

Date: June 23 2017

RESUME

Full name: Alejandro Dario Sosnik

Identity No. 317446664

Date and place of birth: November 8 1970, Buenos Aires, Argentina

Web site: <http://materials.faculty-ms.technion.ac.il/laboratory-of-pharmaceutical-nanomaterial-science/>

ACADEMIC DEGREES

Pharmacy, 1989–1994 (5-years plan), Faculty of Pharmacy and Biochemistry, University of Buenos Aires, Buenos Aires, Argentina.

M.Sc. (equivalency for direct Ph.D. program), 1998-1999, Casali Institute of Applied Chemistry, The Hebrew University of Jerusalem, Jerusalem, Israel. Supervisor: Prof. Daniel Cohn.

Ph.D. in Applied Chemistry, 1999–2003, Casali Institute of Applied Chemistry, The Hebrew University of Jerusalem, Jerusalem, Israel. Supervisor: Prof. Daniel Cohn.

ACADEMIC APPOINTMENTS

01/2014–Present: **Tenured Associate Professor**, Department of Materials Science and Engineering, Technion-Israel Institute of Technology, Haifa, Israel. **Tenured in September 2016.**

2006–2013: **Tenured Assistant Professor**, the Department of Pharmaceutical Technology, Faculty of Pharmacy and Biochemistry, University of Buenos Aires, Buenos Aires, Argentina.

2006–2013: **Tenured Investigator**, National Science Research Council of Argentina, Buenos Aires, Argentina.

2003–2006: **Postdoctoral Fellow**, Institute of Chemical Engineering and Applied Chemistry and Institute of Biomaterials and Biomedical Engineering, University of Toronto, Toronto, Canada. Supervisor: University Prof. Michael V. Sefton.

1993-1995: **Research Fellow**, Department of Organic Chemistry, Faculty of Pharmacy and Biochemistry, University of Buenos Aires, Buenos Aires, Argentina. Supervisor: Prof. Graciela Moltrasio.

1993-1997: **Teaching assistant**, Department of Organic Chemistry, Faculty of Pharmacy and Biochemistry, University of Buenos Aires, Buenos Aires, Argentina.

1992-1994: **Teaching assistant**, Department of Analytical Chemistry, Faculty of Pharmacy and Biochemistry, Buenos Aires, Argentina.

PROFESSIONAL EXPERIENCE (outside academia)

Pharmacist licenses in Argentina and Israel.

1998-2003: **Pharmacist (part-time)**, Superpharm Israel Ltd., Jerusalem, Israel.

1996-997: **Research Pharmacist**, Department of Chemistry and Physics, National Institute of Drugs, Ministry of Health, Buenos Aires, Argentina.

RESEARCH INTERESTS

Drug self-assembly, crystallization and dissolution, pure drug nanoparticles, polymer and macromolecular chemistry and characterization, microwave-assisted polymerizations, biomaterials, drug delivery, polymeric microparticles and nanoparticles, polymeric micelles, mucoadhesiveness and mucosal drug delivery, poverty-related diseases, pediatric cancer, pharmacokinetics, central nervous system.

TEACHING EXPERIENCE

(A) Regular courses (*indicates new course designed and supervised by me)

Biomedical Materials*, Undergraduate, Technion, Haifa, Israel.

Introduction to Materials Engineering (for Mechanical Engineering), Undergraduate, Technion, Haifa, Israel.

Polymer engineering for drug delivery*, Undergraduate, Technion, Haifa, Israel.

Pharmaceutical Technology (Pharmacy), Undergraduate, University of Buenos Aires, Buenos Aires, Argentina.

Biomaterials*, Graduate, University of Buenos Aires, Buenos Aires, Argentina.

(B) Intensive courses (taught as invited professor)

Biomaterials in drug delivery*, Undergraduate and Graduate, 40 h/week taught in the following academic institutions: Faculty of Sciences, National University of Colombia, Bogota, Colombia (2007 and 2011); National University of the Northeast, Saenz Pena, Chaco, Argentina (2008); Institute of Nuclear Sciences, National Autonomous University of Mexico, Mexico City, Mexico (2012).

Short courses on Biomaterials Science in Drug Delivery*, Faculty of Pharmacy, University of Santiago de Compostela, Santiago de Compostela, Spain (2009, 2010, 2011, 2013).

TECHNION ACTIVITIES

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DEPARTMENTAL ACTIVITIES

2014–2016 Organizer of Departmental Seminars.

2014–Present Member, Departmental Committee of Graduate Studies.

2014–Present Member, Departmental Committee of Library.

2016-Present Head, Departmental Committee of Library.

2015–Present Academic Coordinator of the Materials Engineering Laboratory.

2015-Present Member, Departmental Equipment Center.

2015-Present Academic Coordinator of the Laboratory of Physical Characterizations.

2015-Present Academic responsible of the course Introduction to Materials Engineering (#315533).

2016-Present Academic responsible of course Engineering of Polymeric Biomaterials for Drug Delivery (#315053).

2016-Present Academic responsible of course Biomedical Materials (#314014).

PUBLIC PROFESSIONAL ACTIVITIES

(A) Member of Committees

2012–2014 Permanent member of the Committee of Technology, National Science Research Council, Buenos Aires, Argentina. This committee evaluates incorporation of new staff members, promotions, scientific projects and annual reports.

2015-2017 Member of Committee on Therapeutics and Diagnostics of the Israel Science Foundation.

