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Education Information

Post Doctorate, University of Nebraska-Lincoln, College Of Engineering, Electrical Engineering, United States Of America
2011 - 2013

Doctorate, University of Nebraska-Lincoln, College Of Engineering, Electrical Engineering, United States Of America 2004
- 2011

Undergraduate, Bogazici University, Faculty Of Engineering, Elektrik Elektronik Müh., Turkey 2000 - 2004

Foreign Languages

English, C1 Advanced

Dissertations

Doctorate, COMPUTATIONAL GENOMIC SIGNATURES AND METAGENOMICS, University Of Nebraska-Lincoln, College Of
Engineering, Electrical Engineering, 2011

Research Areas

Technical Sciences, Computer Sciences, bioinformatics, Artificial Intelligence, Computer Learning and Pattern
Recognition, Knowledge Engineering, Computer Learning

Academic Titles / Tasks

Assistant Professor, Erciyes University, Mühendislik Fakültesi, Bilgisayar Mühendisliği, 2018 - Continues

Assistant Professor, Erciyes University, Mühendislik Fakültesi, Bilgisayar Mühendisliği, 2014 - 2018

Assistant Professor, University of Nebraska-Lincoln, College Of Engineering, Electrical Engineering, 2012 - 2013

Research Assistant PhD, University of Nebraska-Lincoln, College Of Engineering, Electrical Engineering, 2011 - 2012

Lecturer, University of Nebraska-Lincoln, College Of Engineering, Electrical Engineering, 2011 - 2011

Research Assistant, University of Nebraska-Lincoln, College Of Engineering, Electrical Engineering, 2005 - 2010

Academic and Administrative Experience

Erciyes University, 2015 - Continues

Advising Theses

NALBANTOĞLU Ö. U., Classification of Genomic Sequences by Latent Semantic Analysis, Postgraduate, S.F.(Student), 2012

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **A Comparative Analysis of Deep Learning-Based Approaches for Classifying Dental Implants Decision Support System**
Lubbad M. A. H., LEBLEBİCİOĞLU KURTULUŞ İ., KARABOĞA D., KILIÇ K., BAŞTÜRK A., AKAY B., NALBANTOĞLU Ö. U., Yilmaz O. M. D., AYATA M., YILMAZ S., et al.
JOURNAL OF IMAGING INFORMATICS IN MEDICINE, 2024 (SCI-Expanded)
- II. **A self-supervised learning model based on variational autoencoder for limited-sample mammogram classification**
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Applied Intelligence, vol.54, no.4, pp.3448-3463, 2024 (SCI-Expanded)
- III. **A robust deep learning model for the classification of dental implant brands**
LEBLEBİCİOĞLU KURTULUŞ İ., Lubbad M., Yilmaz O. M. D., KILIÇ K., KARABOĞA D., BAŞTÜRK A., AKAY B., Nalbantoglu U., Yilmaz S., Ayata M., et al.
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- IV. **Metaproteogenomic analysis of saliva samples from Parkinson's disease patients with cognitive impairment**
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npj Biofilms and Microbiomes, vol.9, no.1, 2023 (SCI-Expanded)
- V. **A comparative study of YOLO models and a transformer-based YOLOv5 model for mass detection in mammograms**
COŞKUN D., KARABOĞA D., BAŞTÜRK A., AKAY B., NALBANTOĞLU Ö. U., DOĞAN S., Paçal İ., KARAGÖZ M. A.
Turkish Journal of Electrical Engineering and Computer Sciences, vol.31, no.7, pp.1294-1313, 2023 (SCI-Expanded)
- VI. **The role of the Mediterranean diet in modulating the gut microbiome: A review of current evidence**
GÜNDÖĞDU A., NALBANTOĞLU Ö. U.
Nutrition, vol.114, 2023 (SCI-Expanded)
- VII. **Robust real-time polyp detection system design based on YOLO algorithms by optimizing activation functions and hyper-parameters with artificial bee colony (ABC)**
Karaman A., Pacal I., BAŞTÜRK A., AKAY B., Nalbantoglu U., Coskun S., ŞAHİN Ö., KARABOĞA D.
EXPERT SYSTEMS WITH APPLICATIONS, vol.221, 2023 (SCI-Expanded)
- VIII. **Potential associations between alterations in gut microbiome and obesity-related traits after the bariatric surgery**
ÖZDEMİR A., Yozgat A., Isgin-Atıcı K., Avci E., Yildiz B. D., GÜNDÖĞDU A., NALBANTOĞLU Ö. U., Turhan T., Dogruman-Al F., BÜYÜKTUNCER DEMİREL Z.
JOURNAL OF HUMAN NUTRITION AND DIETETICS, vol.36, no.3, pp.981-996, 2023 (SCI-Expanded)
- IX. **Hyper-parameter optimization of deep learning architectures using artificial bee colony (ABC) algorithm for high performance real-time automatic colorectal cancer (CRC) polyp detection**
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- X. **Culture-independent assessment of probiotic supplement consistency in commercially available probiotic supplements**
GÜNDÖĞDU A., NALBANTOĞLU Ö. U., Sarikaya I., Karis G., Erdogan M. N., Hora M., Tunali V.

