

## Seyedeh Sara Mirfazli

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**Academic Rank** Associate Professor  
**Department** Medicinal Chemistry

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### EDUCATION

**Clinical Training Course (CTC) and Training the Trainers of Tomorrow Today (4T)** 2022

**Master of Business Administration (MBA)** 2017-2018

Faculty of Entrepreneurship, Tehran University, Tehran, Iran. ([www.ut.ac.ir](http://www.ut.ac.ir))

**Ph.D. in Medicinal Chemistry** 2007- 2014

Department of Medicinal Chemistry, Faculty of Pharmacy, Tehran University of Medical Sciences, Tehran, Iran. ([www.tums.ac.ir](http://www.tums.ac.ir))

**Pharm. D.** 1998-2005

Faculty of Pharmacy, Shahid Beheshti University of Medical Sciences, Tehran, Iran. ([www.sbm.ac.ir](http://www.sbm.ac.ir))

*Achievements: Student award of the year from the Iranian Ministry of Health and Medical Sciences*

*Distinguished student award of the year, Shahid Beheshti University Medical Sciences, School of Pharmacy, Iran*

### Professional Experiences

#### - Ministry of health and medical education responsibilities:

**Jan. 2025-present** Member of Educational Regulations and Bylaws Review Committee, Ministry of health and medical education

**Feb. 2023- 2025** Guest member Moin council of Supreme Council for Medical Sciences Planning, Ministry of health and medical education

**Oct. 2022-present** Responsible of Pharmacy curriculum Accreditation committee, Ministry of health and medical education

**Nov. 2022-present** Member of Pharmacy curriculum developing and revision committee, Ministry of health and medical education

**June. 2022-present** Member of Evaluation of certificates of pharmacy graduates abroad committee, Ministry of health and medical education

**June. 2022-present** Board member of Medicinal Chemistry, Ministry of health and medical education

#### - Iran University of Medical Sciences responsibilities:

**May. 2022- present** Associate Professor, Department of Medicinal Chemistry, School of pharmacy, Iran University of Medical Sciences

**May. 2025- present** Head of Medicinal Chemistry Department, School of pharmacy, Iran University of Medical Sciences

**Oct. 2021-present** Responsible of curriculum planning of Educational Development Center (EDC), Iran University of Medical Sciences

**Oct. 2018- present** Peer reviewer of Intellectual Property and Inventions Committee, Iran University of Medical Sciences

**Apr. 2017- 2022** Assistant Professor, Department of Medicinal Chemistry, School of pharmacy International Vice Chancellor, Iran University of Medical Sciences

**Feb. 2017- 2021** Deputy of Education, School of Pharmacy, International Vice Chancellor, Iran University of Medical Sciences.

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## SKILLS

### Professional skills:

- Skilled in synthesis
  - ✓ Comprehensive skill in dealing with various techniques of small molecule and organic compounds synthesis
  - ✓ Comprehensive skill in dealing with various techniques of isolation and purification (flash chromatography, plate chromatography, distillation)
  - ✓ Skilled in some techniques in molecular modeling & Docking
- Skilled in analytical techniques
  - ✓ Experienced with Infra-Red (IR) spectroscopy
  - ✓ Experienced with Liquid Chromatography–Mass spectroscopy (LC-Mass)
  - ✓ Experienced with High Pressure Liquid Chromatography (HPLC)
  - ✓ Experienced with Nuclear Magnetic Resonance Spectroscopy (NMR) (spectral analysis)
- Skilled in teaching
  - ✓ Medicinal chemistry I, II, III and laboratory
  - ✓ Instrumental Analysis
  - ✓ Organic chemistry I, II
  - ✓ Organic chemistry and General chemistry laboratory
- Peer reviewer
  - ✓ Reviewer in European Journal of Medicinal Chemistry
  - ✓ Reviewer in Chemistry Select Journal
  - ✓ Reviewer in Chemistry Africa Journal
  - ✓ Reviewer in Medicinal Chemistry Research
  - ✓ Reviewer in Journal of Molecular structure
  - ✓ Reviewer in Journal of Molecular Diversity
  - ✓ Patent Reviewer in Development, Innovation and Intellectual Property Group (IUMS).
- Skilled in curriculum planning and evaluation
- Skilled in Curriculum Accreditation

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## PUBLICATIONS and PRESENTATIONS

### Journal articles/Published:

- 1- A. Iraj, P. Nikfar, M. Nazari Montazer, M. Karimi, N. Edraki, M. Saedi, S. S. Mirfazli. “**Synthesis, biological evaluation and molecular modeling studies of methyl indole-isoxazole carbohydrazide derivatives as multi-target anti-Alzheimer’s agents**”. *Scientific Report* 14, 21115 (2024).