(B) Evaluator of MSc and PhD Theses and Projects

University of Buenos Aires (Argentina), National Science Research Council (Argentina), Ministry of Science, Technology and Innovation (Argentina), Universidad Nacional del Litoral (Argentina), Universidad Nacional de Quilmes (Argentina), Universidad Nacional de Córdoba (Argentina), University of Johannesburg (South Africa), National Research Foundation (South Africa), Council for Scientific and Industrial Research (South Africa), The University of the Witwatersrand (South Africa), National Science Foundation (South Africa), National University of Colombia (Colombia), State University of Campinas (Brazil), Wellcome Trust Ltd. (UK), ZonMw (The Netherlands), Medical Research Council (South Africa), National Science Centre (Poland), Technion-Israel Institute of Technology (Israel), US-Israel Binational Science Foundation (Israel), European Science Foundation, Shota Rustaveli National Science Foundation (Georgia), COST (Switzerland local office), COST (Belgium), University of Helsinki (Finland), Israel Science Foundation (Israel), Ministry of Science (Israel), German Israel Foundation (Israel), University of Helsinki (Finland), Estonian Research Council (Estonia), The Hebrew University of Jerusalem (Israel), Breast Cancer Now (UK), Jaypee Institute of Information Technology (India).

(C) Journal reviewer

Biomaterials, Biomacromolecules, Journal of Materials Chemistry B, Macromolecular Bioscience, International Journal of Pharmaceutics, Macromolecules, ACS Nano, Advanced Healthcare Materials, PLOS ONE, Nanoscale, Polymer, Acta Biomaterialia, Tissue Engineering-A, Journal of Drug Targeting, Advanced Drug Delivery Reviews, Journal of Pharmacy and Pharmacology, Nanomedicine: NBM, Nanomedicine (Lond.), Drug Delivery, Journal of Microencapsulation, Therapeutic Delivery, Journal of Applied Polymer Science, European Journal of Pharmaceutics and Biopharmaceutics, Letters in Drug Design & Discovery, Antiviral Research, Colloids and Surface B: Biointerfaces, Current Drug Targets, Drug Development and Industrial Pharmacy, among others.

(D) Editorial boards

Frontiers in Bioengineering and Biotechnology-Section Biomaterials (**Associate Editor**), Gels, ISRN Pharmaceutics, Latin American Journal of Pharmacy, The Open Biomedical Engineering Journal, African Journal of Pure Applied Chemistry, International Journal of Green Pharmacy, Revista Colombiana de Ciencias Químico-Farmacéuticas, Drug Delivery Letters, World Journal of Methodology, Advances in Chemistry.

(E) International and national visitorships

Department of Chemistry, Faculty of Sciences, University of the Basque Country, San Sebastian, Spain (1996).

Institute of Polymers, CSIC, Madrid, Spain (2002).

Department of Pathology, Johannes Gutenberg University, Mainz, Germany (2002).

Faculty of Agro-industries, National Northeastern University, Pte. Roque Saenz Peña, Argentina (2008).

Department of Pharmacy, Faculty of Sciences, National University of Colombia, Bogotá, Colombia (2007, 2008, 2009, 2011 (three visits), 2012, 2014).

Department of Pharmacy and Pharmaceutical Technology, Faculty of Pharmacy, University of Santiago de Compostela, Santiago de Compostela, Spain (2008, 2009, 2010, 2011 (2 visits), 2013).

Faculty of Chemistry, State University of Campinas, Campinas, Brazil (2011).

Faculty of Pharmacy, North-West University Potchefstroom Campus, Potchefstroom, South Africa (2012).

Council for Scientific and Industrial Research (CSIR), Pretoria, South Africa (2012).

Institute of Nuclear Sciences, National Autonomous University of Mexico, Mexico D.F., Mexico (2012).

Department of Oncology, Hospital Sant Joan de Déu, Barcelona, Spain (2013, 2014, 2016).

Institute of Chemistry and Biochemistry/Faculty of Pharmacy, Free University of Berlin, Berlin, Germany (2015).

National Institute of Materials Science (NIMS), Tsukuba, Japan (2016).

Faculty of Pharmacy, University of Helsinki, Helsinki, Finland (2016).

Leslie Dan Faculty of Pharmacy, University of Toronto, Toronto, Canada (2016).

Department of Chemistry, Tel Aviv University, Tel Aviv, Israel (2016).

Department of Physics, Weizmann Institute of Science, Rehovot, Israel (2017).

Institute of Biomedical Engineering, University of Porto, Portugal (expected for November 2017).

Faculty of Sciences, National University of Singapore, Singapore (2017).

MEMBERSHIP IN PROFESSIONAL SOCIETIES

Controlled Release Society, USA

British Nanomedicine Society, UK

European Society of Clinical Nanomedicine, Switzerland

Founder and secretary (2010-2013) of the Argentine Society for Nanomedicine

FELLOWSHIPS, AWARDS AND HONORS

1993–1995 – Research fellowship of the University of Buenos Aires, Department of Organic Chemistry, Faculty of Pharmacy and Biochemistry, University of Buenos Aires, Argentina.

1996 – Intercampus Exchange Scholarship of the Ministry of Foreign Affairs of Spain, Department of Chemistry, Faculty of Sciences, University of the Basque Country, San Sebastian, Spain.

1998-1999 – The Golda Meir Fund of the Hebrew University of Jerusalem, Casali Institute of Applied Chemistry, The Hebrew University of Jerusalem, Israel.

1999–2003 – The Levi-Eshkol Fund of the Ministry of Science and Technology, Casali Institute of Applied Chemistry, Hebrew University of Jerusalem, Israel.

2007 – CIFARP Award, Best scientific article, Brazilian Pharmaceutical Society, Brazil.

2007 – Poen Award, Argentine Society of Ophthalmology (SAO), Best scientific work in ophthalmology.

2007 – Teodoro Ovsejevich-Konex Fund Award, Best scientific work in Pure and Applied Research in Cancer, Argentine League of Fight against Cancer (LALCEC), Argentina.

2008 – Felipe Manjón Award 2007, Best scientific work in Pharmaceutics, National Academy of Pharmacy and Biochemistry, Argentina.

2009 – Jorge Sábató Award 2007, Argentine Materials Society (SAM), Best scientific work in Materials Technology.

