Emilio I. **Alarcón**

PhD

PROFILE

Dr. Alarcón's research program works to redefine translational use of bio and nanomaterials in medicine, bridging fundamental and applied sciences such as chemistry, mathematics, biochemistry, cell biology, and nanotechnology to the development of novel bionanomaterials for treating patients with failing organs and tissues.

CONTACTS

University of Ottawa Heart Institute
40 Ruskin Street, H5229
Ottawa, ON
K1Y 4W7
(613) 696-7349
www.beatsresearch.com
ealarcon@uottawa.ca

EXPERTISE

Biomaterials
Nanotechnology
Tissue engineering
Clinical translation
Chemistry
GMP manufacturing

EMPLOYMENT HISTORY (2011-Present)

2020 – Current	**Associate Professor**, Department of Biochemistry, Microbiology and Immunology, Faculty of Medicine, University of Ottawa, Ottawa, Ontario, Canada
2022 – Current	**Director, INTBIOTECH-CREATE**, Faculty of Medicine, University of Ottawa, Ottawa, Ontario, Canada
2022 – Current	**Director, Biochemistry Graduate Program**, Faculty of Medicine, University of Ottawa, Ottawa, Ontario, Canada
2017 – 2019	**Invited Professor**, Pontifical Catholic University of Chile, Santiago, Chile
2016 – 2017	**Invited Professor**, Universidad de Santiago de Chile, Santiago, Chile
2015 – 2017	**Visiting Researcher**, Wellman Center for Photomedicine Massachusetts General Hospital, Harvard Medical School
2015 – 2020	**Assistant Professor**, Department of Biochemistry, Microbiology and Immunology, Faculty of Medicine, University of Ottawa, Ottawa, Ontario, Canada
2014 – Current	**Principal Investigator** and Laboratory Director, University of Ottawa Heart Institute, Ottawa, Ontario, Canada
2011-2014	**Research Associate**, University of Ottawa, Ottawa, Ontario, Canada

EDUCATION

2009/10 – 2011/9
Postdoctoral Fellow,
University of Ottawa

2006/7 – 2009/9
Ph.D., Chemistry
Pontifical Catholic
University of Chile
(Summa cum laude)

2005/7 – 2008/6
M.Sc., Chemistry
Pontifical Catholic
University of Chile
(Summa cum laude)

2000/3 – 2005/6
B.Sc. Chemistry, University
of Santiago of Chile
(Cum laude)

RECOGNITIONS

2022 Researcher of the Year,
Biomedical
University of Ottawa
Faculty of Medicine, Canada

2022 Outstanding Early Career
Researcher in Nanotechnology,
NanoOntario, Canada

2019 Researcher of the Year
University of Ottawa
Heart Institute, Canada

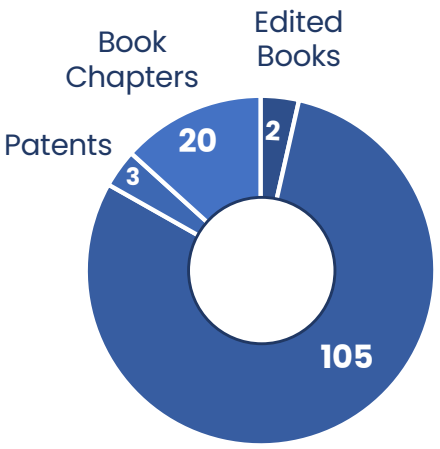
2019 Early Research Award
Government of Ontario, Canada

2018 Global Achievement Award
University of Ottawa
Heart Institute, Canada

2015 Burroughs Welcome Trust
Travel Award

SCIENTIFIC TRACK RECORD

Dr. Alarcóns work has been at the forefront, and continues to push the boundaries, of tissue engineering and regenerative medicine. He has published 100 peer-reviewed papers, most of which are in high quality journals with broad audiences (ACS Nano, Advanced Functional Materials, Nature Communications, Science). Dr. Alarcon has an h-index of 32, +3,400 total citations, i10 = 62. He has also published a number of book chapters, and acted as a lead editor for two books, Silver Nanoparticles on Biomedicine: Silver Nanoparticle Applications: In the Fabrication and Design of Medical and Biosensing Devices," 2015 (Springer), and "Nanoengineering Materials for Biomedical Uses," 2019 (Springer Nature).



