

# Prof. SELMA ŞAHİN

## Personal Information

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## Education Information

Post Doctorate, University of San Francisco, Eczacılık Fakültesi, United States Of America 2005 - 2008

Post Doctorate, Uppsala Universitet (Uppsala University), Eczacılık Fakültesi, Sweden 1999 - 1999

Doctorate, University of Manchester, Eczacılık Fakültesi, United Kingdom 1990 - 1996

Postgraduate, Hacettepe University, Eczacılık Fakültesi, Turkey 1984 - 1987

Undergraduate, Hacettepe University, Eczacılık Fakültesi, Turkey 1979 - 1984

## Foreign Languages

English, C1 Advanced

## Research Areas

Health Sciences, Pharmacology and Therapeutics, Pharmaceutics Technology

## Academic Titles / Tasks

Professor, Hacettepe University, Eczacılık Fakültesi, Eczacılık Teknolojisi Bölümü, 2010 - Continues

Associate Professor, Hacettepe University, Eczacılık Fakültesi, Eczacılık Teknolojisi Bölümü, 2004 - 2010

Assistant Professor, Hacettepe University, Eczacılık Fakültesi, Eczacılık Teknolojisi Bölümü, 1998 - 2004

Research Assistant, Hacettepe University, Eczacılık Fakültesi, Eczacılık Teknolojisi Bölümü, 1984 - 1998

## Academic and Administrative Experience

Hacettepe Üniversitesi, Eczacılık Fakültesi, Eczacılık Teknolojisi Bölümü, 2009 - 2015

## Advising Theses

ŞAHİN S., Barsaklardan parasetoller ilaç absorpsiyonu üzerine permeabilite artırıcı ajanların etkisinin araştırılması, Postgraduate, M.ATEŞ(Student), 2013

ŞAHİN S., Siroz geliştirilmiş sıçanlarda ilaç dağılımı ve eliminasyonu üzerine veriliş yolunun etkisi, Doctorate, M.SİNAN(Student), 2008

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

- I. **Evaluation of in vitro dissolution profiles of modified-release metoprolol succinate tablets crushed using mortar and pestle technique**  
KIR F., Al-Sulaiti F. K., ŞAHİN S.  
European Journal of Pharmaceutical Sciences, vol.194, 2024 (SCI-Expanded)
- II. **Electrospun nanofiber drug delivery systems and recent applications: An overview**  
Muratoglu S., Inal M., AKDAĞ ÇAYLI Y., GÜLSÜN İNAL T., ŞAHİN S.  
Journal of Drug Delivery Science and Technology, vol.92, 2024 (SCI-Expanded)
- III. **Development and characterization of trimethobenzamide hydrochloride containing orally disintegrating tablets**  
Uluhan O. D., GÜLSÜN İNAL T., ŞAHİN S.  
Journal of Drug Delivery Science and Technology, vol.88, 2023 (SCI-Expanded)
- IV. **Preparation of nanosuspensions of a 1,4-dihydropyridine-based mixed L-/T-type calcium channel blocker by combined precipitation and ultrasonication methods**  
PEZİK E., GÜLSÜN İNAL T., GÜNDÜZ M. G., ŞAHİN S., ÖZTÜRK N., VURAL İ.  
Journal of Drug Delivery Science and Technology, vol.87, 2023 (SCI-Expanded)
- V. **The development and characterization of electrospun gelatin nanofibers containing indomethacin and curcumin for accelerated wound healing**  
Gulsun T., Inal M., Akdag Y., İZAT N., ÖNER L., ŞAHİN S.  
Journal of Drug Delivery Science and Technology, vol.67, 2022 (SCI-Expanded)
- VI. **Development and evaluation of terbutaline sulfate orally disintegrating tablets by direct compression and freeze drying methods**  
Gulsun T., Cayli Y., İZAT N., ÇETİN M., ÖNER L., ŞAHİN S.  
Journal of Drug Delivery Science and Technology, vol.46, pp.251-258, 2018 (SCI-Expanded)
- VII. **Preparation and characterization of furosemide nanosuspensions**  
GÜLSÜN İNAL T., Borna S. E., VURAL İ., ŞAHİN S.  
JOURNAL OF DRUG DELIVERY SCIENCE AND TECHNOLOGY, vol.45, pp.93-100, 2018 (SCI-Expanded)
- VIII. **Preparation and Characterization of Rivaroxaban Nanocrystals Prepared by Combination of Wet Ball Milling and High Pressure Homogenization Methods**  
Demir H., GÜLSÜN İNAL T., ŞENER E., ŞAHİN S., ÖNER L.  
LATIN AMERICAN JOURNAL OF PHARMACY, vol.37, no.12, pp.2482-2490, 2018 (SCI-Expanded)
- IX. **Effects of curcumin-loaded PLGA nanoparticles on the RG2 rat glioma model**  
Orunoğlu M., Kaffashi a., PEHLİVAN S., ŞAHİN S., SÖYLEMEZOĞLU A. F., KARLI OĞUZ H. K., MUT AŞKUN M.  
MATERIALS SCIENCE & ENGINEERING C-MATERIALS FOR BIOLOGICAL APPLICATIONS, vol.78, pp.32-38, 2017 (SCI-Expanded)
- X. **Application of HPLC to Investigate the Physicochemical Properties and Intestinal Permeability of Ketoprofen**  
KAYNAK M. S., ÇELEBİER M., Akgeyik E., ŞAHİN S., ALTINÖZ S.  
CURRENT PHARMACEUTICAL ANALYSIS, vol.13, no.1, pp.72-79, 2017 (SCI-Expanded)
- XI. **Preparation and in vitro/in vivo evaluation of rofecoxib containing bovine serum albumin microspheres**  
Demirturk E., Gulsun T., Cayli Y., İZAT N., ŞAHİN S., ÖNER L.  
Latin American Journal of Pharmacy, vol.36, no.6, pp.1096-1104, 2017 (SCI-Expanded)
- XII. **Brain and the Drug Transporters**  
GÜLSÜN İNAL T., İZAT N., ŞAHİN S.  
NANOTECHNOLOGY METHODS FOR NEUROLOGICAL DISEASES AND BRAIN TUMORS: DRUG DELIVERY ACROSS THE BLOOD-BRAIN BARRIER, pp.35-67, 2017 (SCI-Expanded)
- XIII. **Development of HPLC Methods for Individual Determination of 20 Active Pharmaceutical Ingredients for Ussing-Chamber Studies**  
KAYNAK M. S., Akgeyik E., ATEŞ M., ÇELEBİER M., ŞAHİN S.  
CURRENT PHARMACEUTICAL ANALYSIS, vol.13, no.2, pp.145-153, 2017 (SCI-Expanded)
- XIV. **Microparticulate and nanoparticulate drug delivery systems for metformin hydrochloride**

