVERSITY 1845

Publications (2022)

1. Cuscino N, **Fatima A**, Di Pilato V, Bulati M, Alfano C, Monaca E, Di Mento G, Di Carlo D, Cardinale F, Monaco F, Rossolini GM, **Khan AM**, Conaldi PG, Douradinha B. Computational design and characterization of a multiepitope vaccine against carbapenemase-producing Klebsiella pneumoniae strains, derived from antigens identified through reverse vaccinology. Comput Struct Biotechnol J. 2022 Aug 17;20:4446-4463. doi: 10.1016/j.csbj.2022.08.035. PMID: 36051872; PMCID: PMC9418682.
2. **Khan AM**, Ranganathan S, Suravajhala P. Editorial: Bioinformatics and the Translation of Data-Driven Discoveries. Front Genet. 2022 May 10;13:902940. doi: 10.3389/fgene.2022.902940. PMID: 35620463; PMCID: PMC9127959.
3. Chong LC and **Khan AM*.** Historical milestone in 42 years of viral sequencing-impetus for a community-driven sequencing of global priority pathogens. 2022. Front. Microbiol. 13:1020148. doi: 10.3389/fmicb.2022.1020148. [Impact Factor 2022: 6.064; *Corresponding author]
4. Nguyen, Q.V.; Chong, L.C.; Hor, Y.-Y.; Lew, L.-C.; Rather, I.A.; Choi, S.-B. Role of Probiotics in the Management of COVID-19: A Computational Perspective. Nutrients 2022, 14, 274. https://doi.org/10.3390/nu14020274
5. S Moshawih, P Hadikhani, **A Fatima**, HP Goh, N Kifli, V Kotra, KW Goh, LC Ming. Comparative analysis of an anthraquinone and chalcone derivatives-based virtual combinatorial library. A cheminformatics "proof-of-concept" study Journal of Molecular Graphics and Modelling 117, 108307
6. N Jubair, M R., **A Fatima**, YK Mahdi, NH Abdullah. Evaluation of Catechin Synergistic and Antibacterial Efficacy on Biofilm Formation and acrA Gene Expression of Uropathogenic E. coli Clinical Isolates. Antibiotics 11 (9), 1223
7. WL Siew, J Logis TN, **Ayesha Fatima**, Renee, Lay Hong Lim, Szu Seng Tan Chon, Yee Fung Shin, Hong Tan Nget, Eng Liang Goh Amos, Hui Tan Yong, Siew Ying Lim Crystale. Dye Decolorisation Capacity of Lignosus Rhinocerotis (Cooke) Ryvarden Dialysed Fraction and its Expression of Novel Recombinant Laccase in Pichia pastoris. Malaysian Journal of Biochemistry & Molecular Biology 1, 104-113
8. EKJ Low, AEL Goh, J Logis, SW Lee**, A Fatima**, WS Yap, CSY Lim. Draft Genome Sequence of the Marine Bioluminescent Bacterium Aliivibrio fischeri ATCC 7744. Microbiology Resource Announcements 11 (4), e01117-21
9. M Zulkipli, N Mahbub, **A Fatima**, S L Wan-Lin, TJin Khoo, T Mahboob, M Rajagopal, C Samudi, G Kathirvalu, NH Abdullah, AR Pinho, SMR Oliveira, ML Pereira, M Rahmatullah, A Hasan, AK Paul, MS Butler, M Nawaz, Po Wilairatana, V Nissapatorn, C Wiart. Isolation and Characterization of Werneria Chromene and Dihydroxyacidissimol from *Burkillanthus malaccensis* (Ridl.) Swingle. Plants 11 (11), 1388
10. Tharanga S, Hu Y, Unlu ES, Sjaugi MF, Celik MA, Hekimoglu H, Miotto O, Oncel MM, and **Khan AM*.** DiMA: Sequence Diversity Dynamics Analyser for Viruses. arXiv (preprint server). 2022; 2205.13915. https://doi.org/10.48550/arxiv.2205.13915 [Preprint published; *Corresponding author]
11. Chong LC and **Khan AM*.** UNIQmin, an alignment-free tool to study viral sequence diversity across taxonomic lineages: a case study of monkeypox virus. bioRxiv 2022.08.09.503271; doi: https://doi.org/10.1101/2022.08.09.503271 [Preprint published and *Corresponding author]
12. **Ayesha Fatima**, **Esra Büşra Işık** and APBioNet. Proceedings of the 5th International Symposium on Bioinformatics (InSyB2021) [version 1; not peer reviewed]. F1000Research 2022, 11:60 (Document) (https://doi.org/10.7490/f1000research.1118906.1)