PUBLICATIONS

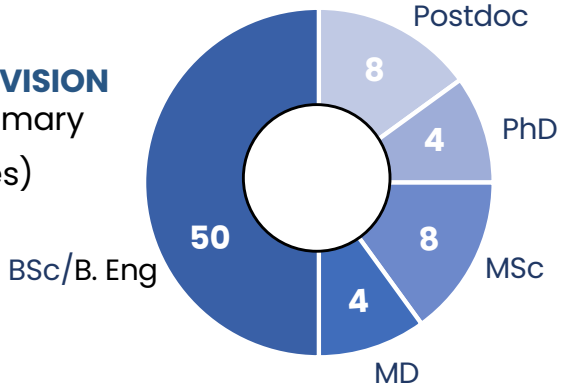
Life-Time Summary

(130 scientific contributions, h-index: 32. h_{10}=62)

STUDENT SUPERVISION

Life-Time Summary

(74 Trainees)



RESEARCH FUNDING

Dr. Alarcon's distinctive discipline-bridging research has been funded with +$5.0M from funding agencies including:

- Natural Sciences and Engineering Research Council of Canada (NSERC)
- NSERC-Alliance COVID Canadian Institutes of Health Research (CIHR) Project Grant
- Heart and Stroke Canada
- NSERC-CIHR Collaborative Health Research Project (CHRP)
- New Frontiers in Research Fund (NFRF)
- Ontario Ministry of Economic Development, Job Creation and Trade
- MITACS Canada
- Canada Foundation for Innovation (CFI)
- Ontario Institute for Regenerative Medicine

RESEARCH FUNDING HISTORY

Selected in Progress (5 out of 9), listed below. +15 grants completed to date

Nominated Principal Investigator	Interdisciplinary Training in Biomedical Technologies (INTBIOTECH CREATE) Funding source: NSERC 2022/03 – 2028/03 Total funding: $3.0M CAD
Nominated Principal for **Investigator**	Peptide-based therapeutics treating failing organs and infections Funding source: CFI 2022/06 – 2023/06 Total funding: $711,610 CAD
Nominated Principal Investigator	Visible light activated polymers for pathogen control and eradication Funding source: Future Funds 2022/06 – 2024/06 Total funding: $330,000 CAD
Nominated Principal Investigator	Peptide-based materials for rapid sutureless and scarless surgical repair Funding source: MITACS 2022/6 – 2023/12 Total funding: $120,000 CAD
Nominated Principal Investigator	Nanoengineered Electroconductive materials for cardiac tissue repair Funding source: Heart and Stroke, Canada 2021/03 – 2024/03 Total funding: $268,257 CAD

RESEARCH INTERESTS

Dr. Alarcon's lab studies the development of biomaterials for new translational therapies for the treatment of damaged cardiac tissue, cornea and skin. The lab is also developing new materials to overcome the current limitations of biomimetic tissue scaffolds for regenerative medicine. Listed below are some of the main areas Dr. Alarcon's group is currently focused on: **(i)** Injectable human recombinant collagen, materials for cardiac tissue regeneration **(ii)** New light-activated biomatrices for in-situ cornea repair **(iii)** 3D hybrid scaffolds for regenerative medicine with improved antibacterial properties and neovascularization capabilities for diabetic foot; **(iv)** Spray-on biopolymers for tissue neovascularization, biofilm control of chronically infected tissues, and electroconductive materials; **(v)** Hybrid nano-electro conductive fibers, and hydrogels, for cardiac patches and myocardial regeneration **(vi)** Development and characterization of specific peptide sequences for improving physiological stability of nanomaterials and as novel therapeutic materials, and **(vii)** Effect of metal nanoparticles in biomolecule oxidation and degradation of hybrid nanomaterials for tissue engineering.

