



TUNAHAN ÇAKIR

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Gebze Technical University, Department of Bioengineering
Gebze, Kocaeli, TURKEY

Experience

- Associate Professor 2009-
Department of Bioengineering, Gebze Technical University, Turkey
(www.systemsbiology.info.tr)
- Co-Founder, Chief Scientific Officer 2013-
PhiTech Bioinformatics R&D, Gebze, Kocaeli, Turkey
(<http://www.phitech.com.tr>)
- Post-doctoral Researcher 2007-2008
Universiteit van Amsterdam & UMC Utrecht, Netherlands
(www.bdagroup.nl & www.metabolic-diseases.nl)
- Research/Teaching Assistant 2001-2006
Department of Chemical Engineering, Boğaziçi University, Turkey
(www.che.boun.edu.tr)
- Guest PhD Student 2004 / 2005
Center for Microbial Biotechnology, Technical University of Denmark, Denmark
(supervised by Prof. Jens Nielsen) (www.cmb.dtu.dk)

Education

- Ph.D., Chemical Engineering, Boğaziçi University, Turkey 2002-2006
(Thesis Title: *Stoichiometric Models in Metabolic Systems Biology of Yeast*)
(GPA: 4.00/4.00)
- M.Sc., Chemical Engineering, Boğaziçi University, Turkey 2001-2002
(without thesis)
(GPA: 3.81/4.00)
- B.Sc., Chemical Engineering, Boğaziçi University, Turkey 1996-2001
(Biochemical Engineering specialization)
(GPA: 3.34/4.00, ranked 4th within the department in graduation, honour degree)
- High School Diploma, Istanbul Şişli High School, Turkey 1993-1996
(GPA: 4.84/5.00, ranked 1st in graduation)

Awards

- Research Incentive Award by METU Prof. Mustafa Parlar Foundation 2017
- Young Scientist Outstanding Achievement (GEBİP) Award by TUBA (Turkish Academy of Sciences) 2015
- Best PhD Dissertation Award by Bogaziçi University 2007
- Scholarship through the Integrated PhD Program (BDP) by TUBITAK-BAYG 2002-2006
(Turkish Science and Technology Research Council- Directorate of Human Resources Development)

Courses Taught

Systems Biology Fundamentals	Systems Neuroscience
Genome Scale Metabolic Models	BioComputing (MATLAB, R)
Advanced Bioinformatics with R	Fundamentals of Mathematical Modelling in Biology
Catalytic Reaction Engineering	Transport Phenomena
Technical English for Computer Engineers	English for Professional Life
Calculus II	

Research Area

Computational Systems Biology & Systems Medicine & Bioinformatics

- Mapping Transcriptome and Proteome data on Molecular Interaction Networks (Metabolic Networks, Protein-Protein Interaction Networks): Application to Neurodegenerative Disorders (Parkinson's Disease, Alzheimer's Disease), Cancer and Infectious Diseases
- Predicting Molecular Interactions from Omics Data Using Network Inference Approaches

Refereed Journals (*128 manuscripts refereed so far*)

Bioinformatics (28)	Molecular Biosystems (36)	Molecular Omics (14)
PLOS Computational Biology (11)	PLOS One	Nucleic Acids Research
BMC Systems Biology	BMC Bioinformatics	Scientific Reports
Biotechnology & Bioengineering	Briefings in Bioinformatics	NeuroMolecular Medicine
Frontiers in Physiology	Metabolomics	Theranestics

Journal Editor

Advisory Board, Molecular Omics (old name: Molecular Biosystems)

Guest Associate Editor, Frontiers in Microbiology (Specialty Section: Infectious Diseases)

- For the Special Research Topic: "[Computational Systems Biology of Pathogen-Host Interactions](#)"

Guest Associate Editor, Frontiers in Cellular and Infection Microbiology

- For the Special Research Topic: "[Systems Biology of Metabolism in Infections](#)"

Scientific Projects

1. GTÜ BAP-ADEP 113 Principal Investigator, '**Prediction of sub-type specific drug targets and novel drug candidates from transcriptome data: Application to Alzheimer's disease and liver cancer**', 2022-2024 (Bütçe: 650.000 TL), (Proje Kodu: 2022-A-113-01)
2. TÜBİTAK, Principal Investigator, '**Processing RNA-sequencing data for Alzheimer's Disease to develop personalized molecular interaction network models and to elucidate disease mechanisms**', 2021-2024 (Budget: 600.000 TL), (Project Code: 120S824)
3. TÜSEB Systems Biology and Bioinformatics Strategic R&D Project, Principal Investigator, '**Molecular characterization of in vivo and in vitro models of Parkinson's disease by mapping transcriptome data on genome scale metabolic networks: Identification of candidate drugs and biomarkers**', 2020-2022 (Budget: 350.000 TL), (Project Code: 2019-TA-01-3440)
4. TÜBİTAK Primary Subjects (Neurodegenerative Diseases) Project, Principal Investigator, '**Bioinformatic analysis of transcriptome data and cellular networks for Parkinson's Disease: Identification of novel drug targets and drugs**', 2017-2020 (Budget: 770.000 TL), (Project Code: 315S302)

5. TÜBİTAK Primary Subjects (Molecular Medicine) Project, Researcher, '**Creating Dormancy Models of non-small cell lung cancer and investigation of its pathogenesis via omics approaches**', 2017-2020 (Budget: 2.000.000 TL), (Project Code: 216S489), (Project Manager: Devrim Göztaçık)
6. TÜBİTAK Bilateral Cooperation Project with Pakistan, Principal Investigator, '**Constraint-based and Structure-based Analysis of Metabolic Pathways to Identify Potential Drug Targets against the Lethal Infectious Diseases originating from *K. pneumoniae* and *S. enterica***' 2017-2019 (Budget: 200.000 TL), (Project Code: 316S005)
7. TÜBİTAK Principal Investigator, '**Improvement and optimization of a novel computational method for the inference of cellular networks from omics data: Application to Stem Cells**', 2016 (Budget: 29.470 TL) (Project Code: 215M201)
8. TÜBİTAK Career Project, Principal Investigator, '**Investigation of the cellular objective behind the metabolic behaviours of the cell by using bottom-up and top-down approaches of systems biology in an integrative manner: applications to the metabolisms of microorganisms and human**'. 2010-2013 (Budget: 109.000 TL), (Project Code: 110M464)
9. TÜBİTAK Project Advisor, '**Modeling of the formation and differentiation of induced stem cells using systems biology and bioengineering approaches**' 2017-2020 (Budget: 360.000 TL), (Project Code: 116S388), (Project Manager: Pınar Pir)
10. TÜBİTAK Project, Project Advisor, '**Identification of Molecular Mechanisms for Ccdc124 Protein fundamental in cytokinesis**'. 2014-2017 (Budget: 359.000 TL), (Project Code: 114Z349), (Project Manager: Assoc. Prof. Uygur H. Tazebay)
11. Gebze Institute of Technology BAP Project, Principal Investigator, '**Investigation of the effect of neurological Diseases on brain metabolism by using computational systems Biology approaches**'. 2011-2013 (Budget: 7.500 TL), (Project Code: 2011-A-27)
12. TÜBİTAK TEYDEB Entrepreneurship Support Program, Project Team Member, '**PHISTO: A Web Platform for Pathogen-Human Protein Interactions**', 2014 (Budget: 100.000 TL) (Project Manager: Assist. Prof. Saliha Durmuş)
13. TÜBİTAK TEYDEB SME R&D Support Program, Project Team Member, '**Pathogen-Host Interacts Web Platform and Establishment of Relevant Bioinformatic Services**', 2015-2016 (Budget: 463.000 TL) (Project Manager: Assist. Prof. Saliha Durmuş)
14. KOSGEB R&D Innovation Support Program, Project Team Member, '**PHISTO: A Web Platform for Pathogen-Human Protein Interactions**', 2014-2015 (Budget: 150.000 TL) (Project Manager: Assist. Prof. Saliha Durmuş)

Supervised PhD Theses

1. Gizem Gül, '**Network-based prediction of diagnostic biomarkers and repurposing drugs for Lewy Body Diseases from snRNA-Seq data**', Gebze Technical University, (ongoing)
2. Dilara Uzuner, '**Genome and Transcriptome-based Prediction of Metabolic Alterations and Drug Targets In Alzheimer's Disease**', Gebze Technical University, (ongoing)
3. Regan Odongo, '**Network-based Modelling of Epigenetic Roles of Metabolic Alterations in Parkinson's and Alzheimer's Disease through Multi-omic Data Integration**', Gebze Technical University, (ongoing)
4. Ecehan Abdik, '**Genome-scale metabolic modeling in predicting biomarkers and extracellular metabolite production for Parkinson's disease from transcriptome data**', Gebze Technical University, (ongoing)

5. Elif Emanetci, '**Personalized Molecular Interaction Models for Alzheimer's Disease by Utilizing Multi-Layer Information in RNA-seq Data**', Gebze Technical University, (ongoing)
6. Hatice Büşra Lüleci, '**Metabolic dysfunction in Alzheimer's disease: Computational prediction of metabolic reaction rates in different brain regions by deconvoluting transcriptome and proteome data**', Gebze Technical University, (ongoing)
7. Fatma Zehra Sarı, '**Identification of Potential Antibacterial Targets to Overcome Antibiotic Resistance**', Gebze Technical University, (ongoing)
8. Müberra Fatma Cesur, '**Genome-scale metabolic modeling of *Drosophila melanogaster* to unlock Parkinson's Disease-related metabolic processes**', Gebze Technical University, 2024
9. Mohammad Jafar Khatibipour, '**Mathematical modeling of metabolism via top-down and bottom-up approaches**', Gebze Technical University, 2020
10. Emrah Özcan, '**Metabolic Network-based Analysis of Cheese Starter Cultures as a Microbial Community**', Gebze Technical University - Marmara University, 2019, (co-supervisor: Prof. Ebru Toksoy Öner)

