

## Sepideh Yazdian Kashani, Ph.D.

Faculty of Chemical Engineering / Department of Biomedical Engineering

Tarbiat Modares University, Tehran, Iran

Email: [s.yazdian@modares.ac.ir](mailto:s.yazdian@modares.ac.ir)

Google Scholar: <https://scholar.google.com/citations?user=vNPZ2a0AAAAJ&hl=en&hl=en>

ORCID: <https://orcid.org/0000-0001-5077-9954>

Scopus: <https://www.scopus.com/authid/detail.uri?authorId=57221376266>

### • Education

Degree	Field of Study	Institution / Location
Postdoctoral	Researcher in Nanobiotechnology	Sharif University of Technology – Institute for Convergent Science & Technology
Ph.D.	Chemical Engineering (Dissertation in Biomedical Engineering)	Amirkabir University of Technology (Visiting researcher at Pasteur Institute of Iran)
M.Sc.	Chemical Engineering – Process Design	Sharif University of Technology
B.Sc.	Chemical Engineering	Sharif University of Technology

### • Peer-Reviewed Journal Publications

1. **Yazdian Kashani, S.** *et al.* An integrated microfluidic device for stem cell differentiation based on cell-imprinted substrate designed for cartilage regeneration in a rabbit model. *Mater. Sci. Eng. C* **121**, 111794 (2021). **IF= 8.1**

2. Nazbar, A., Samani S., **Yazdian Kashani, S.\***, Amanzadeh, A., Shoeibi, S., Bonakdar, S. Molecular imprinting as a simple way for the long-term maintenance of the stemness and proliferation potential of adipose-derived stem cells: an in vitro study. *J Mater Chem B*. **10**, 6816-6830 (2022). **IF= 6.1** \*Corresponding author

3. **Yazdian Kashani, S.**, Afzalian, A., Shirinichi, F. & Keshavarz Moraveji, M. Microfluidics for core-shell drug carrier particles – a review. *RSC Adv*. **11**, 229–249 (2021). **IF= 3.9**

4. **Yazdian Kashani, S.**, Keshavarz Moraveji, M. & Bonakdar, S. Computational and experimental studies of a cell-imprinted-based integrated microfluidic device for biomedical applications. *Sci Rep* **11**, 12130 (2021). **IF= 3.8**

5. **Yazdian Kashani, S.** & Farhadi, F. Simulation of Separation of a Racemic Mixture of Ibuprofen by Supercritical Fluid Chromatography in Simulated Moving Bed. *J. Chem. Pet. Eng.* **51**, 123–133 (2017) **ISC. Indexed in Scopus.**

- **Book chapter**

1. Rezvantlab, S., **Yazdian Kashani, S.**, & Beheshtizadeh, N. (2026). Chapter7 - Applications of functionalized magnetic nanoparticles in biotechnology and the bioprocessing industry. In K. Deshmukh & C. Mustansar Hussain (Eds.), *Industrial Applications of Functionalized Magnetic Nanoparticles* (pp. 143–211). Elsevier.

- **Patent**

1. Device and method for controlling cellular function, patent number: 106987

- **Selected Conference Presentations**

1. Application of Iron Oxide Nanoparticles in Immunotherapy of Liver Cancer. *\*The Second International Congress of Cancer Genomics\**, Tehran, Iran (Oct 23, 2024)
2. Nanotopography and its importance in cell imprinting. *\*12th International Conference on Science and Development of Nanotechnology\**, Tbilisi, Georgia (Mar 8, 2024)
3. Design and fabrication of microfluidic chip for systematic cell culture to evaluate the performance of anticancer drugs. *\*16th Iranian National Congress of Chemical Engineering\**, Amirkabir University of Technology, Tehran (Jan 19 – Feb 1, 2018)
4. Use of microfluidics in systematic cell culture. *\*2nd National Conference on Microfluidics and its Applications in Medicine and Engineering\**, Sharif University of Technology, Tehran (Mar 10–11, 2017)
5. Design and simulation of separation of racemic ibuprofen mixture in a quasi-moving bed with supercritical fluid. *\*3rd Process Engineering Conference (Oil, Gas, Refining and Petrochemicals)\** (Jan 9, 2014)
6. Simulation of Leonard-Kemira's formic acid production process from CO. *\*3rd Process Engineering Conference\** (Jan 9, 2014)
7. Modeling and simulation of p-xylene separation by simulated moving bed chromatography. *\*2nd Iran National Zeolite Conference\** (May 27–28, 2015)
8. Simulation of separation of a racemic mixture of Bupivacaine by simulated moving bed. *\*4th National Conference on Process, Refining and Petrochemical Engineering\** (Jun 27, 2015)

- **Research interests**

- ✓ Microfluidics (Lab-On-a-Chip and Point-of-care testing (POCT))
- ✓ Tissue engineering and stem cells
- ✓ Biosensors
- ✓ Nanobiotechnology
- ✓ Cell imprinting
- ✓ Modeling and simulation

- **Research Experience**

**Postdoctoral Project**

Title: Production of kits containing magnetic hybrid nanobeads for rapid and high-efficiency separation of Cell Free DNA from blood plasma.

**Doctoral Thesis**

Title: Design, fabrication, and experimental and numerical evaluation of cell imprinted substrates using microfluidic methods for stem cell differentiation into chondrocytes.

**Master's Thesis**

Title: Design and simulation of simulated moving beds,

**Bachelor's Thesis**

Title: Modeling and simulation of the formic acid production process from carbon monoxide.