

# ÖZAL MUTLU

## ASSOC. PROF.

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### International Researcher IDs

ScholarID: wkjEJMkAAAAJ

ORCID: 0000-0003-4551-5780

Publons / Web Of Science ResearcherID: L-3930-2013

ScopusID: 55363017300

Yoksis Researcher ID: 172668

### Learning Knowledge

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Doctorate 2009 - 2015	Marmara University, Institute for Graduate Studies in Pure and Applied Sciences, Biyoloji (Dr), Turkey
Postgraduate 2007 - 2009	Yildiz Technical University, Graduate School Of Natural And Applied Sciences, Biyomühendislik (Dr), Turkey
Undergraduate 2002 - 2007	Bolu Abant İzzet Baysal University, Faculty Of Arts And Sciences, Turkey

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### Foreign Languages

English, C2 Mastery

### Academic Titles / Tasks

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Associate Professor 2021 - Continues	Marmara University, Faculty of Arts and Sciences, Biology
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### Supported Projects

- Balık D., Daniş Ö., Mutlu Ö., Yakarsönmez S., Yüce Dursun B., Topuzoğulları M., Akbulut E., Sarıyer E., TAGEM Tarımsal Araştırmalar ve Politikalar Genel Müdürlüğü Projesi, Theileriosis in Tedavisinde Kullanılabilecek Yeni Bir İlaç Adayı Tespit Etmek İçin Kumarin Türevlerinin Theileria Annulata nın Enolaz Enzimini İnhibisyon Potansiyelinin Araştırılması, 2014 - 2016

### Published journal articles indexed by SCI, SSCI, and AHCI

- Exploring novel inhibitors for Babesia bigemina lactate dehydrogenase: a computational structural biology perspective**  
Bostancıoğlu S. M., Mutlu Ö.  
PARASITOLOGY RESEARCH, vol.124, pp.1-16, 2025 (SCI-Expanded)