Supervised Master Theses

1. Atakan Ünlü, '**Mapping Differentially Spliced Genes to Protein-Protein Interaction Networks in Alzheimer's Disease: A Personalized Approach**', Gebze Technical University, (ongoing)
2. Rümeyza Aksu, '**An RNA-Seq based network approach to elucidate molecular mechanisms of asymptomatic Alzheimer's disease**', Gebze Technical University, (ongoing)
3. Kader Sarıbulak, '**Prediction of Metabolite Biomarkers for Alzheimer's Disease Subtypes with an Innovative Algorithm Combining Genome-Scale Metabolic Models with Transcriptome Data**', Gebze Technical University, (ongoing)
4. Atılay İlğün, '**Cell-subtype specific roles of glial cells in Alzheimer's disease by network-based analysis of single-cell multi-omic data**', Gebze Technical University, 2024
5. Canan Kolakoğlu, '**A benchmark study for RNA-seq based splicing analysis tools: Detection of aberrant splicing events for rare diseases**', Gebze Technical University, 2023
6. Betül Ceylan, '**A personalized approach on molecular mechanisms of Alzheimer's Disease by mapping transcriptome data on protein-protein interactions**', Gebze Technical University, 2023
7. Orhan Bellur, '**Reconstruction and transcriptome-based analysis of rat brain specific genome-scale metabolic network model for Parkinson's disease**', Gebze Technical University, 2021
8. İsa Yüksel, '**Identification of Novel Drug Targets for Parkinson's Disease by Protein-Protein Interaction Based Drug Repositioning Approaches**', Gebze Technical University, 2021
9. Kadir Kocabaş, '**Integrative Analysis of Multi-cellular Genome-scale Metabolic Networks with Cell Type Specific Transcriptome Data Predicted by Deconvolution Algorithms: Application to Parkinson's Disease**', Gebze Technical University, 2021
10. Betül Baz, '**Genome-scale metabolic network reconstruction and constraint-based analysis of selected disease-associated bacteria: *Klebsiella pneumoniae* HS11286 and *Prevotella copri* DSM 18205**', Gebze Technical University, 2020
11. Gamze Yazgeldi, '**Systems biological analysis of protein-protein interactions and the related drug-protein interactions to identify potential drugs for repurposing against infectious diseases**', Gebze Technical University, 2020 (co-supervisor: Assist.Prof. Saliha Durmuş)
12. Dilara Uzuner, '**Integrative Analysis of Transcriptome Data and Cellular Networks To Reveal Molecular Interactions of Metastasis Mechanisms in Cancer**', Gebze Technical University, 2020 (co-supervisor: Assist. Prof. Pınar Pir)

13. Ali Kaynar, '**Integrative Analysis of transcriptome data and genome-scale metabolic networks to identify drug targets and drug candidates for Parkinson's Disease**', Gebze Technical University, 2019
14. Merve Kutay, '**Integrative analysis of bladder cancer transcriptome data and genome-scale metabolic networks to understand dormancy mechanism**', Gebze Technical University, 2019
15. Elif Emanetci, '**Network-based analysis of cognitive impairment and memory deficits from transcriptome data**', Gebze Technical University, 2019
16. Regan Odongo, '**Molecular Effects of Plant-Based Drugs on Breast Cancer by Mapping Transcriptome Data on Protein-Protein Interactions**', 2019 (co-supervisor: Assoc.Prof. Asuman Demiroğlu-Zergeroğlu)
17. Ecehan Abdik, '**Reconstruction of Brain-Specific Genome-scale Metabolic Network Model for *Mus musculus* for the Investigation of Neurodegenerative Diseases**', Gebze Technical University, 2019
18. Müberra Fatma Cesur, '**Reconstruction and Constraint-based Analysis of the Genome-scale Metabolic Network for *Klebsiella pneumoniae* to Identify New Putative Drug Targets**', Gebze Technical University, *ongoing* (co-supervisor: Assist.Prof. Saliha Durmuş)
19. Hamza Umut Karakurt, '**Systems biology approach to investigate the effect of nitrogen and phosphate metabolism on actinorhodin production by *Streptomyces coelicolor* using genome scale metabolic models**', Gebze Technical University, 2016, (co-supervisor: Prof. Sedef Tunca Gedik)
20. Mohammad Mirhakkak, "**A new reconstruction of a genome scale brain metabolic model to identify biomarkers and molecular mechanisms for Multiple Sclerosis (MS) disease**", University of Isfahan & Gebze Institute of Technology, 2016, (co-supervisor: Assist. Prof. Mohammad A. Asadollahi)
21. Mustafa Sertbaş, '**Investigation of the Effect Neurological Diseases on Brain Metabolism by using Computational Systems Biology Techniques**'. Gebze Institute of Technology & Boğaziçi University, 2013 (co-supervisor: Prof. Kutlu Ülgen)
22. Farshad Abdolmaliki, '**Comparative analysis of the capabilities of *Escherichia coli* and *Saccharomyces cerevisiae* for production of some industrially important metabolites**', University of Isfahan & Gebze Institute of Technology, 2013, (co-supervisor: Assist. Prof. Mohammad A. Asadollahi)
23. Melik Öksüz, '**Investigation of the Biological Objective of the Cell by using Network Inference from Metabolome Data**'. Gebze Institute of Technology, 2012 (co-supervisor: Prof. Hasan Sadıkoğlu)
24. Fatih Tarlak, '**Investigation of the Biological Objective of the Cell by using Metabolic Flux Analysis Techniques**', Gebze Institute of Technology, 2012 (co-supervisor: Prof. Hasan Sadıkoğlu)
25. Filipe Gracio, '**From dynamic metabolome data to inference of metabolic networks**', University of Amsterdam, 2008, (co-supervisor: Assist. Prof. Johan Westerhuis)

Refereed Journal Publications

(53 peer-reviewed journal articles, 6 Book chapters, 1 Editorial article, 12 peer-reviewed abstracts)
 986 citations, h-index: 18 (SCI), 1664 citations, h-index: 20 (Google Scholar)

1. A. Abu Salah, M. Cesur, A. Anchan, M. Ay, M. Langley, A. Shah, P. Reina-Gonzalez, R. Strazdinz, T. Çakır, S. Sarkar, 'Comparative proteomics highlights that GenX exposure leads to metabolic defects and inflammation in astrocytes', *Environmental Science & Technology* (accepted)
2. H.B. Lüleci, D. Uzuner, M.F. Cesur, A. İlgün, E. Düz, E. Abdik, R. Odongo, T. Çakır, '[A Benchmark of RNA-Seq Data Normalization Methods for Transcriptome Mapping on Human Genome-Scale Metabolic Networks](#)', *npj Systems Biology and Applications*, 10:124, 2024
3. F.Z. Sarı, T. Çakır, '[Genome-scale metabolic modeling to characterize RNA-seq-based response of *Acinetobacter baumannii* to multiple antibiotics](#)', *Life*, 14:1102, 2024

4. H.B. Lüleci, A. Jones, [T. Çakır](#), '[Multi-omics analyses highlight molecular differences between clinical and neuropathological diagnoses in Alzheimer's disease](#)', *European Journal of Neuroscience*, 60:4922-4936, 2024
5. Ü. Güven Gülhan, E. Nikerel, [T. Çakır](#), F.E. Sevilgen, S.Durmuş, '[Species-Level Identification of Enterotype-Specific Microbial Markers for Colorectal Cancer and Adenoma](#)', *Molecular Omics*, 20: 397-416, 2024
6. R. Odongo, [T. Çakır](#), A. Demiroğlu-Zergeroğlu, '[A network-based drug prioritization and combination analysis for the MEK5/ERK5 pathway in breast cancer](#)', *BioDataMining*, 17:5, 2024
7. E. Düz, [T. Çakır](#), '[Effect of RNA-seq data normalization on protein interactome mapping for Alzheimer's disease](#)', *Computational Biology and Chemistry*, 109:10828, 2024
8. E. Abdik, [T. Çakır](#), '[Transcriptome-Based Biomarker Prediction for Parkinson's Disease Using Genome-Scale Metabolic Modeling](#)', *Scientific Reports*, 14:585, 2024
9. B. Ceylan, E. Düz, [T. Çakır](#), 'Personalized protein-protein interaction networks towards unraveling the molecular mechanisms of Alzheimer's disease', *Molecular Neurobiology*, 61:2120-2135, 2024
10. M.F. Cesur, A. Basile, K.R. Patil, [T. Çakır](#), '[A new metabolic model of *Drosophila melanogaster* and the integrative analysis of Parkinson's disease](#)', *Life Science Alliance*, 6:e202201695, 2023
11. B. Kaynar, D. Uzuner, [T. Çakır](#), '[Reconstruction and analysis of a genome-scale metabolic model for the gut bacteria *Prevotella copri*](#)', *Biochemical Engineering Journal*, 196:108947, 2023
12. H. Ermiş, Ü. Güven Gülhan, M. Sadık Akça, [T. Çakır](#), M. Altınbaş, '[Valorisation of human urine with mixed microalgae examined by population dynamics and biogas content](#)', *Sustainability*, 15:6922, 2023
13. R. Odongo, O. Bellur, E. Abdik, [T. Çakır](#), '[Brain-wide transcriptome-based metabolic alterations in Parkinson's disease: human inter-region and human-experimental model correlations](#)', *Molecular Omics*, 19:522-537, 2023. (Front Cover)
14. E. N. Yiğit, E. Sönmez, İ. Yüksel, I. Aksan Kurnaz, [T. Çakır](#), '[A transcriptome based approach to predict candidate drug targets and drugs for Parkinson's disease using *in vitro* 6-OHDA model](#)', *Molecular Omics*, 19:218-228, 2023
15. M.F. Cesur, [T. Çakır](#), P. Pir, '[Genome-wide analysis of yeast metabolic cycle through metabolic network models reveals superiority of integrated ATAC-seq data over RNA-seq data](#)' *mSystems*, 7:e0134721, 2022
16. K. Kocabaş, A. Arif, R. Uddin, [T. Çakır](#), '[Dual transcriptome based reconstruction of Salmonella-human integrated metabolic network to screen potential drug targets](#)', *PLOS One*, 17: e0268889, 2022
17. E. Düz, [T. Çakır](#), '[A co-expression network based molecular characterization of genes responsive for Braak stages in Parkinson's disease](#)' *European Journal of Neuroscience*, 55:1873-1886, 2022
18. M. Kutay, D. Gözüaçık, [T. Çakır](#), '[Cancer Recurrence and Omics: Metabolic Signatures of Cancer Dormancy Revealed by Transcriptome Mapping of Genome-Scale Networks](#)', *OMICS: A Journal of Integrative Biology*, 26:270-279, 2022
19. H. Ermiş, Ü. Güven Gülhan, [T. Çakır](#), M. Altınbaş, '[Microalgae growth and diversity in anaerobic digestate compared to synthetic media](#)' *Biofuel Research Journal*, 33:1551-1561., 2022
20. C. Karakaya, A. P. Çil, K. Bilguvar, [T. Çakır](#), M. H. Karalok, R. O. Karabacak, A. O. Çağlayan, '[Further Delineation of Familial Polycystic Ovary Syndrome Via Whole Exome Sequencing: PCOS-related rare FBN3 and FNI gene variants are identified](#)' *The Journal of Obstetrics and Gynaecology Research*, 48:1202-1211, 2022.
21. D. Uzuner, Y. Akkoç, N. Peker, P. Pir, D. Gözüaçık, [T. Çakır](#), '[Transcriptional landscape of cellular networks reveal interactions driving the dormancy mechanisms in cancer](#)', *Scientific Reports*, 11:15806, 2021.
22. R. Odongo, A. Demiroğlu-Zergeroğlu, [T. Çakır](#), '[A Systems Pharmacology Approach based on Oncogenic Signalling Pathways to Determine the Mechanisms of Action of Natural Products in Breast Cancer from Transcriptome Data](#)', *BMC Complementary Medicine and Therapies*, 21:181, 2021.

