

# **Hamid (Hossein) Omidian**

Ph.D., MSc, BSc

## **Primary Positions**

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- Professor at Nova Southeastern University
- Principal Scientist at Abbott Laboratories
- Principal Scientist at Kos Pharmaceuticals
- Expert Witness in Patent Litigations
- Editor at Journal of Bioactive and Compatible Polymers
- Delegate at United States Pharmacopeia
- Research Fellow at Purdue University
- Department Chair at Iran Polymer Institute

## **Professional Skills**

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### **DRUG DELIVERY TECHNOLOGIES**

#### *Drug Delivery in General*

- Over 20 years of active experience with developing advanced dosage forms.
- 15 years of teaching professional and graduate-level courses including “Physical Pharmacy”, “Pharmaceutics”, “Drug Delivery Systems and Technologies”, “Pharmaceutical Polymers”, “Pharmaceutical Excipients”
- Invited co-author of several book chapters in oral drug delivery.
- Primary inventor of 3 issued US patents on hydrogels in drug delivery.
- Principal Investigator of several grants on novel drug delivery systems.
- Co-authored the book chapter “Oral Targeted Drug Delivery Systems: Gastric Retention Devices”.
- Co-authored the book chapter “Drug Delivery Systems and Targeting” in the 6th edition of Martin’s Physical Pharmacy and Pharmaceutical Sciences.
- Co-authored the book chapter “Commercial Oral Controlled Release Solid Dosage Forms”.
- Co-authored the book chapter “Oral Controlled Delivery Mechanisms and Technologies”.
- Co-authored the book chapter “Mucoadhesive Drug Delivery Systems”.
- Co-authored the book chapter “Polymers in Drug Delivery”.
- Co-authored the book chapter “Polymers in Oral Drug Delivery”.
- Co-authored the book chapter “Polymers and Hydrogels to Deter Drug Abuse”.

#### *Oral-Retentive Dosage Forms (2018-present)*

- Developed technologies to enhance oral retention of drugs.
- Developed effective mucoadhesive platforms with desirable physical, mechanical, and drug release properties for buccal and sublingual drug delivery.
- Developed fast and reproducible analytical techniques to evaluate oral films' adhesion and mechanical properties.
- Published several peer-reviewed articles in high-impact journals.

### *Abuse-Deterrent Pharmaceutical Dosage Forms (2010-present)*

- 12 years of extensive research on prescription drug abuse and abuse-deterrent formulations.
- Holding 8 US Patent Applications, and 29 Invention Disclosures on technologies to deter prescription drug abuse.
- Developed very effective technologies to deter abuse of active ingredients in immediate and extended-release formulations.
- Developed technologies that can safely and effectively deter opioid abuse under a variety of abuse conditions including snorting, injection, and oral ingestion assisted with alcohol and oral multiple administrations.
- Developed new techniques to evaluate the deterrence potential of dosage forms claiming to be abuse-deterrent, supplementary tests to Tier 1 in-vitro abuse deterrence testing.
- Served as consultant and expert witness in several patent infringement and invalidation cases.
- Over 15 peer-reviewed publications, and more than 70 conference presentations.
- Submitted three comprehensive proposals to the National Science Foundation, and the National Institute of Health.
- Trained four Ph.D. students, and three more are being trained.

### *Gastro-Retentive Oral Drug Delivery (2002-2006)*

- Five years of experience in developing gastro-retentive platforms to prolong gastric retention of drugs with a narrow absorption window.
- Developed several technologies and platforms that could potentially provide oral gastric retention.
- Helped writing protocols, formulating, manufacturing supplies, and conducting in-vivo animal, stability, safety, acute toxicity, and human trial studies.
- Closely worked with analytical, regulatory, quality control, quality assurance, and the clinical site to ensure successful implementation of studies.
- Holding 2 US Patents, and several invention disclosures on safe and effective techniques to provide oral gastric retention.
- Developed gastro-retentive platforms for immediate and sustained release delivery systems.
- Developed gastro-retentive platforms for semi-solid dosage forms providing various release profiles
- Dozens of publications and conference presentations.

### *Diet Platforms to Treat Obesity (2005-2007)*

- Two years of intensive research on polymeric platforms that could offer a sense of satiety (fullness) if orally ingested.
- Developed safe and effective polymeric-based diet platforms.
- Helped writing protocols, formulating, manufacturing supplies, and conducting in-vivo animal, stability, safety, acute toxicity, and human trial studies.
- Closely worked with analytical, regulatory, quality control, quality assurance, and the clinical site to ensure successful implementation of studies.
- Holding 1 US Patent Application, several invention disclosures, several peer-reviewed publications, and presentations.

## HYDROGELS

### *Hydrogels in General*

- Over 25 years of research experience in the synthesis, characterization, and application of a variety of synthetic and natural-based hydrogel systems intended for chemical, pharmaceutical, and biomedical applications.
- Hands-on experience in synthesis and characterization of hydrogels (solvent-responsive, pH-responsive, thermo-responsive, ion-responsive, cryogels) that can effectively absorb water, saline, blood, urine, alcohol, and moisture intended for agricultural, hygiene, water treatment, pharmaceutical, and biomedical applications.
- Invited co-author of 6 book chapters “Hydrogels”, “Introduction to Hydrogels”, “Engineered High Swelling Hydrogels”, “Fast-Responsive Macroporous Hydrogels”, “Superabsorbent Hydrogels”, and “Superporous Hydrogels for Drug Delivery Applications”.
- Published over 50 peer-reviewed articles and dozens of conference presentations.

### *Superdisintegrant Hydrogels (2010-present)*

- Invented the use of different negatively charged starch-based and cellulose-based superdisintegrants as a powerful deterrent agent in abuse-deterrent formulations.
- Invented the use of the opioid-superdisintegrant complex as a durable and stable deterrent agent in abuse-deterrent formulations.
- Developed a novel quantitative and qualitative technique to measure disintegrating power of superdisintegrants.

### *Superporous hydrogels (2001-2002)*

- Invented a new generation of superporous hydrogels intended for advanced drug delivery applications.
- Holding 1 US patent, and dozens of publications and presentations.

### *Superabsorbent hydrogels (1991-2000)*

- Developed superabsorbent hydrogels for hygiene and agricultural applications.
- Scaled-up manufacturing of different grades of superabsorbents at 300 metric tons per year.
- Supervised four master's students in Polymer Engineering.

## OTHERS

- Pharmaceutical processes and formulations
- Thermal, structural, chemical, and physical analyses
- Solid-state mechanical analyses
- Solution state flow analyses
- Blockchain in pharmaceutical life cycle management
- Expert witness, Patent prosecution, and litigation
- Editorial

## Education

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Ph.D.	Polymer Engineering	<u>BRUNEL UNIVERSITY</u> Department of Chemistry, London, UK	1993-1997
M.Sc.	Chemical Engineering Majored in Polymer Engineering	<u>TEHRAN POLYTECHNIC UNIVERSITY</u> Department of Chemical Engineering, Tehran, Iran	1987-1990
B.Sc.	Chemical Engineering Majored in Polymer Engineering	<u>TEHRAN POLYTECHNIC UNIVERSITY</u> Department of Chemical Engineering, Tehran, Iran	1983-1987

## Current Appointment

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Professor	<u>NOVA SOUTHEASTERN UNIVERSITY</u> College of Pharmacy Pharmaceutical Sciences Fort Lauderdale, USA	2015- Present
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## Past Appointments

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Associate Professor	<u>NOVA SOUTHEASTERN UNIVERSITY</u> College of Pharmacy Pharmaceutical Sciences Fort Lauderdale, USA	2011-2015
Assistant Professor	<u>NOVA SOUTHEASTERN UNIVERSITY</u> College of Pharmacy Pharmaceutical Sciences Fort Lauderdale, USA	2007-2011
Principal Scientist	<u>ABBOTT LABORATORIES</u> Formulation R&D Drug Delivery Technologies Fort Lauderdale, USA	2006-2007
Principal Scientist	<u>KOS PHARMACEUTICALS, INC.</u> Formulation R&D Drug Delivery Technologies Fort Lauderdale, USA	2005-2006
Research Manager	<u>KOS PHARMACEUTICALS, INC.</u> Formulation R&D Drug Delivery Technologies Fort Lauderdale, USA	2004-2005
Senior Scientist	<u>KOS PHARMACEUTICALS, INC.</u> Formulation R&D Drug Delivery Technologies Fort Lauderdale, USA	2002-2003

Postdoctoral Fellow	<u>PURDUE UNIVERSITY</u> College of Pharmacy Industrial & Physical Pharmacy (IPPH) West Lafayette, USA	2001-2002
Assistant professor, Head of Department	<u>IRAN POLYMER INSTITUTE</u> Center for Polymer Synthesis and Processing Tehran, Iran	1996-2001
Editor, Assistant Editor	<u>IRAN UNIVERSITY PRESS</u> Department of Chemistry Tehran, Iran	1994-1999
Lecturer, Research Scientist	<u>IRAN POLYMER INSTITUTE</u> Center for Polymer Synthesis and Processing Tehran, Iran	1987-1997

## Other Appointments

Delegate	United States Pharmacopeia (USP)	2009- Present
Editor	BioImpacts	2021- Present
Editor	Advanced Pharmaceutical Bulletin	2013- Present
Editor	Iranian Polymer Journal, Springer (publisher)	2011- Present
Editor	Journal of Bioactive and Compatible Polymers, Sage (Publisher)	2010- Present

## Intellectual Properties

### ISSUED PATENTS AND THEIR PATENT FAMILY

#### 1. Hydrogels Having Enhanced Elasticity and Mechanical Strength Properties

Inventors: H Omidian, Y Qiu, DJ Kim, SC Yang, H Park, and K Park

Assignee: Purdue Research Foundation, West Lafayette, USA

US 6960617 (B2)	Nov 01, 2005	US Patent
US 2003232895 (A1)	Dec 18, 2003	US Patent Application
WO 03089506 (A1)	Oct 30, 2003	World Patent Application
AU 2003234159 (A1)	Nov 03, 2003	Australian Patent Application

#### 2. Formation of Strong Super-porous Hydrogels

Inventors: H Omidian, JG Rocca

Assignee: Kos Pharmaceuticals Inc., Fort Lauderdale, USA

US 7056957 (B2)	June 06, 2006	US Patent
EP 1620076 (A2)	Aug 25, 2010	European Patent Application
US 2004224021 (A1)	Nov 11, 2004	US Patent Application
WO 2004096127 (A2)	Nov 11, 2004	World Patent Application
WO 2004096127 (A3)	May 12, 2005	World Patent Application
MX PA05011311 (A)	Dec 12, 2005	Mexico Patent Application
JP 2006524742 (A)	Nov 02, 2006	Japan Patent Application
JP 4869066 (B2)	Feb 01, 2012	Japanese Patent
CA 2638788 (A1)	Nov 11, 2004	Canadian Patent Application
CA 2523246 (A1)	Nov 11, 2004	Canadian Patent Application
CA 2523246 (C)	Dec 01, 2009	Canadian Patent Application
AU 2004233805 (A1)	Nov 11, 2004	Australian Patent Application
AU 2004233805 (B2)	June 21, 2007	Australian Patent

3. Super-porous Hydrogels for Heavy-Duty Applications

Inventors: H Omidian, JG Rocca

Assignee: Abbott Laboratories, Chicago, USA

US 7988992 (B2)	Aug 02, 2011	US Patent
US 2008089940 (A1)	Apr 17, 2008	US Patent Application
WO 2009029087 (A2)	Mar 05, 2009	World Patent Application
WO 2009029087 (A3)	Jun 04, 2009	World Patent Application
MX 2009000046 (A)	Jun 05, 2009	Mexico Patent Application
JP 2009542895 (A)	Dec 03, 2009	Japanese Patent Application
EP 2073792 (A2)	July 01, 2009	European Patent Application
CN 101588790 (A)	Nov 25, 2009	Chinese Patent Application
CA 2686927 (A1)	Jan 06, 2008	Canadian Patent Application

## PENDING PATENT APPLICATIONS

1. Very Pure Super-Porous Hydrogels Having Outstanding Swelling Properties

Inventors: H Omidian, C Gavrilas, W Han, G Li, and JG Rocca

Assignee: Abbott Laboratories, Chicago, USA

US 2008206339 (A1)	Aug 28, 2008	US Patent Office
WO 2008106401 (A1)	Sep 04, 2008	World Patent Application

2. Deterring Abuse of Pharmaceutical Products and Alcohol

Inventors: H Omidian, D Mastropietro, S Muppananeni

Original Assignee: Nova Southeastern University, Fort Lauderdale, USA

Current Assignee: MEC Device Pharma International LLC, Fort Lauderdale, USA

PCT/2014/US54863	Sep 09, 2014	US Patent Office
WO2015035423	Mar 12, 2015	World Patent Application
US 14/917,368	Mar 08, 2016	US Patent Application
US2016213628 (A1)	Jul 28, 2016	US Patent Application
EP3038604 (A2)	Jul 06, 2016	European Patent Application
CA2923721(A1)	Mar 12, 2015	Canadian Patent Application
CA 2923721	Sep 09, 2014	Canadian Patent Application
US 16/596,304	April 09, 2020	US Patent Office

3. Compositions for Deterring Abuse of Pharmaceutical Products and Alcohol

Inventors: H Omidian, S Muppananeni, Y Joshi, D Mastropietro

Assignee: Nova Southeastern University, Fort Lauderdale, USA

Current Assignee: MEC Device Pharma International LLC, Fort Lauderdale, USA

US 62/244,637	Oct 21, 2015	US Patent Office
PCT/US2016/058097	Oct 21, 2016	US Patent Office
WO/2017/070462	Apr 27, 2017	World Patent Office
US 15/770,193	Apr 21, 2018	US Patent Office
US2018303824 (A1)	Oct 25, 2018	US Patent Office