EDITORIAL & ORGANIZING COMMITTEE MEMBER

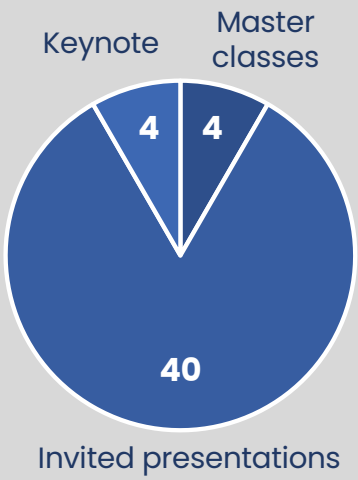
2022 -	**Senior Board Member**, Canadian Biomaterials Society
2022 -	**Member** CIHR External Advisory Committee on Accessibility and Systemic Ableism
2022 -	**Director and Founder** of INNOVATECH-Chile-Canada
2022 -	**Editorial Board Member**, Scientific Reports, Nature Publishing Group
2022 -	**Equity, Diversity, and Inclusion Leader**, University of Ottawa Heart Institute
2020 - 2021	**Director and Founder** of BioNTERM Conferences and Workshop series
2020/05-2020/08	**Director and Founder** of COVID-SPECTRUM *http://www.covidspectrum.com*
2019/09-	**Director and Founder** of BEaTS Research Radio *http://www.beatsresearch.com/Radio.php*
2018 – 2019	**Lead Editor**, Nanoengineering Materials for Biomedical Uses (Book, Springer, 2019)
2018-2019	**Chair and Invited speaker** for ESP-IUPB World Congress on Light and Life, Barcelona Spain, August 2019 *https://www.photobiology2019.org*
2018/03-2019/01	**President** Chile-Canada Early career investigators symposium, January 2019
2018/7 –	**Editor and Scientific Mentor**, Frontiers for Young Minds
2017/8 –	**Associate Editor**, Frontiers in Biomaterials
2016/10 –2019/12	**Associate Board Member**, Heliyon, Elsevier
2015/2 – 2017/8	**Guest Editor**, New Frontiers for Biomaterials in Regenerative Medicine
2014/7 –	**Reviewing Editor**, Frontiers in Bioengineering & Biotechnology & Materials
2013/12 – 2014/8	**Lead Editor**, Silver Nanoparticle Applications: In the Fabrication & Design of Medical & Biosensing Devices (Book, Springer, 2015)

EDITED BOOKS

E. I. Alarcon, M. Griffith and K. I. Udekwu. Silver Nanoparticle Applications: In the Fabrication and Design of Medical and Biosensing Devices. (2015), 146 pages, ISBN 978-3319112619, Springer, United Kingdom.

E. I. Alarcon and M. Ahumada. Nanoengineering Materials for Biomedical Uses. (2019), 208 pages, ISBN 978-3-030-31260-2, Springer-Nature, United Kingdom.

ORAL PRESENTATIONS



Presentations

Life-Time Summary

(48 total, 2014 to date)

REVIEWER FOR SCIENTIFIC JOURNALS

(+650 papers refereed) for ACS Applied Materials & Interfaces, ACS Applied Nano Materials, ACS Applied Biomaterials, ACS Biomaterials Science & Engineering, ACS OMEGA, ACS Sustainable Chemistry & Engineering, Acta Biomaterialia, Biomaterials, Biomaterials Science, Circulation, Nanoscale, Nanoscale Horizons, Nature Communications, Nature Materials, and Science Translational Medicine to name some.

REVIEWER FOR BOOK PROPOSALS OF EDITORIAL HOUSES

Elsevier, RSC, and Springer Nature

SCIENTIFIC REVIEW PANELS & REVIEWER

New Frontiers Research Fund, Canada; Canadian Institutes of Health Research (CIHR), Canada; MITACS Canada; Austrian Science Fund; Heart and Stroke Foundation Canada; Michael Smith Foundation; New Zealand National Science Foundation; Swiss National Science Foundation; Saskatchewan Health Research Foundation; French National Research Agency (FNRA), France; National Science and Technology Research Commission (FONDECYT), Chile; National Science and Technology Research Commission (FONCYT), Argentina; Saudi Arabia Competitive Research Grants.