- ÇETİN M., ŞAHİN S.  
DRUG DELIVERY, vol.23, no.8, pp.2796-2805, 2016 (SCI-Expanded)
- XV. **Effect of permeability enhancers on paracellular permeability of acyclovir**  
Ates M., KAYNAK M. S., ŞAHİN S.  
JOURNAL OF PHARMACY AND PHARMACOLOGY, vol.68, no.6, pp.781-790, 2016 (SCI-Expanded)
- XVI. **Evaluation of Pharmaceutical Quality of Conventional Dosage Forms Containing Paracetamol and Caffeine Available in the Turkish Drug Market**  
Akgeyik E., KAYNAK M. S., ÇELEBİER M., ALTINÖZ S., ŞAHİN S.  
DISSOLUTION TECHNOLOGIES, vol.23, no.2, pp.36-41, 2016 (SCI-Expanded)
- XVII. **Development and Validation of a RP-HPLC Method for Simultaneous Determination of Metformin Hydrochloride, Phenol Red and Metoprolol Tartrate for Intestinal Perfusion Studies**  
GÜLSÜN İNAL T., ŞAHİN S.  
LATIN AMERICAN JOURNAL OF PHARMACY, vol.35, no.1, pp.50-57, 2016 (SCI-Expanded)
- XVIII. **Comparison of Dissolution Profiles of Commercially Available Lamivudine Tablets**  
ÖZTÜRK N., KAYNAK M. S., ŞAHİN S.  
DISSOLUTION TECHNOLOGIES, vol.22, no.4, pp.38-43, 2015 (SCI-Expanded)
- XIX. **Few Drugs Display Flip-Flop Pharmacokinetics and These Are Primarily Associated with Classes 3 and 4 of the BDDCS**  
GARRISON K. L., Sahin S., BENET L. Z.  
JOURNAL OF PHARMACEUTICAL SCIENCES, vol.104, no.9, pp.3229-3235, 2015 (SCI-Expanded)
- XX. **Determination of Regional Intestinal Permeability of Diclofenac and Metoprolol Using a Newly-Developed and Validated High Performance Liquid Chromatographic Method**  
KAYNAK M. O., Buyuktuncel E., ÇAĞLAR YILMAZ H., ŞAHİN S.  
TROPICAL JOURNAL OF PHARMACEUTICAL RESEARCH, vol.14, no.1, pp.163-170, 2015 (SCI-Expanded)
- XXI. **UV Spectrophotometric Method for Determination of the Dissolution Profile of Rivaroxaban**  
ÇELEBİER M., KAYNAK M. S., ALTINÖZ S., ŞAHİN S.  
DISSOLUTION TECHNOLOGIES, vol.21, no.4, pp.56-59, 2014 (SCI-Expanded)
- XXII. **Disposition Kinetics of Diclofenac in the Dual Perfused Rat Liver**  
ŞAHİN S., Rowland M.  
JOURNAL OF PHARMACEUTICAL SCIENCES, vol.102, no.9, pp.3220-3227, 2013 (SCI-Expanded)
- XXIII. **Preparation and characterization of metformin hydrochloride loaded-Eudragit (R) RSPO and Eudragit (R) RSPO/PLGA nanoparticles**  
ÇETİN M., ATİLA A., ŞAHİN S., VURAL İ.  
PHARMACEUTICAL DEVELOPMENT AND TECHNOLOGY, vol.18, no.3, pp.570-576, 2013 (SCI-Expanded)
- XXIV. **Preparation and characterization of nimesulide containing nanocrystal formulations**  
Gulsun T., Budak C., VURAL İ., ŞAHİN S., ÖNER L.  
PHARMACEUTICAL DEVELOPMENT AND TECHNOLOGY, vol.18, no.3, pp.653-659, 2013 (SCI-Expanded)
- XXV. **Head-to-Head Comparison of Inhibitory and Fungicidal Activities of Fluconazole, Itraconazole, Voriconazole, Posaconazole, and Isavuconazole against Clinical Isolates of Trichosporon asahii**  
HAZIROLAN G., CANTON E., ŞAHİN S., ARIKAN AKDAĞLI S.  
Antimicrobial Agents And Chemotherapy, vol.57, pp.4841-4847, 2013 (SCI-Expanded)
- XXVI. **Determination of in vitro Dissolution Profiles of Amlodipine Besylate and Olmesartan Medoxomil Using a New "HPLC Method"**  
KAYNAK M. O., ÇELEBİER M., ŞAHİN S., Altinoz S.  
REVISTA DE CHIMIE, vol.64, no.1, pp.27-30, 2013 (SCI-Expanded)
- XXVII. **HPLC method development for the simultaneous analysis of amlodipine and valsartan in combined dosage forms and in vitro dissolution studies**  
ÇELEBİER M., KAYNAK M. O., ALTINÖZ S., ŞAHİN S.  
BRAZILIAN JOURNAL OF PHARMACEUTICAL SCIENCES, vol.46, no.4, pp.761-768, 2010 (SCI-Expanded)
- XXVIII. **Investigation of distribution and elimination of terbutaline sulfate in the perfused rat liver preparation**

