# 2019-2020 Mezuniyet Projeleri

| Project Name (Summary) | T: Theoretical P: Practical | Student | Advisor |
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| **1. Investigation of health benefits of *Hedera helix* L.**<br>This review summarizes pharmacological activity studies on *Hedera helix L.* | T | Aslı AKGÜL | Prof. Dr. Erdem YEŞİLADA |
| **2. Pharmacopeial analysis on *Hedera helix* L.**<br>This study aimed to perform pharmapoeial investigation on *Hedera helix* L. by using European Pharmacopoeia. | P | Müge İpek KAYSI | Prof. Dr. Erdem YEŞİLADA |
| **3. Isolation and structure elucidation of secondary metabolites from *Vinca herbacea***<br>In the framework of this project, secondary metabolites such as iridoids, flavonoids as well as monoterpene glucoindole alkaloids will be isolated from the MeOH extract of *Vinca herbacea* by using common chromatographic techniques. The structures of the isolates will be elucidated by 1D and 2D NMR techniques as well as MS. | P | Umut Can TAYĞUN | Prof. Dr. Hasan KIRMIZIBEKMEZ |
| **4. Medicinal plants used for the treatment of Inflammatory bowel diseases**<br>Inflammatory bowel disease (IBD) is a term for two conditions (Crohn's disease and ulcerative colitis) that are characterized by chronic inflammation of the gastrointestinal (GI) tract. Plants are effective for the treatment of many inflammatory conditions. No curative treatment for IBD is available. Hence, herbal extracts and their compounds are gaining popularity in the treatment or management of IBD. The aim of this review is to compile the recent (2000-) *in vivo* and clinical studies performed on the medicinal and aromatic plants as well as their metabolites that have potential roles for the management of IBD. | T | Tutku Buse SARICAN | Prof. Dr. Hasan KIRMIZIBEKMEZ |
| **5. Ethnopharmacology, phytochemistry, and pharmacology of *Rheum ribes***<br>*Rheum ribes* (ışgın), a perennial herbaceous species, has long been used as a folk remedy against constipation, inflammatory diseases as well as cancer. It is reported to contain bioactive secondary metabolites such as anthraquinones, flavonoids and tannins. In this project, the recent (2000-) pharmacological and phytochemical studies on *Rheum ribes* will be compiled. | T | Eylül AKYOL | Prof. Dr. Hasan KIRMIZIBEKMEZ |
| **6. Bioavailability studies on capsules filled with Sambucus ebulus L. extracts or powder**<br>In vitro bioavailability studies on the majör bioactive metabolites of different extracts of S. ebulus placed on capsule will be investigated | P | Büşra Cemre TOKSÖZ | Prof. Dr. Erdem YEŞİLADA / Asist. Prof. Dr. Engin CELEP |
| **7. Regulations in Turkey about traditional herbal medicinal products**<br>Regulations published bu Turkish Drug and Medical Devices Administration regarding herbal products will be reviewed. | T | İpek Nur ERVARDAR | Asist. Prof. Dr. Engin CELEP |

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| **8. Investigation of thymoquinone content in marketed *Nigella sativa* L. products in Turkey**<br>*Nigella sativa* has been used to treat many diseases including asthma, hypertension, diabetes, inflammation, cough, bronchitis, headache, eczema etc. It has been demonstrated that *N. sativa* extracts and the main constituent of their volatile oil, thymoquinone, possess antioxidant, anti-inflammatory and hepatoprotective properties.<br>This study aimed to determine thymoquinone content on marketed *N. sativa* products in Turkey. | P | Cansel ÇELİK | Asist. Prof. Dr. Etil GÜZELMERİÇ |
| **9. Chemical investigation on Hawthorn (*Crataegus* spp.) extracts sold on market in Turkey**<br>*Crataegus* spp. (Hawthorn) is one of the most important edible plants of the Rosaceae family and is also used in traditional medicine.<br>This study aimed to quality determination of hawthorn extracts sold on the marked in Turkey. | P | Nisa Beril ŞEN | Asist. Prof. Dr. Etil GÜZELMERİÇ |
| **10. Investigation of polyphenolic content and health benefits of Hawthorn (*Crataegus* spp.)**<br>This review summarizes all information available on polyphenolic content and health benefits of *Crataegus* spp. | T | Zeynep BARUTÇUOĞLU | Asist. Prof. Dr. Etil GÜZELMERİÇ |