23. E. Abdik, T. Çakır, '[Systematic Investigation of Mouse Models of Parkinson's Disease by Transcriptome Mapping on a Brain-Specific Genome-Scale Metabolic Network](#)', *Molecular Omics*, 17:492-502, 2021. **(Front Cover)**
24. V.R. Varma, H.B. Lüleci, A.M. Oommen, S. Varma, C.T. Blackshear, M.S. Griswold, Y. An, J.A. Roberts, R. O'Brien, O. Pletnikova, J.C. Troncoso, D.A. Bennett, T. Çakır, C. Legido-Quigley, M. Thambisetty, '[Abnormal brain cholesterol homeostasis in Alzheimer's Disease—a targeted metabolomic and transcriptomic study](#)', *npj Aging and Mechanisms of Disease*, 7:11, 2021.
25. E. Emanetci, T. Çakır, '[Network-Based Analysis of Cognitive Impairment and Memory Deficits from Transcriptome Data](#)', *Journal of Molecular Neuroscience*, 71, 2415-2428, 2021.
26. E. Özcan, M. Seven, B. Şirin, T. Çakır, E. Nikerel, B. Teusink, E. Toksoy Öner, '[Dynamic co-culture metabolic models reveal the fermentation dynamics, metabolic capacities and interplays of cheese starter cultures](#)', *Biotechnology & Bioengineering*, 118:223-237, 2021.
27. T. Çakır, G. Panagiotou, R. Uddin, S. Durmuş, '[Novel Approaches for Systems Biology of Metabolism-Oriented Pathogen-Human Interactions: A Mini-Review](#)', 2020, *Frontiers in Cellular and Infection Microbiology*, 10:52, 2020.
28. H. Ermiş, Ü. Güven Gülhan, T. Çakır, M. Altınbaş, '[Effect of iron and magnesium addition on population dynamics and high value product of microalgae grown in anaerobic liquid digestate](#)', 2020, *Scientific Reports*, 10:3510.
29. M.F. Cesur, B. Shiraj, R. Uddin, S. Durmuş, T. Çakır, '[Network-based metabolism-centered screening of potential drug targets in *Klebsiella pneumoniae* at genome scale](#)', *Frontiers in Cellular and Infection Microbiology*, 9:447, 2020.
30. E. Özcan, S.S. Selvi, E. Nikerel, B. Teusink, E. Toksoy Öner, T. Çakır, '[A genome-scale metabolic network of aroma bacterium *Leuconostoc mesenteroides* subsp. *cremoris*](#)', *Applied Microbiology and Biotechnology*, 103:3153-3165, 2019.
31. S. Demir, M.H. Müslümanoğlu, M. Müslümanoğlu, S. Başaran, Z.Z. Çalay, A. Aydın, U. Vogt, T. Çakır, H. Kadioğlu, S. Artan, '[TWIST1 Gene expression as a biomarker for predicting primary doxorubicin resistance in breast cancer](#)'. *Balkan Journal of Medical Genetics: BJMG*, 22(2), 25, 2019.
32. M.J. Khatibipour, F. Kurtoğlu, T. Çakır, '[JacLy: a Jacobian-based method for the inference of metabolic interactions from the covariance of steady-state metabolome data](#)', *PeerJ*, 6:e6034, 2018.
33. R. Guthke, S. Gerber, T. Conrad, S. Vlaic, S. Durmuş, T. Çakır, E. Sevilgen, E. Shelest, J. Linde, '[Data-based reconstruction of gene regulatory networks of fungal pathogens](#)', *Frontiers in Microbiology*, 7:570, 2016.
34. E. Özcan, T. Çakır, '[Reconstructed metabolic network models predict flux-level metabolic reprogramming of glioblastoma](#)', *Frontiers in Neuroscience* 10:156, 2016.
35. T. Çakır, '[Reporter pathway analysis from transcriptome data: Metabolite-centric versus Reaction-centric approach](#)', *Scientific Reports*, 5:14563, 2015.
36. S. Durmuş, T. Çakır, A. Özgür, R. Guthke, '[A Review on Computational Systems Biology of Pathogen-Host Interactions](#)', *Frontiers in Microbiology*, 6:235, 2015.
37. T. Çakır, M.J. Khatibipour, '[Metabolic network discovery by top-down and bottom-up approaches and paths for reconciliation](#)', *Frontiers in Bioengineering and Biotechnology*, 2:62, 2014.
38. F. Tarlak, H. Sadıkoğlu, T. Çakır, '[The role of flexibility and optimality in the prediction of Intracellular Fluxes of microbial cell metabolism](#)', *Molecular Biosystems*, 10, 2459-2465, 2014.
39. M. Sertbaş, K. Ö. Ülgen, T. Çakır, '[Systematic Analysis of Transcription-Level Effects of Neurodegenerative Diseases on Human Brain Metabolism by a Newly Reconstructed Brain-Specific Metabolic Network](#)' *FEBS Open Bio*, 4, 542-553, 2014.
40. M. Öksüz, H. Sadıkoğlu, T. Çakır, '[Sparsity as cellular objective to infer directed metabolic networks from steady-state metabolome data: A theoretical analysis](#)', *PLoS ONE*, 8 (12), e84505, 2013.

41. S. Durmuş-Tekir, T. Çakır, E. Ardiç, A.S. Sayılırbaş et al. '[PHISTO: Pathogen-Host Interaction Search Tool](#)', *Bioinformatics*, 29, 1357-1358, 2013.
42. S. Durmuş-Tekir, T. Çakır, K.Ö. Ülgen, '[Infection strategies of bacterial and viral pathogens through pathogen-host protein-protein interactions](#)', *Frontiers in Microbiology*, 3:46, 2012.
Highlighted in a commentary by Schleker and Trilling in *Frontiers in Microbiology* (2013)
43. T. Çakır, M. Hendriks, J. Westerhuis, A. Smilde, '[Metabolic network discovery through reverse engineering of metabolome data](#)', *Metabolomics*, 5, 318-329, 2009.
44. T. Çakır, S. Alsan, H. Saybaşı, A. Akın, K.Ö. Ülgen, '[Reconstruction and flux analysis of coupling between metabolic pathways of astrocytes and neurons: application to cerebral hypoxia](#)', *Theoretical Biology and Medical Modelling*, 4:48, 2007.
Highly Accessed
45. T. Çakır, Z. İ. Önsan, B. Kırdar, K.Ö. Ülgen, J. Nielsen, '[Effect of carbon source perturbations on transcriptional regulation of metabolic fluxes in *Saccharomyces cerevisiae*](#)', *BMC Systems Biology*, 1:18, 2007.
46. T. Çakır, Ç. Efe, D. Dikicioğlu, A. Hortaçsu, B. Kırdar, S.G. Oliver, '[Flux balance analysis of a genome-scale yeast model constrained by exometabolomic data allows metabolic system identification of genetically different strains](#)', *Biotechnology Progress*, 23, 320-326, 2007.
47. T. Çakır, K.R. Patil, Z.İ. Önsan, K.Ö. Ülgen, B. Kırdar, J. Nielsen, '[Integration of metabolome data with metabolic networks reveals reporter reactions](#)', *Molecular Systems Biology*, 2:50, 2006.
48. S. Durmuş, T. Çakır, K.Ö. Ülgen, '[Analysis of enzymopathies in the human red blood cells by constraint based stoichiometric modeling approaches](#)', *Computational Biology and Chemistry*, 30, 327-338, 2006.
49. S. Tiveci, A. Akın, T. Çakır, H. Saybaşı, K.Ö. Ülgen, '[Modelling of calcium dynamics in brain energy metabolism and Alzheimer's disease](#)', *Computational Biology and Chemistry*, 29, 151-162, 2005.
50. T. Çakır, C.S. Tacer, K.Ö. Ülgen, '[Metabolic pathway analysis of enzyme-deficient human red blood cells](#)', *Biosystems* 78, 49-67, 2004.
51. T. Çakır, B. Kırdar, K.Ö. Ülgen, '[Metabolic pathway analysis of yeast strengthens the bridge between transcriptomics and metabolic networks](#)', *Biotechnology & Bioengineering*, 86, 251-260. 2004.
52. T. Çakır, K.Y. Arga, M.M. Altıntaş, K.Ö. Ülgen, '[Flux analysis of the recombinant *Saccharomyces cerevisiae* YPB-G utilizing starch for optimum ethanol production](#)', *Process Biochemistry*, 39, 2097-2108, 2004.
53. K.Y. Arga, T. Çakır, P. Pir, N. Özer, M.M. Altıntaş, K.Ö. Ülgen, '[Transfer function approach in structured modeling of recombinant yeast utilizing starch](#)', *Process Biochemistry*, 39, 1237-1248. 2004.