- Food Bioscience, vol.53, 2023 (SCI-Expanded)
- XI. An unsupervised transfer learning model based on convolutional auto encoder for non-alcoholic steatohepatitis activity scoring and fibrosis staging of liver histopathological images
KARAGÖZ M. A., AKAY B., BAŞTÜRK A., KARABOĞA D., NALBANTOĞLU Ö. U.
Neural Computing and Applications, vol.35, no.14, pp.10605-10619, 2023 (SCI-Expanded)
- XII. Efficacy of AI-Assisted Personalized Microbiome Modulation by Diet in Functional Constipation: A Randomized Controlled Trial
Arslan N. Ç., GÜNDÖĞDU A., Tunali V., Topgül O. H., Beyazgül D., NALBANTOĞLU Ö. U.
Journal of Clinical Medicine, vol.11, no.22, 2022 (SCI-Expanded)
- XIII. Artificial intelligence-based personalized diet: A pilot clinical study for irritable bowel syndrome
Karakan T., Gündoğdu A., Alagözlü H., Ekmen N., Özgül S., Tunali V., Hora M., Beyazgül D., Nalbantoğlu Ö. U.
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- XIV. Acromegaly is associated with a distinct oral and gut microbiota
Sahin S., GÜNDÖĞDU A., NALBANTOĞLU Ö. U., KADIOĞLU P., ÖZDAMAR KARACA Z. C., HACIOĞLU A., URHAN M. E., ÜNLÜHİZARCI K., DEMİR A. N., Hora M., et al.
PITUITARY, vol.25, no.3, pp.520-530, 2022 (SCI-Expanded)
- XV. Inflammatory bowel disease biomarkers of human gut microbiota selected via different feature selection methods
Bakir-Gungor B., Lar H. H., Jabeer A., NALBANTOĞLU Ö. U., Aran O., Yousef M.
PEERJ, vol.10, 2022 (SCI-Expanded)
- XVI. A new lightweight convolutional neural network for radiation-induced liver disease classification
Alici-Karaca D., Akay B., Yay A. H., Suna P., Nalbantoğlu Ö. U., Karaboğa D., Baştürk A., Balcioğlu E., Baran M.
BIOMEDICAL SIGNAL PROCESSING AND CONTROL, vol.73, 2022 (SCI-Expanded)
- XVII. An efficient real-time colonic polyp detection with YOLO algorithms trained by using negative samples and large datasets
Pacal I., Karaman A., KARABOĞA D., AKAY B., BAŞTÜRK A., Nalbantoglu U., Coskun S.
COMPUTERS IN BIOLOGY AND MEDICINE, vol.141, 2022 (SCI-Expanded)
- XVIII. Novel alterations of CC2D1A as a candidate gene in a Turkish sample of patients with autism spectrum disorder
ŞENER E. F., ÖNAL M. G., Dal F., Nalbantoglu U., ÖZKUL Y., CANATAN H., Oztop D. B.
INTERNATIONAL JOURNAL OF NEUROSCIENCE, vol.132, no.11, pp.1072-1079, 2022 (SCI-Expanded)
- XIX. Stratification of the Gut Microbiota Composition Landscape across the Alzheimer's Disease Continuum in a Turkish Cohort
YILDIRIM S., NALBANTOĞLU Ö. U., Bayraktar A., Ercan F. B., GÜNDÖĞDU A., Velioglu H. A., GÖL M. F., Soylu A. E., Koc F., Gulpinar E. A., et al.
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- XX. Temporal overexpression of IL-22 and Reg3 gamma differentially impacts the severity of experimental autoimmune encephalomyelitis
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- XXI. Gut microbiota in patients with newly diagnosed acromegaly: a pilot cross-sectional study
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- XXII. Discovering Potential Taxonomic Biomarkers of Type 2 Diabetes From Human Gut Microbiota via Different Feature Selection Methods
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- XXIII. MicroRNA profiling identifies Forkhead box transcription factor M1 (FOXM1) regulated miR-186 and miR-200b alterations in triple negative breast cancer