| **11. A review on therapeutic potential of *Nigella sativa* L.**<br>This review summarizes all information available on *Nigella sativa* health benefits | T | Elif ÜNAL | Asist. Prof. Dr. Etil GÜZELMERİÇ |
| **12. Investigation of the use of tetradoxin for cosmetic purposes**<br>Botulinum toxin is increasingly used in the management of facial palsy; however, the optimum dose, treatment interval, adjunct therapy and performance as compared with alternative treatments have not been well established. In this study, we aimed to test the potent neurotoxin, tetrodotoxin, as an alternative to botulinum toxin. | P | Kübra BAKMAZ | Prof. Dr. Ahmet AYDIN<br>Assoc. Prof. Dr. Hande SİPAHİ |
| **13. Aluminum leaching to food stuffs which are packaged in aluminum foil.**<br>Aluminum foil is used for packaging and processing of food stuffs much. Aluminum leaching from this package can be a risk factor for Aluminum exposure of population. Aluminum can be a risk factor for several types of diseases like osteomalasie, Alzheimer disease etc. Selected foodstuffs will be processed in aluminum foil and aluminum level will be measured by Atomic Absorption Spectrometry. | P | Elif KURUCU | Prof. Dr. Ahmet AYDIN<br>Assoc. Prof. Dr. Muhammed Hamitoğlu |
| **14. Heavy metal content of tuna fish samples marketed in Turkey**<br>Heavy metal content of food products takes always a great attention of population. Tuna fish is consumed by the population much. Their heavy metal content will be analyzed with Atomic Absorption Spectrometry. | P | Selin Aslı İLERİ | Prof. Dr. Ahmet Aydın<br>Assoc. Prof. Dr. Muhammed Hamitoğlu |
| **15. Application of artificial intelligence for modelling cell functions.**<br>Drugs interact with cells in many ways. Prediction of a drug's behavior is important in drug design and the drug's safety. In this study, the cell functions will be modelled using artificial | P | Öykü Naz ÖZKAN | Prof. Dr. AHMET AYDIN<br>Dr. Gülçin TUĞCU |

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| intelligence methods. | | | |
| **16. Can drugs that cause allergies lead to depression?**<br>Several epidemiologic studies have shown an association between allergy and depression. The aim of this study was to investigate the contribution of histamines on mood and whether or not antihistamines are treatment option for depression. | T | Ayşe Feruze MAT | Assoc. Prof. Dr. Hande SİPAHİ |
| 17. **Is adipose tissue a mediator of cardiovascular risk**?<br>Cardiovascular diseases are the leading cause of death worldwide, and heart failure. There is a well-documented association between obesity and cardiovascular risks. Alterations in adipokine profiles suggested to increases the incidence of myocardial infarction. The aim of this study was to investigate the cardiovascular risks of the drugs that sequestrate in adipose tissue and alter the adipokine profile. | T | Elif Öykü KILIÇÇIOĞLU | Assoc. Prof. Dr. Hande SİPAHİ |
| **18. QSAR modelling of the cytotoxicity of selected chemicals.**<br>The cytotoxicity (IC50) of selected chemicals will be assessed and modelled using linear methods. The developed model will be able to predict cytotoxic activity of the chemicals using the relationship between the molecular structure and the activity. The model will be validated internally and externally according to the OECD principles. | P | Elif Çisem ÇÖLDÜR | Assoc. Prof. Dr. Hande SİPAHİ<br>Dr. Gülçin TUĞCU |
| **19. Trace element level of tuna fish samples marketed in Turkey**<br>Trace elements are essential for living organisms. Trace element level of food stuffs is important for healthy nutrition. Fish is a good source for elements, but we should know which amount of elements can be supplied by it. Tuna fish is consumed by the population much. Their trace element level will be analyzed with Atomic Absorption Spectrometry. | P | Deniz BİNİCİ | Assoc. Prof. Dr. Muhammed Hamitoğlu |
