Curriculum Vitae

2019-2024	Pharmaceutical science	Université Laval
2014-2017	Chemical engineering-biomedicine	University of Tehran
2009-2013	Chemical engineering	Sharif university of technology

Bourses

2019 Bourse du Fonds d'enseignement et de recherche (FER), Faculté de pharmacie, ULaval

Prix et distinctions

2023 Presentation par affiche, (2e place), journée recherche, Faculté de pharmacie, ULaval

Publications scientifiques

- Gazaille C, Bozzato E, **Madadian- Bozorg N**, Mellinger A, Sicot M, Farooq U, Saulnier P, Eyer J, Préat V, Bertrand, N, Bastiat G, Glioblastoma-targeted, local and sustained drug delivery system based on an unconventional lipid nanocapsule hydrogel, Journal of Biomaterials Advances, 2023,15 (2023) 213549.
- **Madadian- Bozorg N**, Leclercq M, Lescot T, Bazin M, Gaudreault N, Dikpati A, Fortin M, Droit A, Bertrand, N, Design of experiment and machine learning inform on the 3D printing of hydrogels for biomedical applications, Journal of Biomaterials Advances, 2023, 153 (2023) 213533.
- Khosravi Darani K, Yazdian F, Rashedi H, **Madadian- Bozorg N**, Moradi M, Rezazadeh Mofradnia S, Koller M, Simulation of bioreactors for PHB production from natural gas, Iranian Journal of Chemistry and Chemical Engineering (IJCCE), 2020; 39(1): 313-336.
- **Madadian- Bozorg N**, Zahedi P, Shamsi M, Safarian S, Poly (methacrylic acid**)** – based molecularly imprinted nanoparticles containing 5-fluorouracil efficacy used in colorectal cancer therapy potentially, Polymers for Advanced Technologies. 2018; 29(8): 2401-9.

SOUTENANCE DE THÈSE DE DOCTORAT

Neda Madadian Bozorg

Lundi le 21 octobre

11h

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UNIVERSITÉ LAVAL

Faculté de pharmacie

TITRE : Investigation about quality control and delivering process of 3D printed drugs fabricated on- site

RÉSUMÉ

This study investigates the use of 3D printing for creating personalized medications at the point of care, such as directly at a patient's bedside. Two main challenges are addressed: quality control and the delivery of soft 3D-printed materials.

For quality control, the study explored how different printing parameters (speed, pressure, and infill percentage) impact the final product. It compared machine learning and traditional methods (Design of Experiments) for predicting the quality of printed gels, finding that machine learning provides more accurate predictions (72% accuracy). This can help create standard operating procedures to ensure consistent drug quality.

In terms of delivery, the study tested a plastic support (like a syringe) to inject 3D-printed gels. While it worked well in a horizontal position, the ability to retain liquid varied in vertical positions. The gels also kept their structural integrity during the process, showing that with more optimization, this method could improve the practicality of using 3D-printed soft materials for personalized medication.

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