- 2- N. Sheikhi, M. Bahraminejad, M. Saeedi, S. S. Mirfazli. “**A review: FDA-approved fluorine-containing small molecules from 2015 to 2022**”, *European Journal of Medicinal Chemistry*, Volume 260, 2023, 115758.
- 3- S. Moghadam Farid, M. Noori, M. Nazari Montazer, M. Khalili Ghomi, M. Mollazadeh, N. Dastyafteh, C. Irajie, K. Zomorodian, S. S. Mirfazli, S. Mojtavavi, M. A. Faramarzi, B. Larijani, A. Irajie, M. Mahdavi, “**Synthesis and structure–activity relationship studies of benzimidazole-thioquinoline derivatives as  $\alpha$ -glucosidase inhibitors**”, *Scientific Report*, 2023, 13 (1), 4392.
- 4- M. Divar, S. Tadayyon, M. Khoshneviszadeh, S. Pirhadi, M. Attarroshan, K. Mobaraki, T. Damghani, S. S. Mirfazli, N. Edraki. “**Benzyl- Triazole Derivatives of Hydrazinecarbothiamide Derivatives as Potent Tyrosinase Inhibitors: Synthesis, Biological Evaluation, Structure- Activity Relationship and Docking**”, *Chemistry Select*, 2023, 8 (8), e202203382.
- 5- A. Irajie, N. Sheikhi, M. Attarroshan, G. R. Sharifi Ardani, M. Kabiri, A. Naghibi Bafghi, F. Kobarfard, Z. Rezaei, M. Khoshneviszadeh, A. Foroumadi, S. S. Mirfazli, “**Design, synthesis, spectroscopic characterization, in vitro tyrosinase inhibition, antioxidant evaluation, in silico and kinetic studies of substituted indole-carbohydrazides**”, *Bioorg. Chem.*, 2022, 129, 106140.
- 6- S. Ahmadvand, M. Kargar Razi, B. Sadeghi, S. S. Mirfazli, “**Development and evaluation of nanomagnetic carrier for the controlled loading and release of Celecoxib**”, *J. Adv. Materials and Processing*, 2022, 10(1), 13-26.
- 7- S. Ahmadvand, M. Kargar Razi, B. Sadeghi, S. S. Mirfazli, “**Fe<sub>3</sub>O<sub>4</sub>@ SiO<sub>2</sub>@ CeO<sub>2</sub> as a potential nanomagnetic carrier for oral delivery system and release of Celecoxib.**” *Comb. Chem. & High Throughput Screening*, 2021, DOI: 10.2174/1386207324666210910160716.
- 8- M. Saeedi, A. Eslami, S. S. Mirfazli, M. Zardkanlou, M. A. Faramarzi, M. Mahdavi, T. Akbarzadeh “**Design and Synthesis of Novel 5-Arylisoxazole-1, 3, 4-thiadiazole Hybrids as  $\alpha$ -Glucosidase Inhibitors**”, *Lett. Drug Des Discov.*, 2021, 18(5), 436-444(9).
- 9- HS Javadi M., Irajie A., Safavi M., Montazeri H., Tarighi P., Eftekhari S., Navidpour L., Mirfazli S. S., “**Design, synthesis and apoptosis inducing activity of nonsteroidal flavone-methanesulfonate derivatives on MCF-7 cell line as potential sulfatase inhibitor**”, *Med Chem. Res.*, 2021, doi.org/10.1007/s00044-021-02767-w.
- 10- M. Saeedi, A. Maleki, A. Irajie, R. Hariri, T. Akbarzadeh, N. Edraki, O. Firuzi, S. S. Mirfazli., “**Synthesis and bio-evaluation of new multifunctional methylindolinone-1,2,3-triazole hybrids as anti-Alzheimer’s agents**”, *J. Mol. Structure.*, 2021, 1229, 129828.
- 11- M. Saeedi, P. Felegari, A. Irajie, R. Hariri, A. Rastegari, S. S. Mirfazli, N. Edraki, O. Firuzi, M. Mahdavi, T. Akbarzadeh, “**Novel N- benzylpiperidine derivatives of 5- arylisoxazole- 3- carboxamides as anti-Alzheimer's agents**”, *Archiv der Pharmazie*, 2020, e2000258.
- 12- M. Saeedi, M. Raeisi-Nafchi, S. Sobhani, S. S. Mirfazli, M. Zardkanlou, S. Mojtavavi, M. A. Faramarzi, T. Akbarzadeh, “**Synthesis of 4-alkylaminoimidazo [1, 2-a] pyridines linked to carbamate moiety as potent  $\alpha$ -glucosidase inhibitors**” *Mol. Divers.*, 2020, 1-11.
- 13- M. Saeedi, M. Safavi, E. Allahabadi, A. Rastegari, R. Hariri, S. Jafari, Syed NA Bukhari, S. S. Mirfazli, O. Firuzi, N. Edraki, M. Mahdavi, T. Akbarzadeh, “**Thieno[2,3- b]pyridine amines: Synthesis and evaluation**