2. **Identification of novel compounds against *Acinetobacter baumannii* 3-oxoacyl-[acyl-carrier-protein] synthase I (FabB) via comprehensive structure-based computational approaches.**  
Albayrak E., Koçer S., Mutlu Ö.  
Journal of molecular graphics & modelling, vol.124, pp.108565, 2023 (SCI-Expanded)
3. **Heterologous expression, purification, and partial characterisation of the apicoplast protein 3-oxoacyl-[acyl-carrier-protein] reductase from *Toxoplasma gondii***  
Aygün C., Kocer S., DANIŞ Ö., ÇUBUK S., MUTLU Ö.  
Protein Expression and Purification, vol.202, 2023 (SCI-Expanded)
4. **Heterologous expression, biochemical characterisation and computational analysis of *Bacteroides fragilis* enolase**  
Ugurel E., Kocer S., Sariyer E., MUTLU Ö., Inci T. G., Ugurel O. M., Turgut-Balik D.  
Computational Biology and Chemistry, vol.98, 2022 (SCI-Expanded)
5. **Computational characterisation of *Toxoplasma gondii* FabG (3-oxoacyl-[acyl-carrier-protein] reductase): a combined virtual screening and all-atom molecular dynamics simulation study**  
Aygün C., MUTLU Ö.  
JOURNAL OF BIOMOLECULAR STRUCTURE & DYNAMICS, vol.40, no.5, pp.1952-1969, 2022 (SCI-Expanded)
6. **Targeting SARS-CoV-2 Nsp12/Nsp8 interaction interface with approved and investigational drugs: an in silico structure-based approach**  
Mutlu Ö., Ugurel O., Sariyer E., Ata O., Inci T., Ugurel E., Kocer S., Turgut-Balik D.  
JOURNAL OF BIOMOLECULAR STRUCTURE & DYNAMICS, vol.40, no.2, pp.918-930, 2022 (SCI-Expanded)
7. **Identification of potential inhibitors of *Trichomonas vaginalis* iron-containing superoxide dismutase by computer-aided drug design approach**  
Kocer S., MUTLU Ö.  
STRUCTURAL CHEMISTRY, vol.32, pp.1873-1882, 2021 (SCI-Expanded)
8. **Identification of benzamide inhibitors of histone deacetylase 1 from *Babesia* and *Theileria* species via high-throughput virtual screening and molecular dynamics simulations**  
Gurboga M., Kugu G., Kamberaj H., MUTLU Ö.  
PARASITOLOGY RESEARCH, vol.120, pp.2175-2187, 2021 (SCI-Expanded)
9. **Hit identification against peptidyl-prolyl isomerase of *Theileria annulata* by combined virtual high-throughput screening and molecular dynamics simulation approach**  
Spahi S., MUTLU Ö., Sariyer E., Kocer S., Ugurel E., Turgut-Balik D.  
Computational Biology and Chemistry, vol.89, 2020 (SCI-Expanded)
10. **Discovery and evaluation of inhibitory activity and mechanism of arylcoumarin derivatives on *Theileria annulata* enolase by in vitro and molecular docking studies**  
Yakarsonmez S., Daniş Ö., Mutlu Ö., Topuzoğulları M., Sariyer E., Yuce-Dursun B., Turgut-Balik D.  
MOLECULAR DIVERSITY, vol.24, no.4, pp.1149-1164, 2020 (SCI-Expanded)
11. **Evaluation of the potency of FDA-approved drugs on wild type and mutant SARS-CoV-2 helicase (Nsp13)**  
Ugurel O., Mutlu Ö., Sariyer E., Kocer S., Ugurel E., Inci T., Ata O., Turgut-Balik D.  
INTERNATIONAL JOURNAL OF BIOLOGICAL MACROMOLECULES, vol.163, pp.1687-1696, 2020 (SCI-Expanded)
12. **Preparation and antimicrobial properties of LL-37 peptide immobilized lignin/caprolactone polymer film**  
OGAN A., Yuce-Dursun B., Abdullah D., Beyler-Cigil A., KAHRAMAN M. V., ÇAĞLAYAN P., BİRBİR M., MUTLU Ö., GÜLSOY N.  
POLYMERS FOR ADVANCED TECHNOLOGIES, vol.31, no.10, pp.2222-2228, 2020 (SCI-Expanded)
13. **Assessment of mitogen-activated protein kinases as therapeutic targets for the treatment of babesiosis and theileriosis**  
MUTLU Ö.  
TURKISH JOURNAL OF VETERINARY & ANIMAL SCIENCES, vol.44, no.3, pp.702-713, 2020 (SCI-Expanded)
14. **Experimentation and analysis of powder injection molded Ti10Nb10Zr alloy: a promising candidate for electrochemical and biomedical application**

