

Assoc. Prof. İlker POLATOĞLU

Education Information

PhD
2012
İYTE
Chemical Engineering

Master
2005
İYTE
Chemical Engineering

Bachelor's
2000
Yüzüncü Yıl University
Food Engineering

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MANİSA CELAL BAYAR BİYOMÜHENDİSLİK

Research Topics

- Electrochemical and optical biosensors
- Nanomaterial-based sensor platforms
- Rapid diagnostic kits
- Experimental design and optimization
- Medical, food and environmental analysis with biosensors

Collaborations

- Ankara Üniversitesi Eczacılık Fakültesi
- İKÇÜ Makine Mühendisliği
- İKÇÜ Biyomedikal Mühendisliği
- MCBU Malzeme Mühendisliği

Company BIOSENS ID

Publications

1. **Polatoglu İ**, Öncü Öner T, Dalman İ, Özdoğan S. The current progress in COVID-19 infection: structure, replication mechanism, variants of SARS-CoV-2, diagnostic tests, vaccine and drug development studies. MedComm. 2023;4:e228. https://doi.org/10.1002/mco2.228
2. Ceylan AB, Aydin L, Mamur H, Nil M, **Polatoğlu İ**, Sözen H. A new hybrid approach in selection of optimum establishment location of the biogas energy production plant. Biomass Conversion and Biorefinery. 2023:13:5771–5786. https://doi.org/10.1007/s13399-021-01532-8
3. Coban S, **Polatoglu İ**, Eroglu E. Methyl cellulose/okra mucilage composite films, functionalized with *Hypericum perforatum* oil and Gentamicin, as a potential wound dressing. International Journal of Biological Macromolecules. 2024;254:12775 https://doi.org/10.1016/j.ijbiomac.2023.127757

You can access the other publication from here.

Project Experience

1. Development and Production of Glu-COV ID Test Kit for COVID-19 Diagnosis (TÜBİTAK 1512, 2021-2023, Manager)
2. Development of DNA-Inorganic Hybrid Based Nanomaterials as a Signaling Platform for Detection of Nucleotide Sequences with Personal Glucose Meter (TÜBİTAK 1001, 2020-2023, Manager)
3. Development of an Innovative Ov-GnRH mRNA Vaccine for Immunocastration and the Effect of Co-transfer with Chitosan Hydrogel on Immunogenicity, (TÜBİTAK 1001, 2022-present, Researcher)
4. You can access the other projects from here.

Analysis and Tests

- ✓ **Enzyme activity test**
  Kinetic analysis in UV spectrophotometer
- ✓ **Electrochemical analysis**
  Cyclic voltammeter, linear sweep voltammeter, chronoamperometer, differential pulse voltammeter, impidimeter
- ✓ **CNC machining**
  Cutting and engraving of Plexiglas, wood and soft metal plates in the desired shape
- ✓ **3D printer**
  Production of desired parts from ABS and PLA materials