Published Peer-Reviewed Abstracts

1. E.N. Yiğit, E. Sönmez, M. Savaşan-Söğüt, T. Çakır, Işıl Aksan-Kurnaz, '[Validation of an In-Vitro Parkinson's Disease Model for the Study of Neuroprotection](#)', *Proceedings*, 2, 25, 2018.
2. E. Özcan, T. Çakır, '[Metabolic network-based analysis of probiotic cheese starter cultures](#)', *FEBS Journal*, 283, 138, 2016.
3. H.U. Karakurt, S. Tunca Gedik, T. Çakır, '[Genome scale comparison of perturbations in the nitrogen and phosphate metabolism of *Streptomyces coelicolor* by integrating transcriptome data with a curated metabolic network](#)', *FEBS Journal*, 283, 143, 2016.
4. M. Öksüz, H. Sadıkoğlu, T. Çakır, '[Optimization Based Inference of Metabolic Networks from Metabolome Data](#)', *Computational Methods in Systems Biology, Series: Lecture Notes in Computer Science*, 8130, 266-267, 2013.
5. S. Durmuş-Tekir, T. Çakır, E. Ardiç, İ. Karadeniz, A. Özgür F.E. Sevilgen, K.Ö. Ülgen '[PHISTO: A New Web Platform for Pathogen-Human Interactions](#)', *Computational Methods in Systems Biology, Series: Lecture Notes in Computer Science*, 8130, 268-269, 2013.
6. M. Sertbaş, K.Ö. Ülgen, T. Çakır, '[Investigation of The Effects of Neurological Diseases on Human Brain Metabolism by A Computational Systems Biology Approach](#)', *New Biotechnology*, 29, S150, 2012.

7. M. Öksüz, H. Sadıkoğlu, T. Çakır, ‘Network Inference via Computational Analysis of Metabolome Data’, *New Biotechnology*, 29, S148, 2012.
8. S. Durmuş-Tekir, T. Çakır, A. Sayılırbaş, E. Çelik, S. Özcan, İ. Çevik, A. Özgür, F.E. Sevilgen, K.Ö. Ülgen, ‘PHISTO: Pathogen-Host Interaction Search Tool’, *New Biotechnology*, 29, S151, 2012.
9. F. Tarlak, H. Sadıkoğlu, T. Çakır, ‘Role of Flexibility and Minimal Enzyme Production in the Prediction of Intracellular Fluxes of Microorganisms’, *New Biotechnology*, 29, S146, 2012.
10. S. Durmuş-Tekir, T. Çakır, K.Ö. Ülgen, ‘Comparison of infection strategies of bacteria and viruses’, *FEBS Journal*, 279, 518, 2012.
11. S. Durmuş-Tekir, T. Çakır, K.Ö. Ülgen, ‘Stoichiometric modeling of the human red blood cells’, *Journal of Biotechnology*, 118, S11-12, 2005.
12. T. Çakır, K.R. Patil, B. Kırdar, Z.İ. Önsan, K.Ö. Ülgen, J. Nielsen, ‘Use of metabolome data and metabolic network structure to identify reaction significances’, *Journal of Biotechnology*, 118, S16, 2005.

Editorials & Commentaries

1. R. Odongo, T. Çakır, ‘**Heart attack: Working together**’, *eLife*, 10:e69863, 2021.
2. S. Durmuş, T. Çakır, R. Guthke, ‘**Editorial: Computational Systems Biology of Pathogen-Host Interactions**’, *Frontiers in Microbiology*, 7:21, 2016.

Book Chapters

1. D. Uzuner, A. İlgün, E. Düz, F.B. Bozkurt, T. Çakır, ‘**Multi-layer analysis of RNA sequencing data in Alzheimer’s Disease to unravel molecular mysteries**’, *Systems Neuroscience, Advances in Neurobiology:21*, Editörler: A.C. Yu, L. Li, Springer International Publishing, 2023 (**invited**) (in press)
2. H. Büşra Lülecı, D. Uzuner, T. Çakır, M. Thambisetty, ‘**Computational approaches to assess abnormal metabolism in Alzheimer’s disease using transcriptomics**’, *Methods in Molecular Biology*, Nature Springer (in press) (invited)
3. T. Çakır, E. Kökrek, G. Avşar, E. Abdik, P. Pir, ‘**Next-generation genome-scale models incorporating multilevel ‘omics data: From yeast to human**’, *Yeast Systems Biology: Methods and Protocols*, Editors: S.G. Oliver, J.I. Castrillo, 347-363, Springer International Publishing, 2019 (invited)
4. T. Çakır, ‘**Constraint-based modeling of metabolic interactions in and between astrocytes and neurons**’, *Computational Glioscience, Springer Series in Computational Neuroscience*, Editors: M. De Pitta, H. Berry, 393-420, Springer International Publishing, 2019 (invited)
5. E. Özcan, T. Çakır, ‘**Genome-scale brain metabolic networks as scaffolds for the systems biology of neurodegenerative diseases: mapping metabolic alterations**’ *Systems Neuroscience, Advances in Neurobiology: 21*, Editors: A.C. Yu, L. Li, 195-217, Springer International Publishing, 2018 (invited)
6. M.F. Cesur, Ü. Güven Gülhan, E. Abdik, S. Durmuş, T. Çakır, ‘**Computational system biology for metabolism in infection**’, *Metabolic Interaction in Infection, Experientia Supplementum 109*, Editors: R. Silvestre, E. Torrado, 235-282, Springer International Publishing, 2018 (invited)
7. T. Çakır, E. Nikerel ‘**Biyolojik Ağların Modellenmesi**’, *Biyomedikal Mühendisliğin Temelleri*, Editors: M.H. Asyalı, S. Kara, B. Yılmaz, Nobel Kitap, Ankara, 2014. (invited)

Book Editor

1. ‘**Computational systems biology of pathogen-host interactions**, Editors: S. Durmuş, T. Çakır, R. Guthke, Lausanne: Frontiers Media, 2016 (e-book)

Invited Talks

1. T. Çakır, ‘**Transcriptomics and network biology for the discovery of novel biomarkers and drug targets in neurodegenerative diseases**’, *TÜSEB Future Health- Genomics Congress, İstanbul-TÜRKİYE* (December 8-9, 2023)

2. T. Çakır, 'Transcriptomic approaches in the diagnosis and treatment of Alzheimer's ve Parkinson's diseases', *21. National Neuroscience Congress, Bolu- TÜRKİYE* (June 8-11, 2023)
3. T. Çakır, 'Metabolic Networks and Omics Data', *1st International Basic Oncology Congress*, Online (June 2-4, 2022)
4. T. Çakır, 'Mapping transcriptome data on molecular interaction networks for a better understanding of neurodegenerative diseases', *XIII. Aziz Sançar DETAE Days: Omics Technologies in Life Sciences: From Genomics to Diagnostics*, Online, (April 21-22, 2021)
5. T. Çakır, 'Transcriptome mapping on cellular networks to elucidate molecular mechanisms in cancer dormancy', *InSyb 2021- 5th International Symposium on Bioinformatics*, Çevrimiçi, (April 15-17, 2021)
6. T. Çakır, 'Systems biology and bioinformatics in Food Biotechnology', *BIO Türkiye 2021*, Çevrimiçi, (April 9-11, 2021)
7. T. Çakır, 'Transcriptomics into Clinics', *Workshop on Genomics and Bioinformatics*, Bioİzmir-Çevrimiçi, (April 29-30, 2021)
8. T. Çakır, 'Next-generation Genome Sequencing', *BioExpo OpenLab*, TURKEY (September 16-18, 2020)
9. T. Çakır, 'Novel Approaches for Parkinson's Disease: Mapping transcriptome data on molecular interaction networks', *BIO Türkiye 2020*, İstanbul- TURKEY (March 5-7, 2020)
10. T. Çakır, 'Network-based metabolism-centered screening of potential drug targets in *Klebsiella pneumoniae* at genome scale', *7th International BAU Drug Design Congress*, İstanbul- TURKEY (December 19-21, 2019)
11. T. Çakır, 'Network-based analysis of transcriptome data to unravel molecular mechanisms behind cellular impairments', *The International Symposium on Health Informatics and Bioinformatics (HIBIT 2019)*, İzmir- TURKEY (October 17-18, 2019)
12. T. Çakır, 'Elucidation of Parkinson's Disease Mechanisms by Mapping Transcriptome Data on Molecular Interaction Networks', *FENS Regional Meeting 2019*, Belgrade-SERBIA (July 10-13, 2019)
13. T. Çakır, 'Genome-scale brain metabolic networks as scaffolds for mapping disease-related alterations', *International Conference on Applied Mathematics, Modeling and Life Sciences (ICAMLS'18)*, İstanbul- TURKEY (October 3-5, 2018)
14. T. Çakır, 'Next generation solutions for Parkinson's Disease: Mapping transcriptome data on molecular interaction networks', *Neurodegeneration / Neuroregeneration Workshop*, İstanbul, TURKEY (May 4-5, 2018)
15. T. Çakır, 'Genome-scale brain metabolic networks as scaffolds for mapping disease-related alterations', *3rd Iranian Conference on Systems Biology*, Tehran, IRAN (February 27-28, 2018)
16. T. Çakır, 'Genome-scale brain metabolism models', *21th National Biomedical Engineering Meeting – BIYOMUT 2017*, Acibadem University, İstanbul, TURKEY (November, 24-26, 2017)
17. T. Çakır, 'Next-generation sequencing', *Symposium on Algorithms in Medical Genetics*, Ankara, TURKEY (June 3-4, 2017)
18. T. Çakır, 'Systems biology approaches in cell death: the analysis of genome-scale (omic) data', *New Techniques on Cell Death and Project Proposals on Health Science Workshop*, Gebze, TURKEY (February 9-11, 2017)
19. T. Çakır, 'A novel metabolite-centric computational approach for the identification of perturbed metabolic pathways from transcriptome data', *Boğaziçi University, Department of Molecular Biology and Genetics*, İstanbul-TURKEY (May 13, 2016)
20. T. Çakır, 'High-throughput Biological Data Analysis I: Microarray Data Analysis', *İstanbul University, Aziz Sançar Institute of Experimental Medicine*, İstanbul-TURKEY (May 2, 2016)
21. T. Çakır, 'Microarrays, Clustering and Classification: Normalization and Differential Expression Gene Detection', *Workshop on Bioinformatics and Applications in Genetics*, İstanbul-TURKEY, (November 21, 2015)
22. T. Çakır, 'How Cellular Networks Meet Genome Scale Data: Systems Biology Examples', *Yeditepe University, Department of Genetics and Bioengineering*, İstanbul-TURKEY, (October 26, 2015)