4. Deterring Abuse of Pharmaceutical Products (2020)

Inventors: H Omidian, N Babanejad

Assignee: Nova Southeastern University, Fort Lauderdale, USA

Current Assignee: H Omidian and N Babanejad, Fort Lauderdale, USA

US 63/080472	09/18/2020	US Patent Office
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5. Abuse Resistant Drug Formulations (2018)

Inventors: H Omidian, Y Joshi, R Ahmad

Current Assignee: MEC Device Pharma International LLC, Fort Lauderdale, USA

US 62/543,603

Aug 10, 2017

US Patent Office

PCT/US2018/046237

Aug 10, 2018

US Patent Office

US 16/122,360

Sep 05, 2018

US Patent Office

US2019/0046521

Feb 14, 2019

US Patent Office

6. Collective Binding, Swelling, Gelling, and Clogging to Deter Drug Abuse

Inventors: H Omidian, Y Joshi, R Ahmad

Assignee: Nova Southeastern University, Fort Lauderdale, USA

Current Assignee: MEC Device Pharma International LLC, Fort Lauderdale, USA

7. An Aversive Super-Deterrent Agent for Abusable Medications

Inventors: D Mastropietro, H Omidian

Assignee: Nova Southeastern University, Fort Lauderdale, USA

US Patent Application 61/919,443 Filed 12/20/2013

NSU Invention Disclosure, NSU 13-10

8. Powerful Deterrent Agents for Abusable Medications

Inventors: H Omidian, D Mastropietro

Assignee: Nova Southeastern University, Fort Lauderdale, USA

US Patent Application 61/918,890 Filed 12/20/2013

NSU Invention Disclosure, NSU 13-09

9. Abuse Deterrents in Pharmaceutical Compositions

Inventors: H Omidian, D Mastropietro

Assignee: Nova Southeastern University, Fort Lauderdale, USA

US Patent Application 61/918,870 Filed 12/20/2013

NSU Invention Disclosure, NSU 13-05

10. A Therapeutic Composition for Alcohol Cessation and Abuse

Inventors: H Omidian, D Mastropietro

Assignee: Nova Southeastern University, Fort Lauderdale, USA

US Patent Application 61/918,879 Filed 12/20/2013

NSU Invention Disclosure, NSU 13-07

11. Abuse-Deterrent Pharmaceutical Compositions

Inventors: H Omidian, D Mastropietro

Assignee: Nova Southeastern University, Fort Lauderdale, USA

US Patent Application 61/875,173 Filed 09/09/2013

NSU Invention Disclosure, NSU 13-05

## INVENTION DISCLOSURES

*Filed at Nova Southeastern University:*

1- A Therapeutic and Cosmetic Active-Laden Charcoal Composition

Inventors: H Omidian, A Thumma (2020)

2- An Abuse-Deterrent Therapeutic Inorganic (2020)

Inventors: H Omidian, N Babanejad

3- Heat Shielded Abuse-Deterrent Compositions (2020)

Inventors: H Omidian, N Babanejad

- 4- Collective Binding, Swelling, Gelling, and Clogging to Deter Drug Abuse (2017)  
Inventors: H Omidian, Y Joshi, R Ahmad
- 5- Polymer-Drug Complexation to Minimize Drug Extraction (2017)  
Inventors: H Omidian, R Ahmad
- 6- Tuning Polymer Viscoelasticity, Swelling, and Binding to Tackle Prescription Drug Abuse (2016)  
Inventors: H Omidian, R Ahmad
- 7- Deterring Drug Abuse Using Crosslinked Starch (2016)  
Inventors: H Omidian, R Ahmad
- 8- Drug Abuse Deterrence Using Bacterial Gums (2016)  
Inventors: H Omidian, Y Joshi
- 9- Extraction Resistant Abuse-Deterrent Formulations (2016)  
Inventors: H Omidian, Y Joshi
- 10- Drug Abuse Deterrence Under Hot Aqueous Extraction (2016)  
Inventors: H Omidian, Y Joshi
- 11- High Performing Abuse-Deterrent Formulations (2015)  
Inventors: H Omidian, Y Joshi, D Mastropietro
- 12- Abuse-Deterrent Formulations Having Enhanced Crush Resistance (2015)  
Inventors: H Omidian, S Muppalaneni, D Mastropietro
- 13- Crush-Resistant Abuse-Deterrent Formulations (2014)  
Inventors: H Omidian, S Muppalaneni
- 14- A Crush-Resistant Vehicle for Abuse-Deterrent Compositions (2014)  
Inventors: H Omidian, S Muppalaneni, D Mastropietro
- 15- Multifunction Deterrents for Abusable Medications (2014)  
Inventors: H Omidian, S Muppalaneni
- 16- A Deterrent Cage for Immediate and Sustained-Release Abuse-Deterrent Medication (2014)  
Inventors: H Omidian, S Muppalaneni
- 17- An Aversive Super-Deterrent Agent for Abusable Medications (2013)  
Inventors: D Mastropietro, H Omidian
- 18- Powerful Deterrent Agents for Abusable Medications (2013)  
Inventors: H Omidian, D Mastropietro
- 19- Abuse Deterrents in Pharmaceutical Compositions (2013)  
Inventors: H Omidian, D Mastropietro
- 20- A Therapeutic Composition for Alcohol Cessation and Abuse (2013)  
Inventors: H Omidian, D Mastropietro
- 21- Abuse-Deterrent Pharmaceutical Compositions (2013)  
Inventors: H Omidian, D Mastropietro
- 22- Abuse-Adaptive Deterrent Compositions for Abusable Medications (2014)  
Inventors: H Omidian, S Muppalaneni, D Mastropietro
- 23- PVOH Cryogels in Pharmaceutical Use (2012)  
Inventors: H Omidian, D Mastropietro
- 24- Swellable Platforms, Pastes, and Extrudates (2008)  
Inventor: H Omidian

*Filed at Kos Pharmaceuticals, Inc.:*

- 25- Manufacturing Processes for Superporous Hydrogels as Gastro-Retentive Platform (2004)  
Inventors: H Omidian, C Gavrilas, W Han, JG Rocca
- 26- Encapsulation Process for Superporous Hydrogel Platform (2004)  
Inventors: C Gavrilas, H Omidian, JG Rocca
- 27- Simulator and Method to Measure the Effect of Gastric Activities (2004)  
Inventors: C Gavrilas, JG Rocca, H Omidian

28- Development of a Testing Station & Equipment for Simulation and Analytical Evaluation of Gastric Activities (2004)  
 Inventors: C Gavrilas, JG Rocca, H Omidian

29- Modified Hydroxyethyl Methacrylate-based Superporous Hydrogel Formulations (2003)  
 Inventors: H Omidian, JG Rocca

30- Novel Approaches to Improve Cell Stabilization, Dehydration, and Drying of Hydrogels and Superporous Hydrogels (2002)  
 Inventors: H Omidian, JG Rocca

31- Ion-Equilibrated Hydrogels and Superporous Hydrogels Having Improved Physical and Mechanical Properties (2002)  
 Inventors: H Omidian, JG Rocca

## Most-Cited Publications

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532 H Omidian, JG Rocca, K Park: Advances in Superporous Hydrogels, *Journal of Controlled Release*, 102(1), 3-12, 2005

494 H Omidian, Y Qiu, DJ Kim, SC Yang, H Park, and K Park: Hydrogels Having Enhanced Elasticity and Mechanical Strength Properties, US Patent 6,960,617, 2005

461 K Kabiri, H Omidian, SA Hashemi, MJ Zohuriaan-Mehr: Synthesis of Fast-Swelling Superabsorbent Hydrogels: Effect of Crosslinker Type and Concentration on Porosity and Absorption Rate, *European Polymer Journal*, 39, 1341-8, 2003

420 K Kabiri, H Omidian, MJ Zohuriaan-Mehr, S Doroudiani: Superabsorbent Hydrogel Composites and Nanocomposites, *Polymer Composites*, 32(2), 277-289, 2011

376 MJ Zohuriaan-Mehr, H Omidian, S Doroudiani, K Kabiri: Advances in Non-Hygienic Applications of Superabsorbent Hydrogel Materials, *Journal of Materials Science*, 45 (21), 5711-5735, 2010

369 H Omidian, SA Hashemi, PG Sammes, I Meldrum: A Model for the Swelling of Superabsorbent Polymers, *Polymer*, 39(26), 6697-6704, 1998

245 H Omidian and K Park: Swelling Agents and Devices in Oral Drug Delivery, *Journal of Drug Delivery Science and Technology*, 18(2), 83-93, 2008

235 H Omidian, SA Hashemi, PG Sammes, I Meldrum: Modified Acrylic-based Superabsorbent Polymers (Dependence on Particle Size and Salinity), *Polymer*, 40, 1753-1761, 1999

158 K Kabiri, H Omidian, MJ Zohuriaan-Mehr: Novel Approach to Highly Porous Superabsorbent Hydrogels: Synergistic Effect of Porogens on Porosity and Swelling Rate, *Polymer International*, 52, 1158-1164, 2003

123 H Omidian, K Park, J Rocca: Recent Developments in Superporous Hydrogels. *Journal of Pharmacy and Pharmacology*, 59(3), 317-327

122 A Pourjavadi, GR Mahdavinia, MJ Zohuriaan-Mehr, H Omidian: Modified chitosan. I. Optimized Cerium Ammonium Nitrate-Induced Synthesis of Chitosan-Graft-Polyacrylonitrile, *Journal of Applied Polymer Science*, 88 (8), 2048-2054, 2003

122 H Omidian, J Rocca, K Park: Elastic Superporous Hydrogel Hybrids of Polyacrylamide and Sodium Alginate, *Macromolecular Bioscience*, 6(9), 703-710

111 H Omidian, SA Hashemi, PG Sammes, IG Meldrum: Modified Acrylic-Based Superabsorbent Polymers. Effect of Temperature and Initiator Concentration, *Polymer* 39 (15), 3459-3466

## Journal Publications

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### 2022

1- Y Omidi, H Goshtasbi, E Dalir, A Abdolahinia, M Fathi, A Movafeghi, J Barar, H Omidian: Astaxanthin-loaded alginate-chitosan microbeads activate Nrf2 signaling and pro-apoptotic genes/proteins pathways against oxidative stress, *Free Radical Biology and Medicine*, Submitted, 2022

- 2- R Ahmad, H Omidian: Hydrophobically Modified Carbomer for Effective Deterrence of the IV Route of Opioids Abuse, in submission, 2022
- 3- K Mfoafo, Y. Omidi, H Omidian: Modern Poloxamer Applications, in submission, 2022
- 4- H Omidian and Y Omidi: Drug Counterfeiting and Decentralized Whistleblowers", Drug Discovery Today, Submitted, 2022
- 5- G Ebrahimi, P Samadi Packchin, A Mota, H Omidian, Y Omidi: Electrochemical microfluidic paper-based analytical devices for cancer biomarker detection: From 2D to 3D sensing systems, Sensors and Actuators B: Chemical, Submitted, 2022
- 6- N Babanejad, K Mfoafo, E Zhang, Y Omidi, H Omidian: Applications of Cryostructures in Chromatography of Biomacromolecules, Journal of Chromatography A, Submitted, 2022
- 7- N Babanejad, K Mfoafo, A Thumma, Y Omidi, H Omidian: Cryostructures and their applications in biomedical and pharmaceutical products, International Journal of Biological Macromolecules, Submitted, 2022
- 8- K Mfoafo, Y Omidi, H Omidian: Recent Advances in Oral Transmucosal Drug Delivery and Therapy, Journal of Drug Delivery Science and Technology, Submitted, 2022
- 9- N Babanejad, U Kandalam, Y Omidi, H Omidian: Functional Properties of Thermally Tampered Poly(Ethylene Oxide), BiolImpacts, in Press, 2022
- 10- H Omidian, N Babanejad, K Mfoafo, C Bertol, Y Omidi: Toxicity of the Polymeric Excipients in Geriatric Polypharmacy, International Journal of Pharmaceutics, 622, <https://doi.org/10.1016/j.ijpharm.2022.121901>, June 2022
- 11- H Omidian, N Babanejad, Y. Omidi: Opioid Epidemic and the Urge to Discover New Drugs, Drug Discovery Today, <https://doi.org/10.1016/j.drudis.2022.05.025>, May 2022
- 12- N Amiryaghoobi, M Fathi, J Barar, H Omidian, Y Omidi: Recent advances in graphene-based polymer composite scaffolds for bone/cartilage tissue engineering, Journal of Drug Delivery Science and Technology, 72, <https://doi.org/10.1016/j.jddst.2022.103360>, June 2022
- 13- G Ebrahimi, P Samadi Packchin, A Shamloo, A Mota, M de la Guardia, H Omidian, Y Omidi: Label-free electrochemical microfluidic biosensors: Futuristic point-of-care analytical devices for monitoring of diseases, Mikrochim Acta, 189(7), 2022
- 14- K Mfoafo, Y Kwon, Y Omidi, H Omidian: Contemporary Applications of Thermogelling PEO-PPO-PEO Triblock Copolymers, Journal of Drug Delivery Science and Technology, 70, 103182, <https://doi.org/10.1016/j.jddst.2022.103182>, 2022
- 15- S Alaei, H Omidian: Opioid Overdose, Interventions, and Challenges, BiolImpacts, 12(3), 179-181, 2022
- 16- S Zakhireh, J Barar, K Adibkia, Y Beygi-Khosrowshahi, M Fathi, H Omidian, Y Omidi: Bioactive Chitosan-Based Organometallic Scaffolds for Tissue Engineering and Regeneration, Topics in Current Chemistry <https://doi.org/10.1007/s41061-022-00364-y>, 380, 13, 2022
- 17- H Omidian, Y Omidi: Blockchain in Pharmaceutical Life Cycle Management, Drug Discovery Today, 27(4), 935-938, 2022
- 18- R Mittal, Y Omidi, H Omidian, A Eshraghi: Unravelling Pathological Mechanisms in Neurological Disorders: The Impact of Cell-Based Models, Neural Regeneration Research Journal, 17(10), 2131-2140, 2022
- 19- Y Omidi, MM Pourseif, H Omidian, J Barar: Nanoscale Vaccines: Design, Delivery, and Applications; Nanoengineering of Biomaterials: Drug Delivery, 1, 437-468, 2022
- 20- J Langlie, A Finberg, NB Bencie, J Mittal, H Omidian, Y Omidi, R Mittal, A Eshraghi: Recent Advancements in Cell-Based Models for Auditory Systems, BiolImpacts, 12(2), 155-169, 2022

