

**PERSONEL INFORMATION**

**Name:** Betul (Cicek)  
**Surname:** Akcesme  
**Address:** Sarajevo/ Bosnia and Herzegovina  
**e-mail:** [betul.akcesme@sbu.edu.tr](mailto:betul.akcesme@sbu.edu.tr)

**EDUCATION****2012-2016: PhD**

International University of Sarajevo (Sarajevo-Bosnia and Herzegovina)  
“Genetics and Bioengineering” Natural Sciences and Engineering Faculty  
Thesis Title: A Highly Accurate Technique for the Prediction of Protein Structural Classes

**2010-2011: Post Graduate Specialization Program (D.S.P.U) (with highest honors GPA)**

“Horticultural Genetics and Biotechnology”  
Mediterranean Agronomic Institute of Chania (International Center for Advanced  
Mediterranean Agronomic Studies-CIHEAM) (Crete-Greece)

**2005-2010: BSc****- 2006-2010- Undergraduate**

International University of Sarajevo (Sarajevo-Bosnia and Herzegovina)  
“Biological Sciences and Bioengineering” Natural Sciences and Engineering Faculty  
Thesis: “Molecular and in silico analysis of novel missense mutation in wisp3 gene associated  
with childhood onset Progressive Pseudorheumatoid Arthropathy (c.667T>G)”

INGEB (Genetic Engineering and Biotechnology Institute, Sarajevo)-BIH

**- 2005-2006- English Language School -International University of Sarajevo (Sarajevo-Bosnia and Herzegovina)**

## **EXPERIENCES**

### **WORKING EXPERIENCE**

**2025- Present:** Visiting Assistant Professor

**International University of Sarajevo (Sarajevo-Bosnia and Herzegovina)**  
“Medicine and Dental Medicine Programs” Faculty of Medical Sciences

**2025- Present:** Training Coordinator

**University of Health Sciences**  
Training Coordinator of Sarajevo International Faculty of Medicine and Sarajevo International  
Faculty of Dental Medicine

Director of the Balkan Health Studies Application and Research Center of the University of  
Health Sciences

**2017- Present:** Assistant Professor

**University of Health Sciences (İstanbul- Türkiye)**  
“Department of Medical Biology” Hamidiye Faculty of Medicine

**2022-2025:** Visiting Assistant Professor

**International University of Sarajevo (Sarajevo-Bosnia and Herzegovina)**  
“Genetics and Bioengineering” Faculty of Natural Sciences and Engineering

**2016-2017:** Assistant Professor

**International University of Sarajevo (Sarajevo-Bosnia and Herzegovina)**  
“Genetics and Bioengineering” Faculty of Natural Sciences and Engineering

**2012-2016:** Senior Assistant

**International University of Sarajevo (Sarajevo-Bosnia and Herzegovina)**  
“Genetics and Bioengineering” Faculty of Natural Sciences and Engineering

### **TEACHING EXPERIENCES**

- Lecturer **Biomedicine for Medical Faculty, BSc**
- Lecturer **Cell Biology and Molecular Genetics, BSc**
- Lecturer **Human Genetics, BSc**
- Lecturer **Biology, BSc**
- Lecturer **General Microbiology, BSc**
- Lecturer **Structural Biology, BSc**
- Lecture **Genetics I and II, BSc**
- Lecturer **Advanced Structural Bioinformatics, PhD**
- Lecturer **Modern Approaches to Genome Analysis**
- Lecturer **Medical Biology and Genetics, BSc**
- Lecturer **Omics Technologies, MSc**
- Lecturer **Molecular Genetics, MSc**
- Lecturer **Functional Genomics and Proteomics, PhD**
- Teaching Assistant **Structural Biology**
- Teaching Assistant **Chemistry**
- Teaching Assistant **Pharmaceutical Biotechnology**