23. T. Çakır, 'A Bioinformatic Approach to the Effect of Brain Tumors on Metabolic Pathways', *Workshop on Cancer and Cancer Stem Cells Control*, Manisa-TURKEY, (October 8-10, 2015)
24. T. Çakır, 'From Transcriptome data to Protein Interaction Networks: A Systems Biology Example for *Arabidopsis thaliana*', *Green Biotechnology Workshop*, Kocaeli-TURKEY (September 21-23, 2015)
25. T. Çakır, 'Mining biological data: Analysis and interpretation of large-scale 'omics' datasets', *Bioinformatics Methods for Cancer Biology: Theoretical and Practical Workshop*, İzmir-TURKEY (September 9-10, 2015)
26. T. Çakır, 'Bioinformatic Analysis of Apoptotic Pathways via Transcriptome Data', *Bioinformatic Course on Apoptotic Cell Death*, İzmir-TURKEY (February 12-13, 2015)
27. T. Çakır, 'From Systems Biology to Systems Medicine: Foundations and Examples', *International ITU Molecular Biology and Genetics Student Congress '14*, Istanbul-TURKEY (August 15-17, 2014)
28. T. Çakır, 'Systems Medicine: A systems-approach for Personalized Medicine', *HIMSS Turkey*, Istanbul-TURKEY (June 4-5, 2014)
29. T. Çakır, 'Systems Biology: A Science of Networks', *7th National Biotechnology Congress of Iran*, Tehran-IRAN (September 12-13, 2011)
30. T. Çakır, 'Systems Biology: An Emerging Trend in Biotechnology', *University of İsfahan*, İsfahan-IRAN (September 14, 2011)

Participations/Presentations in Conferences (69 international, 38 national)

International

1. Ş. Şahin, S. Şengül, R. Odongo, P. Pir, O. Serçinoğlu, T. Çakır, 'A Polypharmacological Approach Unveiling Subtype-Specific Drug Candidates for Alzheimer's Disease and Liver Cancer', *9th International BAU Drug Design Congress*, Istanbul-TÜRKİYE, (November 29 - December 2, 2023)
2. A. İlgün, T. Çakır, 'Functional Specificity Of Astrocyte Subtypes In Alzheimer's Disease: A Multi-Omic Approach By Mapping Single Nuclei Data On Protein Interaction Networks', *International Symposium on Health Informatics and Bioinformatics (HIBIT 2023)*, Ankara-TÜRKİYE (October 4-6, 2023) – oral presentation: A. İlgün-
3. H.B. Lüleci, R. ODongo, E. Düz, D. Uzuner, E. Abdik, M.F. Cesur, T. Çakır, 'A benchmark of RNA-Seq Data Normalization Methods for Transcriptome Mapping on Genome-Scale Metabolic Networks', *International Symposium on Health Informatics and Bioinformatics (HIBIT 2023)*, Ankara-TÜRKİYE (October 4-6, 2023)
4. Ş. Şahin, S. Şengül, R. Odongo, P. Pir, O. Serçinoğlu, T. Çakır, 'Polypharmacological Approach for Subtype-Specific Drug Discovery in Alzheimer's Disease and Liver Cancer', *International Symposium on Health Informatics and Bioinformatics (HIBIT 2023)*, Ankara-TÜRKİYE (October 4-6, 2023)
5. F.B. Bozkurt, A. İlgün, D. Uzuner, T. Çakır, 'Gene-level pathogenicity scores for Alzheimer's disease using genomic variants from RNA-Seq data', *International Symposium on Health Informatics and Bioinformatics (HIBIT 2022)*, Mersin-TURKEY (October 20-21, 2022)
6. A. İlgün, T. Çakır, 'Network-based approaches reveal cell subtype specific roles of astrocytes and oligodendrocytes during Alzheimer's disease', *International Symposium on Health Informatics and Bioinformatics (HIBIT 2022)*, Mersin-TURKEY (October 20-21, 2022)
7. H.B. Lüleci, T. Çakır, 'Understanding the link between Alzheimer's disease and Type 2 Diabetes in terms of metabolic alterations', *International Symposium on Health Informatics and Bioinformatics (HIBIT 2022)*, Mersin-TURKEY (October 20-21, 2022)
8. R. Odongo, T. Çakır, 'Multi-omic data integration approach identifies microglial epigenetic-induced metabolic alterations during Alzheimer's disease', *International Symposium on Health Informatics and Bioinformatics (HIBIT 2022)*, Mersin-TURKEY (October 20-21, 2022)
9. D. Uzuner, E. Düz, A. İlgün, F.B. Bozkurt, T. Çakır, "Personalized analysis of metabolic changes in Alzheimer's disease with a systems biology approach", *International Symposium on Health Informatics and Bioinformatics (HIBIT 2022)*, Mersin-TURKEY (October 20-21, 2022)
10. E. Abdik, T. Çakır, P. Pir, 'Reconstruction of Cell Type-Specific Genome-Scale Metabolic Models using Single-cell RNA-Seq Data to Investigate Tumor Metabolism', *International Symposium on Health Informatics and Bioinformatics (HIBIT 2022)*, Mersin-TURKEY (October 20-21, 2022)