- ŞAHİN S., Karabey Y.  
EUROPEAN JOURNAL OF DRUG METABOLISM AND PHARMACOKINETICS, vol.35, pp.9-14, 2010 (SCI-Expanded)
- XXIX. **Development and validation of an HPLC method for simultaneous determination of trimethoprim and sulfamethoxazole in human plasma**  
Sayar E., ŞAHİN S., Cevheroglu S., Hincal A. A.  
EUROPEAN JOURNAL OF DRUG METABOLISM AND PHARMACOKINETICS, vol.35, pp.41-46, 2010 (SCI-Expanded)
- XXX. **DEVELOPMENT AND CHARACTERIZATION OF THEOPHYLLINE LOADED PLGA MICROSPHERES**  
Shamil D., Sarisozen C., Pehlivan S. B., Basit A., ŞAHİN S., VURAL İ.  
EUROPEAN JOURNAL OF PHARMACEUTICAL SCIENCES, vol.38, no.1, pp.96-97, 2009 (SCI-Expanded)
- XXXI. **HPLC METHOD DEVELOPMENT AND VALIDATION: SIMULTANEOUS DETERMINATION OF DICLOFENAC, METOPROLOL AND PHENOL RED IN BIOLOGICAL MATRIX FOR INTESTINAL PERFUSION STUDIES**  
ÇAĞLAR YILMAZ H., KAYNAK M. S., ŞAHİN S., Buyuktuncel E.  
EUROPEAN JOURNAL OF PHARMACEUTICAL SCIENCES, vol.38, no.1, pp.179-181, 2009 (SCI-Expanded)
- XXXII. **The Operational Multiple Dosing Half-life: A Key to Defining Drug Accumulation in Patients and to Designing Extended Release Dosage Forms**  
Sahin S., Benet L. Z.  
PHARMACEUTICAL RESEARCH, vol.25, no.12, pp.2869-2877, 2008 (SCI-Expanded)
- XXXIII. **Application of the dispersion model to describe disposition kinetics of markers in the dual perfused rat liver**  
Sahin S., Rowland M.  
DRUG METABOLISM AND DISPOSITION, vol.35, no.7, pp.1119-1125, 2007 (SCI-Expanded)
- XXXIV. **Influence of erythrocytes on the hepatic distribution kinetics of urea and thiourea**  
Sahin S., Rowland M.  
EUROPEAN JOURNAL OF PHARMACEUTICAL SCIENCES, vol.31, pp.180-189, 2007 (SCI-Expanded)
- XXXV. **Formulation and characterization of formaldehyde cross-linked degradable starch microspheres containing terbutaline sulfate**  
Selek H., Sahin S., Kas H. S., Hincal A. A., Ponchel G., Ercan M. T., Sargon M.  
DRUG DEVELOPMENT AND INDUSTRIAL PHARMACY, vol.33, no.2, pp.147-154, 2007 (SCI-Expanded)
- XXXVI. **Estimation of hepatic distributional volumes using non-labeled reference markers**  
Karabey Y., Sahin S.  
EUROPEAN JOURNAL OF DRUG METABOLISM AND PHARMACOKINETICS, vol.31, no.4, pp.285-290, 2006 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Interaction of Statins with Grapefruit Juice**  
Ateş M., Sahin S.  
FABAD Journal of Pharmaceutical Sciences, vol.48, no.2, pp.337-358, 2023 (Scopus)
- II. **Formulation and characterization of mometasone furoate and formoterol fumarate containing dry powder inhaler by spray drying and homogenization methods**  
AKDAĞ ÇAYLI Y., GÜLSÜN İNAL T., İZAT N., ÖNER L., ŞAHİN S.  
JOURNAL OF RESEARCH IN PHARMACY, vol.26, no.2, pp.383-396, 2022 (ESCI)
- III. **Evaluation of preparation methods for orally disintegrating tablets**  
AKDAĞ ÇAYLI Y., GÜLSÜN İNAL T., İZAT N., ÇETİN M., ÖNER L., ŞAHİN S.  
Medicine Science, vol.9, no.1, pp.259-263, 2020 (Peer-Reviewed Journal)
- IV. **Evaluation of drug permeability methods recommended by health authorities**  
GÜLSÜN İNAL T., ŞAHİN S.  
Medicine Science, vol.9, no.1, pp.261-264, 2020 (Peer-Reviewed Journal)
- V. **Comparison of intestinal permeability of nebivolol hydrochloride loaded solid lipid nanoparticles**