| **20. Structure-activity relationship of antidiabetic drugs and cardiotoxicity.**<br>Cardiotoxicity is one of the adverse effects of antidiabetic drugs. The aim of the project is to study the possible relationship between chemical structure of these drugs and cardiotoxicity. Antidiabetic drugs that cause cardiotoxicity will be gathered and the correlation will be explored between the molecular structure and the cardiotoxicity. | P | Nezihe İrem ÇÖPLÜ | Assoc. Prof. Dr. Muhammed Hamitoğlu Dr. Gülçin TUĞCU |
| **21. Reduction of keton carring compounds by Yeast from Saccharomyces cerevisiae and elucidation of resuting metabolite by FT-IR.**<br>In this Project, a group of compounds carring keton fonctionel group will react with Yeast from Saccharomyces cerevisiae to yield alcohol metabolites. Stracture of resulting compounds will be elucidated by FT-IR spectroscopy**.** | P | Aybike Tuğçe AKGÜN | Prof. Dr. Hülya AKGÜN |

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| **22. Xanthine oxidase inhibitors**<br>In this study, Student will search clinical available xanthine oxidase inhibitors as well as new recent molecules and will write a review. | T | Yağmur İŞGÜDEN | Prof. Dr. Hülya AKGÜN |
| **23. Artificial intelligence in drug discovery**<br>Remarkable improvements in computational power coupled with advancements in artificial intelligence technology could be utilised to revolutionise the drug development process. At present, the pharmaceutical industry is facing challenges in sustaining their drug development programmes because of increased R&D costs and reduced efficiency. In this study, student is expected to review the current applications of AI in drug discovery and future expectations. Examples will be discussed covering bioactivity prediction, de novo molecular design, synthesis prediction and biological image analysis | T | Armanç MAT | Prof. Dr. Meriç KÖKSAL AKKOÇ |
| **24. Computational methods to predict drug metabolism**<br>In this study, student will present important, recent developments in the computational prediction of cytochrome P450 (CYP) metabolism in the context of drug discovery. He/she will discuss in silico models for the various aspects of CYP metabolism prediction, including CYP substrate and inhibitor predictors, site of metabolism predictors and metabolite structure predictors. | T | Göksel ÇELİK | Prof. Dr. Meriç KÖKSAL AKKOÇ |
| **25. Novel MEIS1 İnhibitors**<br>The aim of this study is to develop more active and novel cardiogenic MEIS1 inhibitors and to develop new approaches in the treatment of heart failure.<br>New compounds will be synthesized and analyzed for MEIS inhibition, which functional groups give the inhibitor effects will be analyzed by molecular modifications, pharmacophore analysis and structure-activity relationships will be investigated and leading compound optimization will be performed. | P | Melis YILMAZ | Prof. Dr. Mine YARIM YÜKSEL |
| **26. The Promise of Low Dose Naltrexone Therapy**<br>The aim of this study is to search potential Benefits of LDN in Cancer, Autoimmune, Neurological and Infectious Disorders | T | İrem KÜSBEOĞLU | Prof. Dr. Mine YARIM YÜKSEL |
| **27. Calcium homeostasis in cancer: identification and characterisation of novel drug targets**<br>The aim of this study is to search ability of Ca2+ signalling to regulate proliferation and apoptosis. Modulate Ca2+ signalling in cancer cells might be a therapeutic option. | T | Burak ÜN | Prof. Dr. Mine YARIM YÜKSEL |

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| **28. Targeting E3 Ubiquitin Ligases in Cancer**<br>E3 ubiquitin ligases recruit an E2 ubiquitin-conjugating enzyme loaded with ubiquitin, recognize a protein substrate, and catalyze the transfer of ubiquitin from the E2 to the protein substrate. Misregulation or mutation of E3 ligases end up with overexpression of oncogenes or downregulation of tumor suppressor genes, which lead to cancer progression. Therefore, comprehension of the molecular targets and functions of E3 ligases serves as the basis for designing new anticancer agents. | T | Gökberk SARAÇOĞLU | Assist. Prof. Dr. Enise Ece GÜRDAL |