11. E. Emanetci, T. Çakır, ‘Co-Expression Networks from Transcriptome Data Reveal Molecular Mechanisms Playing Roles in the Progression of Parkinson’s Disease’, *International Symposium on Health Informatics and Bioinformatics (HIBIT 2021)*, Online-Ankara-TURKEY (September 10-11, 2021)
12. M.F. Cesur, T. Çakır, P. Pir, ‘Metabolic Network-Driven Analysis of Yeast Metabolic Cycle through the Incorporation of RNA-seq and ATAC-seq Datasets’, *International Symposium on Health Informatics and Bioinformatics (HIBIT 2021)*, Online-Ankara-TURKEY (September 10-11, 2021)- oral presentation: M.F. Cesur-
13. E. Abdik, T. Çakır, ‘Biomarker Prediction for Parkinson’s Disease by Transcriptome Mapping on a Genome-Scale Metabolic Model’, *International Symposium on Health Informatics and Bioinformatics (HIBIT 2021)*, Online-Ankara-TURKEY (September 10-11, 2021)
14. R. Odongo, T. Çakır, ‘Constraint-Based Modelling and Machine Learning Identifies Metabolic Alterations in the Substantia Nigra in Parkinson’s Disease’, *International Symposium on Health Informatics and Bioinformatics (HIBIT 2021)*, Online-Ankara-TURKEY (September 10-11, 2021)
15. O. Bellur, T. Çakır, ‘Reconstruction and Transcriptome-based Analysis of Rat Brain Specific Genome Scale Metabolic Network Model for Parkinson’s Disease’, *International Symposium on Health Informatics and Bioinformatics (HIBIT 2021)*, Online-Ankara-TURKEY (September 10-11, 2021)
16. E. Abdik, T. Çakır, ‘Clustering-based metabolism-oriented analysis of mouse models of Parkinson’s Disease’, *International Symposium on Health Informatics and Bioinformatics (HIBIT 2019)*, İzmir-TURKEY (October 17-18, 2019)
17. D. Uzuner, P. Pir, D. Gözüaçık, T. Çakır, ‘Integrative Analysis of Transcriptome Data and Cellular Networks Identifies Molecular Interactions of Metastasis Mechanisms in Cancer’, *International Symposium on Health Informatics and Bioinformatics (HIBIT 2019)*, İzmir-TURKEY (October 17-18, 2019)
18. B. Baz, T. Çakır, ‘Genome-scale Metabolic Network Reconstruction of *Klebsiella pneumoniae* HS11286’, *International Symposium on Health Informatics and Bioinformatics (HIBIT 2019)*, İzmir-TURKEY (October 17-18, 2019) – oral presentation: B. Baz-
19. M. Yaşar, M.F. Cesur, S. Durmuş, T. Çakır, ‘Topological Analysis of Genome-scale Metabolic Network of *Klebsiella pneumoniae* for Drug Target Discovery’, *International Symposium on Health Informatics and Bioinformatics (HIBIT 2019)*, İzmir-TURKEY (October 17-18, 2019)
20. K. Kocabaş, T. Çakır, ‘Integrative Analysis of Pathogen-Host Metabolic Network of *Salmonella enterica* with dual RNA-seq data’, *International Symposium on Health Informatics and Bioinformatics (HIBIT 2019)*, İzmir-TURKEY (October 17-18, 2019)
21. E. Abdik, T. Çakır, ‘Comparative Analysis of Mouse Models of Parkinson’s Disease by Mapping Transcriptome Data on Brain Metabolic Network’, *FENS Regional Meeting 2019*, Belgrade-SERBIA (July 10-13, 2019)
22. E. Sönmez, E.N. Yiğit, İ. Yüksel, T. Çakır, I. Aksan Kurnaz, ‘Dopamine Metabolism Related Gene Expression Changes in 6-OHDA Induced Model of Parkinson’s Disease’, *FENS Regional Meeting 2019*, Belgrade-SERBIA (July 10-13, 2019)
23. A. Kaynar, I. Aksan Kurnaz, T. Çakır, ‘Integrative Analysis of Transcriptome Data and Genome-Scale Metabolic Networks to Identify Candidate Drug Targets and Drugs for Parkinson’s Disease’, *6th International BAU Drug Design Congress*, İstanbul-TURKEY (December 13-15, 2018) – oral presentation: A. Kaynar-
24. M.F. Cesur, S. Durmuş, T. Çakır, ‘*In silico* Analysis of the Genome-scale Metabolic Network of *K. pneumoniae* to Reveal Drug-Target Candidates’, *11th International Symposium on Health Informatics and Bioinformatics (HIBIT 2018)*, Antalya-TURKEY (October 25-27, 2018) – oral presentation: M.F. Cesur-
25. A. Kaynar, I. Aksan Kurnaz, T. Çakır, ‘A Genome-Scale Metabolic Network Integrated with Transcriptome Data Predicts Major Fluxes in Parkinson’s Disease’, *4th International Parkinson’s Disease Symposium*, LUXEMBOURG (October 11-12, 2018)
26. M.F. Cesur, S. Durmuş, T. Çakır, ‘Comparative analysis of *Klebsiella pneumoniae* genome-scale metabolic networks’, *International Conference on Applied Mathematics, Modeling and Life Sciences (ICAMLS’18)*, İstanbul-TURKEY (October 3-5, 2018)
27. A. Kaynar, İ. Yüksel, M. Savaşan Söğüt, I. Aksan Kurnaz, T. Çakır, ‘Towards mining Parkinson’s Disease biomarkers by mapping transcriptome data on brain-specific molecular interaction networks’, *20 years of*

Alpha-synuclein in Parkinson's Disease and Related Synucleinopathies, Athens- GREECE (September 8-10, 2017)

28. A. Kaynar, I. Aksan Kurnaz, T. Çakır, 'Model-Based Analysis of Parkinson's Disease By Incorporating Alpha-Synuclein Production into A Genome-Scale Brain Specific Metabolic Network', *5th International Congress of the Molecular Biology Association of Turkey (MolBioKon2017)*, Istanbul - TURKEY (September 7-10, 2017)
29. E. Özcan, E. Nikerel, T. Çakır, E. Toksoy-Öner, 'Metabolic Capacities of Lactic Acid Bacteria in Cheese Starter Cultures Grown in Pure And Co-cultures', *12th International Symposium on Lactic Acid Bacteria (LAB12)*, Egmond an Zee- NETHERLANDS (August 27-31, 2017)
30. T. Çakır, 'A novel metabolite-centric approach for the identification of perturbed metabolic pathways from genome-wide data', *European Conference of Computational Biology -ECCB/ISMB 2017*, Prague- CZECH REPUBLIC (July 21-24, 2017)
31. E. Kırdök, İ. Yüksel, E. Özcan, T. Çakır, "Reconstruction of Cold Stress Specific Genome-scale Metabolic Models for *Arabidopsis thaliana*", *Green Biotechnology Workshop*, Kocaeli-TURKEY (September 21-23, 2015)
32. E. Özcan, T. Çakır, 'Investigation of the Effects of Glioblastoma Tumors on Brain Metabolism Using Computational Systems Medicine Approaches', *International Symposium on Advances in Predictive & Personalized Medicine' (APPM-2015)*, İstanbul-TURKEY (April 2-3, 2015)
33. E. Özcan, T. Çakır, 'Understanding Brain Metabolic Network Changes in case of Glioblastoma Using Computational Systems Biology Approaches', *International Conference on Applied Informatics for Health and Life Sciences (AIHLS-2014)*, Kuşadası-TURKEY (October 19-22, 2014) – oral presentation: E. Özcan-
34. Z.O. Çalışkaner, A. Abdul Waheed, E. Özcan, T. Çakır, "Bioinformatic Analysis of Parkinson's Disease, Huntington's Disease and Multiple Sclerosis to Reveal Disease-Specific Metabolic Patterns", *3rd International Congress of the Molecular Biology Association of Turkey (MolBiyKon2014)*, Izmir-TURKEY (September 10-12, 2014)
35. E. Kırdök, Y. Ö. Çiftçi, T. Çakır, "Identifying the Cold Stress Specific Protein-Protein Interaction Network for *Arabidopsis thaliana*", *3rd International Congress of the Molecular Biology Association of Turkey (MolBiyKon2014)*, Izmir- TURKEY (September 10-12, 2014)
36. E. Ardiç, S. Karakoç, İ. Karadeniz, A. Özgür, K. Ö. Ülgen, E. Nikerel, F. E. Sevilgen, T. Çakır, S. Durmuş Tekir 'PHISTO: A Web-based Platform For Studying Infection Mechanisms through Pathogen-Human Interactions', *3rd International Congress of the Molecular Biology Association of Turkey (MolBiyKon2014)*, Izmir- TURKEY (September 10-12, 2014) – oral presentation: S. Durmuş-
37. Ü. Alkaya, E. Özcan, T. Çakır, 'The Flux Balance Analysis of Human Brain Metabolic Network Affected by Alzheimer's Disease', *International ITU Molecular Biology and Genetics Student Congress '14* (August 15-17, 2014)
38. T. Çakır, E. Ardiç, S. Karakoç, İ. Karadeniz, E. Nikerel, A. Özgür, F. E. Sevilgen, S. Durmuş Tekir "PHISTO: A Web Platform For Studying Infection Mechanisms through Pathogen-Human Interactions", *3rd International Conference of Molecular Biology and Biotechnology*, Sarajevo- BOSNIA and HERZEGOVINA (June 2-6, 2014)
39. E. Kırdök, T. Çakır, 'A Systems Approach to Investigate the Effect of Autism on Metabolism', *2nd International Congress of the Molecular Biology Association of Turkey (MolBioKon2013)*, Istanbul-TURKEY (November 22-23, 2013)
40. S. Durmuş-Tekir, T. Çakır, E. Ardiç, İ. Karadeniz, A. Özgür, F.E. Sevilgen, K.Ö. Ülgen, ' PHISTO: A New Web Platform for Pathogen-Human Interactions', *Computatinal Methods in Systems Biology (CMSB13)*, Klosterneuburg- AUSTRIA, (September 23-26, 2013)
41. M. Öksüz, H. Sadıkoğlu, T. Çakır, ' Optimization Based Inference of Metabolic Networks from Metabolome Data', *Computatinal Methods in Systems Biology (CMSB13)*, Klosterneuburg- AUSTRIA, (September 23-26, 2013)
42. M. Sertbaş, K.Ö. Ülgen, T. Çakır, 'Metabolic Analysis of Parkinson's and Huntington's Diseases: A Computational Systems Biology Approach, *9th European Congress on Chemical Engineering(ECC-9)*, The Hague-NETHERLANDS (April 21-25, 2013) – oral presentation: M. Sertbaş-