- Hamurcu Z., Sener E. F., Taheri S., Nalbantoglu U., Kokcu N. D., Tahtasakal R., Cinar V., Guler A., Ozkul Y., Dönmez-Altuntas H., et al.
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- XXIV. **Taxonomic classification of metagenomic sequences from Relative Abundance Index profiles using deep learning**
 KARAGÖZ M. A., NALBANTOĞLU Ö. U.
 Biomedical Signal Processing and Control, vol.67, 2021 (SCI-Expanded)
- XXV. **Arsenic and selenium measurements in nail and hair show important relationships to Alzheimer's disease in the elderly**
 KÖSEOĞLU E., KÜTÜK B., NALBANTOĞLU Ö. U., KÖSEOĞLU R., KENDİRCİ M.
 JOURNAL OF TRACE ELEMENTS IN MEDICINE AND BIOLOGY, vol.64, 2021 (SCI-Expanded)
- XXVI. **Potential associations between alterations in gut microbiome and obesity-related traits after the bariatric surgery**
 Özdemir A., Yozgat A., İşgin Atıcı K., Avcı E., Yıldız B. D., Gündoğdu A., Nalbantoğlu Ö. U., Turhan T., Büyüktuncer Demirel Z.
 Proceedings Of The Nutrition Society, vol.80, pp.29-30, 2021 (SCI-Expanded)
- XXVII. **Information Theoretic Metagenome Assembly Allows the Discovery of Disease Biomarkers in Human Microbiome**
 NALBANTOĞLU Ö. U.
 ENTROPY, vol.23, no.2, 2021 (SCI-Expanded)
- XXVIII. **A comprehensive review of deep learning in colon cancer**
 Pacal I., KARABOĞA D., BAŞTÜRK A., AKAY B., Nalbantoglu U.
 COMPUTERS IN BIOLOGY AND MEDICINE, vol.126, 2020 (SCI-Expanded)
- XXIX. **COVID-19 Pandemic: Group Testing**
 Nalbantoglu Ö. U., Gündoğdu A.
 FRONTIERS IN MEDICINE, vol.7, 2020 (SCI-Expanded)
- XXX. **Group testing performance evaluation for SARS-CoV-2 massive scale screening and testing**
 NALBANTOĞLU Ö. U.
 BMC MEDICAL RESEARCH METHODOLOGY, vol.20, no.1, 2020 (SCI-Expanded)
- XXXI. **FOXM1 plays a role in autophagy by transcriptionally regulating Beclin-1 and LC3 genes in human triple-negative breast cancer cells**
 Hamurcu Z., Delibaşı N., Nalbantoglu U., Şener E. F., Nurdinov N., Taşçı B., Taheri S., Özkul Y., Dönmez-Altuntas H., Canatan H., et al.
 JOURNAL OF MOLECULAR MEDICINE-JMM, vol.97, no.4, pp.491-508, 2019 (SCI-Expanded)
- XXXII. **The first report of mobile colistin resistance gene (mcr-1) carrying Escherichia coli in Turkey**
 KUREKCI C., AYDIN M., NALBANTOĞLU Ö. U., GÜNDÖĞDU A.
 JOURNAL OF GLOBAL ANTIMICROBIAL RESISTANCE, vol.16, 2018 (SCI-Expanded)
- XXXIII. **Human genome-microbiome interaction: metagenomics frontiers for the aetiopathology of autoimmune diseases**
 GÜNDÖĞDU A., Nalbantoglu U.
 MICROBIAL GENOMICS, vol.3, no.4, 2017 (SCI-Expanded)
- XXXIV. **Reclassification of Wolbachia persica as Francisella persica comb. nov and emended description of the family Francisellaceae**
 LARSON M. A., Nalbantoglu U., Sayood K., ZENTZ E. B., CER R. Z., Iwen P. C., Francesconi S. C., BISHOP-LILLY K. A., MOKASHI V. P., Sjostedt A., et al.
 INTERNATIONAL JOURNAL OF SYSTEMATIC AND EVOLUTIONARY MICROBIOLOGY, vol.66, pp.1200-1205, 2016 (SCI-Expanded)
- XXXV. **Francisella tularensis Subtype A.II Genomic Plasticity in Comparison with Subtype A.I**
 LARSON M. A., Nalbantoglu U., Sayood K., ZENTZ E. B., BARTLING A. M., Francesconi S. C., Fey P. D., Dempsey M. P., Hinrichs S. H.
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- XXXVI. **Metagenomic analysis of the microbial community in kefir grains**
 Nalbantoglu U., Cakar A., Dogan H., Abaci N., Ustek D., Sayood K., Can H.
FOOD MICROBIOLOGY, vol.41, pp.42-51, 2014 (SCI-Expanded)
- XXXVII. **RAlphy: Phylogenetic classification of metagenomics samples using iterative refinement of relative abundance index profiles**
 Nalbantoglu O. U., Way S. F., Hinrichs S. H., Sayood K.
BMC BIOINFORMATICS, vol.12, 2011 (SCI-Expanded)
- XXXVIII. **Large Direct Repeats Flank Genomic Rearrangements between a New Clinical Isolate of *Francisella tularensis* subsp *tularensis* A1 and Schu S4**
 Nalbantoglu U., Sayood K., Dempsey M. P., Iwen P. C., Francesconi S. C., Barabote R. D., Xie G., Brettin T. S., Hinrichs S. H., Fey P. D.
PLOS ONE, vol.5, no.2, 2010 (SCI-Expanded)
- XXXIX. **Data Compression Concepts and Algorithms and Their Applications to Bioinformatics**
 Nalbantoglu O. U., Russell D. J., Sayood K.
ENTROPY, vol.12, no.1, pp.34-52, 2010 (SCI-Expanded)