| **29. Targeting Initiation Factor eIF4E in Cancer**<br>Eukaryotic initiation factors (eIFs) are proteins or protein complexes that take role in the initiation phase of eukaryotic translation. Translation initiation factor eIF4E is over-expressed or activated in cancer and contribute to its progression. Therefore, development of eIF4E inhibitors is a new strategy to design new anticancer agents. | T | Bukenur ERGÖNÜL | Assist. Prof. Dr. Enise Ece GÜRDAL |
| **30. Resistance to chemotherapy**<br>In this project the student will analyze the drug resistance mechanisms to chemotherapy in cancer cells, and the proposal of study design to identify bona fide markers. | T | Ayşen KOCAKABAK | Assoc. Prof. Dr. F. Esra ÖNEN BAYRAM |
| **31. Drugs Targeting Protein-Protein Interactions**<br>Modern drug discovery has now become largely target-based, where attempts are made to find chemical agents that can hit the disease-specific enzymes or pathways. In this context, protein-protein interactions (PPIs) have emerged an interesting class of targets. The project will deal with a literature review of PPI-targeting molecules. | T | Macide Güneş DERELİ | Assoc. Prof. Dr. F. Esra ÖNEN BAYRAM |
| **32. New Molecular Targets of Anticancer Therapy**<br>Molecularly targeted anticancer therapy involves the use of drugs or other substances affecting specific molecular targets that play a part in the development, progression and spread of a cancer. Target anticancer drugs are designed to achieve a particular aim and they usually act cytostatically, not cytotoxically like classical chemotherapeutics. At present, more than 300 biological molecular targets have been identified. The project aims to present the molecular targets and their inhibitors that are currently in clinical trials. | T | Tolunay KAVAZ | Assoc. Prof. Dr. F. Esra ÖNEN BAYRAM |
| **33. Determination of acid dissociation constant values some piperazine containing benzoxazolinone derivatives**<br>The purpose of this study is to determine the acid dissociation constant values of some substituted piperazine containing benzoxazolinone derivatives by using spectrophotometric method. There will be experimental part in this project. | P | Halise Ebrar HEKİMOĞLU | Assoc. Prof. Dr. Hayati ÇELİK |
| **34. Electrochemical behavior of aromatic oximes**<br>The purpose of this study is to review the reduction mechanisms of some aromatic oximes. This study will be literature survey. | T | Kaan KORKMAZ | Assoc. Prof. Dr. Hayati ÇELİK |

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| **35. Biocatalytic Products**<br>The purpose of this study is to investigate the biocatalytic products and learn usage of these products. | T | Nur Hilal DURAN | Assist. Prof. Dr. Ebru TÜRKÖZ ACAR |
| **36. Determination of an active drug material by HPLC**<br>This is a practical study. During this study the student will define an analytical problem and develop an analytical method by using HPLC according to this problem. | P | Gizem ÇOBAN | Assist. Prof. Dr. Ebru TÜRKÖZ ACAR |
| **37. Formulation of poorly soluble drugs with nanocrystal technology**<br>Formulation of poorly soluble drugs is a general intractable problem in pharmaceutical field, especially those compounds poorly soluble in both aqueous and organic media. It is difficult to resolve this problem using conventional formulation approaches, so many drugs are abandoned early in discovery. Nanocrystals, a new carrier-free colloidal drug delivery system with a particle size ranging from 100 to 1000 nm, is thought as a viable drug delivery strategy to develop the poorly soluble drugs, because of their simplicity in preparation and general applicability. In this project, latest developments in nanocrystals technology will be investigated and marketed products also will be evaluated in terms of their production methods. | T | Beyza CAN | Prof. Dr. Çetin TAŞ |
| **38. Drug Targeting Brain via Nasal Route**<br>Nose to Brain approach is a great area of interest for direct transport pathway of drugs in nose to brain through olfactory and trigeminal nerve cells through nose they can bypassing the BBB and enter brain directly. Olfactory region of the nasal mucosa is direct connection between nose and brain explored for CNS acting drugs. In this project latest development on direct drug transport of drug molecules after nasal administration will be evaluated with current literature knowledge | T | Muhammed Zeynel MUNĞAN | Prof. Dr. Çetin TAŞ |