2010 – Felipe Manjón Award 2007, Best scientific work in Pharmaceutics, National Academy of Pharmacy and Biochemistry, Argentina.

2012 – RICIFA Award, Best scientific work in Pharmaceutical technology, International Meeting of Pharmaceutical Sciences-RICIFA, Argentina.

GRADUATE STUDENTS

Completed PhD theses

Romina J. Glisoni, 2012, “Aggregation and complexation studies of new drugs based on thiosemicarbazones for the evaluation of the biological activity”. Primary supervisor: Alejandro Sosnik, Additional supervisor: Albertina Moglioni, Faculty of Pharmacy and Biochemistry, University of Buenos Aires, Argentina.

Marcela A. Moretton, 2013, “Nanoencapsulation of rifampicin within polymeric micelles for potential application in the treatment of tuberculosis”. Primary supervisor: Alejandro Sosnik, Faculty of Pharmacy and Biochemistry, University of Buenos Aires, Argentina.

Katia P. Seremeta, 2013, “Encapsulation of antiretrovirals into nano/microparticles to optimize the pharmacotherapy of the infection by the Human Immunodeficiency Virus (HIV)”. Primary supervisor: Alejandro Sosnik, Additional supervisor: Diego Chiappetta, Faculty of Pharmacy and Biochemistry, University of Buenos Aires, Argentina.

Julieta C. Imperiale, 2013, “Microencapsulation processes of Protease Inhibitors for the optimization of the therapy of the Human Immunodeficiency Virus (HIV)”. Primary supervisor: Alejandro Sosnik, Faculty of Pharmacy and Biochemistry, University of Buenos Aires, Argentina.

Completed MSc theses

Julio Cesar Rios Camacho, 2012, “Production of collagen scaffolds modified with hemoglobin isolated from peripheric human blood”. Primary supervisor: Martha Fontanilla Duque, International advisor: Alejandro Sosnik, Faculty of Sciences, National University of Colombia, Bogota, Colombia.

Maya Menaker Raskin, 2016, “Polysaccharide self-assembly nano-biomaterials for the development of innovative mucoadhesive drug delivery systems”. Primary supervisor: Alejandro Sosnik, Department of Materials Science and Engineering, Technion, Haifa, Israel.

Julia Talal, 2016, “Nanoparticle-in-nanoparticle multimicellar nanomaterials for drug delivery via sol-gel chemistry coupled to spray-drying technology”. Primary supervisor: Alejandro Sosnik, Department of Materials Science and Engineering, Technion, Haifa, Israel.

Alexandra Bukchin, 2016, “Surface-modification of polymeric micelles with sugar residues for different biomedical applications”. Primary supervisor: Alejandro Sosnik, Department of Materials Science and Engineering, Technion, Haifa, Israel.

Doaa Abu Saleh, 2016, “Polymeric micelle-like nanocarriers based on the conjugation of amphiphilic diblocks to the surface of a multifunctional anchor”. Primary supervisor: Alejandro Sosnik, Department of Materials Science and Engineering, Technion, Haifa, Israel.

PhD theses in progress

Nataliya Kuplennik, Starting year, 2015; expected year of graduation, 2019, “Polymeric nanocarriers surface-decorated with proteins as platform for targeted drug delivery to the central nervous system in neurodegenerative diseases”. Primary supervisor: Alejandro Sosnik, Department of Materials Science and Engineering, Technion, Haifa, Israel.

Inbar Schlachet (direct track), Starting year, 2016; expected year of graduation, 2019, “Innovative nano-biomaterials for the improved delivery of antitumorals to the central nervous system in the therapy of pediatric brain tumors”. Primary supervisor: Alejandro Sosnik, Department of Materials Science and Engineering, Technion, Haifa, Israel.

Alexandra Bukchin, Starting year, 2016; expected year of graduation, 2020, “Novel polymeric micelles modified with peptide shuttles for targeted delivery to the brain”. Primary supervisor: Alejandro Sosnik, Department of Materials Science and Engineering, Technion, Haifa, Israel.

Doaa Abu Saleh, Starting year, 2016; expected year of graduation, 2020, “Smart organic-inorganic hybrid nanomaterials for therapeutic applications”. Primary supervisor: Alejandro Sosnik, Department of Materials Science and Engineering, Technion, Haifa, Israel.

Ronald Jimenez, Starting year, 2014; expected year of graduation, 2018, “Design, development and characterization of scaffolds produced by the agglomeration of collagen I/gelatin particles associated with a plant extract from *Aloe vera*”. Primary supervisor: Martha Fontanilla Duque, International advisor: Alejandro Sosnik, Faculty of Sciences, National University of Colombia, Bogota, Colombia.

MSc theses in progress

Chen Moshe, Starting year, 2016; expected year of graduation, 2018, “Graft copolymers based on poly(vinyl alcohol) and different hydrophobic blocks for the production of novel highly-mucoadhesive amphiphilic nanogels”. Primary supervisor: Alejandro Sosnik, Department of Materials Science and Engineering, Technion, Haifa, Israel.

Roni Sverdlov, Starting year, 2016; expected year of graduation, 2018, “Production and characterization of pure drug nanoparticles (PDNPs) coated with mucoadhesive polysaccharide as a platform to improve the delivery of poorly-water soluble drugs across biological barriers”. Primary supervisor: Alejandro Sosnik, Department of Materials Science and Engineering, Technion, Haifa, Israel.

Imrit Noi, Starting year, 2016; expected year of graduation, 2018, “Design and synthesis of novel multifunctional mucoadhesive and mucopenetrating self-assembly nanocarriers for drug delivery”. Primary supervisor: Alejandro Sosnik, Department of Materials Science and Engineering, Technion, Haifa, Israel.

Anna Zaritski (M.E.), Starting year, 2016; expected year of graduation, 2019, Primary supervisor: Alejandro Sosnik, Department of Materials Science and Engineering, Technion, Haifa, Israel.