Manuscripts in Preparations	1. Shan Tharanga, Eyyüb Selim Ünlü, **Esra Büşra Işık**, Muhammad Farhan Sjaugi, **Mohammad Asif Khan**, CROSTA: CROss-Species Transmissibility Analyzer for Viral Sequences (In-preparation) 2. Rashid Mukaila, Muhammed Miran Öncel, Hasiba Karimi, Ömer Erkam Engin, Hatice Dilara Karakuş, Faruk Üstünel, **Esra Büşra Işık**, Bedia Gülen, Bilge Gültepe, Kazım Karaaslan, Meliha Meriç Koç, Özlem Su Küçük, Fatma Nur Okyaltırık, Ramazan Özdemir, Teoman Aydın, İbrahim Tuncay, **Mohammad Asif Khan**, Rümeyza Kazancıoğlu., Translating biomedical data for health analytics, a case study on COVID-19 patients (In-preparation) 3. **Mohammad Asif Khan, Esra Büşra Işık**, Tan Tin Wee, A global initiative on addressing bioinformatics grand challenges, Science (Submitted) 4. **Esra Büşra Işık**, Onur Serçinoğlu, Computational Characterization of Ligand Specificity And Promiscuity Of Staphylococcus Aureus Nora Efflux Pump, Journal of Biomolecular Structure and Dynamics. (In-Review) 5. Additiya Paramanya, İlayda Erdoğan, **Esra Büşra Işık**, Onur Serçinoğlu, Ahmad Ali, Virtual screening of SARS- CoV-2 protein inhibitors, Acta Pharmaceutica Scincia (In-review) 6. **Mohammad Asif Khan, Esra Büşra Işık**, Tan Tin Wee, Science at the Speed of Thought, (In-preparation)

Khan Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Posters	1. Li Chuin Chong and Asif M. Khan. Near-full compression of SARS-CoV-2 peptidome. International Virus Bioinformatics Meeting (ViBioM) 2022. Valencia, Spain, 23-25 March 2022. 2. Pendy Tok, Li Chuin Chong and Mohammad Asif Khan. DiveR: An R shiny web application for visualization of viral protein sequence diversity dynamics. International Work-Conference on Bioinformatics and Biomedical Engineering (IWBBIO 2022). 27th-30th June, 2022. Gran Canaria (Spain). 3. Javier De Las Rivas, Eija Korpelainen, Annette McGrath, Asif M. Khan, Celia W.G. van Gelder. GOBLET: Unite, inspire and equip Bioinformatics Trainers worldwide. 21st European Conference on Computational Biology (ECCB2022). 12-21 September 2022. Sitges, Barcelona, Spain. 4. Eyyub Selim Unlu and Mohammad A. Khan. VIROMEdash: Global Virome Sequence Metadata Visualizer. 21st European Conference on Computational Biology (ECCB2022). 12-21 September 2022. Sitges, Barcelona, Spain. 5. Shan Tharanga, Eyyub Selim Unlu, Esra Busra Isik, Muhammad Farhan Sjaugi, Mohammad Asif Khan. CROSTA: CROss-Species Transmissibility Analyser for Pathogen Sequences. 21st European Conference on Computational Biology (ECCB2022). 12-21 September 2022. Sitges, Barcelona, Spain. 6. Esra Büşra Işık, Onur Serçinoğlu, Computational Characterization of Ligand Specificity and Promiscuity of Staphylococcus aureus NorA Efflux Pump, Poster Presentation, 30 th Conference on Intelligents Systems for Molecular Biology, July 10-14, 2022 7. Muhammad Farhan Sjaugi, Eyyüb Selim Ünlü, Kresnodityo Jatiputro Widianto, Rashid Mukaila, Muhammet A. Celik, Tcharé Adnaane Bawa, Muhammed Miran Öncel, Ayesha Fatima, Shanweera Tharanga, Mohammad Asif Khan. SEVANT: a web-based viral diversity visualizer and interpreter. International Conference on Bioinformatics (InCoB2023), Brisbane, Australia, Nov 12-15, 2023.

Khan Lab

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Thesis	1. MSc, Rashid Mukaila, Istanbul University. Comparative Diversity Dynamics of Influenza A Virus Subtypes 2. MSc, Faruk Üstünel, Bezialem Vakif University. Dissecting the diversity dynamics of human respiratory syncytial virus (HRSV). 3. PhD, Omer Avşar, Faculty of Pharmacy, Bezmialem Vakif University.