SELECTED INVITED ORAL PRESENTATIONS

Generating a bio-engineered Myocardium with conduction capabilities. Invited Speaker, EACTS 36th Meeting, Milan, October (5th–7th).

Peptide-based materials for organ and tissue repair. Oral Presentation, Canadian Biomaterials Conference, Alberta, Banff, May (25th–27th).

Nanoengineered Biomaterials for Tissue and Organ Repair. Invited Speaker, XXVIII International Materials Research Congress, Materials Research Society, August 2019 (18th–23rd).

Nanoengineering polymeric structures for tissue engineering. Invited Speaker, Canadian Biomaterials Society, May 2019 (21-24th).

Light activated biomimetic polymers for tissue repair: From Proteins to Peptides. Invited Speaker, ESP-IUPB World Congress on Light and Life, Barcelona Spain, August 2019 (25-30th).

SCIENTIFIC PUBLICATIONS FOR HIGH SCHOOL STUDENTS

A. Spasojevic, M. Ruel, E. Suuronen, and **E. I. Alarcon.*** Can we heal a broken heart with cells? Frontiers Young Minds, (2022), https://kids.frontiersin.org/articles/10.3389/frym.2022.746884

I. Guzmán-Soto, C. Mctiernan and **E. I. Alarcon.*** Closing Wounds With Light?, (2020), Frontiers for Young Minds, https://kids.frontiersin.org/article/10.3389/frym.2020.539007

C. Lazurko, S. Harden, E. J. Suuronen, and **E. I. Alarcon.*** Biomaterials for Organ and Tissue Repair, (2019), Frontiers for Young Minds, https://kids.frontiersin.org/article/10.3389/frym.2019.00008

SELECTED PEER REVIEWED PUBLICATIONS 2017 to date

+100 total (full list HERE)
***Denotes corresponding authorship**

S. McLaughlin, V. Sedlakova, Q. Zhang, B. McNeill, D. Smyth, R. Seymour, D. R. Davis, M. Ruel, M. Brand, **E. I. Alarcon***, E. J. Suuronen, *Recombinant Human Collagen Hydrogel Rapidly Reduces Methylglyoxal Adducts within Cardiomyocytes and Improves Borderzone Contractility after Myocardial Infarction in Mice*. Advanced Functional Materials (2022), 2204076.

H. Davarinejad, Y. Huang, B. Mermaz, C. LeBlanc, A. Poulet, G. Thomson, V. Joly, M. Muñoz, A. Arvanitis- Vigneault, G. Villarino, A. Ross, B. H. Rotstein, **E. I. Alarcon**, J. S. Brunzelle, J. Dong, J. F. Couture, Y. Jacob. *The histone H3.1 variant regulates TONSOKU-mediated DNA repair during replication*. Science (2022), 375, 1281-1286.

M. Muñoz, C. Eren Cimenci, K. Goel, M. Comtois-Bona, M. Hossain, C. D. McTiernan, M. Zuñiga-Bustos, A. Ross, B. Truong, D. R. Davis, W. Liang, B. Rotstein, M. Ruel, H. Poblete, E. J. Suuronen, **E. I. Alarcon.*** *Nanoengineered spray-on cardiac patch as a therapeutic for treating myocardial infarction*. ACS Nano (2022), 6, 3522 – 3537.

C. Eren Cimenci, N. J. R. Blackburn, V. Sedlakova, J. Pupkaite, M. Munoz, B. H. Rotstein, D. A. Spiegel, **E. I. Alarcon**, E. J. Suuronen. *Combined methylglyoxal scavenger and collagen hydrogel therapy prevents adverse remodelling and improves cardiac function post-myocardial infarction*. Advanced Functional Materials (2022), 32, 2108630.