Vladi Kushnirov-Melnitzer, Starting year, October 2016; expected year of graduation, 2018. Prof. Alejandro Sosnik (supervisor), Technion, Haifa, Israel.

Supervision of Junior Scientists (staff members of the National Science Research Council of Argentina)

Diego Chiappetta, Assistant Investigator. Prof. Alejandro Sosnik, supervisor, 2009-2012. Currently Assistant Professor at the Faculty of Pharmacy and Biochemistry, University of Buenos Aires, Buenos Aires, Argentina.

María Luján Cuestas, Assistant Investigator. Prof. Alejandro Sosnik, supervisor, 2011-2012. Faculty of Pharmacy and Biochemistry, University of Buenos Aires, Buenos Aires, Argentina.

Romina Glisoni, Assistant Investigator. Prof. Alejandro Sosnik, supervisor, 2013. Currently Assistant Professor at the Faculty of Pharmacy and Biochemistry, University of Buenos Aires, Buenos Aires, Argentina.

Julieta C. Imperiale, Assistant Investigator. Prof. Alejandro Sosnik, international co-supervisor, 2016-Present. Faculty of Pharmacy and Biochemistry, University of Buenos Aires, Buenos Aires, Argentina.

Supervision of Postdoctoral fellows

Diego Chiappetta, Faculty of Pharmacy and Biochemistry, University of Buenos Aires, Buenos Aires, Argentina. Prof. Alejandro Sosnik (supervisor, 2006-2009).

María Luján Cuestas, Faculty of Pharmacy and Biochemistry, University of Buenos Aires, Buenos Aires, Argentina. Prof. Alejandro Sosnik (supervisor, 2010-2011).

Cecilia García Vior, Faculty of Pharmacy and Biochemistry, University of Buenos Aires, Buenos Aires, Argentina. Prof. Alejandro Sosnik (co-supervisor, 2010-2012).

Romina Glisoni, Faculty of Pharmacy and Biochemistry, University of Buenos Aires, Buenos Aires, Argentina. Prof. Alejandro Sosnik (supervisor, 2012-2013).

Silvina Quintana Lazópulos, Faculty of Pharmacy and Biochemistry, University of Buenos Aires, Buenos Aires, Argentina. Prof. Alejandro Sosnik (co-supervisor, 2011-2013).

Marcela Moretton, Faculty of Pharmacy and Biochemistry, University of Buenos Aires, Buenos Aires, Argentina. Prof. Alejandro Sosnik (supervisor, 2013).

Robin Augustine, Department of Materials Science and Engineering, Technion-Israel Institute of Technology, Scholarship of the Council for Higher Education of Israel, Technion. Prof. Alejandro Sosnik (Supervisor, 2015-2016).

Murali Kumarasamy, Department of Materials Science and Engineering, Technion-Israel Institute of Technology, Scholarship of the Council for Higher Education of Israel, Technion. Prof. Alejandro Sosnik (Supervisor), **expected to join the group in January 2017.**

RESEARCH GRANTS

(A) Argentina (2006-2013)

2006, National Science Research Council, Argentina, Partner: Alejandro Sosnik. "Thermo-chemical processes of interest in technological innovations".

2007, Ministry of Science, Technology and Innovation, Argentina, Co-director: Alejandro Sosnik. "Design and development of novel nanomolecular carriers for the vehiculization of new chemotherapeutic agents in the treatment of pathologies with high social and economic impact".

2008, Ministry of Science and Technology, Spain, Partner: Alejandro Sosnik. "Nanoscope poloxamine-based micelles as water-solubilizing and stabilizing agents of drugs".

2009, Ministry of Science, Colombia, Investigator and international advisor: Alejandro Sosnik. "Evaluation of the healing process of rabbit oral mucosa by means of oral autologous artificial connective tissue or acellular collagen scaffolds".

2009, Ministry of Science, Colombia, Investigator: Alejandro Sosnik. "Study of the effect of the microstructure of collagen scaffolds in the reparative process of induced oral mucosa wounds in rabbit".

2009, Ministry of Foreign Affairs and Cooperation, Spain, Coordinator in Argentina and investigator: Alejandro Sosnik. "Study of nano-vehiculization of antiretrovirals in the treatment of HIV/AIDS".

2008, Dirección Xeral de I+D+i, Xunta de Galicia, Spain, Investigator: Alejandro Sosnik. "Novel biomaterials for administration in bone and the application of cells in bone and cartilage regeneration".

2008, University of Buenos Aires, Argentina, Director: Alejandro Sosnik. "Design and study of polymeric nanocarriers as agents for the improved water-solubility and stability of drugs".

2008, University of Buenos Aires, Argentina, Director: Alejandro Sosnik. "Study of processes for technological innovations".

2010, Ministry of Science and Technology, Argentina, Co-director: Alejandro Sosnik. "Development and evaluation of advanced materials for technological innovations".

2010, National Science Research Council, Argentina, Director: Alejandro Sosnik. "Nanotechnological strategies for the optimization of the pediatric pharmacotherapy of the Human Immunodeficiency Virus (HIV)".

2010, Ministry of Science and Technology, Argentina/Fundacao para a Ciencia e Tecnologia (FCTP), Portugal, Argentine director: Alejandro Sosnik. "Nanoencapsulation of antituberculosis drugs in mucoadhesive chitosan nanoparticles for the inhalatory release and the pulmonar targeting of bacterial reservoirs in the treatment of tuberculosis: Design, characterization, and cellular uptake in vitro of rifampicin".

2010, University of Buenos Aires, Argentina, Director: Alejandro Sosnik. "Polymeric nanocarriers in the optimization of the pediatric pharmacotherapy of the infection by the Human Immunodeficiency Virus (HIV)".

2010, Dirección Xeral de I+D+i, Xunta de Galicia, Spain, Investigator: Alejandro Sosnik. "Design of systems for the delivery of differentiation and proliferation agents for tisular regeneration".