Articles Published in Other Journals

- I. **Metagenomic Profiling of Human Protozoan Parasites in Wastewater and Hospital Effluents**
 Gündoğu A., Charyyeva A., Nalbantoğlu Ö. U.
Journal of clinical practice and research, vol.45, no.5, pp.435-446, 2023 (Peer-Reviewed Journal)
- II. **Humans as a source of colistin resistance: In silico analysis of public metagenomes for the mcr-1 gene in the gut microbiome**
 GÜNDÖĞDU A., NALBANTOĞLU Ö. U.
Erciyes Tip Dergisi, vol.38, no.2, pp.59-61, 2016 (ESCI)

Books & Book Chapters

- I. **Mikrobiyota, Probiyotikler ve Akılçıl Beslenme**
 NALBANTOĞLU Ö. U., GÜNDÖĞDU A.
 in: Mikrobiyota, Probiyotikler ve Akılçıl Beslenme, Mikrobiyota, Probiyotikler ve Akılçıl Beslenme, Editor, Nobel Akademik Yayıncılık, pp.93-190, 2020
- II. **Data Compression**
 NALBANTOĞLU Ö. U., Sayood K.
 in: Computing Handbook, Third Edition: Computer Science and Software Engineering, Teofilo Gonzales, Jorge Diaz-Herrera, Allen Tucker, Editor, Chapman And Hall/Crc, Boca Raton, pp.48-1, 2014
- III. **Dynamic programming**
 NALBANTOĞLU Ö. U.
 in: Multiple Sequence Alignment Methods, David J. Russell, Editor, Springer, London/Berlin , New York, pp.3-27, 2013
- IV. **Computational Genomic Signatures**
 NALBANTOĞLU Ö. U., Sayood K.
 Morgan & Claypool Publishers, N/A, 2011