J. Robinson-Duggon, C. D. McTiernan, M. Muñoz, D. Guerra, E. Escobar, F. Andrade-Villalobos, A. Fierro, A. M. Edwards, **E. I. Alarcon**, D. Fuentealba. *Biosupramolecular Complexes of Amphiphilic Photosensitizers with Human Serum Albumin and Cucurbit[7]uril as Carriers for Photodynamic Therapy*. J. Photochemistry and Photobiology B (2021), 112284.

M. Munoz, A. El-Khoury, C. Eren Cimenci, M. Gonzalez-Gomez, R. A. Hunter, D. Lomboni, F. Variola, B. H. Rotstein, L. L. R. Vono, L. M. Rossi, A. M. Edwards, **E. I. Alarcon.*** *Riboflavin Surface Modification of Poly(vinyl chloride) for Light-Triggered Control of Bacterial Biofilm and Virus Inactivation*. ACS Applied Materials Interfaces (2021), 13, 27.

C. L. Clift, S. McLaughlin, M. Muñoz, E. J. Suuronen, B. H. Rotstein, A. Mehta, R. R. Drake, **E. I. Alarcon**, P. M. Angel. *Evaluation of therapeutic collagen-based biomaterials in the infarcted mouse heart by extracellular matrix targeted MALDI imaging mass spectrometry*. Journal of the American Society for Mass Spectrometry (2021), 32, 2746-2754.

PATENTS AND ENTERPREUNERSHIP

- Biocompatible Hydrogel Compositions and Uses Thereof. United States. 2017/05/05. Patent Status: Published.
- Light activated filler for cornea repair. United States. 2022/TBD. Patent Status: In Process.
- Multifunctional peptide-based material for tissue and organ repair. United States. 2022/TBD. Patent Status: In Process.

Dr. Alarcón is the Founder of an upcoming startup (REKuPERA) a biotech company whose mission is to develop new technologies for tissue and organ repair, proudly supported by the University of Ottawa Heart Institute. The team has built extensive partnerships to facilitate a translational pipeline as well as a full spectrum of training opportunities, from clinical testing to Health Canada approvals and manufacturing.

SELECTED PEER REVIEWED PUBLICATIONS 2017 to date

+100 total (full list HERE)

***Denotes corresponding authorship**

M. Muñoz, M. Comtois-Bona, D. Cortes, C. E. Cimenci, Q. Du, C. Thompson, J. D. Figueroa, V. Franklin, P. Liu, **E. I. Alarcon.*** Integrated *Photothermal Decontamination Device for N95 Respirators*. Scientific Reports (2021), 11, 1822.

E. Jacques, K. Hosoyama, B. Biniam, C. Eren Cimenci, V. Sedlakova, A. J. Steeves, F. Variola, D. R. Davis, D. J. Stewart, E. J. Suuronen, **E. I. Alarcon.*** *Collagen-Based Microcapsules As Therapeutic Materials for Stem Cell Therapies in Infarcted Myocardium*. ACS Biomaterials Science & Engineering (2020), 6, 4614-4622.

J. Pupkaite, V. Sedlakova, C. Eren Cimenci, M. Bak, S. McLaughlin, M. Ruel, **E. I. Alarcon,*** and E. J. Suuronen. *Delivering More of an Injectable Human Recombinant Collagen III Hydrogel Does Not Improve Its Therapeutic Efficacy for Treating Myocardial Infarction*. ACS Biomaterials Science & Engineering (2020), 6, 4256-4265.

D. Cortes, C. D. McTiernan, M. Ruel, W. Franco, C. Chu, W. Liang, E. J. Suuronen, **E. I. Alarcon.*** *BEaTS-a an open access 3D printed device for in vitro electromechanical stimulation of human induced pluripotent stem cells*. Scientific Reports (2020), 10, 11274.

Z. Khatoon, I. Guzmán-Soto, C. D. McTiernan, C. Lazurko, F. Simpson, L. Zhang, D. Cortes, T.-F. Mah, M. Griffith, **E. I. Alarcon.*** *Nanoengineering the surface of corneal implants: towards functional anti-microbial and biofilm materials*. RSC Advances (2020), 10, 23675-23681.