2011, University of Buenos Aires, Argentina, Investigator: Alejandro Sosnik. "Development of new technologies applied to medicine".

2011, Ministry of Science and Technology, Argentina/ CITMA, Cuba, Partner: Alejandro Sosnik. "Biomaterials application for the production of controlled release injectable biphosphonates in the cancer pharmacotherapy".

2011, Ministry of Science and Technology, Argentina/ National Research Foundation, South Africa, Argentine director: Alejandro Sosnik. "An active targeted nano-drug delivery system for improving HIV treatment".

2011, PROGRAMA IBEROAMERICANO DE CIENCIA Y TECNOLOGIA PARA EL DESARROLLO (CYTED), Spain, International Coordinator: Alejandro Sosnik. "Iberoamerican Network of New Materials for the Design of Advanced Drug Delivery Systems in Diseases of High socioeconomic Impact (RIMADEL)".

2011, Ministry of Science, Colombia, Investigator: Alejandro Sosnik. "Repair of cutaneous wounds with calendula-loaded scaffolds".

2012, University of Buenos Aires, Argentina, Director: Alejandro Sosnik. "Nanotechnology strategies for the anatomical targeting of antiretrovirals to the reservoir of the Human Immunodeficiency Virus (HIV) in the central nervous system".

(B) Israel (2014-Present)

2014, Marie Curie European Reintegration Grant, 7th Framework Programme-European Commission, Director : Alejandro Sosnik. "Self-assembly polymeric nano-biomaterials for drug delivery and targeting-NANOTAR".

2015, Niedersächsisches Ministerium für Wissenschaft und Kultur & VolkswagenStiftung, Germany, Israeli director: Alejandro Sosnik. "Innovative platform of folate receptor alpha (FRalpha)-modified nanocarriers for the therapy of neurodegenerative diseases".

2015, ISF-Equipment, Director : Alejandro Sosnik. "Equipment for Laboratory of Pharmaceutical Materials Science".

2015, ISF-Individual, Director : Alejandro Sosnik. "Innovative nano-biomaterials for the improved delivery of antitumorals to the brain in the therapy of pediatric brain tumors".

2016, EuroNanoMed-II, 7th Framework Programme-European Commission, Partner: Alejandro Sosnik. "Nanocarriers modified with a protease-resistant BBB shuttle for targeted CNS drug delivery in diffuse intrinsic pontine glioma (Cure2DIPG)".

2016, Teva National Network of Excellence in Neuroscience Research Grant, Director: Alejandro Sosnik. "Innovative mucoadhesive nano-biomaterials for the targeting of active agents to the brain by the intranasal pathway: Study of the relationship between the structure and the biological properties".

PUBLICATIONS (§ indicates corresponding authorship)

Published papers

1. Moglioni AG, Martínez AR, **Sosnik A**, Moltrasio Iglesias GY, Synthesis and study of reactivity in the Diels-Alder reaction of 3-carbomethoxy-2(5H)-indano [1,2-b] pyranones, J Chem Res Synop 11, 500-501 (1996).
2. Cohn D, **Sosnik A**, Novel reverse thermo-responsive injectable poly(ether carbonate)s, J Mat Sci Mater Med 14, 175-180 (2003).
3. **Sosnik A**§, Cohn D, San Román J, Abraham GA, Crosslinkable PEO-PPO-PEO-based reverse thermo-responsive gels as potentially injectable materials, J Biomater Sci Pol Edn 14, 227-239 (2003).
4. **Cohn D**, Sosnik A, Levy A, Improved reverse thermo-responsive polymeric systems, Biomaterials 24, 3707-3714 (2003).
5. **Sosnik A**§, Cohn D, Poly(ethylene glycol)-poly(epsilon-caprolactone) block oligomers as injectable materials, Polymer 44, 7033-7042 (2003).

6. **Sosnik A**, Cohn D, Ethoxysilane-capped PEO-PPO-PEO triblocks: A new family of reverse thermo-responsive polymers, *Biomaterials* 25, 2851-2858 (2004).
7. **Sosnik A**, Cohn D., Reverse thermo-responsive poly(ethylene oxide) and poly(propylene oxide) multiblock copolymers, *Biomaterials* 26, 349-357 (2005).
8. Cohn D, **Sosnik A**, Garty S, Smart hydrogels for in situ-generated implants, *Biomacromolecules* 6, 1168-1175 (2005).
9. **Sosnik A**, Sefton MV, Semi-synthetic collagen/poloxamine matrices for Tissue Engineering, *Biomaterials* 26, 7425-7435 (2005).
10. **Sosnik A**, Leung B, McGuigan AP, Sefton MV, Collagen/poloxamine hydrogels: Cytocompatibility of embedded HepG2 cells and surface attached endothelial cells, *Tissue Eng A* 11, 1807-16 (2005).
11. **Sosnik A**, Sefton MV, Poloxamine hydrogels with a quaternary ammonium modification to improve cell attachment, *J Biomed Mater Res-A* 75, 295-307 (2005).
12. **Sosnik A**[§], Brodersen P, Sodhi RNS, Sefton MV, Surface study of collagen/poloxamine hydrogels by a 'deep freezing' ToF-SIMS approach, *Biomaterials* 27, 2340-2348 (2006).
13. **Sosnik A**, Sefton MV, Methylation of poloxamine for enhanced cell adhesion, *Biomacromolecules* 7, 331-338 (2006).
14. Cohn D, Lando G, **Sosnik A**, Garty S, Levi A, PEO-PPO-PEO-based poly(ether ester urethane)s as degradable reverse thermo-responsive multiblock copolymers, *Biomaterials* 27, 1718-1727 (2006).
15. **Sosnik A**, Leung BM, Sefton MV, Lactoyl-poloxamine/collagen matrix for cell-containing modules, *J Biomed Mater Res-A* 86, 339-53 (2008).
16. Cohn D, **Sosnik A**, Malal R, Zarka R, Garty S, Levy A, Chain extension as a strategy for the development of improved reverse thermo-responsive polymers, *Polym Adv Tech* 18, 731-736 (2007).
17. Chiappetta DA, Degrossi J, Teves S, D'Aquino M, Bregni C, **Sosnik A**[§], Triclosan-loaded poloxamine micelles for enhanced antibacterial activity against biofilm, *Eur J Pharm Biopharm* 69, 535-545 (2008).
18. Carcaboso A, Chiappetta DA, Höcht C, Blake MM, Boccia MM, Baratti CM, **Sosnik A**[§], Melt-molding/compression manufacturing and in vitro-in vivo characterization of gabapentin-loaded poly(epsilon-caprolactone) implants for sustained release in animal studies, *Eur J Pharm Biopharm* 70, 666-673 (2008).
19. Pacheco DO, Aragón DM, Ruizdiaz MA, **Sosnik A**, Martínez F, Extended Hildebrand solubility approach in the estimation of naproxen solubility in ethanol/water co-solvent mixtures, *Vitae* 15, 113-122 (2008).
20. Gonzalez-Lopez J, Alvarez-Lorenzo C, Taboada P, **Sosnik A**, Sandez-Macho I, Concheiro A, Self-associative behavior and drug solubilizing ability of poloxamine (Tetronic) block copolymers, *Langmuir* 24, 10688-10697 (2008).
21. Aragón DM, Chiappetta DA, Degrossi J, Vargas EF, Bregni C, **Sosnik A**, Martínez F, Gibbs energy of transfer processes for the antimicrobial agent Triclosan from water to some organic solvents at 25.0°C, *Rev Colomb Cienc Quim Farm* 37, 237-251 (2008).
22. Aragón DM, Chiappetta DA, Vargas EF, **Sosnik A**, Martínez F, Gibbs energy of transfer for the antimicrobial agent triclosan from water to some organic solvents at 298.15 K, *J Chem Eng Data* 53, 2576-2580 (2008).