**with commercial nebivolol tablet**

GÖKÇE E. H., KAYNAK M. S., YURDASİPER ERDEM A., Ustundag-Okur N., ŞAHİN S.  
JOURNAL OF RESEARCH IN PHARMACY, vol.22, no.4, pp.578-586, 2018 (ESCI)

- VI. **Dry Powder Inhalers: Formulations and Aerodynamic Behaviours**  
AKDAĞ ÇAYLI Y., ŞAHİN S., ÖNER L.  
Hacettepe University Journal of the Faculty of Pharmacy, vol.38, no.1, pp.39-52, 2018 (Scopus)
- VII. **Diabetes and diabetes associated physiologic and pharmacokinetic changes Diyabet ve Diyabete Bağlı Fizyolojik ve Farmakokinetik Değişiklikler**  
Gülsün T., ŞAHİN S.  
Hacettepe University Journal of the Faculty of Pharmacy, vol.37, no.2, pp.105-123, 2017 (Scopus)
- VIII. **Diabetes and Diabetes Associated Physiologic and Pharmacokinetic Changes**  
GÜLSÜN İNAL T., ŞAHİN S.  
Hacettepe University Journal of the Faculty of Pharmacy, vol.37, no.2, pp.105-123, 2017 (Peer-Reviewed Journal)
- IX. **Development of Type 1 and Type 2 Diabetes in Rats Using Streptozotocin and Nicotinamide/Streptozotocin**  
GÜLSÜN İNAL T., ŞAHİN S.  
Hacettepe University Journal of the Faculty of Pharmacy, vol.37, no.1, pp.9-17, 2017 (Peer-Reviewed Journal)
- X. **Orally disintegrating tablets ii: In vitro and in vivo evaluations Ağızda dağılan tabletler ii: In vitro ve in vivo değerlendirilmeleri**  
Ölmez S. S., VURAL İ., ŞAHİN S., ERTUĞRUL A., ÇAPAN Y.  
Hacettepe University Journal of the Faculty of Pharmacy, vol.31, no.1, pp.59-70, 2011 (Scopus)
- XI. **Orally disintegrating tablets i: Preparation technologies Ağızda dağılan tabletler i: Hazırlama teknolojileri**  
Ölmez S. S., VURAL İ., ŞAHİN S., ERTUĞRUL A., ÇAPAN Y.  
Hacettepe University Journal of the Faculty of Pharmacy, vol.30, no.2, pp.205-230, 2010 (Scopus)

## **Books & Book Chapters**

- I. **Physicochemical and Pharmacokinetic Properties of Metformin Hydrochloride**  
ŞAHİN S., GÜLSÜN İNAL T.  
in: The Pharmacological guide to metformin, Natalie Lajoie, Editor, Nova, pp.35-74, 2020
- II. **Steril Farmasötikler Teknoloji ve Uygulamaları**  
ŞUMNU M. M., ŞAHİN S., ARICA YEGİN B., EROĞLU H., ÇETİN M.  
Hacettepe Üniversitesi Yayınları, 2005

## **Refereed Congress / Symposium Publications in Proceedings**

- I. **Biyoesdeğerlikten Vazgeçme (Biyomuafiyet) İle İlgili Güncel Rehberlerin Değerlendirilmesi**  
GÜLSÜN İNAL T., ŞAHİN S.  
IV. Uluslar arası Akdeniz Eczacılık Kongresi (MEDPHACON), Mersin, Turkey, 26 - 28 April 2019, vol.8, pp.33
- II. **Determination of Equilibrium Solubility of Lamotrigine Using UV Spectrophotometer**  
Pezik E., Şahin S., Vural İ.  
International Multidisciplinary Symposium on Drug Research Development (DRD 2019), Malatya, Turkey, 1 - 03 July 2019, pp.367-370
- III. **Evaluation of Drug Permeability Methods Recommended By Food and Drug Administration**  
GÜLSÜN İNAL T., ŞAHİN S.  
International Multidisciplinary Symposium on Drug Research and Development (DRD 2019), Malatya, Turkey, 1 - 03 July 2019
- IV. **Effects of Preparation Methods On Orally Disintegrating Tablets**

AKDAĞ ÇAYLI Y., GÜLSÜN İNAL T., İZAT N., ÇETİN M., ÖNER L., ŞAHİN S.