- Teaching Tutorials **Collage Mathematic**

## **EDUCATIONAL AND SCIENTIFIC ACTIVITIES**

### • **CONFERENCE AND CONGRESS**

- Beriolo, A., Akçeşme, B. In Silico Evaluation of Drug-Repurposing Candidates for Targeting ATRX protein in Glioblastoma, 19th International Hippocrates Congress on Medical and Health Sciences (10 -11 October 2025)
- Akçeşme, B., Islam, N. Computational Analysis Of Snp Effects On Alzheimer's Disease Drug Efficacy Via Acetylcholinesterase And B-Secretase, 8th INTERNATIONAL HEALTH SCIENCE AND LIFE CONGRESS (IHSLC 2025)
- Kovalenko, B., Akçeşme, B., In Silico Evaluation of Photosensitizers Interaction with the Microphthalmia-Associated Transcription Factor in Melanoma, 16th International Congress of Academic research, (ICAR, 2025)
- Fatima Ayesha, Akçeşme, B., Wnt Signalling Pathway in Glioblastoma Multiforme: An In silico Systems Biology Approach, 2nd International Colloquium on Bioinformatics Learning, Education, and Training , QATAR (iCOBLET2024)
- Akçeşme, B., Islam, N., Investigation of phytochemicals as potential therapeutics for Multiple Sclerosis by computational approaches, 7th International Eurasian Conference on Biological and Chemical Sciences (EurasianBioChem 2024)
- Akçeşme, B., Aldadah, R., Galijatović, A., & Hajdarpašić, M. (2024, October). Determination of Immunotherapeutic Epitopes of Human Papillomavirus Type 16 by Bioinformatics Approaches. In Conference of Recent Trends and Applications of Soft Computing in Engineering (pp. 165-190). Cham: Springer Nature Switzerland.
- Semiz, S., Halilovic, L., Akcesme, B., Durakovic, C., Akcesme, F. B., Adilovic, M., ... & Serdarevic, F. (2018, October). Bioethical issues in personalized medicine and pharmacogenomics: Students' awareness and attitudes. In European Journal of Human Genetics (vol. 26, pp. 817-817). Macmillan Building, 4 Crinan St, London n1 9xw, England: Nature Publishing Group.
- Çoşkunpınar Ender Mehmet, Aynaci Engin, Aynaci Aysun, Kalkanlı Taş Sevgi, Hastürk Burcu, İş Şeyma, Akçeşme Betül , Investigation and validation of miRNA and target genes that are effective in the pathogenesis of allergic asthma, Turkish Thoracic Association 21st Annual Congress, 2018 April
- B.Akcesme, Using Digital Image Features for Protein Structural Class Prediction 2nd International Congress on Applied Biological Sciences. Sarajevo BIH, May 27-31, 2016
- B. Akcesme, Potential Therapeutic Role of Mesenchymal Stem Cells in Cancers: Exploitation of Delivery System International conference on Engineering and Natural Sciences: ICENS Sarajevo BIH, May 24-28, 2016
- "Gene Expression Clustering" Second Regional Conference on Soft Computing 2013, Sarajevo-Bosnia and Herzegovina
- 17th and 19th of August 2009, Istanbul Technical University 3th National Molecular Biology and Genetics Student Congress, Istanbul-TÜRKIYE
- 10th and 11th of May 2008, Boğaziçi University Science Club Molecular Biology and Genetics HaftaSonu3, Boğaziçi University, Istanbul-TÜRKIYE

### • **TRAINING AND WORKSHOPS**

- 2021 March, Workshop on Integrative modelling of biomolecular complexes with HADDOCK (Online)  
Professor Alexandre Bonvin & Professor Brian Jimenez, Utrecht University, NL
- 2008-2009 Fall Semesters- Pathology Laboratory- Kosevo Hospital, Sarajevo-Bosnia and Herzegovina

- 2007-2008 Spring Semester- Institute for Genetic Engineering and Biotechnology (INGEB) - Sarajevo- Bosnia and Herzegovina

## • PROJECTS

**Researcher-** COVID-19 in Turkey: SARS-CoV-2 Genome Analysis and Mutation Screening, Identification of Genetic Variations in COVID-19 Patients, Correlation Analysis with Results and Effect on Disease Prognosis (2020-2022)

**Research Manager-** Investigation and validation of miRNA and target genes that are effective in the pathogenesis of allergic asthma- Scientific Research Project Grand of University of Health Sciences, (2017- 2019)