M. Griffith, B. Kumar Poudel, K. Malhotra, N. Akla, M. Gonzalex-Andrades, D. Courtman, V. Hu, **E. I. Alarcon.*** *Biosynthetic alternatives for corneal transplant surgery*. Expert Review of Ophtalmology (2020), 15, 129-143.

P. Kanda, A. Benavente-Babace, S. Parent, M. Connor, N. Soucy, A. Steeves, A. Lu, N. Cober, D. Courtman, F. Variola, **E. I. Alarcon**, W. Liang, D. J. Stewart, M. Godin, D. R. Davis. *Deterministic paracrine repair of injured myocardium using microfluidic-based cocooning of heart explant-derived cells*. Biomaterials (2020), 247, 120010.

C. Lazurko, Z. Khatoon, K. Goel, V. Sedlakova, C. Eren Cimenci, M. Ahumada, L. Zhang, T.-F. Mah, W. Franco, E. Suuronen, **E. I. Alarcon.*** *Multifunctional Nano & Collagen-Based Therapeutic Materials for Skin Repair*. ACS Biomaterials Science & Engineering (2020), 6, 1124-1134.

SELECTED MEDIA INTERVIEWS

Innovation and heart repair, CTV News, 2021. https://ottawa.ctvnews.ca/the-running-researcher-a-university-of-ottawa-heart-institute-scientist-takes-strides-to-revolutionize-heart-health-1.5370347

Radio Canada International, November 21st 2019. https://www.rcinet.ca/en/2019/11/21/heart-attack-treatment-advance/

Youareunltd, November 19th 2019. https://www.youareunltd.com/2019/11/19/medical-breakthrough-researchers-develop-a-material-to-repair-cardiac-tissue-after-a-heart-attack/

SELECTED PEER REVIEWED PUBLICATIONS 2017 to date

+100 total (full list HERE)

***Denotes corresponding authorship**

C. D. McTiernan, D. Cortes, C. Lazurko, S. Amrani, R. Rosales-Rojas, M. Zuñiga-Bustos, V. Sedlakova, H. Poblete, K. Stamplecoskie, E. J. Suuronen, **E. I. Alarcon.*** *Light-Activated Peptide-Based Materials for Sutureless Wound Closure*. ACS Applied Materials & Interfaces (2019), 48, 45007-45015.

S. McLaughlin, B. McNeill, J. Podrebarac, K. Hosoyama, V. Sedlakova, G. Cron, D. Smith, R. Seymour, K. Goel, W. Liang, K. J. Rayner, M. Ruel, E. J. Suuronen, **E. I. Alarcon.*** *Injectable human recombinant collagen matrices limit adverse remodeling and improve cardiac function after myocardial infarction*. Nature Communications (2019), 4866.

K. Hosoyama, C. Lazurko, M. Muñoz, C. D McTiernan, **E. I. Alarcon.*** *Peptide-based functional biomaterials for soft-tissue repair*. Frontiers Bioengineering Biotechnology (2019), 7, 1-19.

R. Hunter, A. Najafi Sohi, Z. Khatoon, V. Berthiaume, **E. I. Alarcon**, M. Godin, H. Anis. *Opto-fluidic SERS platform for rapid bacteria detection in biological fluids*. Sensors & Actuators: B. Chemical (2019), 300, 126907.

A. M. Montagut, A. Granados, C. Lazurko, A. El-Khoury, E. J. Suuronen, **E. I. Alarcon,*** R. M. Sebastián, A. Vallribera. *Triazine Mediated Covalent Antibiotic Grafting on Cotton Fabrics as a Modular Approach for Developing Antimicrobial Barriers*. Cellulose (2019), 12, 7495–7505.