International Multidisciplinary Symposium on Drug Research and Development (DRD 2019, Malatya, Turkey, 1 - 03 July 2019

- V. **Effects of Preparation Methods on Orally Disintegrating Tablets**  
AKDAĞ ÇAYLI Y., GÜLSÜN İNAL T., İZAT N., ÇETİN M., ÖNER L., ŞAHİN S.  
International Multidisciplinary Symposium on Drug Research Development (DRD 2019), 1 - 03 July 2019
- VI. **Ağız yolu ile uygulanan etkin maddelerin çözünürlük ve permeabilite özelliklerini arttırmak amacıyla formülasyon geliştirme sürecinde kullanılan yöntemler**  
AKDAĞ ÇAYLI Y., GÜLSÜN İNAL T., İZAT N., ŞAHİN S., ÖNER L.  
2. Ulusal Marmara Eczacılık Kongresi (UMEK-2), Turkey, 14 - 16 November 2018
- VII. **Standart (iki boyutlu) hücre kültürü çalışmalarının ve üç boyutlu in vitro doku modellerinin eczacılıktaki uygulama alanları**  
GÜLSÜN İNAL T., ŞAHİN S.  
2. Ulusal Marmara Eczacılık Kongresi (UMEK-2), İstanbul, Turkey, 14 - 16 November 2018
- VIII. **Effect of permeability enhancers on paracellular transport of furosemide across Caco-2 cell monolayers**  
İZAT N., GÜLSÜN İNAL T., ŞAHİN S.  
Globalization of Pharmaceutics Education Network: (GPEN-2018), Singapore, 26 September 2018
- IX. **Effect Of Lamotrigine On Viability Of MCF-7 And RG-2 Cells**  
Pezik E., Öztürk N., Çeliker A., Şahin S., Vural İ.  
19th International Pharmaceutical Technology Symposium (IPTS 2018) , Antalya, Turkey, 17 - 19 September 2018, pp.212-213
- X. **Influence of Permeability Enhancers on the Paracellular Permeability of Metformin Hydrochloride Across Caco-2 Cells**  
İZAT N., GÜLSÜN İNAL T., ŞAHİN S.  
19th International Pharmaceutical Technology Symposium, 17 - 19 September 2018
- XI. **Development and Characterization of trimethobenzamide containing orally disintegrating tablets**  
Uluhan Ö. D., GÜLSÜN İNAL T., ŞAHİN S.  
19th International Pharmaceutical Technology Symposium (IPTS 2018), Antalya, Turkey, 17 September 2018
- XII. **Examination intestinal permeability of metformin in the presence of glyburide and ketoconazole in Type 2 diabetes**  
GÜLSÜN İNAL T., ŞAHİN S.  
19th International Pharmaceutical Technology Symposium (IPTS 2018), Antalya, Turkey, 17 September 2018
- XIII. **Determination of cytotoxicity of Lamotrigine on L929 cell line.**  
Pezik E., Öztürk N., Şahin S., Vural İ.  
12 th International Symposium on Pharmaceutical Sciences (ISOPS 2018), Ankara, Turkey, 26 - 29 June 2018, pp.295-296
- XIV. **Investigation of deferasirox permeability from lyophilized orally disintegrating tablet**  
GÜLSÜN İNAL T., İZAT N., AKDAĞ ÇAYLI Y., ÖNER L., ŞAHİN S.  
2017 AAPS Annual Meeting and Exposition, 12 - 15 November 2017
- XV. **Investigation of terbutaline sulfate permeability from orally disintegrating tablets**  
İZAT N., AKDAĞ ÇAYLI Y., GÜLSÜN İNAL T., ÖNER L., ŞAHİN S.  
2017 AAPS Annual Meeting and Exposition, 12 - 15 November 2017
- XVI. **Development and Characterization of Indomethacin and Curcumin Containing Nanofibers**  
İNAL M., GÜLSÜN İNAL T., İZAT N., AKDAĞ ÇAYLI Y., ÖNER L., ŞAHİN S.  
GPSS 2017, 11 - 13 October 2017
- XVII. **Evaluation of Spice-Drug Interactions on the Bioavailability of Orally Administrated Drugs**  
İZAT N., GÜLSÜN İNAL T., aksoy h., ŞAHİN S.  
2nd International Gazi Pharma Symposium Series (GPSS 2017), 11 - 13 October 2017
- XVIII. **Development and Evaluation of Lyophilized Orally Disintegrating Tablets Containing Metformin Hydrochloride and Glyburide**