Onat Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Research Area	**Identification of mutations, genes, and pathways causing complex and rare diseases through bioinformatics, genomics, and translational approaches, and the discovery of personalized treatment and drug targets.**
Personnel	**1. Research Assistant Faruk Üstünel** **2. PhD Demet İnci** **3. Technician Levise Tenay** **4. MSc Nazlı Sultan Şahin** **5. MSc Emre Can Günaydın**

Projects

Ongoing Projects

1. **Investigation and molecular characterization of the roles of obesity-associated STEAP1B, KCNQ5 and UCP1 genes in disease pathogenesis. (TUBİTAK 1001-222S389)**

Onat Lab

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Thesis	1. **Faruk Üstünel, PhD Thesis, Continuing, 'Discovery of Therapeutic Targets in Circadian Rhythm Disorders Using Omics Data and Machine Learning'.** 2. **Demet İnci, PhD Thesis, Continuing, 'Investigation and molecular characterization of the roles of obesity-associated STEAP1B, KCNQ5 and UCP1 genes in disease pathogenesis'.** 3. **Nisa Esen, MSc Thesis, Continuing, 'Common and rare variant association approaches in Turkish families with obesity'.** 4. **Aybike Şehriban, MSc Thesis, Continuing, 'Identification and Characterization of CDNF in an Early- Onset Neurodegeneration'.** 5. **Emre Can Günaydın, MSc. Thesis, Continuing, "Genetics of Essential Tremors".** 6. **Elif Öz, MSc Thesis, Completed, 'Common and Rare Variant Association Approaches in Turkish Families with Polycystic Ovarian Syndrome'.** 7. **Ekin Köni, MSc Thesis, Completed, 'Establishment of an Organoid Culture Model Suitable for Drug Screening with Cerebrospinal Fluid Tumor Cells After Breast Cancer Metastasis'.** 8. **İrem Çongur, MSc Thesis, Completed, 'Establishment of an Organoid Culture Model Suitable for Drug Screening with Cerebrospinal Fluid Tumor Cells After Lung Cancer Metastasis'.** 9. **Emre Can Günaydın, Thesis, Completed 'Comparison of Rare Variant Association Tests in Obesity Cohort'.**

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Posters	1. **İnci D, Şahin NS, Onat OE. "Investigation and Molecular Characterization of the Roles of Obesity-Associated Genes in Disease Pathogenesis" Health & Life Sciences and Technologies Summit-Project Fair, Bezmialem Foundation University, İstanbul, Turkiye, 18-19 September 2023.** 2. **Congur I, Koni E, Onat OE, Keskin-Tokcaer Z. "Bioinformatic analysis of mutated genes in leptomeningeal carcinoma caused by non- small cell lung cancer" The 8th International Congress of the Molecular Biology Association of Turkey, Istanbul, Turkiye, 09 June 2022.** 3. **Koni E, Congur I, Onat OE, Keskin-Tokcaer Z. "Integrated analysis of mutated genes in leptomeningeal metastasis caused by breast cancer" The 8th International Congress of the Molecular Biology Association of Turkey, İstanbul, Turkiye, 09 June 2022.** 4. **Akkuş A, Onat OE. "Identification of evolutionary patterns in core clock proteins and their involvement in sleep disorders" The 8th International Congress of the Molecular Biology Association of Turkey, Istanbul, Turkiye, 09 June 2022.** 5. **Akkuş A, Onat OE. "Identification of evolutionary patterns in core clock proteins and their involvement in sleep disorders" Genome Informatics Conference; 21-23 September 2022, Wellcome Genome Campus, Cambridge, UK.**