21- H Goshtasbi, P Samadi Pakchin, A Movafeghi, J Barar, A Castejon, H Omidian, Y Omidi: Impacts of Oxidants and Antioxidants on the Emergence and Progression of Alzheimer's Disease, *Neurochemistry International*, 105268, 2022

2021

22- S Alaei, Y Omidi, H Omidian: In Vitro Evaluation of Adhesion and Mechanical Properties of Oral Thin Films, *European Journal of Pharmaceutical Sciences*, Volume 166, 1 November 2021, 105965, 2021

23- M Dolatkhah, J Barar, Adibikia, A Aghanejad, H Omidian, Y Omidi: Stimuli-Responsive Graphene Oxide and Methotrexate Loaded Magnetic Nanoparticles for Breast Cancer Targeted Therapy, *Nanomedicine*, 16(24), 27 Sep 2021 <https://doi.org/10.2217/nnm-2021-0094>, 2021

24- S Vandghanooni, Z Sanaat, M Eskandari, H Omidian, Y Omidi: Recent Progress in the Development of Aptasensors for Cancer Diagnosis: Focusing on Aptamers Against Cancer Biomarkers, *Microchemical Journal*, 170, November 2021, 106640, 2021

25- Y Omidi and H Omidian: Transformative Dynamism in Pharmaceutical and Biomedical Research: Complexity of Integration of Innovative R&D Hubs, *BioImpacts*, 11(3): 227-233, 2021

26- C D Bertol, E M Schonhorst, N De Britto Tristacci, S Alaei, Y Omidi, H Omidian: Sustained Release of Nitrofurantoin Antibiotic, *Pharmaceutical Chemistry Journal*, 2021

27- N Babanejad, U Kandalam, R Ahmad, H Omidian: Abuse-deterrant properties and cytotoxicity of poly (ethylene oxide) after thermal tampering, *International Journal of Pharmaceutics*, 600, 1 May 2021, 120481, 2021

28- N Amiryaghoubi, M Fathi, A Barzegari, J Barar, H Omidian, Y Omidi: Recent Advances in Polymeric Scaffolds Based on Carbon Nanotube and Graphene Oxide for Cartilage and Bone Regeneration, *Materials Today Communications*, Volume 26, March 2021, 102097, 2021

29- Y Omidi, N Kianinejad, Y Kwon, H Omidian: Drug Delivery and Targeting in Brain Tumors: Considerations for Crossing the Blood-Brain Barrier, *Expert Review of Clinical Pharmacology*, <https://doi.org/10.1080/17512433.2021.1887729>, 2021

30- S Alaei and H Omidian: Mucoadhesion and Mechanical Assessment of Oral Films, *European Journal of Pharmaceutical Sciences*, Volume 159, April 2021, 105727, 2021

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## Presentations and Abstracts

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### 2022

- 1- A Thumma, N Babanejad, H Omidian: Charcoal Drug Adsorption Efficiency in Various Solvents, American Association of Pharmaceutical Scientists, Boston, MA, 2022
- 2- N Babanejad, H Omidian: Mechanical Properties of Reinforced Polyvinyl Alcohol Cryogels, American Association of Pharmaceutical Scientists, Boston, MA, 2022
- 3- N Babanejad, H Omidian: A Heat-Shielded Abuse-Deterrent Formulation, American Association of Pharmaceutical Scientists, Boston, MA, 2022

### 2021

- 4- S Alaei, H Omidian: Evaluating the Effect of Adhesion Test Parameters on the Measured Adhesive Strength of Mucoadhesive Oral Thin Films, American Association of Pharmaceutical Scientists, Pennsylvania, 2021
- 5- S Alaei, H Omidian: Investigating In Vitro Adhesion Substrates to Design a Fast and Discriminating Adhesion Test for Performance Evaluation of Mucoadhesive Oral Thin Films, American Association of Pharmaceutical Scientists, Pennsylvania, 2021

### 2020

- 6- A Thumma: Therapeutic Polymers Containing Abuse-Deterrent and Surface-Active Agents, Qualifying Exam Seminar (Advisor: H Omidian), 2020
- 7- N Babanejad: Abuse-Deterrent Cryogel Composites, Qualifying Exam Seminar (Advisor: H Omidian), 2020
- 8- A Thumma: Opioid Transdermal Drug Delivery, Principles of Opioid Therapy, Graduate Seminar (Advisor: H Omidian), 2020
- 9- N Babanejad: Improved Curcumin Formulations in Cancer and Drug-Resistant Infections, Graduate Seminar (Advisor: H Omidian), 2020
- 10- N Babanejad, H Omidian: The Impact of Heat on Mechanical and Drug Release Properties of Tablets Containing Low Molecular Weight PEO, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2020
- 11- N Babanejad, H Omidian, U Kandalam: Cytotoxicity of Thermally Manipulated Ethylene Oxide Polymers Used in Abuse-Deterrent Formulations, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2020
- 12- N Babanejad, H Omidian, MR Nabid: Sunflower Oil-Based Polyol-Urethane Nanoparticles for Sustained Delivery of Olanzapine, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2020
- 13- N Babanejad, H Omidian: Deterrent Properties of Thermally Manipulated High Molecular Weight Poly(ethylene oxide) (PEO), NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2020
- 14- S Alaei, H Omidian: The Effect of Polymer Type and Molecular Weight on Mechanical Properties of Oral Films, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2020
- 15- S Alaei, H Omidian: Adhesive Properties of Natural Polymers Commonly Used in Oral Dosage Forms, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2020

- 16- S Alaei, H Omidian: Development of an In Vitro Adhesion Test to Screen Mucoadhesive Polymeric Drug Carriers Using Texture Analyzer, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2020
- 17- N Kianinejad, R Ahmad, H Omidian: Structural and Rheological Properties of Polyacrylate Homopolymer Upon Thermal Manipulation, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2020
- 18- N Kianinejad, R Ahmad, H Omidian: Rheological Behavior of Carbopol® 981 in Intravenous Drug Abuse, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2020
- 19- KA Mfoafo, R Ahmad, H Omidian: A Carbomer-Based Composition for Deterring Opioid Drugs Abuse, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2020
- 20- KA Mfoafo, R Ahmad, H Omidian: Entrapment Efficiency of the Carbomer Interpolymer Type B with Different Drug Molecules in Different Solvents, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2020
- 21- A Thumma, R Ahmad, H Omidian: Extraction-Resistant Composition Containing Activated Charcoal for Deterring Opioid Drugs Abuse, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2020
- 22- A Thumma, R Ahmad, H Omidian: Impact of Drug Nature and Solvent Type on Charcoal Adsorption Efficiency, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2020
- 23- R Ahmad: Development and Characterization of Improved Abuse-Deterrent Compositions Based on Crosslinked Anionic Polymers, Ph.D. Dissertation Defense (Advisor: H Omidian), 2020
- 24- S Alaei: Mucoadhesive Film Carriers to Extend Peroral Drug Retention, Ph.D. Oral Qualifying Exam (Advisor: H Omidian), 2020

#### 2019

- 25- R Ahmad, Y Joshi, H Omidian: Rigid Structure Polymers for the Development of Safe and Effective Opioid Drug Formulations, American Association of Pharmaceutical Scientists (AAPS), San Antonio, Texas, 2019
- 26- R Ahmad, Y Joshi, H Omidian: In Vitro Evaluation and Stability of the Deterrence Performance of Dextromethorphan HBr-AcDiSol® Complex Tablets, American Association of Pharmaceutical Scientists (AAPS), San Antonio, Texas, 2019
- 27- R Ahmad, Y Joshi, H Omidian: Development and Stability of an Extraction Resistant Drug Formulation Containing Crosslinked Poly(Acrylic Acid), American Association of Pharmaceutical Scientists (AAPS), San Antonio, Texas, 2019
- 28- R Ahmad, R Forbes, H Omidian: Mixture Optimization of Abuse-Deterrent Hybrids by Minitab Experimental Design and Analysis, American Association of Pharmaceutical Scientists (AAPS), San Antonio, Texas, 2019
- 29- R Ahmad, B Caturano, C Crum, R Forbes, H Omidian: Abuse-Deterrent Therapeutic Complexes of Dextromethorphan and Crosslinked Starch and Cellulose Derivatives, American Association of Pharmaceutical Scientists (AAPS), San Antonio, Texas, 2019
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- 31- S Alaei, R Ahmad, H Omidian: Flow Behavior of the Crosslinked Acrylic Acid Polymers Commonly Used in the Pharmaceutical Dosage Forms, American Association of Pharmaceutical Scientists (AAPS), San Antonio, Texas, 2019

32- S Alaei, R Ahmad, H Omidian: The Effect of Crosslinker Type and Density on the Rheological Behavior of the Carbomers Used in the Formulation of Pharmaceutical Semi-Solids, American Association of Pharmaceutical Scientists (AAPS), San Antonio, Texas, 2019

33- S Muppalaneni, D Mastropietro, S Alaei, H Omidian: Water-Insoluble Thermoplastic and Ionic Polymer Hybrids to Deter Drug Abuse, American Association of Pharmaceutical Scientists (AAPS), San Antonio, Texas, 2019

34- S Muppalaneni, D Mastropietro, N Babanejad, H Omidian: Abuse deterrent compositions of poly(ethylene oxide) and crosslinked carboxymethylcellulose, American Association of Pharmaceutical Scientists (AAPS), San Antonio, Texas, 2019

35- N Babanejad, H Omidian: Thermal Manipulation and Deterrent Properties of Tablets Containing High Molecular Weight Poly(ethylene oxide) (PEO), American Association of Pharmaceutical Scientists (AAPS), San Antonio, Texas, 2019

36- N Babanejad, A Farhadian, MR Nabid, H Omidian: A Novel Sunflower Oil-based Polyol Urethane for Olanzapine Delivery, American Association of Pharmaceutical Scientists (AAPS), San Antonio, Texas, 2019

37- N Babanejad, S Faraji, M Khoobi, MR Nabid, H Omidian: Multifunctional Magnetic  $Fe_3O_4$  Nanoparticles Coated with Poly(ethylene imine)-Succinic Anhydride Modified with 2,3,5-Triiodobenzoic Acid as CT and MRI Contrast Agents, American Association of Pharmaceutical Scientists (AAPS), San Antonio, Texas, 2019

38- N Babanejad, R Farhadian, MR Nabid, H Omidian: Designing a Novel High Hydroxyl Oil-based Polyol as a Drug Delivery Carrier, American Association of Pharmaceutical Scientists (AAPS), San Antonio, Texas, 2019

#### 2018

39- R Ahmad, S Alaei, H Omidian: Probe Penetration Method to Characterize Low Solid High Viscous Pharmaceutical Gel Compositions, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2018

40- R Ahmad, S Alaei, H Omidian: Effect of Crosslink Density and Concentration on Rheological Properties of Crosslinked Acrylic Acid Homopolymers, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2018

41- S Alaei, R Ahmad, H Omidian: Herschel-Bulkley Model Describing the Rheology of Polyacrylates Superabsorbent Homopolymers, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2018

42- S Alaei, R Ahmad, H Omidian: Rheological Behavior and Modelling of Hydrophobically-Modified Gelling Agents Used in Pharmaceutical Semi-Solids, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2018

43- Y Joshi, R Forbes, H Omidian: Effect of Shear Stress History on Polymer Solution Aspiration, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2018

44- Y Joshi, R Forbes, H Omidian: Determining Syringeability by Measuring Aspiration Volume of Polymer Solutions at Different Temperatures, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2018

45- Y Joshi, R Forbes, H Omidian: Effect of Temperature on Gelation Properties of Cellulose Derivatives, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2018

46- R Forbes, Y Joshi, H Omidian: Minimizing Drug Extraction via Simultaneous Binding and Coagulation, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2018

47- Y Joshi, R Forbes, H Omidian: Effect of Thermal History on Abuse Deterrence Performance, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2018

- 48- R Ahmad, B Caturano, H Omidian: A Dual Mechanism to Deter Intravenous Drug Abuse Using Crosslinked Anionic Polymers, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2018
- 49- R Ahmad, C Crum, H Omidian: Opioid Complexation and Abuse Performance of Crosslinked Cellulose and Starch Derivatives, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2018
- 50- B Caturano, R Ahmad, C Crum, H Omidian: Structural Factors Affecting Abuse Performance of Common Pharmaceutical Superdisintegrants, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2018
- 51- R Ahmad, C Crum, H Omidian: Therapeutic Polymers to Deter Intravenous Drug Abuse, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2018
- 52- R Ahmad, C Crum, H Omidian: In-Vitro Drug Release from Abuse-Deterrent Therapeutic Polymers, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2018