**Research Assistant -** Development of Different Disease Modeling by Using Cell Culture Techniques - Scientific Research Project Grand of University of Health Sciences (2017- 2019)

**Research Assistant-** “Setting up Cystic Fibrosis diagnosis with multiplex PCR in Bosnia” Clinical Center, University of Sarajevo (2013)

## PUBLICATIONS

- Akçeşme, B., Hekimoğlu, H., Chirasani, V. R., İş, Ş., Atmaca, H. N., Waldern, J. M., & Ramos, S. B. (2025). Identification of deleterious non-synonymous single nucleotide polymorphisms in the mRNA decay activator ZFP36L2. *RNA biology*, 22(1), 1-15.
- Akçeşme, B., Abazi, F., Hrapovic, A., & Kozaric, S. (2025). Investigation of phytochemicals derived from *Gentiana dinarica* as potential drug candidates for colorectal cancer by computational approaches. *Hacettepe Journal of Biology and Chemistry*, 54(1), 9-19.
- Akçeşme, B., Lokvančić, H., & Islam, N. (2025). In silico characterization of missense mutations in PI3K/AKT/mTOR signaling genes in breast cancer and their role in therapeutic resistance. *Annals of Medical Research*, 32(12), 541-541.
- Islam, N., & Akçeşme, B. (2025). Investigating molecular background of multiple sclerosis through multi-omics: linking via psychoneuroimmunology. *Acta Neurologica Belgica*, 125(5), 1357-1371.
- Akçeşme, F. B., Köprülü, T. K., Cam, B. E., İş, Ş., Keskin, B. C., Akçeşme, B., ... & Tekin, Ş. (2025). Genomic Surveillance and Molecular Characterization of SARS-CoV-2 Variants During the Peak of the Pandemic in Türkiye. *Biochemical Genetics*, 63(5), 4770-4789.
- Akçeşme, B., Berilo, A., & Islam, N. (2025). The Role of Microbiota in Ovarian Cancer: Implications for Diagnosis, Prognosis, and Treatment. *Hamidiye Medical Journal*.
- Akcesme, B., & Sezer, A. (2025). Genomic and structural analysis of genes involved in epigenetic regulations of diffuse large B cell lymphoma by computational approaches. *International Journal of Medical Biochemistry*, 8(3), 165-177.
- Akcesme, B., Islam, N., Lekic, D., Cutuk, R., & Basovic, N. (2024). Analysis of Alzheimer's disease associated deleterious non-synonymous single nucleotide polymorphisms and their impacts on protein structure and function by performing in-silico methods. *Neurogenetics*, 26(1), 8.
- Sezer, A., Mahmutović, L., & Akçeşme, B. (2023). In silico study of polyphenols as potential inhibitors of MALT1 protein in non-Hodgkin lymphoma. *Medical Oncology*, 41(1), 37.
- E Coskunpinar, B Akcesme, SK Tas, A Aynaci. (2023) Investigation of miRNAs that are effective in the pathogenesis of asthma. *Journal of Asthma*, 1-14
- Akcesme, B., Erkal, B., & Donmez, Z. Y. (2023). Structural and functional characterization of SARS-CoV-2 nucleocapsid protein mutations identified in Turkey by using in silico approaches. *Acta Virologica*, 67(1), 59-68.