- Yemisci I, MUTLU Ö., GÜLSOY N., Kunal K., Atre S., GÜLSOY H. Ö.  
JOURNAL OF MATERIALS RESEARCH AND TECHNOLOGY-JMR&T, vol.8, no.6, pp.5233-5245, 2019 (SCI-Expanded)
15. **Novel hydroxyapatite/graphene oxide/collagen bioactive composite coating on Ti16Nb alloys by electrodeposition**  
Yilmaz E., Cakiroglu B., Gokce A., Findik F., GÜLSOY H. Ö., GÜLSOY N., MUTLU Ö., Ozacar M.  
MATERIALS SCIENCE & ENGINEERING C-MATERIALS FOR BIOLOGICAL APPLICATIONS, vol.101, pp.292-305, 2019 (SCI-Expanded)
16. **Functional analyses of dipeptide and pentapeptide insertions on Theileria annulata enolase by site-directed mutagenesis and in silico approaches**  
Yakarsonmez S., Cengiz E. C., MUTLU Ö., Turgut-Balik D.  
BIOCHIMICA ET BIOPHYSICA ACTA-PROTEINS AND PROTEOMICS, vol.1867, pp.732-739, 2019 (SCI-Expanded)
17. **Inhibitory effects of arylcoumarin derivatives on Bacteroides fragilis D-lactate dehydrogenase**  
Ugurel E., Daniş Ö., Mutlu Ö., Yuce-Dursun B., Gunduz C., Turgut-Balik D.  
INTERNATIONAL JOURNAL OF BIOLOGICAL MACROMOLECULES, vol.127, pp.197-203, 2019 (SCI-Expanded)
18. **Computational insight into the phthalocyanine-DNA binding via docking and molecular dynamics simulations**  
Ozalp L., Erdem S. S., Yuce-Dursun B., MUTLU Ö., Ozbil M.  
COMPUTATIONAL BIOLOGY AND CHEMISTRY, vol.77, pp.87-96, 2018 (SCI-Expanded)
19. **Introduction of novel thermostable alpha-amylases from genus Anoxybacillus and proposing to group the Bacillaceae related alpha-amylases under five individual GH13 subfamilies**  
CİHAN A. Ç., Yildiz E. D., Sahin E., MUTLU Ö.  
WORLD JOURNAL OF MICROBIOLOGY & BIOTECHNOLOGY, vol.34, no.7, 2018 (SCI-Expanded)
20. **Functional and structural characterization of the pentapeptide insertion of Theileria annulata lactate dehydrogenase by site-directed mutagenesis, comparative modeling and molecular dynamics simulations**  
ERDEMİR ÜSTÜNDAĞ A., MUTLU Ö.  
JOURNAL OF MOLECULAR GRAPHICS & MODELLING, vol.74, pp.344-351, 2017 (SCI-Expanded)
21. **Comprehensive structural analysis of the open and closed conformations of Theileria annulata enolase by molecular modelling and docking**  
MUTLU Ö., Yakarsonmez S., Sariyer E., DANIŞ Ö., Yuce-Dursun B., Topuzogullari M., AKBULUT E., Turgut-Balik D.  
COMPUTATIONAL BIOLOGY AND CHEMISTRY, vol.64, pp.134-144, 2016 (SCI-Expanded)
22. **Biochemical and in silico Characterization of Recombinant L-Lactate Dehydrogenase of Theileria annulata**  
Nural B., ERDEMİR ÜSTÜNDAĞ A., MUTLU Ö., Yakarsonmez S., DANIŞ Ö., TOPUZOĞULLARI M., Turgut-Balik D.  
MOLECULAR BIOTECHNOLOGY, vol.58, no.4, pp.256-267, 2016 (SCI-Expanded)
23. **Effect of Zr, Nb and Ti addition on injection molded 316L stainless steel for bio-applications: Mechanical, electrochemical and biocompatibility properties**  
Gülsoy H. Ö., Pazarlioglu S. S., Gülsoy N., Gundede B., Mutlu Ö.  
JOURNAL OF THE MECHANICAL BEHAVIOR OF BIOMEDICAL MATERIALS, vol.51, pp.215-224, 2015 (SCI-Expanded)
24. **GENOTOXIC EFFECTS OF BORIC ACID AND BORAX IN ZEBRAFISH, DANIO RERIO USING ALKALINE COMET ASSAY**  
GÜLSOY N., Yavas C., MUTLU Ö.  
EXCLI JOURNAL, vol.14, pp.890-899, 2015 (SCI-Expanded)
25. **In Silico Molecular Modeling and Docking Studies on the Leishmanial Tryparedoxin Peroxidase**  
Mutlu O.  
BRAZILIAN ARCHIVES OF BIOLOGY AND TECHNOLOGY, vol.57, no.2, pp.244-252, 2014 (SCI-Expanded)
26. **Single Mutation in Shine-Dalgarno-Like Sequence Present in the Amino Terminal of Lactate Dehydrogenase of Plasmodium Effects the Production of an Eukaryotic Protein Expressed in a Prokaryotic System**  
ÇİÇEK M., MUTLU Ö., ERDEMİR ÜSTÜNDAĞ A., Ozkan E., Saricay Y., Turgut-Balik D.

- MOLECULAR BIOTECHNOLOGY, vol.54, no.2, pp.602-608, 2013 (SCI-Expanded)
27. **Molecular modeling, structural analysis and identification of ligand binding sites of trypanothione reductase from *Leishmania mexicana***  
Mutlu O.  
JOURNAL OF VECTOR BORNE DISEASES, vol.50, no.1, pp.38-44, 2013 (SCI-Expanded)
28. **Kinetic Analysis of the Amino Terminal End of Active Site Loop of Lactate Deyhydrogenase from *Plasmodium Vivax***  
MUTLU Ö., Turgut-Balik D.  
BALKAN MEDICAL JOURNAL, vol.29, no.4, pp.364-369, 2012 (SCI-Expanded)