- of tacrine analogs against biological activities related to Alzheimer's disease**", *Archiv der Pharmazie*, **2020**, 353 (10), e2000101.
- 14- Z. Nasiri, H. Montazeri, N. Akbari, S. S. Mirfazli, P. Tarighi, "**Synergistic Cytotoxic and Apoptotic Effects of Local Probiotic Lactobacillus Brevis Isolated from Regional Dairy Products in Combination with Tamoxifen**", *Nutrition and Cancer*, **2020**, 1-10.
- 15- M. Saeedi, A. Rastegari, R. Hariri, S. S. Mirfazli, M. Mahdavi, N. Edraki, O. Firuzi, T. Akbarzadeh "**Design and synthesis of novel arylisoxazole- chromenone carboxamides: Investigation of biological activities associated with Alzheimer's disease**", *Chem. Biodivers.*, **2020**, 17 (5), e1900746.
- 16- Z. Ghiyasabadi, S. Bahadorikhalili, M. Saeedi, M. Karimi- Niyazagheh, S. S. Mirfazli, "**SBA- 15- Pr- SO<sub>3</sub>H catalyzed one- pot synthesis of indole derivatives via Fischer indole pathway**", *J. Heterocycl. Chem.*, **2020**, 57 (2), 606-610.
- 17- A. Rastegari, H. Nadri, M. Mahdavi, A. Moradi, S. S. Mirfazli, N. Edraki, F. Hodayouni Moghadam, B. Larijani, T. Akbarzadeh, M. Saeedi, "**Design, synthesis and anti-Alzheimer's activity of novel 1, 2, 3-triazole-chromenone carboxamide derivatives**", *Bioorg. Chem.*, **2019**, 83: 391- 401.
- 18- M. Saeedi, D. Mohtadi-Haghighi, S. S. Mirfazli, M. Mahdavi, R. Hariri, H. Lotfian, N. Edraki, A. Iraj, O. Firuzi, T. Akbarzadeh "**Design and synthesis of novel arylisoxazole-phenylpiperazine derivatives: evaluation of anti-Alzheimer's activity**", *Chem. Biodivers.*, **2019**, 16(2):e1800433.
- 19- M. Saeedi, M. Hashemi, M. Mahdavi, A. Rafinejad, Z. Najafi, S. S. Mirfazli, R. Mohammadian, E. Karimpour-Razkenari, S. Kabudanian Ardestani, M. Safavi, T. Akbarzadeh "**Synthesis and Anticancer Activity of N-(di/trimethoxyaryl)-5-arylisoxazole-3-carboxamide**", *Polycycl. Aromat. Compd.*, **2019**, 1-13.
- 20- M. Mahdavi, R. Hariri, S. S. Mirfazli, H. Lotfian, A. Rastegari, O. Firuzi, N. Edraki, B. Larijani, T. Akbarzadeh, M. Saeedi, "**Synthesis and biological activity of some benzochromenoquinolinones: Tacrine analogues as potent anti- Alzheimer's agents**", *Chem. Biodivers.*, **2019**, 16(4): e1800488. doi:10.1002/cbdv.201800488.
- 21- M. Dumanlou, H. Kabirifard, M. Asadi, M. Moloudi, S. S. Mirfazli "**Diaminomaleonitrile as versatile building block for the synthesis of 4,4'-biimidazolidinylidenes and 4,4'-bithiazolidinylidenes**", *Heterocycl. Commun.*, **2018**, 24(6): 303-306.
- 22- M. Karimi, H. Kabirifard, S. S. Mirfazli, "**Design, synthesis and identification of the new indole-isoxazole carbonyl structure**", *Nashrieh Shimi va Mohandesi Shimi Iran (NSMSI)*, **2018**, NSMSI-1964 (R3) (Persian).
- 23- M. Safavi, A. Ashtari, F. Khalili, S. S. Mirfazli, M. Saeedi, S. Kabudanian Ardestani, P. Rashidi Ranjbar, M. Barazandeh Tehrani, B. Larijani, M. Mahdavi "**Novel quinazolin-4(3H)-one linked to 1,2,3-triazoles: Synthesis and anticancer activity**", *Chem. Bio. Drug Des.*, **2018**, 92(1):1373-1381.
- 24- Mirfazli S. S., Shafiee A., Foroumadi A., Kobarfard F. "**Design, synthesis and QSAR study of arylidene indoles as antiplatelet aggregation inhibitors**", *Med. Chem. Res.*, **2016**, 25 (1): 1-18.