Onat Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Publications	1. **Congur I, Koni E, Onat OE, Tokcaer Keskin Z. Meta-analysis of commonly mutated genes in leptomeningeal carcinomatosis. PeerJ. 2023 Apr 19;11:e15250. doi: 10.7717/peerj.15250. PMID: 37096065; PMCID: PMC10122459.** 2. **Kars ME, Başak AN, Onat OE, Bilguvar K, Choi J, Itan Y, Çağlar C, Palvadeau R, Casanova JL, Cooper DN, Stenson PD, Yavuz A, Buluş H, Günel M, Friedman JM, Özçelik T. The genetic structure of the Turkish population reveals high levels of variation and admixture. Proc Natl Acad Sci U S A. 2021 Sep 7; 118(36): e2026076118. doi: 10.1073/pnas.2026076118. Erratum in: Proc Natl Acad Sci U S A. 2021 Dec 28; 118(52): PMID: 34426522.** 3. **Akar OS, Gunes S, Abur U, Altundag E, Asci R, Onat OE, Ozcelik T, Ogur G. Multiscale analysis of SRY-positive 46,XX testicular disorder of sex development: Presentation of nine cases. Andrologia. 2020; 52(11):e13739. doi: 10.1111/and.13739. PMID: 3288206.** 4. **Onat OE, Kars ME, Gul S, Bilguvar K, Wu Y, Ozhan A, Aydin C, Basak AN, Trusso MA, Goracci A, Fallerini C, Renieri A, Casanova JL, Itan Y, Atbasoglu CE, Saka MC, Kavakli H, Ozcelik T. Human CRY1 variants associate with attention deficit/hyperactivity disorder. J Clin Invest. 2020; 130(7):3885-3900. doi: 10.1172/JCI135500. PMID: 32538895.** 5. **Demirayak P, Onat OE, Gevrekci AO, Gulsuner S, Uysal H, Bilgen RS, Doerschner K, Ozcelik T, Boyaci H. Abnormal subcortical activity in congenital mirror movement disorder with RAD51 mutation. Diagn Interv Radiol. 2018; 24(6):392-401. doi: 10.5152/dir.2018.18096. PMID: 30406765.** 6. **Patke A, Murphy PJ, Onat OE, Krieger AC, Ozcelik T, Campbell SS, Young MW. Mutation of the Human Circadian Clock Gene CRY1 in Familial Delayed Sleep Phase Disorder. Cell. 2017; 169(2):203-215.e13. doi: 10.1016/j.cell.2017.03.027. PMID: 28388406.** 7. **Ozcelik T, Onat OE. Genomic landscape of the Greater Middle East. Nat Genet. 2016; 48(9):978-979. doi: 10.1038/ng.3652. PMID: 27573686.**

Onat Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Awards/ Honors	1. **2013-2020 Post-doctoral fellowship, Rockefeller University Center for Clinical and Translational Science (RUCCTS) Grant Award Number 8 UL1 TR000043** 2. **2010 Conference fellowship from ESHG for 42nd European Human Genetics Conference; 2010, Gothenburg, Sweden (Best poster award candidate)** 3. **2004-2012 Full-fellowship from the Institute of Engineering and Science, Bilkent University, Ankara, Turkey**

Rafiqi Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Research Area	Ecological Evolutionary Developmental Biology and Endosymbiosis
Members	1. Tübitak Postdoctoral Fellow Priscila Gomez-Polo 2. Postdoctoral Fellow Mauricio Ernesto Alarcón Álvarez 3. Research Assistant/ PhD student: Nihan Sultan Milat 4. Technician/ PhD student: Sevim Nur Akyuz 5. Research Assistant/ PhD student: Birgul Çolak-Al 6. Tübitak PhD student: Zelal Ozgur-Durmuş 7. Tübitak PhD student: Yeşim Erol 8. Animal care technician: Elif Kurt

Projects	Ongoing Projects 1. Understanding the Emergence of Cells Housing Endosymbionts using Leafhoppers. TUBITAK 1001, No; 123Z774, Dr. Mauricio Ernesto Alarcon Alvarez as PI, 1.183.400 TL, 2024-26. 2. The developmental genetics of obligate endosymbiosis and its effect on the evolution of insects. 2,289.800 TL. TUBİTAK 2247-A, Ab Matteen Rafiqi as PI 3. The role of endosymbionts in the developmental genetic networks of leafhoppers (Hemiptera: Cicadellidae). Canon Foundation Grant. Priscila Gomez Polo as PI .

Projects	Completed Projects 1. Development of microorganisms against vector borne diseases by biotechnological and paratransgenetic Methods. TUBİTAK 1001. Serdar Uysal as main PI and A. M. Rafiqi as researcher 2. Mechanism of segregation of endosymbiont between midgut epithelium and gonads. 22,218 TL. BVU BAP. Ab Matteen Rafiqi as PI. 3. **Characterization of fungal endosymbionts of bumble bees (Bombus terrestris) and their relation with pathogens. BVU-BAP, Project Number, 20200610. PI, Priscila Gomez, Budget, Polo 20,364 TL.** 4. **BMP signaling in Camponotus floridanus and its alteretion in the presence of obligate endosymbionts. Istanbul Univ. BAP. Project Number, FYL-2021-37348. To Nihan Sultan Milat as PI, Budget, 22.500 TL.**