Refereed Congress / Symposium Publications in Proceedings

- I. **An Improved Crow Search Algorithm with Grey Wolf Optimizer for High-Dimensional Optimization Problems**

- Abudayor A., NALBANTOĞLU Ö. U.
3rd International Conference on Soft Computing and its Engineering Applications, icSoftComp 2021, Anand, India,
10 - 11 December 2021, vol.1572 CCIS, pp.51-64
- II. **Identifying Taxonomic Biomarkers of Colorectal Cancer in Human Intestinal Microbiota Using Multiple Feature Selection Methods**
Jabeer A., KOÇAK A., AKKAŞ H., Yenisert F., NALBANTOĞLU Ö. U., Yousef M., Bakir Gungor B.
2022 Innovations in Intelligent Systems and Applications Conference, ASYU 2022, Antalya, Turkey, 7 - 09 September 2022
- III. **Developing A Deep Learning Network For Recognition of Dental Implant Systems**
Leblebicioğlu Kurtuluş İ., Karaboğa D., Akay B., Baştürk A., Durmaz Yılmaz Ö. M., Kılıç K., Nalbantoğlu Ö. U., Yılmaz S.
25th Scientific Congress of Turkish Prosthodontics and Implantology Association, Muğla, Turkey, 4 - 07 November 2021
- IV. **In silico discovery of antibiotic resistance patterns and artificial intelligence-based decision support systems for rational drug use**
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- V. **De novo mutations in lipopolysaccharide biosynthesis pathways reveal the colistin resistance mechanism in Acinetobacter baumannii strains**
ULU KILIÇ A., GÜNDÖĞDU A., NALBANTOĞLU Ö. U., ASLAN E.
29th ECCMID, 13 - 17 April 2019
- VI. **Atypical pathobiome of prosthetic joint infections revealed by hybrid approaches of shotgun metagenomics**
ULU KILIÇ A., GÜNDÖĞDU A., NALBANTOĞLU Ö. U., KAFADAR İ. H., GÜNEY A., KILIÇ H., ALP MEŞE E.
29th ECCMID, 13 - 16 April 2019
- VII. **Patojenlerin Hızlı Tespitinde Gerçek Zamanlı Nanopor Dizileme Teknolojisinin Kullanımı**
GÜNDÖĞDU A., ULU KILIÇ A., TÜRE YÜCE Z., KILIÇ H., NALBANTOĞLU Ö. U.
7. TÜRKİYE EKMUD BİLİMSEL PLATFORMU, Antalya, Turkey, 03 April 2019
- VIII. **Machine Learning Analysis of Inflammatory Bowel Disease-Associated Metagenomics Dataset**
Hacılar H., NALBANTOĞLU Ö. U., GÜNGÖR B.
2018 3rd International Conference on Computer Science and Engineering (UBMK), 20 - 23 September 2018
- IX. **Comparison of Gut Microbiota in Patients of Mild-Cognitive Impairment and Alzheimer's Disease with Age and Sex Matched Normal Controls: A Multicenter Study.**
NALBANTOĞLU Ö. U., Sezgin B., GÜNDÖĞDU A., Koç F., GÖL M. F., Hanoğlu L., KÖSEOĞLU E., Yıldırım S.
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- X. **Gündoğdu A., Kilic H., Ulu Kilic A. , Gündoğan K., Aslan E. , Ufuk N., "Limited sensitivity and enrichment bias of culture-based pathogen detection in intensive care unit environment revealed by metagenomic sequence", ESCMID Madrid, Spain 21-24 April 2018, Madrid, SPAIN, 21-24 Nisan 2018, vol.28th, no.28th, pp.116-116 (Link)**
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.28th ESCMID 2018, Madrid, Spain, 21 - 24 April 2018
- XI. **Potential microbial biomarkers of lung cancer**
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- XII. **Potential microbial biomarkers of lung cancer .**
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- XIII. **Persistence of Microbial Communities in the Hospital Environment**
Aslan-Gürpinar E., NALBANTOĞLU Ö. U., KILIÇ H., ULU KILIÇ A., GÜNDÖĞAN K., GÜNDÖĞDU A.
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- XIV. **Towards Microbiome-Based Liquid Biopsy: Oral Microbiota Harbors Highly Accurate Biomarkers of**