- 25- Mirfazli S. S., Kobarfard F., Firoozpour L., Asadipour A., Esfahanizadeh M., Tabib K., Shafiee A., Foroumadi A., “**N-Substituted indole carbohydrazide derivatives: Synthesis and evaluation of their antiplatelet aggregation activity**”, *DARU J. Pharm. Sci.*, **2014**, 22: 65.
- 26- Mahdavi M., Asadi M., Saeedi M., Mirfazli S. S., Foroumadi A., “**Green synthesis of new boron-containing quinazolinones: preparation of benzo[d] [1,3,2]diazaborinin-4(1H)-one derivatives**”, *Synth. Commun.*, **2013**, 43 (21), 2936.

#### Books:

- 2002** Mirfazli S.S. and et.al, “Companion text book of Sciences” Mir Medical Publisher, Tehran, Iran.
- 2009** Mirfazli S.S. and et.al, “Current Pediatric Gastrointestinal Drug Therapy”, Tehran, Iran.

#### Congress Presentations:

- 1- S. S. Mirfazli, M. Saeedi, P Nikfar; Speaker presentation on “Synthesis, biological evaluation and molecular modeling studies of methyl indole-isoxazole carbohydrazide derivatives as multi-target anti-Alzheimer’s agents” at 8th World Chemistry Conference & Exhibition, June 23-24, **2025** at Prague, Czech Republic.
- 2- S. S. Mirfazli, A. Maleki, M. Saeedi; “New indolinone 1, 2, 3-triazole derivatives: Design, synthesis and anti-Alzheimer activity evaluation”, *International Pharmacy Acta 1* (1), 119, **2018**.
- 3- S. S. Mirfazli, Z Ghiyasabadi, M Saeedi, S Bahadorikhalili; “One Pot Synthesis of Indole Derivatives Catalyzed by SBA-15-Pr-SO<sub>3</sub>H as a Nanoporous Acid”, *International Pharmacy Acta 1* (1), 120-121, **2018**.
- 4- S. S. Mirfazli, M Saeedi, “Design, synthesis and Anti-cholinesterase activity of indole-Isoxazole carbohydrazide derivatives”, *International Pharmacy Acta 1* (1), 41, **2018**.
- 5- S. S. Mirfazli, A. Foroumadi, A. Shafiee; “Synthesis of N-acylhydrazones indole derivatives and antiplatelet aggregation effect evaluation”, The 13th Seminar of Iranian Pharmaceutical sciences conference, Isfahan, Iran, **2012**.
- 6- S. S. Mirfazli, Kobarfard F., “Application of metal ion adducts in determination of calcitonin in its aqueous preparations using LC-Ion trap Mass spectrometry”. 11th Iranian Pharmaceutical Sciences Conference, Kerman, Iran, **2008**.

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## **RESEARCH INTRESTS**

- a) Small molecule design, synthesis, isolation and purification
  - b) Anti Alzheimer new compounds
  - c) Anti-Cancer new compounds
  - d) Anti-Diabetic new compounds
  - e) Drug delivery system design and synthesis
  - f) Pharmaceutical and Natural compounds Assay and Analysis
  - g) Pre-formulation studies in pharmaceutical product development
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## **LINKS**

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[\*\*Researchgate\*\*](#)

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