## 2017

- 53- R Ahmad: Crosslinked Anionic Polymers to Deter Drug Abuse by Injection, Ph.D. Oral Qualifying Exam (Advisor: H Omidian), 2017
- 54- R Ahmad: Deterring Drug Abuse Using Functional Pharmaceutical Excipients, Graduate Seminar (Advisor: H Omidian), 2017
- 55- S Vempati, Y Joshi, H Omidian: Texture Analyzer to Evaluate Disintegration Performance of Pharmaceutical Superdisintegrants Under Simulated Gastric Conditions, South Florida Section of American Chemical Society (SoFL-ACS), Nova Southeastern University, Fort Lauderdale, FL, 2017
- 56- S Vempati, Y Joshi, H Omidian: Measuring the Effect of Alcohol on Swelling and Disintegration Behavior of Various Superdisintegrants, South Florida Section of American Chemical Society (SoFL-ACS), Nova Southeastern University, Fort Lauderdale, FL, 2017
- 57- S Mondal, Y Joshi, H Omidian: Drug-Polymer Complexation: An Effective Technique to Deter Drug Abuse by Injection, South Florida Section of American Chemical Society (SoFL-ACS), Nova Southeastern University, Fort Lauderdale, FL, 2017
- 58- Y Joshi, S Muppalaneni, S Vempati, H Omidian: Drug Release and Crush Resistance Properties of Plasticized Abuse-Deterrent Compositions, South Florida Section of American Chemical Society (SoFL-ACS), Nova Southeastern University, Fort Lauderdale, FL, 2017
- 59- Y Joshi, S Muppalaneni, S Mondal, H Omidian: Thermal Manipulation of Plasticized Abuse-Deterrent Compositions, South Florida Section of American Chemical Society (SoFL-ACS), Nova Southeastern University, Fort Lauderdale, FL, 2017
- 60- Y Joshi, S Muppalaneni, H Omidian: Effect of Milling Method and Milling Time on Crush Resistance Performance of Plasticized Abuse-Deterrent Tablets, South Florida Section of American Chemical Society (SoFL-ACS), Nova Southeastern University, Fort Lauderdale, FL, 2017
- 61- C Crum, R Ahmad, H Omidian: Dextromethorphan-Sodium Starch Glycolate Complex with Abuse-Deterrent Properties, South Florida Section of American Chemical Society (SoFL-ACS), Nova Southeastern University, Fort Lauderdale, FL, 2017
- 62- R Ahmad, C Crum, H Omidian: Drug Release Evaluation of a Carboxymethyl Starch-Based Abuse-Deterrent Formulation, South Florida Section of American Chemical Society (SoFL-ACS), Nova Southeastern University, Fort Lauderdale, FL, 2017
- 63- R Ahmad, D Mastropietro, H Omidian: Sequestered Bentonite to Deter Drug Abuse and Maintain Therapeutic Use, South Florida Section of American Chemical Society (SoFL-ACS), Nova Southeastern University, Fort Lauderdale, FL, 2017

64- R Ahmad, S Muppalaneni, C Crum, H Omidian: Effect of Thermal Treatment on the Binding Efficiency of Carboxymethyl Starch, a Potential Deterrent Agent for Intravenous Abuse, South Florida Section of American Chemical Society (SoFL-ACS), Nova Southeastern University, Fort Lauderdale, FL, 2017

2016

65- Y Joshi, S Muppalaneni, S Mondal, D Mastropietro, H Omidian: Drug Abuse Deterrence by Preventing Extraction, American Association of Pharmaceutical Scientists (AAPS), Denver, CO, 2016

66- Y Joshi, S Muppalaneni, A Kariman, D Mastropietro, H Omidian: Drug-Deterrent Agent Complexation to Deter Drug Abuse by Injection, American Association of Pharmaceutical Scientists (AAPS), Denver, CO, 2016

67- S Muppalaneni, S Mondal, Y Joshi, H Omidian: Effect of Syringe and Needle Size on Injectability of Drug Extract Solutions, American Association of Pharmaceutical Scientists (AAPS), Denver, CO, 2016

68- S Muppalaneni, D Mastropietro, H Omidian: Experimental Design to Optimize and Maximize Deterrence Capacity of Deterrent Blends, American Association of Pharmaceutical Scientists (AAPS), Denver, CO, 2016

69- R Ahmad, S Muppalaneni, H Omidian: Sodium Starch Glycolate as a Potential Deterrent Agent for Opioid Abuse, American Association of Pharmaceutical Scientists (AAPS), Denver, CO, 2016

70- R Ahmad, S Muppalaneni, H Omidian: Carboxymethyl Starch as Potential Deterrent Agent for Intravenous Abuse, Chemical Sciences Symposium, South Florida Section of American Chemical Society (SoFL-ACS), Nova Southeastern University, Fort Lauderdale, FL, 2016

71- A Omidian, S Mondal, J de Sa, Y Joshi, S Muppalaneni, H Omidian: Solid State Properties of Polyethylene Oxide (PEO) under Abuse Conditions, Chemical Sciences Symposium, South Florida Section of American Chemical Society (SoFL-ACS), Nova Southeastern University, Fort Lauderdale, FL, 2016

72- Y Joshi, A Omidian, S Mondal, J de Sa, S Muppalaneni, H Omidian: Viscosity of Polyethylene Oxide (PEO) under Abuse Conditions, Chemical Sciences Symposium, South Florida Section of American Chemical Society (SoFL-ACS), Nova Southeastern University, Fort Lauderdale, FL, 2016

73- H Omidian, D Mastropietro: Abuse-Deterrent Technologies, Joint COP and CTI Mini-symposium, Nova Southeastern University, Fort Lauderdale, FL, 2016

74- S Muppalaneni, S Mondal, D Mastropietro, H Omidian: Effect of Needle Size and Solvent on Injectability of Polyethylene Oxide (PEO) Solutions, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2016

75- S Muppalaneni, A Kariman, D Mastropietro, H Omidian: Ease of Manipulating Dosage Forms for Nasal Insufflation, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2016

76- S Muppalaneni, A Kariman, D Mastropietro, H Omidian: Developing In-Vitro Tests for Solid-State Abuse Deterrence Capacity, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2016

77- S Muppalaneni, S Mondal, D Mastropietro, H Omidian: Dynamic Glide Force (DGF) to Measure Resistance to Intravenous Abuse, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2016

78- A Kariman, Y Joshi, D Mastropietro, H Omidian: Preventing Drug Extraction Via Surface Adsorption, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2016

79- Y Joshi, D Mastropietro, H Omidian: Abuse Vulnerability of Currently Marketed Abuse-Deterrent Medications, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2016

- 80- Y Joshi, A Kariman, D Mastropietro, H Omidian: Complexation Efficiency of Croscarmellose Sodium (CCS) as an Effective Abuse-Deterrent Agent, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2016
- 81- Y Joshi, D Mastropietro, H Omidian: Prevention of Active Drug Extraction Using Absorbent Clay Composite, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2016
- 82- D Mastropietro, H Omidian: Binding Endurance and Deterrence Capacity of Croscarmellose Sodium (CCS) in Various Solvents, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2016
- 83- D Mastropietro, H Omidian: Superabsorbent Materials to Hinder Drug Extraction and Syringeability, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2016
- 84- D Mastropietro, H Omidian: Gel-Forming Excipients to Slow Alcohol Absorption into Systemic Circulation, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2016
- 85- D Mastropietro, H Omidian: Complexing Agents to Prevent Intentional Drug Abuse by Rapid Extraction, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2016

#### 2015

- 86- Y Joshi, D Mastropietro, H Omidian: Reduced Abuse-Deterrent Features of Poly(ethylene oxide) at High Temperatures, American Association of Pharmaceutical Scientists (AAPS), Orlando, Florida, 2015
- 87- S Muppalaneni, S Mondal, D Mastropietro, H Omidian: Injectability and Rheology of Poly(ethylene oxide) Solutions Under Abuse Conditions, American Association of Pharmaceutical Scientists (AAPS), Orlando, Florida, 2015
- 88- D Mastropietro, A Kariman, H Omidian: Potential Therapeutic Polymer to Absorb Ethanol Under Severe Gastric Conditions, American Association of Pharmaceutical Scientists (AAPS), Orlando, Florida, 2015
- 89- D Mastropietro and H Omidian: Abuse-Deterrent Capacity of Swellable Tablets Containing Superabsorbent Polymers, American Association of Pharmaceutical Scientists (AAPS), Orlando, Florida, 2015
- 90- D Mastropietro and H Omidian: Extraction Resistant Abuse-Deterrent Formulations (ADFs) Containing Tramadol HCl, American Association of Pharmaceutical Scientists (AAPS), Orlando, Florida, 2015
- 91- D Mastropietro and H Omidian: Evaluation of an Abuse-Deterrent Excipient in Preventing Drug Extractions in Aqueous Medium, American Association of Pharmaceutical Scientists (AAPS), Orlando, Florida, 2015
- 92- S Muppalaneni, D Mastropietro, H Omidian: Effect of Molecular Weight on Thermal Properties of Poly(ethylene oxide), International Conference and Exhibition on Pain Medicine, Chicago, IL, June 2015
- 93- S Muppalaneni, A Kariman, D Mastropietro, H Omidian: Effect of Tampering Methods on Particle Size Reduction of Poly(ethylene oxide)-based Tablets, International Conference and Exhibition on Pain Medicine, Chicago, IL, June 2015
- 94- S Muppalaneni, A Kariman, D Mastropietro, H Omidian: Effect of Heat Treatment on Mechanical Properties of Poly(ethylene oxide)-based Tablets, International Conference and Exhibition on Pain Medicine, Chicago, IL, June 2015
- 95- S Muppalaneni, D Mastropietro, H Omidian: Thermal Depolymerization and Oxidative Degradation of PEO-based Tablets, International Conference and Exhibition on Pain Medicine, Chicago, IL, June 2015

96- Y Joshi, D Mastropietro, A Kariman, H Omidian: Swelling Pressure of Superdisintegrants in the Presence of Alcohol, GRASP conference (poster), Mercer University, Atlanta, GA, June 2015

97- Y Joshi, D Mastropietro, A Kariman, H Omidian: Swelling Pressure of Superdisintegrants in the Presence of Alcohol, GRASP conference (podium), Mercer University, Atlanta, GA, June 2015

98- S Muppalaneni, D Mastropietro, H Omidian: Method Development to Characterize Injectability of Drug Abstracts for Abuse, GRASP conference, College of Pharmacy, Mercer University, Atlanta, GA, June 2015

99- Y Joshi, D Mastropietro, A Kariman, H Omidian: Mechanical Tester to Measure Swelling Pressure of Superdisintegrants in Aqueous Media, American Chemical Society (ACS), Florida Annual Meeting and Exposition, Tampa, FL, May 2015

100- S Muppalaneni, D Mastropietro, H Omidian: Viscoelastic and Drug Release Properties of Acetaminophen-Loaded PVOH Cryogels, American Chemical Society (ACS), Florida Annual Meeting and Exposition, Tampa, FL, May 2015

101- D Mastropietro and H Omidian: Polymeric Deterrence Layer for Bi-Layer Tablet Compositions, American Chemical Society (ACS), Florida Annual Meeting and Exposition, Tampa, FL, May 2015

102- D Mastropietro, A Kariman, H Omidian: Swellable Polymers for Drug Abuse Deterrence, American Chemical Society (ACS), Florida Annual Meeting and Exposition, Tampa, FL, May 2015

103- D Mastropietro and H Omidian: Role of Polymers in Decreasing Prescription Drug Abuse, American Chemical Society (ACS), Florida Annual Meeting and Exposition, Tampa, FL, May 2015

#### 2014

104- D Mastropietro, H Omidian: Abuse-Resistant Medications, NSU Board of Trustees Annual Retreat, Naples, FL, May 2014

105- JR Jose, D Patel, S Shah, S Shah, D Mastropietro, S Muppalaneni, H Omidian: Routes of Abuse for Tamper-Resistant Opioids, NSU College of Pharmacy Seminar Night (Poster), Fort Lauderdale, FL, April 2014

106- JR Jose, D Patel, S Shah, S Shah, D Mastropietro, S Muppalaneni, H Omidian: Routes of Abuse for Tamper-Resistant Opioids, NSU College of Pharmacy Seminar Night (Oral Presentation), Fort Lauderdale, FL, April 2014

107- UD Kandalam, S Muppalaneni, H Omidian: The cytotoxic effects of polyvinyl alcohol on HeLa cell model, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2014

108- D Mastropietro, H Omidian: Evaluating Abuse-Deterrence in Pharmaceutical Dosage Forms, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2014

109- D Mastropietro, H Omidian: Ethanol Dose Dumping and Rheology of Abuse-Deterrent Extracts, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2014

110- S Muppalaneni, D Mastropietro, H Omidian: Characterization of Polyvinyl Alcohol cryogels for Pharmaceutical Applications, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2014

111- S Muppalaneni, D Mastropietro, H Omidian: Acetaminophen Release from Polyvinyl Alcohol Cryogel Platforms, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2014

112- Y Joshi, H Omidian: A novel method to measure swelling pressure of superdisintegrants, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2014

113- Y Joshi, H Omidian: Free and Loaded swelling of Superdisintegrants, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2014

114- UD Kandalam, MA Mirza, H Omidian: Growth Potential of Cells Encapsulated in Different Alginic Acid Salts, AADR 2014, Charlotte, NC., 2014

115- Y Joshi: Deterrence Capacity Enhancement of Abuse-Deterrent Formulations, Ph.D. Oral Qualifying Exam (Advisor: H Omidian), 2014

116- Y Joshi: A Novel Method to Measure Swelling Pressure of Superdisintegrants, Graduate Seminar (Advisor: H Omidian), 2014

2013

117- S Muppalaneni, D Mastropietro, H Omidian: Viscoelastic Properties of Polyvinyl Alcohol Cryogels, PharmaForum' 2013, Little Rock, AR, May 2013

118- D Mastropietro, S Muppalaneni, H Omidian: Abuse-Deterrent Behavior of Polyethylene Oxide to Hydroalcoholic Solutions, PharmaForum' 2013, Little Rock, AR, May 2013

119- D Mastropietro, S Muppalaneni, H Omidian, N Khoodie, T Le, S Kjelson, D Mead: Clinical Assessment of Abuse-Deterrent Capacity and Labeling, PharmaForum' 2013, Little Rock, AR, May 2013