### Articles Published in Other Journals

1. **The role of PCD in sexual dimorphism of dioecious *Spinacia oleracea* L.**  
Aytürk Ö., mutlu o., Karadeniz A.  
Journal of advanced research in natural and applied sciences (Online), vol.9, no.3, pp.688-696, 2023 (Peer-Reviewed Journal)

### Refereed Congress / Symposium Publications in Proceedings

1. **Investigation of *Bacterioides fragilis* Enolase Inhibitors Using in silico Methods**  
Uğurel E., YAKARSÖNMEZ S., SARIYER E., MUTLU Ö., UĞUREL O. M., BALIK D.  
Eurasian Congress of Molecular Biotechnology (ECOMB 2019), Trabzon, Turkey, 19 - 21 September 2019
2. ***Bacterioides Fragillis* Enolaz Inhibitorü Belirlenmesine Yönelik Sanal Ligand Tarama Ve Moleküler Yanaştırma Çalışmaları**  
Uğurel E., YAKARSÖNMEZ S., SARIYER E., MUTLU Ö., UĞUREL O. M., BALIK D.  
31. Ulusal Kimya Kongresi, İstanbul, Turkey, 10 - 13 September 2019
3. **Comparative Modelling and Molecular Dynamic Simulation of *Bacterioides fragillis* Enolase**  
Uğurel E., YAKARSÖNMEZ S., SARIYER E., MUTLU Ö., UĞUREL O. M., BALIK D.  
6th International BAU Drug Design Congress, Istanbul, Turkey, 13 - 15 December 2018
4. **Cloning, heterologous expression and purification of *Toxoplasma gondii* FabG (3-oxoacyl-[acyl-carrier-protein] reductase) enzyme**  
Aygün C., YAKARSÖNMEZ S., MUTLU Ö.  
1.Euroasia Biochemical Approaches Technologies Congress (EBAT 2018), Antalya, Turkey, 27 - 30 October 2018
5. **Structural modelling and molecular docking analysis of *Trichomonas vaginalis* iron-containing superoxide dismutase towards computer-aided drug design**  
YAKARSÖNMEZ S., MUTLU Ö.  
1.Euroasia Biochemical Approaches Technologies Congress (EBAT 2018), Antalya, Turkey, 27 - 30 October 2018
6. ***Trichomonas vaginalis* Tedavisinde in silico Analizlerle Yeni Aday İlaçların Belirlenmesi İçin 14-3-3 Proteininin Modellenmesi**  
YAKARSÖNMEZ S., MUTLU Ö., BALIK D.  
19. UluslararasıKatılımlı Ulusal Biyoteknoloji Kongresi, Eskişehir, 1 -3 Aralık 2017., Turkey, 1 - 03 December 2017
7. **Molecular modelling and docking studies on 3-oxoacyl-[acyl-carrier-protein] reductase enzyme (FabG) of *Toxoplasma gondii***  
Aygün C., Mutlu Ö., Daniş Ö.  
The International Symposium on Chemistry via Computation, Applications on Molecular Motors, İstanbul, Turkey, 30 October 2017
8. **In silico Analyses of both Wild Type and Mutant TaPIN1 towards New Drug Discovery**  
Spahi S., SARIYER E., MUTLU Ö., YAKARSÖNMEZ S., BALIK D.  
5th International BAU-Drug Design Congress, Istanbul, Turkey, 19 - 21 October 2017