K. Goel, M. Zuñiga-Bustos, C. Lazurko, E. Jacques, C. Galaz-Araya, F. Valenzuela-Henriquez, N. L. Pacioni, J.-F. Couture, H. Poblete, **E. I. Alarcon.*** *Nanoparticle Concentration vs Surface Area in the Interaction of Thiol-Containing Molecules: Toward a Rational Nanoarchitectural Design of Hybrid Materials*. ACS Applied Materials & Interfaces (2019), 11, 17697-17705.

K. Hosoyama, M. Ahumada, K. Goel, M. Ruel, E. J. Suuronen, **E. I. Alarcon.*** *Electroconductive materials as biomimetic platforms for tissue regeneration*. Biotechnology Advances (2019), 37, 444-458.

Z. Khatoon, C. D. McTiernan, E. J. Suuronen, T.-F. Mah, **E. I. Alarcon**.* *Bacterial biofilm formation on implantable devices and approaches to its treatment and prevention*. Heliyon, (2018), 4, e01067.

SCIENCE COMMUNICATION

Since 2019, Dr. Alarcón has been spearheading BEaTS Research Radio (www.beatsresearch.com/Radio.php). The first science talk radio program made by scientists. This radio program makes science accessible to all individuals in six different languages (French, English, Spanish, Arabic, Portuguese, and Mandarin) – especially to those without a science background

EQUITY, DIVERSITY, AND INCLUSION

Dr. Alarcón is an Equity-Diversity-Inclusion leader and champion at the University of Ottawa Heart Institute, member of the Disability Justice group at uOttawa Professors Union, and part of the CIHR External Advisory Committee on Accessibility and Systemic Ableism. Dr. Alarcón's philosophy seeks to include the voices of those who have been systematically excluded. Understanding what is needed from those who have the needs is the first and most instrumental way to lead changes that are transformative for everyone.

SELECTED PEER REVIEWED PUBLICATIONS 2017 to date

+100 total (full list HERE)
***Denotes corresponding authorship**

K. Hosoyama, M. Ahumada, C. D. McTiernan, D. R. Davis, F. Variola, M. Ruel, W. Liang, E. J. Suuronen, **E. I. Alarcon**.* *Nanoengineered Electroconductive Collagen-Based Cardiac Patch for Infarcted Myocardium Repair*. ACS Applied Materials & Interfaces, (2018), 10, 44668–44677.

D. Zúñiga-Núñez, R. A. Zamora, P. Barrias, C. Tirapegui, H. Poblete, G. Cárdenas-Jirón, **E. I. Alarcon**, A. Aspée. *Theoretical Rationalisation of the Photophysics of TICT Excited State of Coumarin-Benzylideneacetone Derivatives in Homogeneous and Constrained Microenvironments*, Physical Chemistry Chemical Physics, (2018), 20, 27621-27629.

E. Jacques, M. Ahumada, B. Rector, G. Yousefalizadeh, C. Galaz-Araya, R. Recabarren, K. Stamplecoskie, H. Poblete, **E. I. Alarcon**.* *Effect of Nanosilver Surface on Peptide Reactivity Towards Reactive Oxygen Species*, Nanoscale, (2018), 10, 15911-15917.

M. Ahumada, C. Bohne, J. Oake, **E. I. Alarcon**.* *Protein Capped Nanosilver Free Radical Oxidation: Role of the Biomolecule Capping on Nanoparticle Stability and Protein Oxidation*, Chemical Communications, (2018), 54, 4724-4727.

P. Kanda, **E. I. Alarcon**, T. Yeuchyk, S. Parent, R. A. deKemp, F. Variola, D. Courtman, D. J. Stewart, D. Davis. *Deterministic Encapsulation of Human Cardiac Stem Cells in Variable Composition Nanoporous Gel Cocoons to Enhance Therapeutic Repair of Injured Myocardium*, ACS Nano, (2018), 12, 4338-4350.

M. Mirazul Islam, O. Buznyk, Jagadesh C. Reddy, N. Pasyechnikova, **E. I. Alarcon**, S. Hayes, P. Lewis, P. Fagerholm, C. He, S. I Iakymenko, W. Liu, K. M. Meek, V. S. Sangwan, M. Griffith. *Biomaterials-Enabled Cornea Regeneration in Patients at High Risk for Rejection of Donor Tissue Transplantation*, Nature Regenerative Medicine, (2018), 3, 2.