120- N Khoodie, T Le, D Mead, S Kjelson, D Mastropietro, S Muppalaneni, H Omidian: A Review of Abuse-Deterrent Medications, NSU College of Pharmacy Poster Night (poster), Fort Lauderdale, FL, Apr 2013

121- N Khoodie, T Le, D Mead, S Kjelson, D Mastropietro, S Muppalaneni, H Omidian: A Review of Abuse-Deterrent Medications, NSU College of Pharmacy Poster Night (oral presentation), Fort Lauderdale, FL, Apr 2013

122- S Muppalaneni, D Mastropietro, and H Omidian: Swelling Properties of Polyvinyl Alcohol Cryogels, 3rd International Conference on Pharmaceutics & Novel Drug Delivery Systems, Chicago, IL, Apr 2013, (also published at Pharmaceut. Anal. Acta, S1-016-0017, 2013)

123- S Muppalaneni, D Mastropietro, and H Omidian: Adhesive Properties of Polyvinyl Alcohol Cryogels, 3rd International Conference on Pharmaceutics & Novel Drug Delivery Systems, Chicago, IL, Apr 2013, (also published at Pharmaceut. Anal. Acta, S1-016-0016, 2013)

124- D Mastropietro, S Muppalaneni, and H Omidian: A Fast and Accurate Method of Measuring Swelling Profile, 3rd International Conference on Pharmaceutics & Novel Drug Delivery Systems, Chicago, IL, Apr 2013, (also published at Pharmaceut. Anal. Acta, S1-016-7, 2013)

125- D Mastropietro, S Muppalaneni, H Omidian: Syringeability and Injectability of Abuse-Deterrent Dosage Forms, 3rd International Conference on Pharmaceutics & Novel Drug Delivery Systems, Podium presentation, Chicago, IL, Apr 2013, (also published at Pharmaceut. Anal. Acta, S1-014, 2013)

126- D Mastropietro, S Muppalaneni, and H Omidian: Performance Evaluation of Abuse-Deterrent Dosage Forms to Mechanical Manipulation, 3rd International Conference on Pharmaceutics & Novel Drug Delivery Systems, Podium presentation, Chicago, IL, Apr 2013, (also published at Pharmaceut. Anal. Acta, S1-015, 2013)

127- D Mastropietro, S Muppalaneni, and H Omidian: Deterrence Capacity of Abuse-Deterrent Dosage Forms to Ethanol, 3rd International Conference on Pharmaceutics & Novel Drug Delivery Systems, Chicago, IL, Apr 2013, (also published at Pharmaceut. Anal. Acta, S1-016-8, 2013)

128- D Mastropietro, S Muppalaneni, and H Omidian: Rheological Investigation of Methylcellulose Thermogelation Using Cone & Plate Rheometer, 3rd International Conference on Pharmaceutics & Novel Drug Delivery Systems, Chicago, IL, Apr 2013, (also published at Pharmaceut. Anal. Acta, S1-016-9, 2013)

129- S Muppalaneni: Cryogels for Pharmaceutical Applications, Graduate Seminar (Advisor: H Omidian), 2013

130- MA Duarte, L Alsdad, MA Mirza, H Omidian, and U Kandalam: A Comparative Assessment of Growth Supporting Potential of Different Alginates, American Association of Dental Research, Seattle, WA, March 2013

131- S Muppalaneni: Advanced Pharmaceutical Compositions of Polyvinyl alcohol Cryogels, Ph.D. Oral Qualifying Exam (Advisor: H Omidian), 2013

2012

- 132- UD Kandalam, AMI Cabel, H Omidian, EJ Stelnicki: Gelling Parameters of Alginates and Viability of Umbilical Cord Stem Cells, American Association of Dental Research, Tampa, FL, March 2012
- 133- EJ Stelnicki, AMI Cabel, H Omidian, SK McCarthy, UD Kandalam: Effect of Alginate Salts and Their Contaminants on the Viability of Human Umbilical Cord Stem Cells, 69th Annual Meeting of the American Cleft Palate-Craniofacial Association, San Jose, CA, Apr 17-21, 2012
- 134- D Mastropietro: Abuse-Resistant Pharmaceutical Dosage Forms, Ph.D. Oral Qualifying Exam (Advisor: H Omidian), 2012
- 135- D Mastropietro, UD Kandalam, H Omidian: Calcium Carboxymethyl Cellulose and Viability of the Human Umbilical Cord Stem Cells, American Association of Dental Research, Tampa, FL, March 2012
- 136- D Mastropietro, H Omidian: Designing Medications that Thwart Abuse, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2012
- 137- UD Kandalam, H Omidian, D Mastropietro: Viability of HeLa Cells in the Presence of Chelated Carboxymethyl Cellulose Beads, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2012
- 138- UD Kandalam, H Omidian, D Mastropietro: Viability of Human Umbilical Cord Cells in the Presence of Chelated Carboxymethyl Cellulose Beads, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2012
- 139- AMI Cabel, UD Kandalam, H Omidian, EJ Stelnicki: Evaluation of Gelling Parameters of Alginates on Cell Viability of Umbilical Cord Stem Cells, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, Feb 2012

2011

- 140- D Mastropietro, J Valdes, H Omidian: Evaluation of Cellulosic Excipient in Pharmaceutical Dosage Forms, American Association of Pharmaceutical Scientists (AAPS), Washington, D.C., Oct 2011
- 141- EJ Stelnicki, AMI Cabel, H Omidian, SK McCarthy, UD Kandalam: Cell Viability of Human Umbilical Cord Cells in G-rich Ammonium and Sodium Alginates, ISCFS XIV Biennial International Congress, Livingstone, Zambia, Aug-Sept 2011
- 142- H Omidian: Thermo-responsive Physical and Chemical Hydrogels in Drug Delivery, 2nd World Congress BABE-2011 & Pharmaceutica-2011, Las Vegas, NV, June 2011, accepted
- 143- D Mastropietro and H Omidian: Oral Abuse-Deterrent Formulations Using Physical Barriers, 2nd World Congress BABE-2011 & Pharmaceutica-2011, Las Vegas, NV, June 2011, accepted
- 144- H Omidian: Gastroretentive Hydrogels, COP Graduate Seminar, Fort Lauderdale, 2011
- 145- H Omidian: Polymers and Hydrogels in Drug Delivery, Bringing Pharmaceutical Research to Practice, Scientific Series 2011, San Juan, Puerto Rico, Apr 2011
- 146- UD Kandalam, and H Omidian: Cytotoxicity of Ester-based Superporous Hydrogels, 2011 AAPS National Biotechnology Conference, San Francisco, CA, May 2011
- 147- UD Kandalam, AMI Cable, H Omidian, SK McCarthy, and EJ Stelnicki: Evaluation of Protein and Polyphenols Contaminants of Sodium Alginates and Their Effect on Viability of Mesenchymal Stem Cells derived from Umbilical Cord, Society for Biomaterials 2011 Annual Meeting and Exposition, Orlando, FL, Apr 2011

148- AMI Cabel, S McCarthy, H Omidian, EJ Stelnicki, and UD Kandalam: Evaluation of Cytotoxicity of Pharmaceutical Grade Alginates on HeLa Cells, International Association for Dental Research, San Diego, CA, 2011

149- UD Kandalam, AMI Cabel, H Omidian, S McCarthy, and E J Stelnicki: Viability of the Human Umbilical Cord Cells in G-rich Alginates, International Association for Dental Research, San Diego, CA, 2011

2010

150- R Nimroozi, H Omidian: Rheology of Pharmaceutical Dosage Forms, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, 2010

151- J Valdes, H Omidian: Cellulose-based Drug Delivery Systems, NSU College of Pharmacy's HPD Research Day, Fort Lauderdale, FL, 2010

2009

152- K Kabiri, MJ Zohuriaan-Mehr, H Bouhendi, A Jamshidi, F Ahmad-Khanbeigi, H Omidian: Effects of the Initiating System on the Residual Monomer of Acrylic Superabsorbents, The 9th International Seminar on Polymer Science and Technology, Tehran, Iran, Oct 2009

153- K Kabiri, MJ Zohuriaan-Mehr, H Bouhendi, A Jamshidi, F Ahmad-Khanbeigi, H Omidian: Modeling of Sodium Acrylate Solution Polymerization Initiated by Two Redox Systems, The 9th International Seminar on Polymer Science and Technology, Tehran, Iran, Oct 2009

154- S Hesarian, K Kabiri, MJ Zohuriaan-Mehr, A Jamshidi, H Bouhendi, MR Pourheravi, F Ahmad-Khanbeigi, H Omidian, SA Hashemi: Effect of Thermal Initiators on the Residual Monomer of Acrylic Acid SAP Hydrogels, The 9th International Seminar on Polymer Science and Technology, Tehran, Iran, Oct 2009

155- S Hesarian, K Kabiri, MJ Zohuriaan-Mehr, A Jamshidi, H Bouhendi, MR Pourheravi, F Ahmad-Khanbeigi, H Omidian, SA Hashemi: Novel Approach for Reducing Residual Monomer in SAPs: A Two-Step Initiation Strategy, The 9th International Seminar on Polymer Science and Technology, Tehran, Iran, Oct 2009

2005

156- LA Felton, K Shah, J Yang, H Omidian, JG Rocca: A Rapid Technique to Evaluate the Oxidative Stability of a Model Drug, American Association of Pharmaceutical Scientists (AAPS), San Antonio, TX, Oct 2006

157- C Gavrilas, H Omidian, JG Rocca: Dynamic Mechanical Properties of Superporous Hydrogels, The 8th US-Japan Symposium on Drug Delivery Systems, Maui, Hawaii, HI, Dec 18-23, 2005

158- C Gavrilas, H Omidian, JG Rocca: A Novel Simulator to Evaluate Fatigue Properties of Superporous Hydrogels, The 8th US-Japan Symposium on Drug Delivery Systems, Maui, Hawaii, HI, Dec 18-23, 2005

159- G Li, H Omidian, JG Rocca: Solvent Effects on the Swelling Properties of Superporous Hydrogels, American Association of Pharmaceutical Scientists (AAPS), Nashville, TN, November 6-10, 2005

160- W Han, H Omidian, JG Rocca: Dynamic Swelling of Superporous Hydrogels under Compression, American Association of Pharmaceutical Scientists (AAPS), Nashville, TN, November 6-10, 2005

161- R Townsend, JG Rocca, H Omidian: Safety and Toxicity Studies of a Novel Gastro-retentive Platform Administered Orally in a Swine Emesis Model, The 32<sup>nd</sup> Annual Meeting of the Controlled Release Society (CRS), Miami, FL, June 18-22, 2005

162- H Omidian, C Gavrilas, JG Rocca: Mechanical Properties of Gastro-retentive Platforms Using a Novel Simulator, The 32nd Annual Meeting of the Controlled Release Society (CRS), Miami, FL, June 18-22, 2005

163- C Gavrilas, H Omidian, JG Rocca: A Novel Gastric Simulator, The 32nd Annual Meeting of the Controlled Release Society (CRS), Miami, FL, June 18-22, 2005

164- W Han, G Li, H Omidian, JG Rocca: Fast Responsive Superporous Hydrogels, The 32nd Annual Meeting of the Controlled Release Society (CRS), Miami, FL, June 18-22, 2005

165- G Li, H Omidian, JG Rocca: Wax-Loaded Superporous Hydrogel Platforms, The 32nd Annual Meeting of the Controlled Release Society (CRS), Miami, FL, June 18-22, 2005

166- G Li, H Omidian, JG Rocca: Acrylate-Chitosan Superporous Hydrogel Hybrids, The 32nd Annual Meeting of the Controlled Release Society (CRS), Miami, FL, June 18-22, 2005

167- W Han, H Omidian, JG Rocca: A Novel Acrylate Ester-based Superporous Hydrogel, The 32nd Annual Meeting of the Controlled Release Society (CRS), Miami, FL, June 18-22, 2005

168- H Omidian, W Han, JG Rocca: Superporous Hydrogels as Novel Carriers in Oral Drug Delivery, The 32nd Annual Meeting of the Controlled Release Society (CRS), Miami, FL, June 18-22, 2005

#### 2004

169- G Li, H Omidian, JG Rocca: Anisotropic Properties of Superporous Hydrogel Hybrids Intended for Gastric Retention, American Association of Pharmaceutical Scientists (AAPS), Baltimore, MD, Nov 7-11, 2004

170- W Han, H Omidian, JG Rocca: Reflexive Swellable Superporous Hydrogel Hybrids, American Association of Pharmaceutical Scientists (AAPS), Baltimore, MD, Nov 7-11, 2004

171- PM Thangamathesvaran, H Omidian, A Rathinavelu, JG Rocca: Metal-Chelated Superporous Hydrogels: Part2: Structural and Calorimetric Characterization, AAPS Pharmaceutics and Drug Delivery Conference, Philadelphia, PA, June 2004

172- PM Thangamathesvaran, H Omidian, A Rathinavelu, JG Rocca: Metal-Chelated Superporous Hydrogels: Part1: Morphology, Hydration and Mechanical Properties, AAPS Pharmaceutics and Drug Delivery Conference, Philadelphia, PA, June 2004

173- W Han, H Omidian, JG Rocca: Evaluation of Gastro-retentive Superporous Hydrogel Platforms Using Swine Model, The 31st Annual Meeting of the Controlled Release Society (CRS), Honolulu, Hawaii, HI, June 12-16, 2004

#### 2003

174- Y Qiu, H Omidian, H Park, K Park: Hydrogels Having Enhanced Elasticity and Mechanical Strength Properties, American Association of Pharmaceutical Scientists (AAPS), Salt Lake City, UT, Oct 26-30, 2003, Published in AAPS PharmSci, 5(4), W4178, 2003

175- W Han, H Omidian, JG Rocca: In Vivo and In Vitro Studies on Novel Gastro-retentive Superporous Hydrogel (SPH) Platforms, American Association of Pharmaceutical Scientists (AAPS), Salt Lake City, UT, Oct 26-30, 2003, Published in AAPS PharmSci, 5(4), W4119, 2003