43. M. Öksüz, H. Sadıkoğlu, T. Çakır, 'Investigation of Alternative Network Inference Methods for Reverse Engineering of Metabolome Data', *2nd Conference on Constraint-based Reconstruction and Analysis (COBRA 2012)*, Helsingor- DENMARK (October 7-9, 2012)
44. F. Tarlak, H. Sadıkoğlu, T. Çakır, 'Predicting Intracellular Flux Distributions of Microorganisms', *2nd Conference on Constraint-based Reconstruction and Analysis (COBRA 2012)*, Helsingor- DENMARK (October 7-9, 2012)
45. M. Öksüz, H. Sadıkoğlu, T. Çakır, 'Network Inference via Computational Analysis of Metabolome Data', *15th European Conference on Biotechnology (ECB-15)*, Istanbul-TÜRKİYE (22-26 Eylül, 2012) Istanbul-TURKEY (September 22-26, 2012)
46. F. Tarlak, H. Sadıkoğlu, T. Çakır, 'Role of Flexibility and Minimal Enzyme Production in the Prediction of Intracellular Fluxes of Microorganisms', *15th European Conference on Biotechnology (ECB-15)*, Istanbul-TURKEY (September 22-26, 2012)
47. M. Sertbaş, K.Ö. Ülgen, T. Çakır, 'Investigation Of The Effects Of Neurological Diseases On Human Brain Metabolism By A Computational Systems Biology Approach', *15th European Conference on Biotechnology (ECB-15)*, Istanbul-TURKEY (September 22-26, 2012)
48. S. Durmuş, T. Çakır, A.S. Sayılırbaş, E. Çelik, S. Özcan, İ. Çevik, A.S. Özçelik, A. Özgür, F.E. Sevilgen, K.Ö. Ülgen, 'PHISTO: Pathogen-Host Interactions Search Tool', *15th European Conference on Biotechnology (ECB-15)*, Istanbul-TURKEY (September 22-26, 2012)
49. S. Durmuş, A.S. Sayılırbaş, T. Çakır, K.Ö. Ülgen, 'A Comparison of Infection Strategies of Bacteria and Viruses', *37th FEBS Congress*, Sevilla-SPAIN (September 4-9, 2012)
50. S. Durmuş, A.S. Sayılırbaş, T. Çakır, K.Ö. Ülgen, 'PHISTO: Pathogen-Host Interaction Search Tool', *12th International Conference on Systems Biology (ICSB-11)*, Heidelberg & Mannheim- GERMANY (August 28- September 1, 2011)
51. T. Çakır, J. Westerhuis, M. Hendriks, A. Smilde, 'Metabolic network discovery through reverse-engineering of metabolome data', *Metabolomics Society 4th Annual Conference*, Boston-USA (September 2-6, 2008) - oral presentation by M. Hendriks -
52. T. Çakır, J. Westerhuis, M. Hendriks, A. Smilde, 'Similarity measures to infer metabolic networks from metabolome data', *Benelux Bioinformatics Conference (BBC07)*, Leuven-BELGIUM. (November 12-13, 2007)
53. T. Çakır, B. Kırdar, Z.İ. Önsan, K.Ö. Ülgen, J. Nielsen , 'Effect of Carbon Source Perturbations on Transcriptional Regulation of Metabolic Fluxes in *S. cerevisiae*', *1st International Symposium on Systems Biology*, Murcia- SPAIN, (June 1-2, 2006) - oral presentation by T. Çakır -
54. T. Çakır, B. Kırdar, Z.İ. Önsan, K.Ö. Ülgen, J. Nielsen , 'Transcriptional Regulation of Metabolic Fluxes in Response to Carbon Shifts', *Genomes to Systems 2006*, Manchester- UK, (March 21-24, 2006)
55. T. Çakır, K.R. Patil, Z.İ. Önsan, K.Ö. Ülgen, B. Kırdar, J. Nielsen , 'Use of Metabolome Data and Metabolic Network Structure to Identify Reaction Significances', *12th European Congress on Biotechnology (ECB-12)*, Lyngby- DENMARK, (August 21-24, 2005)
56. S. Durmuş, T. Çakır, K.Ö. Ülgen, 'Analysis of Enzymopathies in Human Red Blood Cells by Stoichiometric Modeling Methods' , *12th European Congress on Biotechnology (ECB-12)*, Lyngby- DENMARK, (August 21-24, 2005)
57. T. Çakır, B. Kırdar, K.Ö. Ülgen, 'Minimal Cut Sets of *S. cerevisiae* and *E. coli* Metabolic Networks and Their Structural Robustness', *5th International Conference on Systems Biology (ICSB 2004)* , Heidelberg-GERMANY, (October 9-13, 2004)
58. T. Çakır, K.Ö. Ülgen, B. Kırdar, 'Investigation of the Effect of Gene Addition in *S. cerevisiae* by Metabolic Pathway Analysis', *5th International Conference on Systems Biology (ICSB 2004)* , Heidelberg- GERMANY, (October 9-13, 2004)
59. T. Çakır, S. Tacer, K.Ö. Ülgen, 'Control-effective Flux Profiles of Enzyme-Deficient Human Red Blood Cells', *5th European Symposium on Biochemical Engineering Science (ESBES-5)*, Stuttgart- GERMANY, (September 8-11, 2004)

60. S. Alsan, T. Çakır, H. Saybaşı, A. Akın, K.Ö. Ülgen, 'Modeling of Neuron-Astrocyte Coupling via Stoichiometric Modeling Techniques', *5th European Symposium on Biochemical Engineering Science (ESBES-5)*, Stuttgart- GERMANY, (September 8-11, 2004)
61. S. Tiveci, T. Çakır, H. Saybaşı, A. Akın, K.Ö. Ülgen, 'Calcium Dynamics in Brain Energy Metabolism and Alzheimer's Disease', *29th FEBS Congress*, Warsaw-POLAND (June 26- July 1, 2004)
62. S. Alsan, T. Çakır, H. Saybaşı, A. Akın, K.Ö. Ülgen, 'Modeling of Neurotransmitter Glutamate via Metabolic Flux Analysis', *Agora Meeting on Modeling Mental Processes and Disorders*, Kuşadası-TURKEY, (May 24-29, 2004)
63. S. Tiveci, T. Çakır, H. Saybaşı, A. Akın, K.Ö. Ülgen, 'The Role of Calcium Dynamics in Brain Energy Metabolism', *Agora Meeting on Modeling Mental Processes and Disorders*, Kuşadası- TURKEY, (May 24-29, 2004) - oral presentation by S. Tiveci-
64. T. Çakır, B. Kırdar, K.Ö. Ülgen, "Stoichiometric Structure of *Saccharomyces cerevisiae* is Influential in Expression Level Ratios of Metabolic Genes", *11th European Congress on Biotechnology (ECB-11)*, Basel-SWITZERLAND, (August 24-29, 2003)
65. S. Tacer, T. Çakır, K.Ö. Ülgen, "Investigation of Erythrocyte Enzymopathies by Metabolic Pathway Analysis Techniques", *11th European Congress on Biotechnology (ECB-11)*, Basel- SWITZERLAND, (August 24-29, 2003)
66. K.Y. Arga, T. Çakır, P. Pir, N. Özer, M.M. Altintas, K.Ö. Ülgen, "Structured Modeling of Recombinant Yeast Utilizing Starch", *3rd Chemical Engineering Conference for Collaborative Research in Eastern Mediterranean (EMCC-3)*, Thessaloniki- GREECE (May 13-15, 2003)
67. M.M. Altintas, K.Y. Arga, T. Çakır, K.Ö. Ülgen, "Metabolic Flux Analysis of Recombinant Yeast Utilizing Starch", *4th European Symposium on Biochemical Engineering Science (ESBES-4)*, Delft-NETHERLANDS (August 28-31, 2002)
68. M.M. Altintas, K.Y. Arga, T. Çakır, K.Ö. Ülgen, 'Metabolic Flux Distributions in *Saccharomyces cerevisiae* Utilizing Starch', *24th Symposium on Biotechnology for Fuels and Chemicals*, Gatlinburg- TENNESSEE (March 31- April 02, 2002)

National

69. H.B. Lüleci, T. Çakır, 'Asemptomatik Alzheimer hastalarındaki metabolik değişikliklerin transkriptom tabanlı incelenmesi', *21. National Neuroscience Congress*, Bolu - TÜRKİYE (June 8-11, 2023) – *oral presentation*: H.B. Lüleci-
70. E. Düz, F.B. Bozkurt, T. Çakır, 'Protein interactome based analysis of transcriptomic and genomic alterations and subtypes in Alzheimer's disease', *21. National Neuroscience Congress*, Bolu - TÜRKİYE (June 8-11, 2023)
71. E. Abdik, T. Çakır, 'Genom ölçekli metabolik modellerin ve transkriptom verilerinin bütünleşik analizi ile Parkinson hastalığı için yeni biyobelirteçlerin tahmin edilmesi', *21. National Neuroscience Congress*, Bolu - TÜRKİYE (June 8-11, 2023)
72. D. Uzuner, E. Düz, A. İlgün, F.B. Bozkurt, T. Çakır, 'Alzheimer hastalığındaki metabolik değişimlerin transkriptomik ve genomik verilerin bütünleşik analizi ile tespiti', *21. National Neuroscience Congress*, Bolu - TÜRKİYE (June 8-11, 2023) – *oral presentation*: D. Uzuner -
73. R. Odongo, T. Çakır, "Transkriptom ile Alzheimer hastalığında türler arası metabolik değişikliklerin incelenmesi", *21. National Neuroscience Congress*, Bolu - TÜRKİYE (June 8-11, 2023)
74. İ Yüksel, E.N. Yiğit, E. Sönmez, I. Aksan-Kurnaz, T. Çakır, 'Parkinson Hastalığı Hücre Hattı Modelinden elde edilen Transkriptom Verilerinin Protein Etkileşim Ağlarına Haritalanarak Aday İlaçların Belirlenmesi', *VI. Turkish Medical World Congress*, İstanbul-TURKEY (Ocotober 29-31, 2019)
75. M.F. Cesur, T. Çakır, 'Patojenlere Ait Genom Ölçekli Metabolik Ağlardan Hayati Genlerin Tahmini ve İlaç Hedeflerinin Belirlenmesi', *VI. Turkish Medical World Congress*, İstanbul-TURKEY (Ocotober 29-31, 2019)