- AKDAĞ ÇAYLI Y., GÜLSÜN İNAL T., İZAT N., ÇETİN M., ÖNER L., ŞAHİN S.  
77th FIP World Congress of Pharmacy and Pharmaceutical Sciences 2017, 10 - 14 September 2017
- XIX. **Effect of repaglinide on the intestinal permeability of metformin hydrochloride in type 2 diabetic rats**  
GÜLSÜN İNAL T., ŞAHİN S.  
77th FIP World Congress of Pharmacy and Pharmaceutical Sciences 2017, 10 - 14 September 2017
- XX. **Investigation of intestinal permeability of metformin hydrochloride in the presence of glyburide in type 2 diabetes**  
GÜLSÜN İNAL T., ŞAHİN S.  
EuroPPS-2017 International Conference on Progressive PharmSciences: Technology, Research and Development, 19 - 21 June 2017
- XXI. **Antibiyotik İçeren Kuru Toz İnhaler Formülasyonları**  
AKDAĞ ÇAYLI Y., ŞAHİN S., ÖNER L.  
1. Anadolu Üniversitesi Eczacılık Fakültesi Sempozyumu (ANES), Turkey, 1 - 02 June 2017
- XXII. **Nanosüspanسیون formülasyonlarının hazırlanmaları ve karakterizasyonları**  
GÜLSÜN İNAL T., borna s., ŞAHİN S.  
Anadolu Üniversitesi Eczacılık Fakültesi Sempozyumu, Turkey, 1 - 02 June 2017
- XXIII. **Levofloxacin Dry Powder for Inhalation by Spray Drying Method**  
AKDAĞ ÇAYLI Y., ŞAHİN S., Buttini F., Balducci A. G., Montanari S., VURAL İ., ÖNER L.  
2016 AAPS Annual Meeting and Exposition, 13 - 17 November 2016
- XXIV. **Development and Validation of an HPLC method for Simultaneous Determination of Ciprofloxacin Levofloxacin and N acetylcysteine**  
AKDAĞ ÇAYLI Y., ŞAHİN S., VURAL İ., ÖNER L.  
2016 AAPS Annual Meeting and Exposition, 13 - 17 November 2016
- XXV. **Estimation of Rivaroxaban Nanocrystals Permeability Across Caco 2 Cell Monolayers by LC MS MS**  
demir h., GÜLSÜN İNAL T., ŞENER E., ŞAHİN S., ÖNER L.  
2016 AAPS Annual Meeting and Exposition, 13 - 17 November 2016
- XXVI. **Evaluation of Surfactant Effect on the Saturation Solubility and Permeability of Deferasirox**  
AKDAĞ ÇAYLI Y., GÜLSÜN İNAL T., İZAT N., ÖNER L., ŞAHİN S.  
2016 AAPS Annual Meeting and Exposition, 13 - 17 November 2016
- XXVII. **Development and Evaluation of Terbutaline Sulfate Containing Orally Disintegrating Tablets**  
İZAT N., AKDAĞ ÇAYLI Y., GÜLSÜN İNAL T., KAYNAK M. S., ÖNER L., ŞAHİN S.  
2016 AAPS Annual Meeting and Exposition, 13 - 17 November 2016
- XXVIII. **Formulation and Characterization of Mometasone Furoate Monohydrate and Formoterol Fumarate Dihydrate Containing Dry Powder Inhaler Formulations**  
AKDAĞ ÇAYLI Y., GÜLSÜN İNAL T., İZAT N., ÖNER L., ŞAHİN S.  
2016 AAPS Annual Meeting and Exposition, 13 - 17 November 2016
- XXIX. **Effect of Particle Size on Deferasirox Dissolution Time**  
GÜLSÜN İNAL T., AKDAĞ ÇAYLI Y., İZAT N., ÖNER L., ŞAHİN S.  
2016 AAPS Annual Meeting and Exposition, 13 - 17 November 2016
- XXX. **Determination of Permeability of Ciprofloxacin Dry Powder Inhaler Formulations Across Calu 3 Cell Line**  
AKDAĞ ÇAYLI Y., ŞAHİN S., VURAL İ., ÖNER L.  
2016 AAPS Annual Meeting and Exposition, 13 - 17 November 2016
- XXXI. **Determination and Evaluation of Aerodynamic Parameters of Ciprofloxacin and Mucolytic Containing Dry Powder Inhalers**  
AKDAĞ ÇAYLI Y., ŞAHİN S., BUTTINI F., BALDUCCI A. G., MONTANARI S., VURAL İ., ÖNER L.  
The Globalization of Pharmaceutics Education Network (GPEN) 2016, 9 - 12 November 2016
- XXXII. **BCS BDDCS and Grapefruit Juice Drug Interactions**  
şit b., GÜLSÜN İNAL T., ŞAHİN S.  
IPTS 2016, 18 - 21 September 2016