176- H Omidian, W Han, M Lally, JG Rocca: Synthesis and Characterization of Novel Swellable and Elastic Gastro-retentive Drug Delivery Systems, American Association of Pharmaceutical Scientists (AAPS), Salt Lake City, UT, Oct 26-30, 2003, Published in AAPS PharmSci, 5(4), T3181, 2003

177- JG Rocca, H Omidian, K Shah: Controlled Release of Compounds Mediated by Retention in the Upper Part of the GI Tract, The 30th Annual Meeting and Exposition of the Controlled Release Society (CRS), Glasgow, Scotland, July 19-23, 2003

178- H Bouhendi, H Omidian, MJ Zohuriaan-Mehr: Water-Swellable Poly (acrylic acid) as Thickening Agent, The 6th Iranian Seminar on Polymer Science and Technology, Tehran, Iran, May 2003

179- H Bouhendi, H Omidian, MJ Zohuriaan-Mehr: Precipitation Polymerization of Acrylic Acid, The 6th Iranian Seminar on Polymer Science and Technology, Tehran, Iran, May 2003

180- A Salimi, H Omidian, MJ Zohuriaan-Mehr: Modified Epoxy Film Adhesives, Part 2: Structural Changes, The 6th Iranian Seminar on Polymer Science and Technology, Tehran, Iran, May 2003

181- A Salimi, H Omidian, MJ Zohuriaan-Mehr: Modified Epoxy Film Adhesives, Part 1: Mechanical Properties, The 6th Iranian Seminar on Polymer Science and Technology, Tehran, Iran, May 2003

#### 1990-2002

182- K Kabiri, H Omidian, SA Hashemi, MJ Zohuriaan-Mehr: Effect of Initiator Concentration on Synthesis and Properties of Fast-Swelling Superabsorbents, The 7th National Iranian Chemical Engineering Congress, Tehran, Iran, October 2002

183- H Omidian: Porous Superabsorbent Structures, The 5th International Seminar on Polymer Science and Technology, Tehran, Iran, September 2000

184- F Askari, H Omidian: Polymers to Treat Industrial Water Wastes, The 3rd Conference on Environmental Pollutants, Gilan University, Gilan, Iran, 1999

185- H Omidian, SA Hashemi, PG Sammes, I Meldrum: Modeling of Superabsorbent Polymers, International Seminar on Polymer Science and Technology, Tehran, Iran, Nov 3-5, 1997

186- F Askari, S Nafisi, H Omidian, SA Hashemi: Synthesis, Characterization, and Modification of Superabsorbents, The 1st International Seminar of Polymer Science & Technology, Shiraz, Iran, May 2-4, 1994

187- H Omidian, M Barikani: Optimization of Stresses in Adhesive Joints Comprising a Vulcanizable Rubber and a Thermoset Resin, The 4th International Conference on Reinforced Materials and Composite Technologies (Verbundwerk 92), Wiesbaden, West Germany, July 1-3, 1992

188- H Omidian, M Barikani: Parameters Influencing Adhesive Joints in Honeycombs and Sandwich Structures, The 2nd International Conference on Polymer Science & Technology, Tehran, Iran, 1990

## Grants

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### Under Review

- 1- H Omidian (PI), Y Omidi: Superabsorbent Cryogels to Deter Prescription Drug Abuse by Injection and Insufflation, submitted to NIH (R15), submitted, \$457,986, 2021
- 2- H Omidian (PI), Y Omidi: Inorganic Cryogel Composites to Deter Prescription Drug Abuse by Injection and Insufflation, submitted to NIH (R15), submitted, \$449,413, 2021
- 3- Y Omidi, A Castejon, H Omidian (Collaborator), E Eshraghi: "Targeted Delivery of Small Molecules into Motor Neurons: A Detect-To-Treat Strategy in Neurodegenerative Diseases" submitted to Florida Department of Health, submitted, \$349,891, 2021
- 4- Y Omidi, G Coukos, H Omidian (Collaborator), A Castejon: "Mosaic self-amplifying mRNA nanovaccine for immunotherapy of solid tumors" submitted to Florida Department of Health, submitted, \$599,399, 2021
- 5- Y Omidi, Y Kwon, R Ansari, H Omidian (collaborator): "Nanoscale multimodal self-amplifying mRNA vaccine against invasive strains of *Haemophilus influenzae*" submitted to NIH (R01), \$564,356, 2021

### Funded

- 6- H Omidian (PI), Y Omidi, A Thumma: Therapeutic Polymers Containing Abuse-Deterrent and Surface-Active Agents, 2021 President's Grant, Nova Southeastern University, \$15,000, Funded, 2021

- 7- Y Omidi, H Omidian (Co-PI), Y Kwon, N Kianinejad, Z Asiri: Hybrid hydrogel for localized ocular drug delivery via conjunctival route, 2021 President's Grant, Nova Southeastern University, \$15,000, Funded, 2021
- 8- Y Kwon, Y Omidi, H Omidian (Co-Investigator), M Clark, Z Asiri, N Kianinejad: Site-specific thrombolytic bioconjugates to address MMP-9 burst from neutrophils, 2021 President's Grant, Nova Southeastern University, \$15,000, Funded, 2021
- 9- A Thumma, H Omidian (Co-PI): Improved Abuse-Deterrent Formulations Utilizing Charcoal and Clay, HPD Grant, Nova Southeastern University, \$7,500, Funded, Mar 2020
- 10- N Babanejad, H Omidian (Co-PI): Polymeric Solid Dispersions to Deter Prescription Drug Abuse, HPD Grant, Nova Southeastern University, \$7,500, Funded, June 2019
- 11- S Alaei, R Ahmad, H Omidian (Co-PI): Deter IV Drug Abuse Using Cross-Linked Acrylate Polymers, HPD Grant, Nova Southeastern University, \$7,500, Funded, Nov 2018
- 12- R Ahmad, H Omidian (Co-PI): Deterring Drug Abuse via Injection Utilizing Crosslinked Starch, HPD Grant, Nova Southeastern University, \$5,000, Funded, Feb 2017
- 13- H Omidian (PI), S Muppalaneni, Y Joshi, and D Mastropietro: Medications Resistant to Abuse by Crushing and Hot Aqueous Extraction, 2015 President's Grant, Nova Southeastern University, \$10,000, Funded, 2014
- 14- H Omidian (PI), D Mastropietro: Engineering Approaches in Developing Abuse-Deterrent Medications, HPD Grant, Nova Southeastern University, \$5,000, Funded, 2012
- 15- UD Kandalam, MA Clark, H Omidian (Collaborator), MA Duarte, AE Saltz: In Vitro Evaluation of an Injectable Tissue-Engineered Nano-Composite Scaffolds, 2013 President's Grant, Nova Southeastern University, \$10,000, Funded, 2012
- 16- H Omidian (PI), UD Kandalam, DJ Mastropietro: Smart Polymers to Reduce Alcohol Absorption into Systemic Circulation, 2012 Chancellor's Grant, Nova Southeastern University, \$10,000, Funded, 2011
- 17- UD Kandalam, E Stelnicki, H Omidian (Collaborator), AJ Bouvier, SB Casas: Alginate/Hydroxyapatite Nano-Composite Scaffolds for Bone Tissue Engineering, 2011 Chancellor's Grant, Nova Southeastern University, \$10,000, Funded, 2010

#### Not Funded

- 18- C Bertol, F Tonial, K Opperman, H Omidian (Collaborator): Semisolid containing microparticles of probiotics and vitamin C for intravaginal use for the treatment of repetitive vulvovaginal candidiasis, CNPq (Conselho Nacional de Pesquisa e Desenvolvimento) (Brazil), Not Funded, 2021
- 19- C Bertol (PI), H Omidian (Collaborator): Microparticles containing jabuticaba peel extract, azelaic acid and belides: In vitro and in vivo evaluation in the treatment of melasma, CNPq (Conselho Nacional de Pesquisa e Desenvolvimento) (Brazil), Not Funded, 2020
- 20- C Bertol, L Grando, R Santos, A Pasqualoti, E Liberti, H Omidian (Collaborator): Ozonized Oil: Characterization, Placebo Controlled Triple Blind Clinical Trial, Determination of the Mechanism of Action in Rats and Development of a New Formulation, CNPq (Conselho Nacional de Pesquisa e Desenvolvimento) (Brazil), R\$ 41,000, equivalent to US \$10,000, Not Funded, 2018
- 21- U Kandalam, Toshi Kawai, S Kaltman, M Clark, H Omidian (Co-I): Regeneration of Vascularized Bone from Ex Vivo Programmed Gingival Stem Cells, NIDCR R15, \$346,187, Not Funded, 2017
- 22- H Omidian (PI): Hydrogel Cryogel Hybrids to Deter Prescription Drug Abuse by Injection and Insufflation, National Institute of Drug Abuse (R15), \$391,213, Not Funded, May 2017
- 23- H Omidian (PI): Collective Adsorption, Absorption, Coagulation, Binding, and Aversion to Deter Prescription Drug Abuse via Injection, National Institute of Drug Abuse (R21), \$266,222, Not Funded, Feb 2017

- 24- C McLachlan, B Zhao, A Khoyneshad, R Whitbourn, T Steinke, KM Cherian, H Omidian (Collaborator), H Kiat: A Hydrogel for Cardiac Vascular Surgery, Australian NHMRC Development Grant Application, \$1,700,000, Not Funded, Dec 2016
- 25- H Omidian (PI): Tuning Polymer Viscoelasticity, Swelling, and Binding to Tackle Prescription Drug Abuse, National Science Foundation, \$498,702, Not Funded, Oct 2016
- 26- D Mastropietro, H Omidian (Co-PI): Opioid-Binding Agents to Deter Abuse of Prescription Drugs, 2016 President's Grant, Nova Southeastern University, \$15,000, Not Funded, 2015
- 27- H Omidian (PI): Expandable Platforms for Gastric Retention Controlled Drug Delivery Systems, 2010 President's Grant, Nova Southeastern University, \$10,000, Funded, 2009
- 28- H Omidian (PI): Swellable Platforms for Gastric Retention Controlled Drug Delivery Systems, HPD Grant, Nova Southeastern University, \$5,000, Funded, 2009

## Pre-Clinical and Clinical Studies Protocols

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- 1- Manufacturing Protocol for the Encapsulation of Superporous Hydrogels into 00 HPMC Capsules, Kos Pharmaceuticals, Inc., September 2005
- 2- Protocol to Evaluate Stability of Superporous Hydrogel Intermediates and Capsules, Kos Pharmaceuticals, Inc., May 2005
- 3- Fourteen Days Toxicity Study of Superporous Hydrogels Administered Orally to Beagle Dogs, Kos Pharmaceuticals, Inc., February 2005
- 4- Standard Test Procedure to Evaluate Superporous Hydrogels, Kos Pharmaceuticals, Inc., January 2005
- 5- Protocol to Manufacture, Test, Release Superporous Hydrogel Capsules for Animal Toxicological Safety Studies, Kos Pharmaceuticals, Inc., June 2004
- 6- Safety Study of a Novel Gastro-Retentive Platform Administered Orally in a Swine Emesis Model, Kos Pharmaceuticals, Inc., May 2004
- 7- An Acute Toxicity Study of a Novel Gastro-Retentive Platform Administered Orally to Swine, Kos Pharmaceuticals, Inc., April 2004
- 8- Protocol to Manufacture, Test, and Release Superporous Hydrogel Intermediate Platforms, Kos Pharmaceuticals, Inc., March 2004
- 9- Protocol for the Purification, Drying, Manufacturing, Assembly of Superporous Hydrogels and Drug-Loaded Tablets, Kos Pharmaceuticals, Inc., March 2004
- 10- A Pharmaco-Scintigraphy Evaluation of the Gastro-Retentive Properties of a Novel Superporous Hydrogel Containing Drug Model Administered in Healthy Men and Women, Kos Pharmaceuticals, Inc., March 2004
- 11- Protocol to Test and Disposition of Raw Materials for Superporous Hydrogel Intermediates, Kos Pharmaceuticals, Inc., March 2004
- 12- In Vivo Studies on Superporous Hydrogel (SPH) Platforms: The 2<sup>nd</sup> Study, Kos Pharmaceuticals, Inc., May 2003
- 13- In Vivo Studies on Superporous Hydrogel (SPH) Platforms: The 1<sup>st</sup> Study, Kos Pharmaceuticals, Inc., March 2003

## Contracts and Technology Licensing and Assignment

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- 1- Opioid Abuse-Deterrent Technologies, MEC Device Pharma International, LLC, Florida, US, 2018
- 2- Elastic Superporous Superabsorbent Hydrogels, Kos Pharmaceuticals, Florida, US, 2003
- 3- Hygienic Superabsorbent Polymers, Nava-Baspar Chemical Company, Tehran, Iran, 2000
- 4- Agricultural Superabsorbent Polymers, Mojgan-Shimi Chemical Company, Tehran, Iran, 1999