76. H.B. Konuk, V.R. Varma, A.O. Oommen, M. Thambisetty, T. Çakır, ‘Alzheimer Hastalığında Farklı Beyin Bölgelerindeki Metabolik Tepkime Hızlarının Hesaplamalı Yöntemlerle Tahmini’, *VI. Turkish Medical World Congress*, İstanbul-TURKEY (Ocotober 29-31, 2019)
77. E. Emanetci, T. Çakır, ‘Hafıza ve öğrenme mekanizmalarının belirlenmesinde transkriptom verilerinin moleküler etkileşim ağlarına dayalı analizinin rolü’, *VI. Turkish Medical World Congress*, İstanbul-TURKEY (Ocotober 29-31, 2019)
78. K. Kocabaş, T. Çakır, ‘Genom Ölçekli Patojen-İnsan Bütünleşik Metabolik Ağ Modellemesi Kullanılarak Salmonella enterica Enfeksiyonları İçin İlaç Hedefi Tespiti’, *VI. Turkish Medical World Congress*, İstanbul-TURKEY (Ocotober 29-31, 2019)
79. E. Abdik, T. Çakır, ‘Parkinson Hastalığı için Genom Ölçekli Metabolik Ağ Modellemesi Kullanılarak Biyobelirteç Tahmini’, *VI. Turkish Medical World Congress*, İstanbul-TURKEY (Ocotober 29-31, 2019)
80. E. Emanetci, T. Çakır, ‘Transkriptom verileri kullanılarak bilişsel bozulma ve hafıza zayıflıklarının hücrel ağlara dayalı analizi’, *17. National Neuroscience Congress*, Trabzon – TURKEY (April 4-7, 2019)
81. H.B. Konuk, T. Çakır, ‘Alzheimer hastalığında farklı beyin bölgelerine göre metabolik tepkime hızlarındaki değişikliklerin hesaplamalı tahmini’, *17. National Neuroscience Congress*, Trabzon – TURKEY (April 4-7, 2019)
82. A. Kaynar, I. Aksan-Kurnaz, T. Çakır, ‘Transkriptom verilerinin genom ölçekli metabolik ağlara haritalanması ile Parkinson hastalığı için ilaç hedeflerinin belirlenmesi’, *17. National Neuroscience Congress*, Trabzon – TURKEY (April 4-7, 2019) – oral presentation: A. Kaynar -
83. İ. Yüksel, T. Çakır, ‘Parkinson hastalığında cinsiyetin miRNA ve transkripsiyon faktörlerinin aktivitesine etkisi’, *17. National Neuroscience Congress*, Trabzon – TURKEY (April 4-7, 2019)
84. E. Abdik, T. Çakır, ‘Parkinson hastalığının insan ve fare metabolizmasındaki etkilerinin genom ölçekli ve karşılaştırılmalı incelenmesi’, *17. National Neuroscience Congress*, Trabzon – TURKEY (April 4-7, 2019) – third best poster award-
85. İ. Yüksel, T. Çakır, ‘Parkinson Hastalığı için Protein Etkileşim Ağları Temelli İlaç Hedefi Adaylarının Tespiti’, *16th National Neuroscience Congress*, İstanbul - TURKEY (May 20-23, 2018)
86. A. Kaynar, Işıl Aksan-Kurnaz, T. Çakır, ‘Moleküler kalabalığın Parkinson Hastalığına etkisinin genom-ölçekli metabolik ağ modeli ile analizi’, *16th National Neuroscience Congress*, İstanbul - TURKEY (May 20-23, 2018)
87. İ. Yüksel, T. Çakır, ‘Parkinson Hastalığı için Protein Etkileşim ve Regülasyon Ağları Temelli İlaç Hedefi Adaylarının Tespiti’, *Neurodegeneration / Neuroregeneration Workshop*, İstanbul – TURKEY (May 4-5, 2018)
88. A. Kaynar, Işıl Aksan-Kurnaz, T. Çakır, ‘Parkinson Hastalığında Genom-Ölçekli Metabolik Ağ Modeli İle İlaç Hedefi Belirleme’, *Neurodegeneration / Neuroregeneration Workshop*, İstanbul – TURKEY (May 4-5, 2018) – 2nd best poster award-
89. T. Çakır, “Transkriptom verilerinin biyoinformatik analizi ile Alzheimer ve Parkinson hastalıklarından etkilenen metabolik yolların tespiti”, *15th National Neuroscience Congress*, Sakarya- TURKEY (May 7-10, 2017) – oral presentation: T. Çakır-
90. A. Kaynar, T. Çakır, “Parkinson hastalığında anlamlı değişen genlerin beyin bölgelerine göre karşılaştırılması ve işlevsel analizi”, *15th National Neuroscience Congress*, Sakarya- TURKEY (May 7-10, 2017)
91. İ. Yüksel, M.H. Ramdhani, T. Çakır, “Parkinson hastalığına ait transkriptom ve proteom verilerinin metabolit merkezli haberci yolak analizi yöntemiyle incelenmesi”, *15th National Neuroscience Congress*, Sakarya- TURKEY (May 7-10, 2017)
92. N. S. Karakoç, T. Çakır, K. Ülgen, F. E. Sevilgen, S. Durmuş, ‘Enfeksiyon mekanizmalarının patojen-konak etkileşimleri seviyesinde hesaplamalı sistem biyolojisi yaklaşımı ile incelenmesi’, *14th National Medical Biology and Genetics Kongress*, Fethiye-TURKEY (October 27-30, 2015)
93. E. Özcan, Ebru Toksoy Öner, T. Çakır, ‘Metabolic Network based Analysis of Microbial Communities’, *3rd National Bioengineering Student Congress*, İstanbul-TURKEY (March 12-13, 2015)

94. E. Kırdök, Y. Ö. Çiftçi, T. Çakır, “Elucidation of the Cold Stress Specific Gene Regulatory Network for *Arabidopsis thaliana*”, *Genome Variations: Symposium of Applications and Data Analysis*, İstanbul-TURKEY (September 15-16, 2014)
95. M. Jafar Khatibipour, T. Çakır, ‘Optimizasyon Tabanlı Yeni Bir Metabolik Ağyapı Çıkarımı Tekniği’, *11th National Chemical Engineering Congress (UKMK-11)*, Eskişehir-TURKEY (September 2-5, 2014) – oral presentation: M. Jafar Khatibipour-
96. E. Özcan, T. Çakır, ‘Glioblastoma Tümörlerinin Hücre Metabolizmasına Etkisinin Biyoinformatik Analizi’, *11th National Chemical Engineering Congress (UKMK-11)*, Eskişehir-TURKEY (September 2-5, 2014) – oral presentation: E. Özcan-
97. M. Sertbaş, K.Ö. Ülgen, T. Çakır ‘Nörodejeneratif hastalıkların metabolik yollara etkisinin biyoinformatik analizi’, *12th National Neuroscience Congress (USK-12)*, İstanbul-TURKEY (28-31 Mayıs 2014) – oral presentation: T. Çakır-
98. E. Özcan, T. Çakır, ‘Hesaplamalı Sistem Biyolojisi Yaklaşımları ile Glioblastoma Tümörlerinin Hücre Metabolizmasına Etkisinin İncelenmesi’, *12th National Neuroscience Congress (USK-12)*, İstanbul-TURKEY (28-31 Mayıs 2014)
99. M. Öksüz, H. Sadıkoğlu, T. Çakır, ‘Metabolom Verilerinin Hesaplamalı Analizi ile Metabolik Ağyapı Çıkarımı’, *10th National Chemical Engineering Congress (UKMK-10)*, İstanbul-TURKEY (September 3-6, 2012) – oral presentation: M. Öksüz-
100. F. Tarlak, H. Sadıkoğlu, T. Çakır, ‘Metabolik Akı Analizi Tekniklerini Kullanarak Hücrenin Biyolojik Amacının İncelenmesi’, *10th National Chemical Engineering Congress (UKMK-10)*, İstanbul-TURKEY (September 3-6, 2012) – oral presentation: F. Tarlak-
101. M. Sertbaş, K.Ö. Ülgen, T. Çakır, ‘Nörolojik Hastalıkların Beyin Metabolizmasına Etkisinin Hesaplamalı Sistem Biyolojisi Yaklaşımıyla İncelenmesi’, *10th National Chemical Engineering Congress (UKMK-10)*, İstanbul-TURKEY (September 3-6, 2012)
102. S. Durmuş, T. Çakır, A.S. Sayılıbaş, E. Çelik, S. Özcan, İ. Çevik, A.S. Özçelik, A. Özgür, F.E. Sevilgen, K.Ö. Ülgen, ‘PHISTO: Patojen-İnsan Protein Etkileşimleri Veritabanı’, *10th National Chemical Engineering Congress (UKMK-10)*, İstanbul-TURKEY (September 3-6, 2012) – oral presentation: T. Çakır-
103. S. Durmuş, T. Çakır, K.Ö. Ülgen, ‘Constraint-based stoichiometric modeling of enzymopathies in the human erythrocytes’, *Mediterranean Pharmacy Congress (MEDPHAC-2006)*, Mersin- TURKEY (October 13-16, 2006) -oral presentation by S. Durmuş-
104. T. Çakır, K.R. Patil, Z.İ. Önsan, K.Ö. Ülgen, B. Kırdar, J. Nielsen , ‘Integration of High-throughput Metabolome Data with Metabolic Networks Reveals Perturbation-specific Reporter Reactions’, *13th Istanbul Statistical Physics Days*, İstanbul- TURKEY (July 6-8, 2006) – oral presentation: T. Çakır –
105. S. Durmuş, T. Çakır, K.Ö. Ülgen, ‘Investigation of the effect of enzyme deficiencies on erythrocyte metabolism by flux balance analysis method’, *12th National Biotechnology Congress* , Eskişehir - TURKEY, (August 31- September 2, 2005) -oral presentation by S. Durmuş-
106. K.Y. Arga, T. Çakır, M.M. Altıntaş, K.Ö. Ülgen, ‘Optimization of ethanol production in starch utilizing yeast cells by metabolic flux analysis techniques’, *5th National Chemical Engineering Congress (UKMK-5)*, Ankara- TURKEY (September 2-5, 2002) - oral presentation by T. Çakır-

Courses/Conferences attended without Contribution

- ChemoMetrics Day, Utrecht- NETHERLANDS, March 2008.
- 1st Annual BioSys Conference on Industrial Applications of Bioinformatics and Systems Biology, Copenhagen-DENMARK. November 15, 2005.
- PhD Course on Metabolic Engineering and Functional Genomics, Lyngby-DENMARK. May 22-28, 2004.