- XXXIII. **EVALUATION OF PERMEABILITY OF LEVOFLOXACIN CONTAINING DRY POWDER INHALER ACROSS CALU 3 CELL LINE**  
AKDAĞ ÇAYLI Y., ŞAHİN S., VURAL İ., ÖNER L.  
18th International Pharmaceutical Technology Symposium, 18 - 21 September 2016
- XXXIV. **Preparation and Evaluation of Lyophilized Orally Disintegrating Tablets Containing Terbutaline Sulphate**  
İZAT N., AKDAĞ ÇAYLI Y., GÜLSÜN İNAL T., DEMİRTÜRK E., ÇETİN M., ÖNER L., ŞAHİN S.  
18th International Pharmaceutical Technology Symposium, 18 - 21 September 2016
- XXXV. **Effect of Verapamil on the Intestinal Permeability of Metformin in Type 2 Diabetic Rats and Caco 2 Cells**  
GÜLSÜN İNAL T., ŞAHİN S.  
IPTs 2016, 18 - 21 September 2016
- XXXVI. **Development and In vitro Evaluation of Deferasirox Orally Disintegrating Tablets by Lyophilization Method**  
GÜLSÜN İNAL T., İZAT N., AKDAĞ ÇAYLI Y., DEMİRTÜRK E., ÇETİN M., ÖNER L., ŞAHİN S.  
18th International Pharmaceutical Technology Symposium, 18 - 21 September 2016
- XXXVII. **Development and Validation of an HPLC Method for Determination of Rofecoxib**  
DEMİRTÜRK E., İZAT N., AKDAĞ ÇAYLI Y., GÜLSÜN İNAL T., ŞAHİN S., ÖNER L.  
18th International Pharmaceutical Technology Symposium, 18 - 21 September 2016
- XXXVIII. **Investigation of Influence on Diabetes drug absorption and permeability**  
GÜLSÜN İNAL T., ŞAHİN S.  
IPTs 2016, 18 - 21 September 2016
- XXXIX. **Influence of Verapamil On Metformin Permeability Across Caco 2 Cells**  
GÜLSÜN İNAL T., İZAT N., AKDAĞ ÇAYLI Y., ÖNER L., ŞAHİN S.  
1st International Gazi Pharma Symposium Series, 12 - 15 November 2015
- XL. **Evaluation of Dissolution Results of Commercially Available Metformin Hydrochloride Tablets**  
İZAT N., AKDAĞ ÇAYLI Y., GÜLSÜN İNAL T., ÖNER L., ŞAHİN S.  
2015 AAPS Annual Meeting and Exposition, 25 - 29 October 2015
- XLI. **Development of Type 1 and Type 2 Diabetes Mellitus in Rats Using Streptozotocin and Nicotinamide Streptozocin**  
GÜLSÜN İNAL T., muhammed karim h., KÖSEMEHMETOĞLU K., ŞAHİN S.  
2015 AAPS Annual Meeting and Exposition, orlando, United States Of America, 25 - 29 October 2015
- XLII. **Formulation and Characterization of Ciprofloxacin and Mucolytic Containing Dry Powder Inhaler Formulations**  
AKDAĞ ÇAYLI Y., ŞAHİN S., VURAL İ., ÖNER L.  
2015 AAPS Annual Meeting and Exposition, 25 - 29 October 2015
- XLIII. **Development of Metformin Hydrochloride and Glyburide Containing Orally Disintegrating Tablets**  
GÜLSÜN İNAL T., İZAT N., AKDAĞ ÇAYLI Y., KAYNAK M. S., ÖNER L., ŞAHİN S.  
2015 AAPS Annual Meeting and Exposition, 25 - 29 October 2015
- XLIV. **Preparation and Evaluation of Deferasirox Containing Orally Disintegrating Tablets by Direct Compression Method**  
AKDAĞ ÇAYLI Y., GÜLSÜN İNAL T., İZAT N., ŞAHİN S., ÖNER L.  
2015 AAPS Annual Meeting and Exposition, 25 - 29 October 2015
- XLV. **Formulation and Characterization of Levofloxacin and Mucolytic Containing Dry Powder Inhaler Formulations**  
AKDAĞ ÇAYLI Y., ŞAHİN S., VURAL İ., ÖNER L.  
3rd International TB-Meeting, 14 - 16 October 2015
- XLVI. **Investigation of permeabilities of metformin and glyburide from orally disintegrating tablets**  
ŞAHİN S., GÜLSÜN İNAL T., İZAT N., AKDAĞ ÇAYLI Y., ÖNER L.  
6th BBBB Conference on Pharmaceutical Sciences, 10 - 12 September 2015
- XLVII. **Investigation of metformin permeability from commercially available metformin hydrochloride**



**tablets**

ŞAHİN S., İZAT N., AKDAĞ ÇAYLI Y., GÜLSÜN İNAL T., ÖNER L.

6th BBBB Conference on Pharmaceutical Sciences, 10 - 12 September 2015

**XLVIII. Permeability studies of orally disintegrating tablets containing deferasirox**

ŞAHİN S., AKDAĞ ÇAYLI Y., GÜLSÜN İNAL T., İZAT N., ÖNER L.

6th BBBB Conference on Pharmaceutical Sciences, 10 - 12 September 2015

**XLIX. Preparation and Characterization of Rivaroxaban Nanocrystals**

demir h., GÜLSÜN İNAL T., ŞAHİN S., ÖNER L.

6th BBBB Conference on Pharmaceutical Sciences Strategies to Improve The Quality and Performance of Modern Drug Delivery Systems, Helsinki, Finland, 10 - 12 September 2015

**L. Formulation and Characterization of Antibiotic and Mucolytic Containing Dry Powder Inhaler Formulations**

AKDAĞ ÇAYLI Y., ŞAHİN S., VURAL İ., ÖNER L.

1st European Conference on Pharmaceutics : Drug Delivery, 13 - 14 April 2015

**LI. Formulation and In Vitro Evaluation of Furosemide Nanosuspensions**

GÜLSÜN İNAL T., sahand ebadi b., VURAL İ., ŞAHİN S.

1st European Conference on Pharmaceutics : Drug Delivery, Reims, France, 13 - 14 April 2015

**LII. Effect of Precipitation Inhibitors on Supersaturation and Solubility of Furosemide**

ÖZTÜRK N., KARA A., GÜLSÜN İNAL T., PEHLİVAN S., VURAL İ., ŞAHİN S.

AAPS Annual Meeting and Exposition, san diego, United States Of America, 2 - 06 November 2014

**LIII. Development of Orally Disintegrating Tablets Containing Olmesartan Medoxomil and Amlodipine Besylate**

ÖZTÜRK N., GÜLSÜN İNAL T., KAYNAK M. S., VURAL İ., ŞAHİN S.

AAPS Annual Meeting and Exposition, san diego, United States Of America, 2 - 06 November 2014

**LIV. Preparation and Evaluation of Furosemide Containing Orally Disintegrating Tablets by Direct Compression**

GÜLSÜN İNAL T., ÖZTÜRK N., KAYNAK M. S., ŞAHİN S., VURAL İ.

AAPS Annual Meeting and Exposition, san diego, United States Of America, 2 - 06 November 2014

**LV. Effect of Milling Time on the Formulation Parameters of Nanosuspensions**

GÜLSÜN İNAL T., ÖZTÜRK N., PEHLİVAN S., ŞAHİN S., VURAL İ.