- Erkal, B., Akçeşme, B., Çoban, A., & Korkut, Ş. V. (2022). A comprehensive in silico analysis of multiple sclerosis related non-synonymous SNPs and their potential effects on protein structure and function. *Multiple Sclerosis and Related Disorders*, 68, 104253.
- Akçeşme, F. B., Kul Köprülü, T., Erkal, B., İş, Ş., Cevher Keskin, B., Akçeşme, B., ... & Tekin, Ş. (2022). tracking the circulating SARS-CoV-2 variants in Turkey: complete genome sequencing and molecular characterization of 1000 SARS-CoV-2 samples. *bioRxiv*, 2022-04.
- Mahmutovic L, Akcesme B, Durakovic C, Akcesme FB, Maric A, Adilovic M, Hamad N, Wjst M, Feeney O, Semiz S. (2018) Perceptions of students in health and molecular life sciences regarding pharmacogenomics and personalized medicine. *Hum Genomics*. Nov 14;12(1):50.
- Akçeşme B, Akçeşme F. B., Muhamed Adilovic, Can Mehmet (2018). Recurrent Neural Networks for Linear B-Epitope Prediction in Antigens. *Southeast Europe Journal of Soft Computing*,
- Akcesme, B., & Can, M. (2016). Support Vector Machines for Predicting Protein Structural Classes via Pseudo Images Derived From Amino Acid Sequences. *Southeast Europe Journal of Soft Computing*, 5(1).
- Akcesme, B., & Can, M. (2016). Secondary Structure and Neighbor Preferences of Amino Acids. *Southeast Europe Journal of Soft Computing*,4(2).
- Akcesme, B. (2015). Prediction of Protein Structural Classes for Low-Similarity Sequences Based On Predicted Secondary Structure. *Southeast Europe Journal of Soft Computing*, 4(1).
- Akcesme, B., & Akcesme, F. B. (2014). Predicting the Secondary Structure of Proteins Using Artificial Neural Networks. *SouthEast Europe Journal of Soft Computing*, 3(2).
- Akcesme, B., & Akcesme, F. B. (2014). Regression Analysis to Predict the Secondary Structure of Proteins. *SouthEast Europe Journal of Soft Computing*, 3(2).
- Can, M., Akcesme, B., & Akcesme, F. B. (2014). Predicting the Secondary Structure of Proteins by the Use of Hamming Distances and Alignment Scores. *SouthEast Europe Journal of Soft Computing*, 3(2).
- Haque, A., Akcesme, B., Mujić, J., Glamočlija, U., & Akcesme, F. B. (2013). Helminth-Derived Product (s): Source for Potential Therapeutic. *Periodicals of Engineering and Natural Sciences (PEN)*, 1(1).
- Akcesme, B. (2013). The Effect of Tamoxifen Treatment During 24 Months On Alkaline Phosphatase Concentration In Breast Cancer Patients.
- Akcesme, B. (2013). Gene Expression Data Clustering. *Southeast Europe Journal of Soft Computing*, 2(2).
- Gawwad, M. R. A., Sutkovic, J., Zahirovic, E., Akcesme, F. B., Akcesme, B., & Zhang, L. (2013). 3D structure prediction of replication factor C subunits (RFC) and their interactome in *Arabidopsis thaliana*. *Network Biology*, 3(2), 74.
- Can, M., Gursoy, O., Akcesme, B., & Akcesme, F. B. (2012). Leaf Area Assessment By Image Analysis. *SouthEast Europe Journal of Soft Computing*, 1(2)

## **BOOKS**

- Book Chapter
- Akcesme, B. (2022) Çevre kirliliği için doğaya dayalı çözümler: Türkiye'nin sanayi bölgelerinde yeşil peyzaj tasarımı olarak fitoremediasyon. In Betas, N. (Ed.), ÇEVRE, İKLİM VE AFET: Dirençli Şehirler İçin Yol Haritası. (pp 41-57) Nobel Akademik Yayıncılık

**MENTORSHIP****Master Thesis (Türkiye):**

- Zehra Yaren Dönmez, 2021, Investigation of the Effects of SARS-CoV-2 Mutations on Protein Structures by In-Silico Methods

**Master Thesis (Bosnia and Herzegovina):**

- Nadia Islam, 2025, Investigating Multiple Sclerosis Through In-Silico Multi-Omics: Linking Via Psychoneuroimmunology
- Raneem Aldadah, 2025, A Drug Repurposing Approach To Evaluate Inhibitory Effects Of Doxazosin Mesylate On Breast Cancer

**SCHOLARSHIPS AND HONORS**

- 2010-2011

International Center for Advanced Mediterranean Agronomic Studies- CIHEAM Post Graduate full Fellowship

- 2005-2010

Bachelor Fellowship by Education Development Sarajevo (SEDEF)

- 2006-2009

High Honor in Faculty of Engineering and Natural Sciences in IUS (in all semesters)