9. **Molecular docking analyses of coumarin derivatives as Theileria annulata enolase inhibitors**  
Yakarsönmez S., Mutlu Ö., Daniş Ö., Balık D.  
5. International BAU Drug Design Congress, İstanbul, Turkey, 19 - 21 October 2017
10. **Analysis of the interaction interface of the possible protein kinase CK2-alpha 1 (CK2A1)-histone deacetylase 1/2 (HDAC1/2) complexes in Trypanosoma brucei by molecular dynamics**  
MUTLU Ö., KAMBERAJ H.  
15th International Congress of Protistology, 30 July - 04 August 2017
11. **Mitogen-activated protein kinases (MAPKs) as therapeutic targets for the treatment of Babesiosis and Theileriosis**  
MUTLU Ö.  
15th International Congress of Protistology, 30 July - 04 August 2017
12. **Functional classification of proteins having role in cellular response to nanoparticles: A proteome-wide and bioinformatics approach**  
MUTLU Ö., GÜLSOY N.  
1st International Conference of Applied Sciences, Engineering and Mathematics (ICASEM 2017), 5 - 07 May 2017
13. **Powder Injection Molded of Ti10Nb10Zr Alloy for Bio applications Electrochemical Properties and Biocompatibility**  
yemişçi İ., GÜLSOY H. Ö., MUTLU Ö., GÜLSOY N.  
worldPM2016, 9 - 13 October 2016
14. **Covalent immobilization of LL 37 onto lignin caprolactone based polymer and investigation of its antimicrobial activities**  
OGAN A., YÜCE DURSUN B., Farah D. A., Ash B. C., ÇAĞLAYAN P., MUTLU Ö., KAHRAMAN M. V., GÜLSOY N., BİRBİR M.  
FEBS, 3 - 08 September 2016
15. **Comprehensive computational analysis of Theileria annulata enolase by comparative modeling and docking**  
Mutlu Ö., Yakarsönmez S., Sarıyer E., Daniş Ö., Yüce Dursun B., Topuzoğulları M., Akbulut E., Balık D.  
17th European Congress on Biotechnology, Krakow, Poland, 3 - 06 July 2016, pp.171
16. **Structural characterization of the Trypanosoma brucei CK2A1 HDAC1 HDAC2 interactions by molecular modeling and protein protein docking**  
MUTLU Ö.  
Belgrade Bioinformatics 2016 Conference, 20 - 24 June 2016
17. **Protein interaction network construction and analysis using the quantitative proteomics data**  
MUTLU Ö., GÜLSOY N.  
Belgrade Bioinformatics 2016 Conference, Belgrat, Montenegro, 20 - 24 June 2016, pp.127
18. **Homology Modelling of Lactate Dehydrogenase from Theileria annulata**  
NURAL B., ERDEMİR A., MUTLU Ö., BALIK D.  
3rd International BAU-Drug Design Congress, 1 - 03 October 2015
19. **LL 37 Peptidinin Lignin Kaprolakton Polimerine İmmobilizasyonu ve Antimikrobiyal Özelliğinin İncelenmesi**  
FARAH D., OGAN A., YÜCE DURSUN B., BEYLER ÇİĞİL A., KAHRAMAN M. V., MUTLU Ö., GÜLSOY N., ÇAĞLAYAN P., BİRBİR M.  
27. Ulusal Kimya Kongresi, Çanakkale, Turkey, 23 - 28 August 2015
20. **S MA057 LL 37 PEPTİDİNİN LİGNİN KAPROLAKTON POLİMERİNE İMMOBİLİZASYONU VE ANTİMİKROBİYAL ÖZELLİĞİNİN İNCELENMESİ**  
DEKA A. F., OGAN A., BEYLER ÇİĞİL A., KAHRAMAN M. V., MUTLU Ö., YÜCE DURSUN B., GÜLSOY N., ÇAĞLAYAN P., BİRBİR M.  
27. Ulusal Kimya Kongresi 23-28 Augustos 2015, Turkey, 23 - 28 August 2015
21. **Enhancing the corrosion resistance and biocompability of injection molded 316L stainless steel for Bio applications**  
PAZARLIOĞLU S. S., BÜŞRA G., MUTLU Ö., GÜLSOY N., GÜLSOY H. Ö.  
16th International Scientific Conress, CNIC 2015, 22 - 24 June 2015