AAPS Annual Meeting and Exposition, San diego, United States Of America, 2 - 06 November 2014

**LVI. Development and Validation of a RP HPLC Method for Simultaneous Determination of Metformin Hydrochloride Phenol Red and Metoprolol Tartrate**

GÜLSÜN İNAL T., ŞAHİN S.

AAPS Annual Meeting and Exposition, san diego, United States Of America, 2 - 06 November 2014

**LVII. Comparison of Furosemide Nanocrystals and Nanosuspensions in Terms of Solubility and Permeability**

ÖZTÜRK N., GÜLSÜN İNAL T., ŞAHİN S., VURAL İ.

17th International Pharmaceutical Technology Symposium, Antalya, Turkey, 8 - 10 September 2014

**LVIII. Preparation and In vitro Evaluation of Furosemide Nanosuspensions for Enhancement of its Solubility and Permeability**

GÜLSÜN İNAL T., sahand ebadi b., GÜR SOY R. N., VURAL İ., ŞAHİN S.

17th International Pharmaceutical Technology Symposium, Antalya, Turkey, 8 - 10 September 2014

**LIX. Formulation and Characterization of Ciprofloxacin Nanoparticles for Use in Dry Powder Inhalers**

AKDAĞ ÇAYLI Y., ŞAHİN S., VURAL İ., ÖNER L.

17th International Pharmaceutical Technology Symposium, 8 - 10 September 2014

**LX. Preparation and Characterization of Furosemide Nanosuspensions**

sahand ebadi b., GÜLSÜN İNAL T., GÜR SOY R. N., VURAL İ., ŞAHİN S.

AAPS Annual Meeting and Exposition, chicago, United States Of America, 14 - 18 October 2012

**LXI. Preparation of Furosemide Nanosuspensions by High Pressure Homogenization and Its In vivo Characterization**

GÜLSÜN İNAL T., sahand ebadi b., GÜRİSOY R. N., VURAL İ., ŞAHİN S.

16th International Pharmaceutical Technology Symposium, Antalya, Turkey, 10 - 12 September 2012

**LXII. Enhancement of Solubility of Nimesulide by Preparing Nanocrystal Formulation**

çisem b., GÜLSÜN İNAL T., VURAL İ., ŞAHİN S., ÖNER L.

Globalization of Pharmaceutics Education Network: Eighth Meeting, chapel hill, 10 - 12 November 2010

## Supported Projects

ŞAHİN S., İZAT N., Project Supported by Higher Education Institutions, Karaciğerdeki İlaç Dispozisyonu Üzerine Rifampisin Etkisinin İncelenmesi ve Farmakokinetik Modelleme, 2019 - 2021

ŞAHİN S., GÜLSÜN İNAL T., ULUHAN Ö. D., Project Supported by Higher Education Institutions, Trimetobenzamit HCl içeren Ağızda Dağılan Tablet formülasyonlarının in vitro karakterizasyonları ve permeabiliteleri üzerine farklı yardımcı maddelerin etkisi, 2018 - 2019

ÖNER L., ŞAHİN S., DEMİR KABAŞ H., Project Supported by Higher Education Institutions, RİVAROKSABAN NANOKRİSTALLERİNİN HAZIRLANMASI VE İN VİTRO İN VİVO DEĞERLENDİRİLMESİ, 2018 - 2018

ŞAHİN S., İZAT N., GÜLSÜN İNAL T., Project Supported by Higher Education Institutions, Caco2 Hücrelerden Paraselüler İlaç Permeabilitesi Üzerine Permeabilite Artırıcı Ajanların Etkisinin İncelenmesi, 2017 - 2018

ŞAHİN S., Project Supported by Higher Education Institutions, Metformin hidroklorür için mikro ve nanopartiküler ilaç taşıyıcı sistemler, 2017 - 2017

ŞAHİN S., DOĞAN A., GÜRBAY A., Project Supported by Higher Education Institutions, Hacettepe University Journal of The Faculty of Pharmacy Bilimsel Dergisinin Elektronik Ortamda Yayınlanması, 2017 - 2017

ÖNER L., ÖZKAN M. H., DEMİR KABAŞ H., ŞAHİN S., Project Supported by Higher Education Institutions, Antikoagülan rivaroxabanın doz orantısallığını sağlamak üzere geliştirilen Nanokristal formülasyonlarının tavşanlarda biyoyararlanım çalışması ile in vivo değerlendirilmesi, 2017 - 2017

ŞAHİN S., Project Supported by Higher Education Institutions, Flip-Flop Farmakokinetiği gösteren ilaçlar ve bu ilaçların BDCSS Sınıf 3 ve 4 ile ilişkisi, 2016 - 2017

ŞAHİN S., GÜLSÜN İNAL T., Project Supported by Higher Education Institutions, İlaçların absorpsiyonu ve permeabilitesi üzerine diyabetin etkisinin incelenmesi, 2016 - 2016

ŞAHİN S., Project Supported by Higher Education Institutions, Perfüze Sıçan Karaciğerinde Diklofenakın Dispozisyon kinetiğinin İncelenmesi, 2015 - 2016

## Metrics

Publication: 142

Citation (WoS): 294

Citation (Scopus): 291

H-Index (WoS): 10

H-Index (Scopus): 10

## Non Academic Experience

THE UNIVERSITY OF CALIFORNIA SAN FRANCISCO-ABD

UPPSALA UNIVERSITY-İSVEÇ

THE UNIVERSITY OF MANCHESTER