C. Lazurko, M. Ahumada, F. Valenzuela-Henriquez, **E. I. Alarcon**.* *NANoPoLC algorithm for correcting nanoparticle concentration by sample polydispersity*, Nanoscale, (2018), 10, 3166-3170.

COURSES

University of Ottawa, Faculty of Sciences
CHM4381
Photochemistry and Photobiology, Course Coordinator

University of Ottawa, Faculty of Medicine
TMM4950
Science Communication, Course Coordinator

University of Ottawa, Faculty of Medicine
TMM4300
Nanomedicine and tissue engineering, Course Coordinator

University of Ottawa, Faculty of Medicine
TMM4912
Advanced Methods in Biomedical Research: Protein Biophysics

SELECTED PEER REVIEWED PUBLICATIONS
2017 to date
+100 total (full list HERE)
***Denotes corresponding authorship**

Jangamreddy, M. K. C. Haagdorens, M. M. Islam, P. Lewis, A. Samanta, P. Fagerholm, A. Liszka, M. K. Ljunggren, O. Buznyk, **E. I. Alarcon**, N. Zakaria, K. M. Meek, M. Griffith. *Short Peptide Analogs as Alternatives to Collagen in Pro-Regenerative Corneal Implants*, Acta Biomaterialia, (2018), 5, 8925-8928.

D. Zúñiga-Núñez, P. Barrias, G. Cárdenas-Jirón, M. Soledad Ureta-Zañartu, C. Lopez-Alarcón, F. E. Morán Vieyra, C. D. Borsarelli, **E. I. Alarcon**, A. Aspée, *Atypical Antioxidant Activity of Non-Phenolic Amino Coumarins*, **RSC Advances, (2018), 8, 1927-1933**.

M. Ahumada, E. Jacques, C. Andronic, J. Comer, H. Poblete, **E. I. Alarcon**.* *CLK-peptides as superior surface stabilizers for silver nanostructures: Role of peptide chain length*, Journal of Materials Chemistry B, (2017), 5, 8925-8928.

K. Hosoyama, M. Ahumada, C. D. McTiernan, J. Bejjani, F. Variola, M. Ruel, B. Xu, W. Liang, E. J. Suuronen, **E. I. Alarcon**.* *Multi-functional thermo-crosslinkable collagen-metal nanoparticle composites for tissue regeneration: Nanosilver vs. Nanogold*, RSC Advances, (2017), 7, 47704-47708.

E. I. Alarcon*, H. Poblete, H.-G. Roh, J.-F. Couture, J. Comer, I. E. Kochevar, *Rose Bengal Binding to Collagen and Tissue Photobonding*, ACS OMEGA, (2017), 2, 6646−6657.

A. Aspée, C. Aliaga, L. Maretti, D. Zúñiga-Núñez, J. Godoy, E. Pino, G. Cárdenas-Jirón, C. Lopez-Alarcon, J. C. Scaiano, **E. I. Alarcon**.* *Reaction Kinetics of Phenolic Antioxidants Towards Photo-Induced Pyranine Free Radicals in Biological Models*, The Journal of Physical Chemistry B, (2017), 121, 6331-6340.

S. Allison, M. Ahumada, C. Andronic, B. McNeill, F. Variola, M. Ruel, V. Hamel, W. Liang, E. Suuronen, and **E. I. Alarcon**.* *Electroconductive nanoengineered biomimetic hybrid fibers for cardiac tissue engineering*. Journal of Materials Chemistry B, (2017), 5, 2402-2406.

J. Pupkaite, M. Ahumada, S. Mclaughlin, M. Temkit, S. Alaziz, R. Seymour, M. Ruel, I. Kochevar, M. Griffith, E. J. Suuronen, and **E. I. Alarcon**.* *Collagen-Based Photoactive Agent for Tissue Bonding*. ACS Applied Materials & Interfaces, (2017), 9, 9265-9270.