23. Vargas EF, **Sosnik A**, Rodríguez F, Application of the Jouyban-Acree model for the estimation of the solubility of naproxen in ethanol/water co-solvent mixtures, *Lat Am J Pharm* 27, 654-660 (2008).
24. Torres DR, **Sosnik A**, Chiappetta DA, Vargas EF, Rodríguez Martínez F, Dissolution enthalpy of sodium sulfacetamide in water: Comparison between solution isoperibolic calorimetry and the Van 't Hoff method, *Quim Nova* 31, 1455-1459 (2008).
25. Aragon DM, **Sosnik A**, Martínez F, Solution thermodynamics of triclocarban in organic solvents of different hydrogen bonding capability, *J Sol Chem* 38, 1493-1503 (2009).
26. Chiappetta DA, Carcaboso AM, Bregni C, Rubio MC, Bramuglia G, **Sosnik A**[§], Indinavir-loaded pH-sensitive microparticles for taste masking: towards extemporaneous paediatric HIV/AIDS liquid formulations with improved patient compliance, *AAPS PharmSciTech* 10, 1-6 (2009).
27. Alvarez-Lorenzo C, Rey-Rico A, Brea J, Loza MI, Concheiro A, **Sosnik A**[§], Inhibition of P-glycoprotein pumps by PEO-PPO amphiphiles: Branched versus linear derivatives, *Nanomedicine (Lond.)* 5, 1371-1383 (2010).
28. Chiappetta DA, Alvarez-Lorenzo C, Rey-Rico A, Taboada P, Concheiro A, **Sosnik A**[§], N-alkylation of poloxamines modulates micellar encapsulation and release of the antiretroviral efavirenz, *Eur J Pharm Biopharm* 76, 24-37 (2010).
29. Moreton MA, Glisoni RJ, Chiappetta DA, **Sosnik A**[§], Molecular implications in the nanoencapsulation of the antituberculosis drug rifampicin within flower-like polymeric micelles, *Colloids Surf B: Biointerfaces* 79, 467-479 (2010).
30. Glisoni RJ, Chiappetta DA, Finkielsztain LM, Moglioni AG, **Sosnik A**[§], Self-aggregation behaviour of novel thiosemicarbazone drug candidates with potential antiviral activity, *New J Chem* 34, 2047-2058 (2010).
31. Chiappetta DA, Hocht C, **Sosnik A**[§], A highly concentrated and taste-improved aqueous formulation of efavirenz for a more appropriate paediatric management of the anti-HIV therapy, *Curr HIV Res* 8, 23-31 (2010).
32. Blake MG, Mariano Boccia M, Carcaboso AM, Chiappetta D, Höcht C, Krawczyk M, **Sosnik A**, Baratti CM, Novel long-term anticonvulsive treatment with gabapentin without causing memory impairment in mice, *Epilepsy & Behavior* 17, 157-164 (2010).
33. Espinosa L, **Sosnik A**, Fontanilla MR, Development and pre-clinical evaluation of acellular collagen scaffolding and autologous artificial connective tissue in the regeneration of oral mucosa wounds, *Tissue Eng A* 16, 1667-1679 (2010).
34. Chiappetta DA, Hocht C, Taira C, **Sosnik A**[§], Efavirenz-loaded polymeric micelles for pediatric anti-HIV pharmacotherapy with significantly higher oral bioavailability, *Nanomedicine (Lond.)* 5, 11-23 (2010).
35. Kurkalli BGS, Gurevitch O, **Sosnik A**, Cohn D, Slavin S, Repair of bone defect using bone marrow cells and demineralized bone matrix supplemented with polymeric materials, *Curr Stem Cell Res Ther* 5, 49-56 (2010).
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10. “Nuevos-viejos desafíos en el tratamiento de la tuberculosis”. 2º Escuela Latinoamericana de Nanomedicinas. La Plata, Argentina 2010. **Invited**
11. “Aplicaciones de biomateriales a la liberación de fármacos en veterinaria. ETIF 2010 Congress and Exposition”. Buenos Aires, Argentina 2010. **Invited**
12. “Embracing the spirit of the “*Make medicines children size*” campaign in HIV/AIDS: How nanotechnologies can make it”. 1st South American Congress of Biopharmacy and Pharmacokinetics/Panamerican Congress of Pharmacy. Porto Alegre, Brazil 2010. **Invited**
13. “The pros and contras of innovation: Issues to take advantage of novel technologies in neglected diseases, the HIV case. First Workshop on Nanomedicine for Infectious Diseases of Poverty: Perspectives and Possibilities”. Magaliesberg, South Africa 2011. **Invited**
14. “Copolímeros anfifílicos auto-agregables como inhibidores de transportadores de eflujo en la optimización de la farmacoterapia”. Encuentro Anual de la Sociedad Argentina de Farmacología Experimental. Tucumán, Argentina 2011. **Invited**
15. “Liberación controlada de antibióticos en el tratamiento de lesiones de piel”. I Argentine Symposium on Medical Devices and Sterilization. Buenos Aires, Argentina 2011. **Invited**
16. “Advances in Nanotechnologies Applied to Therapeutics”. VI Conference of the Pan American Network on Drug Regulatory Harmonization-Pan American Health Organization (PAHO). Brasilia, Brazil 2011. **Keynote**
17. “Contributions of the nanotechnology to the improvement of Poverty Related Diseases”. XI Encuentro SUPERFICIES Y MATERIALES NANOESTRUCTURADOS 2011. San Martín, Argentina 2011. **Invited**
18. “NANOTECHNOLOGY-BASED STRATEGIES FOR DRUG DELIVERY AND TARGETING IN POVERTY-RELATED AND INFECTIOUS DISEASES”. Joint Binational Workshop of the University of Buenos Aires and the University of Freiburg. Freiburg in Breisgau, Germany 2012. **Invited**
19. “Nano for HIV”. ICPC Nanonet Project. May 2012. **Invited webinar**
10. “SELF-ASSEMBLING AMPHIPHILIC COPOLYMERS AS INHIBITORS OF ATP-BINDING CASSETTE PUMPS”. XXI INTERNATIONAL MATERIALS RESEARCH CONGRESS. Cancun, Mexico 2012. **Invited**
21. “Nanotechnology-based strategies for the drug delivery and targeting in HIV: Development of an innovative pediatric product of the antiretroviral efavirenz”. II National Nanotechnology Congress. Viña del Mar, Chile 2012. **Invited**
22. “Innovación en el desarrollo de productos farmacéuticos en enfermedades desatendidas: El caso VIH”. 3rd Latin American School of Nanomedicine, Potrero de los Funes, Argentina 2012. **Invited**
23. “Micelas poliméricas como herramientas para el transporte y el abordaje de la resistencia a fármacos”. 3rd Latin American School of Nanomedicine. Potrero de los Funes, Argentina 2012. **Invited**
24. “NANOTECHNOLOGY-BASED STRATEGIES FOR ENHANCED BIOPHARMACEUTIC PERFORMANCE IN THE PHARMACOTHERAPY OF HIV”. International Meeting of Pharmaceutical Sciences-RICIFA 2012. Rosario, Argentina 2012. **Invited**
25. “Polymeric micelles for the enhanced biopharmaceutic performance of the antiretroviral efavirenz”. Regional Meeting of the International Association of Therapeutic Drug Monitoring and Clinical Toxicology. Buenos Aires, Argentina 2012. **Invited**