## Book Chapters

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- 1- Y Omidi, J Barar, S Vandghanooni, M Eskandari, H Omidian: Aptamers as smart ligands for the development of cancer-targeting nanocarriers, Elsevier, 2022
- 2- Y Omidi, H Omidian, Y Kwon, A M Castejon: Blood-brain barrier and nanovesicles for brain-targeting drug delivery, Elsevier, 2022
- 3- N Amiryaghoubi, M Fathi, K Adibkia, J Barar, H Omidian, Y Omidi: Chitosan-Based Biomaterials: Their Interaction with Natural and Synthetic Materials for Cartilage, Bone, Cardiac, Vascular, and Neural Tissue Engineering, Engineering Materials for Stem Cell Regeneration, Elsevier, 619-650, 2021
- 4- Z R Navazi, P Samadi Pakchin, H Omidian, Y Omidi: Carbon Nanotubes: Super-Fabric Nanotheranostic Materials, 2021
- 5- A Aghanejad, H Omidian, Y Omidi: Medical Applications of Multifunctional Magnetic Nanoparticles *in* Magnetic Nanoparticles-Based Hybrid Materials: Fundamentals and Applications, Chapter 27, Elsevier, 2021
- 6- M Fathi, E Dalir Abdollahinia, N Amiryaghoubi, H Omidian, Y Omidi: Magnetic Nanoparticles- Polymer Nanohybrids *in* Magnetic Nanoparticles Based Hybrid Materials: Fundamentals and Applications, Chapter 25, Elsevier, 2021
- 7- S Alaei, N Babanejad, R Ahmad, H Omidian: Polymers and Hydrogels to Deter Drug Abuse in Engineering Drug Delivery Systems, Chapter 10, A Seyfoddin (Ed.); Elsevier, 2019
- 8- D Mastropietro, K Park, H Omidian: Polymers in Oral Drug Delivery in Comprehensive Biomaterials II, Volume 4 (Biocompatibility, Surface Engineering, and Delivery of Drugs, Genes and Other Molecules), Chapter 4.23 (Pages 430-444), P Ducheyne (Ed.); Elsevier (publisher), 2017
- 9- H Omidian, K Park: Superporous Hydrogels for Drug Delivery Systems in Comprehensive Biomaterials II, Volume 1 (Metallic, Ceramic, and Polymeric Biomaterials), Chapter 1.30 (Pages 688-704); P Ducheyne (Ed.); Elsevier (publisher), 2017
- 10- H Omidian, K Park, P Sinko: Pharmaceutical Polymers in Martin's Physical Pharmacy and Pharmaceutical Sciences, 7th Edition, Chapter 21, 561-584; P Sinko (Ed.); Wolters Kluwer (publisher), 2016
- 11- D Mastropietro, S Muppalaneni, Y Kwon, K Park, H Omidian: Polymers in Drug Delivery in Drug Delivery, Chapter 7, 129-156; AK Mitra, D Kwart, AD Vadlapudi (Eds.), Jones & Bartlett Learning, 2014
- 12- S Muppalaneni, D Mastropietro, H Omidian: Mucoadhesive Drug Delivery Systems in Engineering Polymer Systems for Improved Drug Delivery, Chapter 10, 319-342; RA Bader and D Putnam (Eds.), Wiley, 2013
- 13- H Omidian, S Fesharaki, K Park: Oral Controlled Delivery Mechanisms and Technologies in Controlled Release in Oral Drug Delivery, Chapter 6, 109-129; C Wilson, P Crowley (Eds.), Springer (publisher), 2011
- 14- H Omidian, K Park: Hydrogels in Fundamentals and Applications of Controlled Release Drug Delivery, Chapter 4, 75-105; R Siegel, M Rathbone, J Siepmann (Eds.); CRS Book Series (Publisher), 2011
- 15- H Omidian, K Park: Superporous Hydrogels for Drug Delivery Systems in Comprehensive Biomaterials, Volume 1 (Metallic, Ceramic, and Polymeric Biomaterials), Chapter 131, 563-576; P Ducheyne, D W Hutmacher, J Kirkpatrick, K Healy (Eds.); Elsevier (publisher), 2011
- 16- H Omidian, K Park: Introduction to Hydrogels in Biomedical Applications of Hydrogels Handbook, Chapter 1, 1-16; R Ottenbrite, K Park, T Okano(Eds.); Springer (publisher), 2010
- 17- H Omidian, K Park: Engineered High Swelling Hydrogels in Biomedical Applications of Hydrogels Handbook, Chapter 19, 351-374; R Ottenbrite, K Park, T Okano (Eds.); Springer (publisher), 2010
- 18- G Mun, I Suleimenov, K Park, H Omidian: Superabsorbent Hydrogels in Biomedical Applications of Hydrogels Handbook, Chapter 20, 375-391; R Ottenbrite, K Park, T Okano (Eds.); Springer (publisher), 2010

- 19- H Omidian, K Park, P Sinko: Pharmaceutical Polymers in Martin's Physical Pharmacy and Pharmaceutical Sciences, 6<sup>th</sup> Edition, Chapter 20, 492-515; P Sinko (Ed.); Lippincott Williams & Wilkins (publisher), 2010
- 20- Y Singh, H Omidian, P Sinko: Drug Delivery and Targeting in Martin's Physical Pharmacy and Pharmaceutical Sciences, 6<sup>th</sup> Edition, Chapter 23, 594-645; P Sinko (Ed.); Lippincott Williams & Wilkins (publisher), 2010
- 21- H Omidian, K Park: Oral Targeted Drug Delivery Systems: Gastric Retention Devices in Controlled Release Formulation Design and Drug Delivery: Theory to Practice, 1<sup>st</sup> Edition, Chapter 12, 185-203; K Park, H Wen (Eds); John Wiley & Sons, Inc. (publisher), 2010
- 22- H Omidian, K Park: Fast Responsive Macroporous Hydrogels in Macroporous Polymers, 1<sup>st</sup> Edition, Chapter 8, 179-208; B Mattiasson, A Kumar, I Galae (Eds.); Taylor & Francis Group, LLC (publisher), 2009

## Books

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- 1- H Omidian, M Vafaian: Principles of Polymerization, Volume 1, 1<sup>st</sup> Edition, Iran University Press, Tehran, Iran, 1990
- 2- H Omidian, M Vafaian: Principles of Polymerization, Volume 1, 2<sup>nd</sup> Edition, Iran University Press, Tehran, Iran, 2005
- 3- H Omidian, M Vafaian: Principles of Polymerization, Volume 1, 3<sup>rd</sup> Edition, Iran University Press, Tehran, Iran, 2010
- 4- H Omidian, M Vafaian: Principles of Polymerization, Volume 1, 4<sup>th</sup> Edition, Iran University Press, Tehran, Iran, 2013
- 5- H Omidian, M Vafaian: Principles of Polymerization, Volume 2, 1<sup>st</sup> Edition, Iran University Press, Tehran, Iran, 1992
- 6- H Omidian, M Vafaian: Principles of Polymerization, Volume 2, 2<sup>nd</sup> Edition, Iran University Press, Tehran, Iran, 2013
- 7- H Omidian, M Vafaian: Plastics Materials, Volume 1, 1<sup>st</sup> Edition, Iran University Press, Tehran, Iran, 1996
- 8- H Omidian, M Vafaian: Plastic Materials, Volume I, 2<sup>nd</sup> Edition, Iran University Press, Tehran, Iran (2<sup>nd</sup> Print), 2009
- 9- H Omidian: Plastics Materials, Volume 2, 1<sup>st</sup> Edition, Iran University Press, Tehran, Iran, 2002
- 10- H Omidian, M Vafaian, A Pourjavadi: Organic Chemistry, Volume 3, Iran University Press, Tehran, Iran, 1996
- 11- H Omidian, A Pourjavadi, MJ Zohuriaan-Mehr, M Nadali, M Madani: Chemical Process Industries, Iran University Press, Tehran, Iran, 2007
- 12- AR Ja'fari, V Movahhed, M Mehrabzadeh, H Omidian: Elastomers and Rubber Compounding Materials, Iran University Press, Tehran, Iran, 2004
- 13- AR Ja'fari, V Movahhed, M Mehrabzadeh, H Omidian: Elastomers and Rubber Compounding Materials, Edited by H Omidian, Iran University Press, Tehran, Iran, 2004
- 14- AR Salagegheh, A Pourjavadi, Z Vosough: Practical Organic Chemistry, Edited by H Omidian, AR Salagegheh, A Pourjavadi, Iran University Press, Tehran, Iran, 2004
- 15- F Divsalar, P Abaachi: Fundamentals of Composite Manufacturing, Edited by H Omidian, Iran University Press, Tehran, Iran, 2001

## Courses

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Course	Term	Role	Size	Program
Pharmaceutics I	Fall 2007	Instructor	222	PharmD
	Fall 2008	Instructor & Coordinator	207	PharmD
	Fall 2009	Instructor & Coordinator	203	PharmD
	Fall 2010	Instructor & Coordinator	204	PharmD
	Fall 2011	Instructor & Coordinator	211	PharmD
	Fall 2012	Instructor & Coordinator	209	PharmD
	Fall 2013	Instructor & Coordinator	205	PharmD
	Fall 2014	Instructor & Coordinator	218	PharmD
	Fall 2015	Instructor & Coordinator	223	PharmD
	Fall 2016	Instructor & Coordinator	222	PharmD
Pharmaceutics II	Fall 2017	Instructor & Coordinator	228	PharmD
	Winter 2008	Instructor & Coordinator	205	PharmD
Advances in Drug Delivery	Winter 2009	Instructor	210	PharmD
	Fall 2010	Instructor	40	PharmD
Therapeutics III (COP Seminar)	Winter 2013	Instructor	4	PharmD
	Winter 2014	Instructor	4	PharmD
Research Elective	Winter 2010	Instructor	2	PharmD
Dosage Forms and Drug Delivery	Fall 2018	Instructor	220	PharmD
	Fall 2019	Instructor & Coordinator	218	PharmD
	Fall 2020	Instructor & Coordinator	207	PharmD
	Fall 2021	Instructor & Coordinator	225	PharmD
Pharmacy Skills Development	Fall 2022	Coordinator	219	PharmD
Advanced Physical Pharmacy	Fall 2010	Instructor & Coordinator	2	PhD
	Fall 2011	Instructor & Coordinator	5	PhD
	Fall 2012	Instructor & Coordinator	3	PhD
	Fall 2014	Instructor & Coordinator	1	PhD
	Fall 2015	Instructor & Coordinator	2	PhD
	Fall 2016	Instructor & Coordinator	1	PhD
	Fall 2017	Instructor & Coordinator	6	PhD
	Fall 2018	Instructor & Coordinator	6	PhD
	Fall 2019	Instructor & Coordinator	4	PhD
	Fall 2020	Instructor & Coordinator	4	Ph.D./MS
Pharmaceutical Formulation/ Product Development	Fall 2021	Instructor & Coordinator	5	Ph.D./MS
	Fall 2011	Instructor	1	PhD
	Fall 2012	Instructor	6	PhD
	Fall 2019	Instructor	3	PhD
	Fall 2020	Instructor	4	PhD
Pharmaceutics I	Fall 2011	Instructor	1	PhD

Research Techniques and Instrumentations	Fall 2012	Instructor	8	PhD
	Fall 2013	Instructor	6	PhD
	Fall 2014	Instructor	5	PhD
	Fall 2015	Instructor	5	PhD
	Fall 2016	Instructor	1	PhD
	Fall 2017	Instructor	6	PhD
	Fall 2018	Instructor	3	PhD
	Fall 2019	Instructor	8	PhD
	Fall 2020	Instructor	8	PhD
Pharmaceutical Polymers	Winter 2012	Instructor & Coordinator	1	PhD
	Winter 2013	Instructor & Coordinator	5	PhD
	Winter 2014	Instructor & Coordinator	1	PhD
	Winter 2016	Instructor & Coordinator	1	PhD
	Winter 2017	Instructor & Coordinator	1	PhD
	Winter 2019	Instructor & Coordinator	4	PhD
	Winter 2020	Instructor & Coordinator	1	PhD
	Winter 2021	Instructor & Coordinator	3	PhD
Advanced Topics in Pharmaceutical Sciences	Fall 2017	Instructor	1	PhD
	Winter 2017	Instructor	1	PhD
	Winter 2019	Instructor & Coordinator	2	PhD
	Fall 2020	Instructor	3	PhD
Pharmaceutical Patents and Litigations	Winter 2019	Instructor & Coordinator	1	PhD

## Graduate Students

1	<b>Kwadwo Mfoafo</b> BPharm, MPhil	Ph.D. in Pharmaceutics	Nova Southeastern University, FL, USA	2019-
2	<b>Anusha Thumma</b> BPharm, MSc	Ph.D. in Pharmaceutics	Nova Southeastern University, FL, USA	2018-
3	<b>Niloofer Babanejad</b> PhD	Ph.D. in Pharmaceutics	Nova Southeastern University, FL, USA	2018-
4	<b>Samaneh Alaei</b> PharmD	Ph.D. in Pharmaceutics	Nova Southeastern University, FL, USA	2017-2022
5	<b>Rand Ahmad</b> BPharm, MS <i>Current Position:</i> <i>Formulation Scientist II</i> <i>Hikma Pharmaceutical, US</i>	Ph.D. in Pharmaceutics	Nova Southeastern University, FL, USA	2015-2020
6	<b>Yogesh Joshi</b> BPharm, MS, PhD <i>Current Position:</i> <i>Research Scientist</i> <i>model, US</i>	Ph.D. in Pharmaceutics	Nova Southeastern University, FL, USA	2012-2017

7	<b>Srinath Muppalaneni</b> BPharm, MS, PhD <i>Current Position:</i> <i>Process Development Manager</i> <i>Karuna Therapeutics, US</i>	Ph.D. in Pharmaceutics	Nova Southeastern University, FL, USA	2011-2016
8	<b>David Mastropietro</b> BPharm, RPh, PhD <i>Current Position:</i> <i>Assistant Professor</i> <i>Nova Southeastern University, US</i>	Ph.D. in Pharmaceutics	Nova Southeastern University, FL, USA	2010-2014
9	<b>Fahimeh Askari</b> BSc, MSc, PhD <i>Current Position:</i> <i>Associate Professor</i> <i>Iran Polymer Institute, Iran</i>	MSc in Polymer Engineering	Iran Polymer Institute Tehran, Iran	1999-2001
10	<b>Ali Salimi</b> BSc, MSc, PhD <i>Current Position:</i> <i>Associate Professor</i> <i>Iran Polymer Institute, Iran</i>	MSc in Polymer Engineering	Iran Polymer Institute Tehran, Iran	1998-2000
11	<b>Hossein Bouhendi</b> BSc, MSc, PhD <i>Current Position:</i> <i>Associate Professor</i> <i>Iran Polymer Institute, Iran</i>	MSc in Polymer Engineering	Iran Polymer Institute Tehran, Iran	1997-1999
12	<b>Kourosh Kabiri</b> BSc, MSc, PhD <i>Current Position:</i> <i>Associate Professor</i> <i>Iran Polymer Institute, Iran</i>	MSc in Polymer Engineering	Iran Polymer Institute Tehran, Iran	1997-1999