22. **Theileria annulata Enolaz Enziminin Uygun Stabilizatörler Kullanılarak Depolama Koşullarının Belirlenmesi**  
YAKARSÖNMEZ S., DANIŞ Ö., MUTLU Ö., YÜCE DURSUN B., AKBULUT E., BALIK D.  
Ulusal Moleküler Biyoloji ve Biyoteknoloji Kongresi, Turkey, 21 - 24 August 2015
23. **K7 ve K15 Kumarin Türevlerinin Bacteroides fragilis in D Laktat Dehidrogenazı Üzerine Olan Etkilerinin In silico ve Spektral Analizi**  
UĞUREL E., DANIŞ Ö., MUTLU Ö., YÜCE DURSUN B., GÜNDÜZ C., BALIK D.  
Ulusal Moleküler Biyoloji ve Biyoteknoloji Kongresi, Turkey, 21 - 24 August 2015
24. **Enhancing the Corrosion Resistance and Biocompatibility of Injection Molded 316L Stainless Steel for Bio applications**  
PAZARLIOĞLU S. S., Büşra G., MUTLU Ö., GÜLSOY N., GÜLSOY H. Ö.  
16. International Scientific Congress CNIC 2015, 22 - 26 June 2015
25. **Structure Analysis and Cytotoxic Evaluation of the ZnO Nanoparticles on Human Dermal Fibroblast Cells**  
MUTLU Ö., GÜLSOY N.  
ICMIBE 2015: XIII International Conference on Medical Informatics and Biomedical Engineering, 26 - 27 February 2015
26. **Effect of Ti Nb and Zr Additives on Biocompatibility of Injection molded 316L Stainless Steel for Biomedical Application**  
Büşra G., MUTLU Ö., GÜLSOY N.  
ICMIBE 2015: XIII International Conference on Medical Informatics and Biomedical Engineering, 26 - 27 February 2015
27. **Effect of Ti Nb and Zr Additives on Biocompatibility of Injection molded 316L Stainless Steel for Biomedical Applications**  
MUTLU Ö., GÜLSOY N.  
Biomedical and Biological Engineering Conferences, 26 - 27 February 2015
28. **Determination of the inhibitory effect of some coumarin derivatives on Bacteroides fragilis D LDH**  
UĞUREL E., DANIŞ Ö., MUTLU Ö., YÜCE DURSUN B., GÜNDÜZ C., BALIK D.  
International Symposium on Molecular Chemistry, 14 - 16 December 2014
29. **Effects of residue deletions from pentapeptide insertion of enzyme lactate dehydrogenase from Plasmodium vivax**  
MUTLU Ö., Turgut-Balik D.  
European Biotechnology Congress, İstanbul, Turkey, 28 September - 01 October 2011, vol.22

## Academic and Administrative Experience

2020 - Continues	<b>Head of Department</b>	Marmara University, Faculty of Arts and Sciences, Biology
2019 - 2022	<b>Deputy Head of Department</b>	Marmara University, Faculty of Arts and Sciences, Biology
2019 - 2021	<b>Fakülte Yönetim Kurulu Üyesi</b>	Marmara University, Faculty of Arts and Sciences, Biology

## Courses

Proteinlerin yapısal biyolojisi , Postgraduate, 2021 - 2022  
Hayvan Fizyolojisi, Undergraduate, 2019 - 2020  
Biyoinformatik, Undergraduate, 2020 - 2021

Parazitoloji, Undergraduate, 2019 - 2020  
İlaç Keşfi ve Geliştirme, Undergraduate, 2019 - 2020  
Yapısal Biyoinformatik, Postgraduate, 2019 - 2020

## Advising Theses

Mutlu Ö., *Cryobacterium aureum* FabH enziminin hesaplamalı yapısal biyoloji yaklaşımıyla incelenmesi, Postgraduate, S.SANEM(Student), 2023  
Erdem S., Mutlu Ö., In silico characterization of the *klebsiella pneumoniae* tetrahydrodipicolinate N-succinyl transferase enzyme and identification of potential inhibitors, Postgraduate, S.NEMATIPOUR(Student), 2023  
Mutlu Ö., *Toxoplasma gondii* FabG (3-Oxoacyl-[Acyl-Carrier-Protein] Reductase) enziminin ilaç geliştirmeye yönelik olarak rekombinant üretimi, biyokimyasal, biyofiziksel ve In Silico analizi, Postgraduate, C.AYGÜN(Student), 2020

## Memberships / Tasks in Scientific Organizations

The Astrobiology Society of Britain, Member, 2019 - Continues  
Türk mikrobiyoloji cemiyeti, Member, 2013 - Continues  
Biochemical Society (United Kingdom), Member, 2013 - Continues

## Metrics

Publication: 59  
Citation (WoS): 204  
Citation (Scopus): 191  
H-Index (WoS): 7  
H-Index (Scopus): 7

## Research Areas

Molecular Biophysics, Structural Biophysics, Biomolecules, Molecular Biochemistry, Structural Biology, Bioinformatics, Biotechnology, Parasitology, Protein Engineering, Evolution, Biological Membranes, Computational Chemistry