26. “Perspectives in nanomedicine research in Poverty-related diseases”. II Argentine Symposium of Nanomedicine. Buenos Aires, Argentina 2013. **Invited**
27. “WHERE SELF-ASSEMBLY MEETS PHARMACEUTICAL NANOMATERIALS SCIENCE: SOME LESSONS FOR THE RATIONAL DEVELOPMENT OF INNOVATIVE PHARMACEUTICAL PRODUCTS”, 16th Israel Materials Engineering Conference (IMEC16). Haifa, Israel 2014. **Keynote**
28. “Finding the Balance between Innovation and Bench-to-bedside Translation in HIV Therapy”, CLINAM 7/2014-The European Summit for Clinical Nanomedicine and Targeted Medicine, European Foundation for Clinical Nanomedicine. Basel, Switzerland 2014. **Invited**
29. “Polymeric micelles for improving the oral bioavailability of drugs: From self-assembly to bench-to-bedside translation”, 2014 IUPAC World Polymer Congress-MACRO 2014. Chiang Mai, Thailand 2014. **Invited**
30. “Pediatric nanomedicine: Minimizing the size to maximize the benefit”, Global Research in Pediatrics (GRiP) Network of Excellence “Meet the expert in pediatric formulation”, July 2014. **Invited webinar**
31. “Do not forget the forgotten diseases...and patients”, Annual Meeting of the Israeli Chapter of the Controlled Release Society. Ma’alot, Israel 2014. **Invited**
32. “Nanomedicine for kids: The size matters”, International Course on Tissue Engineering, Regenerative Medicine and New Materials for the Design of Drug Delivery Systems in High Socioeconomic Impact Diseases. Bogota, Colombia 2014. **Invited**
33. “Polymeric micelles for oral drug delivery applications”, International Course on Tissue Engineering, Regenerative Medicine and New Materials for the Design of Drug Delivery Systems in High Socioeconomic Impact Diseases. Bogota, Colombia 2014. **Invited**
34. “Potential of polymeric micelles as drug carriers for non-parenteral routes”, 29th Umbrella Symposium Technion-RWTH Aachen University-Julich Forschungszentrum. Haifa, Israel 2015. **Invited**
34. “The pros and the cons of polymeric micelles as delivery platform by minimally-invasive administration routes: Make it the sticky way”, CLINAM 8/2015-The European Summit for Clinical Nanomedicine and Targeted Medicine, European Foundation for Clinical Nanomedicine. Basel, Switzerland 2015. **Invited**
36. “Nano-Drug Delivery Platforms for Improved Therapy of HIV: Only a Scientific Challenge?” Sydney Nanomedicine Conference. Sydney, Australia 2015. **Invited**
37. “SPRAY-DRYING VERSUS ELECTROHYDRODYNAMIC ATOMIZATION FOR THE ENCAPSULATION OF WATER SOLUBLE DRUGS”, XXIV INTERNATIONAL MATERIALS RESEARCH CONGRESS. Cancun, Mexico 2015. **Invited**
38. “POTENTIAL OF NON-COVALENTLY CROSSLINKED POLYMERIC MICELLES AS MORE VERSATILE NANO-DRUG DELIVERY SYSTEMS”, XXIV INTERNATIONAL MATERIALS RESEARCH CONGRESS. Cancun, Mexico 2015. **Invited**
39. “Innovation in the development of pharmaceutical products for neglected diseases: Some lesson learned from the HIV case”, First Conference on Clinical Nanomedicine. Caracas, Venezuela 2015. **Invited presentation by skype**
40. “Novel self-assembly nanocarriers stabilized with mild chemistries”, 81st Meeting of the Israel Chemical Society. Tel Aviv, Israel 2016. **Invited**