## Students Trained

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### PhD

- 1- Renae Wilson (2021)
- 2- Zahra Al-Asiri (2020)
- 3- Nazanin Kianinejad (2019)
- 4- **Kwadwo Mfoafø (2019- Present)**
- 5- **Anusha Thumma (2018- Present)**
- 6- **Niloofar Babanejad (2018- Present)**
- 7- Perpetua Shillingford (2018)
- 8- **Samaneh Alaei (2017- Present)**
- 9- **Rand Ahmad (2015- 2020)**
- 10- Amr Kalloub (2015)
- 11- Rawan Bafail (2014)
- 12- **Yogesh Joshi (2012- 2017)**
- 13- Padmanabhan Eangoor (2012)
- 14- **Srinath Muppalaneni (2011-2016)**

- 15- Lina Aladi (2011)
- 16- Muhammad Sultan (2011)
- 17- Wael Mahdi (2011)
- 18- Alhussain Aodah (2011)
- 19- Monique Hart (2011)
- 20- David Mastropietro (2010-2014)**

#### PharmD

- 21- Riann Forbes (2017-2020)
- 22- Breana Caturano (2017-2018)
- 23- Christina Crum (2016- 2017)
- 24- Satya Vempati (2016- 2017)
- 25- Sampa Mondal (2014- 2017)
- 26- Theodore Elisme (2013-2014)
- 27- Arghavan Kariman (2013-2016)

#### International and Undergrads

- 28- Jay-Quan Dill (2022)
- 29- Riann Forbes (2016)
- 30- Shirley Parra (Spring 2016)
- 31- Jessica De Sa (Summer 2015)
- 32- Alborz Omidian (Summer 2015)

#### Master (MSc)

- 33- Fahimeh Askari (1999-2001)
- 34- Ali Salimi (1998-2000)
- 35- Kourosh Kabiri (1997-1999)
- 36- Hossein Bouhendi (1997-1999)

## Awards and Honors

2017	President's Distinguished Professor of the Year Nominee	2016-17 College of Pharmacy's Professor of the Year, NSU
2012	Golden Apple Nominee	Class of 2015, College of Pharmacy, NSU
2009	Teacher of the Year	American Association of Colleges of Pharmacy, Boston
2009	Golden Apple Winner	College of Pharmacy, NSU
2009	Golden Apple Nominee	Class of 2012, College of Pharmacy, NSU
2008	Golden Apple Nominee	Class of 2011, College of Pharmacy, NSU
2008	Outstanding Research Paper	Drug Development and Industrial Pharmacy, Informa, USA
1992	Outstanding Research	Iran Polymer Institute, Tehran, Iran
1992	Outstanding Research Scientist	Iran Polymer Institute, Tehran, Iran
1990	Outstanding Research Paper	Iran Polymer Institute, Tehran, Iran

## Journal Reviewer

- Journal of Polymer Engineering & Science
- AAPS PharmSciTech
- Carbohydrate Polymers
- Starch

- Biomacromolecules
- European Polymer Journal
- Journal of Applied Polymer Science
- Drug Development and Industrial Pharmacy
- Journal of Bioactive and Compatible Polymers
- Iranian Polymer Journal
- Advanced Pharmaceutical Bulletin

## Membership

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- Rho Chi Society
- Phi Lambda Sigma Pharmacy Leadership Society
- American Chemical Society (ACS)
- American Association of Pharmaceutical Scientists (AAPS)
- Controlled Release Society (CRS)
- American Society of Iranian Pharmaceutical Scientists (ASIPS)

## Committees

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### National level

- United States Pharmacopeia (USP) Delegate (2009-present)

### University level

- PFRDG grant reviewer (2013, 2015, 2019)
- PFRDG alternate grant reviewer (2014)

### College level

- Chair of the Promotion and Continuing Contract Committee (2015- 2019)
- Graduate Education Committee (2015- 2021)
- Promotion and Continuing Contract Committee (2012- Present)
- Research Committee (2008-2010)
- Admission Committee (2008-2011)
- Appeal Committee (2009-2015)
- Technology Task Force Committee (2011)
- Search Committee for the Chair of the Department of Pharmaceutical Sciences (2011)
- Scholarship Committee (2009-2010)
- Graduate Research and Education (2010, 2013-2015)
- Committee to revise Graduate Qualifying Exam (2014)
- HPD Research Day reviewer (2014)

### Department Level

- Chair of the dissertation committee- David Mastropietro (2010-2014)
- Chair of the dissertation committee- Srinath Muppalaneni (2011-2016)
- Chair of the dissertation committee- Yogesh Joshi (2012- 2017)
- Chair of the dissertation committee-Rand Ahmad (2015- 2020)
- Chair of the dissertation committee- Samaneh Alaei (2017- 2022)

- Chair of the dissertation committee- Niloofar Babanejad (2018- Present)
- Chair of the dissertation committee- Anusha Thumma (2018- Present)
- Chair of the dissertation committee- Kwadwo Mfoafo (2019- Present)
- Member of the dissertation committee- Mohammed Sultan (2012-2018)
- Member of the dissertation committee- Nazanin Kianinejad (2022-)
- Member of the dissertation committee- Maha Mobasher (2022-)
- Chair of the search committee for a faculty position (2020)
- Search committee for graduate faculty positions (2013, 2014, 2018)
- Scholarship and faculty development committee (2007, 2008, 2009)
- Curriculum subcommittee (2009, 2010)

## Continuing Education and Training

- Sunscreens: Science, Technology and Product Development: The Center for Professional Advancement, USA, June 2019
- Nutritional Supplement Formulation Basics: The Center for Professional Advancement, USA, June 2019
- Propel's SBIR/STTR Grant Writing Workshop: Training provided by BBC Entrepreneurial Training & Consulting, Chicago, June 15-16, 2016
- Hot Melt Extrusion Practical Training Session: Dr. Charles I. Jarowski Industrial Pharmacy Symposium, St. John's University, New York City, USA, June 17-18, 2015
- Practical Rheology: Hydan Technologies, Inc., Princeton, USA, June 20-21, 2012
- Design and Analysis of Experiments: 3.5 CEUs, Massachusetts Institute of Technology (MIT), Cambridge, USA, July 10-14, 2006
- Microencapsulation and Particle Coating: 1.8 CEUs, Center for Professional Advancement, Northbrook, USA, Oct 4-6, 2006
- Hydrocolloid Polymers: TIC Gums, Inc., Belcamp, USA, Nov 9-10, 2006
- Advances in Controlled Release Technology: Polymeric Delivery Systems for Pharmaceuticals, Proteins and Other Agents: 3.5 CEUs, Massachusetts Institute of Technology (MIT), Cambridge, USA, July 11-15, 2005
- Current Good Manufacturing Practices (cGMP) in the Clinical Development Environment: CATO Research Ltd, Fort Lauderdale, USA, Feb 5-6, 2004
- Bulk Pharmaceutical and Chemical Process Developments: 1.5 CEUs, American Institute of Chemical Engineers (AIChE), Las Vegas, USA, Nov 14-15, 2002

## Media Coverage



Tamper proof pills fight addiction  
KFSN-TV - Oct 28, 2017  
Hamid Omidian, Ph.D., Professor of Pharmaceut  
continued, "It's going to be impossible for an abu

<http://abc30.com/health/tamper-proof-pills-fight-addiction/2579796/>



Health Beat: Researchers develop medicat  
WFMZ Allentown - Oct 9, 2017  
It's very difficult to crush it into fine powder for sn  
professor of pharmaceutical sciences at Nova Sc

<http://www.wfmz.com/health/health-beat-researchers-develop-medications-to-deter-opioid-abuse/634822340>



### YOUR HEALTH: Making your prescription

WQAD.com - Oct 4, 2017

... very difficult to crush it into fine powder for sn...  
University Pharmaceutical Sciences professor H...

<http://wqad.com/2017/10/04/your-health-making-your-prescription-pills-tamper-proof/>



### Health Beat: Tamper-proof pills fight addiction

WFMZ Allentown - Oct 10, 2017

It's very difficult to crush it into fine powder for sn...  
professor of pharmaceutical sciences at NSU. Al...

<http://www.wfmz.com/health/health-beat/health-beat-tamper-proof-pills-fight-addiction-1/635515532>



### Health Care Discoveries for the Modern Age

Florida Trend - Aug 28, 2017

Following U.S. Food and Drug Administration gui...  
formulations, NSU researchers, led by Hossein O...

<http://www.floridatrend.com/article/22808/health-care-discoveries-for-the-modern-age>

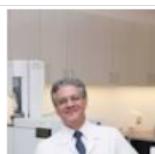


### Científicos de NSU desarrollan tabletas de

El Nuevo Herald - Jul 28, 2017

El profesor Hossein Omidian, quien lidera la inve...  
tableta se manipula para inhalar o inyectar", prec...

<http://www.elnuevoherald.com/noticias/sur-de-la-florida/article164220472.html>



### Desarrollan pastillas de analgésicos fuertes

El Periódico - Jul 27, 2017

El profesor Hossein Omidian, quien lidera la inve...  
de la Universidad Nova Southeastern (NSU) de Fi...

<http://www.elperiodico.com/es/sociedad/20170727/desarrollan-pastillas-de-analg%C3%A9icos-fuertes-imposibles-de-ingresar-o-inyectar-6193916>



### Desarrollan opiáceos imposibles de pulverizar

Mirada Profesional - Aug 2, 2017

El profesor Hossein Omidian, quien lidera la inve...  
de esa casa de estudios, explicó que la clave est...

<https://miradaprofesional.com/ampliarpagina.php?id=48570>

### Tamper-proof pills help fight opioid addiction - KSAT



<https://www.ksat.com/.../tamper-proof-pill>

Sep 6, 2017

Hamid Omidian, PhD, Professor of Pharmacel...  
continued, "It's going to be ...

<https://www.ksat.com/health/tamper-proof-pills-help-fight-opioid-addiction>

### Tamper proof pills fight addiction | abc30.com



[abc30.com/health/tamper-proof-pills-fight-addiction](http://abc30.com/health/tamper-proof-pills-fight-addiction)

2 days ago

Hamid Omidian, Ph.D., Professor of Pharmacel...  
Southeastern University explained. And ...

<http://abc30.com/health/tamper-proof-pills-fight-addiction/2579796/>

### Tamper proof pills to deter alteration and addiction



[www.abc12.com/content/misc/Tamper-44](http://www.abc12.com/content/misc/Tamper-44)

Sep 28, 2017

Hamid Omidian, PhD, Professor of Pharmacel...  
continued, "It's going to be ...

<http://www.abc12.com/content/misc/Tamper-44/448457103.html>

### Healthcast: Tamper-proof pills combat opioid crisis



[www.texomashomepage.com/news/healthcast-tamper-proof-pills-combat-opioid-crisis](http://www.texomashomepage.com/news/healthcast-tamper-proof-pills-combat-opioid-crisis)

Sep 29, 2017

Hamid Omidian, PhD, Professor of Pharmacel...  
continued, "It's going to be ...

<http://www.texomashomepage.com/news/healthcast-tamper-proof-pills-combat-opioid-crisis/821094596>



**Tamper-proof pills help fight opioid addiction** <https://www.ksat.com/health/tamper-proof-pills-help-fight-opioid-addiction>  
KSAT San Antonio - Sep 6, 2017  
Tamper-proof pills help fight opioid addiction ... H  
Pharmaceutical Sciences at Nova Southeastern U

**HealthWatch: Tamper Proof Pills Fight Addiction**  
WeAreGreenBay.com - Sep 15, 2017  
But every day in the United States people are dying due to opioid addiction ... Professor of Pharmaceutical Sciences at ...

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## Tamper-Proof Pills



**NSU Research Spotlight: Hossein Omidian, Ph.D.** <https://nsunews.nova.edu/nsu-research-spotlight-hossein-omidian-ph-d/>  
<https://nsunews.nova.edu> › NSU Newsroom ▾  
Feb 29, 2016 - Hossein Omidian, Ph.D., professor at NSU's College of Pharmaceutical Sciences, ... Other NSU News Sources.

**NSU College of Pharmacy Grants its First Ph.D. Degree** <https://nsunews.nova.edu/nsu-college-of-pharmacy-grants-its-first-ph-d-degree/>  
<https://nsunews.nova.edu> › NSU Newsroom › SharkBytes › NSU Newsroom  
Sep 2, 2014 - Working closely with his advisor Hamid Omidian, Ph.D., the development of medications and other projects has so far led to eight ...

**NSU Research Spotlight | NSU Newsroom - Part 1** <https://nsunews.nova.edu/sharkbytes/nsu-research-spotlight/page/2/>  
<https://nsunews.nova.edu/sharkbytes/nsu-research-spotlight/>  
Hossein Omidian, Ph.D., is a professor at NSU's College of Pharmaceutical Sciences. He and his research team are developing ...

**#NSUCOP Hossein Omidian, Ph.D., works... - NSU Newsroom** [https://www.facebook.com/NSUCOP/photos/a.326042942930.152112.163176372930/1015382961/?type=3&comment\\_tracking=%7B%22tn%22%3A%22R%22%7D](https://www.facebook.com/NSUCOP/photos/a.326042942930.152112.163176372930/1015382961/?type=3&comment_tracking=%7B%22tn%22%3A%22R%22%7D)  
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<https://nsunews.nova.edu/nsu-research-spotlight-hossein-omidian/>