- Lung Cancer**
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- XV. **Gut Microbiota Dysbiosis in Substance Use Disorders and Its Partial Recovery by Detoxification Treatment is Revealed by 16S rRNA Gene Deep Sequencing**
Kargin M., Celebi E., NALBANTOĞLU Ö. U., GÜNDÖĞDU A.
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- XVI. **Should Bacterial Etiologies Be Considered in Aseptic Loosening?**
GÜNDÖĞDU A., NALBANTOĞLU Ö. U., ULU KILIÇ A., KAFADAR I. H., GÜNEY A., KILIÇ H.
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- XVII. **Accurate Classification and Biomarker Discovery in Disease Microbiome Using a Novel De Novo Bioinformatics Approach**
NALBANTOĞLU Ö. U., Yalçın K., GÜNDÖĞDU A.
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- XVIII. **Microbiome Network Analysis Reveals Highly Symbiotic Interaction of Core Metabolic Pathways**
Taylan B., GÜNDÖĞDU A., NALBANTOĞLU Ö. U.
2nd International Human Microbiota: In health and diseases congress, Antalya, Turkey, 18 - 22 April 2018, pp.95
- XIX. **General Compositional Trends in Human Gut Microbiome: Diverse Phylogenetic Profiles Converge in Function According to Latent Structure Analysis**
Elgun U. G., GÜNDÖĞDU A., NALBANTOĞLU Ö. U.
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- XX. **Whole-genome sequencing reveals recently acquired virulence islands in Ralstonia mannitolilytica isolated from high-risk patients**
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- XXI. **Comparison of antimicrobial resistance-gene diversity in gut microbiome of healthy individuals from Turkey, Europe, America and China**
GÜNDÖĞDU A., Yalçın K., ULU KILIÇ A., Saka S., NALBANTOĞLU Ö. U.
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- XXII. **Mobil Kolistin Direncinin Türkiye Rezistom Ekosistemindeki İlk Sinyalleri: Besin Kaynaklı *E. coli* Suşlarında mcr-1 Geninin Tespiti**
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13. Antimikrobik Kemoterapi Günleri, İstanbul, Turkey, 6 - 08 April 2018, pp.88
- XXIII. **Oral mikrobiyomdan potansiyel karaciğer kanseri biyobelirteçlerinin Keşfi**
Yalçın K., GÜNDÖĞDU A., NALBANTOĞLU Ö. U.
3. Yaşam Bilimleri Kongresi, Kayseri, Turkey, 24 - 25 February 2018, pp.1
- XXIV. **Parkinson Hastalığında Bağırsak Mikrobiyomu Değişikliklerinin in silico incelenmesi**
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3. Yaşam Bilimleri Kongresi, Kayseri, Turkey, 23 - 24 February 2018, pp.1
- XXV. **Nanogözenek DNA dizilemede kullanılan baz çağrıma yazılımlarının performans analizi**
Saka S., Hora M., Yalçın K., GÜNDÖĞDU A., NALBANTOĞLU Ö. U.
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- XXVI. **Metagenomik Analizler Üzerinden Sağlıklı İnsan Bağırsağındaki Rezistom Çeşitliliğinin Ortaya Çıkarılması**
GÜNDÖĞDU A., NALBANTOĞLU Ö. U., YALÇIN K.
4. Ulusal Klinik Mikrobiyoloji Kongresi, Turkey, 8 - 12 November 2017
- XXVII. **Kültür Bağımlı ve Kültür Bağımsız Yöntemler ile Yoğun Bakım Ünitesi Çevresel Flora Analizi**
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