41. "Polymeric Micelles as a Nano-Drug Delivery System Model: Can We Find a Balance between Sophistication and Clinical Translation?" The First NIMS (Japan) – Technion (Israel) Workshop on "Innovative Materials and Nanotechnology". Tsukuba, Japan 2016. **Invited**
42. "Paediatric Nanomedicine: Challenges to Close the Adult-child Gap Before it Emerges", CLINAM 9/2016-The European Summit for Clinical Nanomedicine and Targeted Medicine, European Foundation for Clinical Nanomedicine. Basel, Switzerland 2016. **Invited in the context of the organization and chairing of a session.**
43. "Non-covalently crosslinked multimicellar systems for more efficient drug delivery applications", Asian Polymer Association (APA) International Conference on Advanced Polymers, Biomaterials, Bioengineering & Nano Drug Delivery. Flic-En-Flac, Mauritius 2016. **Invited**
44. "Innovative strategies for the synthesis of self-assembly amphiphilic nanobiomaterials with advanced features", Royal Society of Chemistry Biomaterials Interest Annual Conference 2017. Belfast, UK 2017. **Invited**
45. "Novel strategies for the design of organic-inorganic amphiphilic nanobiomaterials for improved performance in drug delivery", 45th Annual Meeting of The Israeli Polymer and Plastic Society (IPPS). Ramat Gan, Israel 2017. **Invited**
46. "Polymeric micelles stabilized by drug-compatible chemical pathways", 8th International Congress BioNanoMed 2017. Krems, Austria 2017. **Invited**
47. "Advanced self-assembly polymeric nanobiomaterials: From design to engineering", 9th International Conference on Materials for Advanced Technologies (ICMAT 2017). To be held in Singapore, Singapore in June 2017. **Invited**
48. "Novel polymer-ceramic hybrid amphiphilic nanomaterials with superior properties for drug delivery applications", Biomaterials International 2017. To be held in Fukuoka, Japan in August 2017. **Invited**
49. "Novel hybrid polymeric micelles stabilized by sol-gel chemistry", 8th School of Synthesis of Sol-Gel Materials, Faculty of Exact Sciences, University of Buenos Aires. To be held in Buenos Aires, Argentina in September 2017. **Invited**
50. "TBA", XVI Latin American Symposium on Polymers and XIV Iberamerican Polymers Congress. To be held in Mar del Plata, Argentina in November 2018. **Semi-plenary speaker**
51. "Chemical pathways for the development of advanced polymeric micelles in drug delivery applications", 33rd Latin American Chemistry Congress. To be held in Havana, Cuba in October 2018. **Invited**

Participation in organizing conferences

2nd Latin American School of Nanomedicine, October 2010, La Plata, Argentina. **Organizing committee**

BIT's 1st World Congress of Virus and Infections-2010, July-August 2010, Busan, Korea. **International scientific advisory board**

1st Argentine Symposium on Medical Devices and Sterilization, November 2011, Buenos Aires, Argentina. **Organizing committee**

1st Argentine Symposium on Nanomedicine, November 2011, Buenos Aires, Argentina. **Organizing committee**

3rd Euro-India International Conference on Nanomedicine and Tissue Engineering, August 2013, Kottayam, India. **International scientific advisory board**

1st International Course of the Iberoamerican Network RIMADEL, November 2011, Santiago de Compostela, Spain. **Chair**

3rd Latin American School of Nanomedicine, November 2012, Potrero de los Funes, Argentina. **Organizing committee**

2nd International Course of the Iberoamerican Network RIMADEL, November 2013, Buenos Aires, Argentina. **Chair**

2nd Argentine Symposium on Nanomedicine, September 2013, Buenos Aires, Argentina. **Organizing committee**

3rd International Course of the Iberoamerican Network RIMADEL, December 2013, Campinas, Brazil. **Organizing committee**

17th Israel Materials Engineering Conference-IMEC 17, February 2015, Ramat Gan, Israel. **Organizing committee**

EMN Meeting on Nanoparticles-Energy Materials Nanotechnology, May 2016, Singapore, Singapore. **International advisory committee**

7th International Advances in Applied Physics and Materials Science Congress & Exhibition, April 2017, Mugla, Turkey. **Scientific committee**

4th International Conference on Clinical Trials, September 2017, San Antonio, TX, USA. **Scientific committee**

34th International Conference of the Polymer Processing Society (PPS-34), May 2018, Taipei, Taiwan. **Organizing Committee of Symposium on Biomedical polymers and applications**