| **39. Fast Dissolving Film Formulations for Sublingual Delivery of Drugs**<br>Fast dissolving film is a type of drug delivery system, which when placed in the oral cavity it rapidly disintegrates and dissolves to release the medication for oromucosal and intragastric absorption, without chewing and intake of water. This technology evolved over the past few years from the confection and oral care markets in the form of breath strips and became a novel and widely accepted form by consumers. These films have a potential to deliver the drug systemically through sublingual or buccal route of administration and also has been used for local action. With this project we will especially focus on fast dissolving sublingual films with recent developments. | P | Mert CEMŞİT | Prof. Dr. Çetin TAŞ |

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| 40. **Proteins as Drugs: Analysis, Formulation**<br>The use of proteins as drugs is by no means new. Insulin, gamma-globulin and protein-containing vaccines have been routinely employed for decades. However, the advent of recombinant DNA technology has resulted in a dramatic expansion of interest in their pharmaceutical applications. It now appears that we can make virtually any desired protein in sufficient quantities for therapeutic use, although often with significant difficulty. | P | Zeynep Güneş TEPE | Assist. Prof. Dr. Gülengül DUMAN |
| **41. Formulation and evaluation of fast dissolving films for delivery of proteins**<br>The drug delivery through oro-buccal mucosa is very interesting one but it partially lacked oro-buccal delivery products in the market. The project was undertaken with the objective of formulating proteins containing fast dissolving films. Various film forming agents were evaluated for optimizing the composition of fast dissolving films | T | Zeynep Eylül ÖZMEN | Assist. Prof. Dr. Gülengül DUMAN |
| **42. Thin films as a drug delivery**<br>Pharmaceutical scientists throughout the world are trying to explore thin films as a novel drug delivery tool. Thin films have been identified as an alternative approach to conventional dosage forms. The thin films are considered to be convenient to swallow, self-administrable, and fast dissolving dosage form, all of which make it as a versatile platform for drug delivery. This delivery system has been used for both systemic and local action *via* several routes such as oral, buccal, sublingual, ocular, and transdermal routes. The design of efficient thin films requires a comprehensive knowledge of the pharmacological and pharmaceutical properties of drugs and polymers along with an appropriate selection of manufacturing processes. | T | Beste Sude GÖYÜK | Assist. Prof. Dr. Gülengül DUMAN |
| **43. Rapid dissolvable oral film for delivering herbal extract/s(P)**<br>Fast dissolving oral drug delivery systems gains popularity and acceptance as a new dosage form as an alternative to tablets, capsules, liquids for pediatric and geriatric patients who has difficulties to take medications in larger dosage forms. At this project herbal drugs will be used as an actives. | P | Duygu KAYA | Assist. Prof. Dr. Gülengül DUMAN |

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| **44. Electrospun Nanofibers as Drug-delivery Systems**<br>A nanofiber formulation can drastically affect the release kinetics from the delivery system. A suitable polymer, large surface-to-volume ratio, and high porosity of the nanofiber mesh are exploited to achieve immediate drug release. Nanofibers for modified drug release are classified according to their drug-release characteristics, as prolonged, stimulus-activated, and biphasic. In general, swellable or degradable polymers are used to modify the drug release. In this theoretical project, various types of nanofibers will be reviewed from the latest available literature, based on their composition and drug-release properties. | T | Merve Çağla AKSOY | Assist. Prof. Dr. M Abdur RAUF |