Rafiqi Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Publications

1. Kianifard, L., AM Rafiqi, O Akcakir, ASI Aly, PF Billingsley, S Uysal (2023) A recombinant Aspergillus oryzae fungus transmitted from larvae to adults of Anopheles stephensi mosquitoes inhibits malaria parasite oocyst development Scientific Reports 13 (1), 12177.
2. UY Kina, U.Y., M Kamil, G Deveci, AM Rafiqi, K Matuschewski, ASI Aly (2023) A Candidate Bacterial-Type Amino Acid Decarboxylase Is Essential for Male Gamete Exflagellation and Mosquito Transmission of the Malaria Parasite Infection and Immunity, e00167-23.
3. Polo, P.G., B. Çolak-Al, AM. Rafiqi (under review) Molecular screening of parasites in commercially-reared, and field-collected bumble bees in Northwest Spain. Journal of Experimental Zoology A

Posters

1. Durmuş ZO, Rafiqi AM (2023) Segregation and transmission of bacteria with a novel structure. The evolution of animal genomes 18–21 September 2023, Sevilla, Spain
2. Çolak-Al B, Rafiqi AM (2023) Hox gene function in ants that have intracellular endosymbiotic bacteria. Ecology and Evolutionary Biology Symposium Istanbul 2023
3. Erol Y, Rafiqi AM (2023) Identifying enhancer of the host gene that is responsive to the signal of its endosymbiont. Ecology and Evolutionary Biology Symposium Istanbul 2023
4. Akyuz SN, Rafiqi AM (2023) Identification of Anterior Determinants in Ants. Ecology and Evolutionary Biology Symposium Istanbul 2023

Conference Presentations

1. Durmuş ZÖ, Rafiqi AM (2023) Segregation and transmission of bacteria with a novel structure. Ecology and Evolutionary Biology Symposium, Istanbul 2023
2. Milat NS, Rafiqi AM (2023) Gene regulatory networks altered by endosymbiosis. Ecology and Evolutionary Biology Symposium, Istanbul 2023
3. Alarcon MEA (2023) Bacteriocytes origins from specific posterior cells of early embryo in hemipteran insects. Ecology and Evolutionary Biology Symposium, Istanbul 2023
4. Rafiqi AM Evolutionary change by developmental endosymbiosis. Aykut Kence Evolution Conference, Ankara 2023
5. Rafiqi AM The original idea of evolution, later developments and acceptance. Aykut Kence Evolution Conference, Ankara 2023

Rafiqi Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Title of the Thesis	Category	Grad Student	Supervisor(s)
Cytolysins expressing liver stage parasites as novel live attenuated malaria vaccines	PhD Bezmialem Vakıf University	Ümit Yaşar Kına	Ab. Matteen Rafiqi
Kardiyopulmoner bypass'lı olgularda erken tanı renal disfonksiyon biyomarkerlarının belirlenmesi; miR-21 ve miR-10a aracılı postoperatif inflamasyon.	PhD Marmara University	Fatma Zehra Çağıl	A.M. Rafiqi as co-supervisor
Camponotus floridanus'ta Bmp Sinyalizasyonu ve Zorunlu Endosimbiyont Varlığında Değişimi,,., 2022.	MSc. Thesis İstanbul University	Nihan Sultan Milat.	A.M. Rafiqi as co-supervisor

Uysal Lab

BEZMIALEM VAKIF UNIVERSITY 1845

Research Area	Protein and microbial engineering, creating synthetic antibodies using phage display technologies for pharmaceutical applications
Personnel	Research Assistant Elif KARAMAN

Projects	Ongoing Projects 1. Development of biomarkers and advanced technology pharmaceuticals for monitoring and treating inflammasome-mediated autoinflammatory diseases (TUBITAK 1004-20AG044) 2. Expression, purification and determination of antioxidant capacity of the bioactive peptide Lunasin in *Aspergillus oryzae* (BVU BAP-20220404)

Projects

Completed Projects

1. BAP, 'Recombinant production of CelTOS proteins of *Plasmodium* parasites for use in the development of anti-malarial biotechnological techniques', Project No: 11.2018/17, Budget: 19.988,91 TL, 12.21.2018-12.21.2019
2. TUBITAK 1001, 'Development of *Bacillus* microorganisms against vector-borne diseases by biotechnological and paratransgenesis methods', Project No: 218S724, Budget:864.640 TL, 09.01.2019-01.04.2023.
3. BAP, 'Determination of different ACE2 receptor sequences that bind with high affinity to the RBD protein effective in cell fusion of the SARS-CoV-2 virus', Project No: 20200823, Budget: 22.499,53 TL, 10.05.2020-04.05.2022.
4. BAP, '*Aspergillus oryzae* as a preliminary model for paratransgenesis', Project No: 20211004, Budget: 20.000 TL, 2021-2022.
5. BAP, 'Production and purification of fibrinolytic Lumbrokinase enzyme in filamentous fungi *Aspergillus oryzae*'. Project No: 20220602. Budget: 22.499,53 TL, 2022-2023.
6. BAP, 'Production and purification of the fibrinolytic enzyme Nattokinase *in Aspergillus oryzae*'. Project No: 20220604. Budget: 22.499,53 TL, 2022-2023

Publications	1. Karaman, E., Eyüpoğlu, A. E., Mahmoudi Azar, L., & Uysal, S. (2023). Large-Scale Production of Anti-RNase A VHH Expressed in *pyrG* Auxotrophic *Aspergillus oryzae*. Current Issues in Molecular Biology, 45(6), 4778-4795. 2. Azar, L. M., Öncel, M. M., Karaman, E., Soysal, L. F., Fatima, A., Choi, S. B., ... & Uysal, S. (2023). Human ACE2 orthologous peptide sequences show better binding affinity to SARS-CoV-2 RBD domain: Implications for drug design. Computational and structural biotechnology journal, 21, 4096-4109. 3. Mahmoudi Azar, L., Karaman, E., Beyaz, B., Göktan, I., Eyüpoğlu, A. E., Kizilel, S., ... & Uysal, S. (2023). Expression and characterization of recombinant IL-1Ra in *Aspergillus oryzae* as a system. BMC biotechnology, 23(1), 1-15. 4. Kianifard, L., Rafiqi, A. M., Akcakir, O., Aly, A. S., Billingsley, P. F., & Uysal, S. (2023). A recombinant *Aspergillus oryzae* fungus transmitted from larvae to adults of *Anopheles stephensi* mosquitoes inhibits malaria parasite oocyst development. Scientific Reports, 13(1), 12177. 5. Karaman E., Uysal S. *Aspergillus oryzae* as a host for SARS-CoV-2 protein expression: insights into glucoamylase fusion of RBD and NTD, Biotech Studies (*In Submission*)

Posters	1. Elif KARAMAN, Serdar UYSAL, 'The construction of affinity agent production platform by using *pyrG* auxotroph *Aspergillus oryzae* and the production of the Nanobodies (VHH)". 6th International Congress on Advances in Bioscience and Biotechnology (ICABB), Aksaray University, July 25-29, 2022. 2. Diclehan Gündüz, 'Production and purification of fibronolytic enzyme Nattokinase in *Aspergillus oryzae'*. IV. International Scientific Research Congress, ASES, May 14, 2023. 3. Gamze Bek, 'Production and purification of fibrinolitic Lumbrokinase enzyme in filamentous fungus A*spergillus oryzae',* 9th International Congress On Innovative Scientific Approaches, Samsun, Turkey, May 17-19, 2023.

Patent	Uysal, S., Khan, A.M., ACE2 Homolog Peptide Sequences, 2023/004618

Thesis	1. Elif KARAMAN, PhD Thesis, 'Developing a biotechnological platform for the production of affinity reagents in *Aspergillus oryzae*', 2023, *Completed.* 2. Diclehan Gündüz, MSc Thesis, 'Production and purification of fibrinolytic enzyme nattokinase in *Aspergillus oryzae*', 2023, *Completed.* 3. Gamze Bek, MSc Thesis, 'Production and purification if fibrinolitic lumbokinase enzyme in filamentous fungus *Aspergillus oryzae*', 2023, *Completed.*

Scientific Advisory Board

BEZMIALEM VAKIF UNIVERSITY 1845

Adolfo García-Sastre Ph.D.
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Ahmet Gül M. D.
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Istanbul University Medical School
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Vice Chancellor for Medical and Health Sciences Colleges, and Dean of College
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Vice Chairman of Research,
Thomas Jefferson University Hospital Director of Clinical Research, Rothman Orthopaedic Institute

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Lindsay Young Distinguished Professor of Microbiology
College of Arts & Sciences and Veterinary Medicine

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Teşekkürler