| **45. Historical and Latest development in Gene Therapy**<br>In 1968 a proof-of-concept for virus mediated gene transfer was reported. Initial gene therapy trials started in the 1990s. Despite the setbacks, gene therapy success stories have increasingly emerged. In this theoretical project, a historical view will highlight some of the milestones that had an important impact on the development of gene therapy. Latest developments in this filed, particılarly from the point of view of approved products, will also be reviewed. | T | Dilara FURAT | Assist. Prof. Dr. M Abdur RAUF |
| **46. 3D Printed Drug Delivery Syste**<br>3D Printed dosage forms provides key advantages over traditional manufacturing of drug delivery and testing systems, for example, the ability to fabricate complex geometries to achieve variable drug release kinetics; ease of personalising pharmacotherapy for patient. However, there are several limitations such as slow production rate, lack of mass production technologies. In this theoretical project, 3D printed dosage form will be reviewed. | T | Gökçe KARA | Assist. Prof. Dr. M Abdur RAUF |
| **47. Comparison of antiaging activities of metformin and resveratrol by in vitro methods.**<br>Until now, there is no drug for aging. But, this researches may be contribute to develop for an antiaging drug in the future in our country. | P | Ekin Hazal BOLULU | Prof.Dr. Turgay ÇELIK |
| **48. Current Antiaging mechanisms in living systems**<br>One of Current topic is aging mechanisms. It is important to be learn and increase the awareness of aging mechanisms. | T | İnanç Berat ÖZDAYIOĞLU | Prof.Dr. Turgay ÇELIK |
| **49. There are potential drugs for antiaging mechanisms?**<br>Recently, novel therapeutic strategy based on genetic and epigenetic abnormalities has been increased for aging or associated diseases. | T | Selinay DİK | Prof.Dr. Turgay ÇELIK |

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| **50. New Approaches for Neurodegenerative Disorder Research: Zebrafish Models and Applications**<br>The brains of aging humans are prone to neurodegenerative disorders. Zebrafish models are used to learn about how to enable the adult brain to better cope with neurodegenerative disease and regenerate. Student will conduct a literature search on zebrafish models and its applications on the road of new drug discoveries for the treatment of neurodegenerative disorders. | T | Elif Beyza ER | Assist.Prof.Dr. Beril KADIOĞLU YAMAN |
| **51. Is there a link between classic and new-generation antihistamines and Major Depressive Disorder?**<br>The aim of this study is to determine and compare the effects of classic and new-generation antihistamines on Major Depressive Disorder. Student will conduct a literature search on antihistamines and their undesired effects on central nervous system, especially for long-term use. | T | Melike AYDIN | Assist.Prof.Dr. Beril KADIOĞLU YAMAN |
| **52. The role of the pharmacist in the awareness of Autism Spectrum Disorder:**<br>Autism Spectrum Disorder has started to attract the researcher's attention with its increasing prevalence. Student will conduct a research on the role of pharmacist awareness about the disease, ability of guiding the patient to a physician and therefore facilitate early intervention for the disease. | T | Sıdıka Ecem RAMİZ | Assist.Prof.Dr. Beril KADIOĞLU YAMAN |
| **53. Development of Clinical Pharmacy Practice in Turkish Hospitals**<br>(Evaluation of the current practices of clinical pharmacy on the national level, and compare it with the international standards, and evaluate the future plan of the Turkish health sector, and provide it with the most recent recommendations of clinical pharmacy practice in hospitals) | P | Müge RODOP | Dr. Ahmad Khaled RADI |
| **54. Teriparatide: Anabolic therapy for the Treatment of Osteoporosis**<br>(Literature review of the most recent data about the novel treatment of osteoporosis) | T | Zeynep SEMERCİOĞLU | Dr. Ahmad Khaled RADI |
| **55. Clinically Significant Drug Interactions of Cyclosporine**<br>(Clinically significant drug interactions of Cyclosporine and how it affect the organ transplantation) | T | Tutku ÇORBACI | Dr. Ahmad Khaled RADI |