Hayarpi Mantash Simonyan

Institute of Pharmacy
Chair of Pharmaceutical Chemistry and Pharmacognosy
Head of Chair (Associate Professor)

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Chair of Pharmaceutical Chemistry and Pharmacognosy
Head of Chair (Associate Professor)

Institute of Pharmacy
Research Center for the Institute of Pharmacy
Scientific Worker

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hayarpi.simonyan@ysu.am

Education

Institution	Yerevan State University
Faculty	Faculty of Chemistry
Date	2001 - 2006
Degree name	Qualified specialist

Scientific Rank/degree

Institution	Yerevan State University
Date	2014
Degree name	Candidate
Scientific Supervisor	Ashot Saghyan
Research Topic	Biomimetic asymmetric synthesis of new heterocyclic substituted non-proteinogenic α-amino acids

Language skills

English Русский

Work experience

Institution	EU4INNOVATION project, World Bank Armenia
Period of time	2019 - 2022
Rank/degree	Chemistry Expert

Institution	YSU Institute of Pharmacy, Chair of Pharmaceutical Chemistry and Pharmacognosy
Period of time	2017 till now

Rank/degree	Head of the Chair

Institution	Araratian Baccalaureate Examination Center
Period of time	2016 - 2018
Rank/degree	Chemistry subject specialist,

Institution	YSU Institute of Pharmacy
Period of time	2014 - 2017
Rank/degree	Assistant professor

Institution	YSU Institute of Pharmacy
Period of time	2014 till now
Rank/degree	Senior researcher

Institution	Scientific and Production Center “Armbiotechnology” NAS RA
Period of time	2007 - 2019
Rank/degree	Junior Researcher

Institution	YSU Faculty of Chemistry
Period of time	2006 - 2014
Rank/degree	Junior Researcher

Participation in international conferences and seminars

22/07/2022 - 03/08/2022	Scientific Collaboration Institute of Biostructures and Bioimaging (IBB) of the National Research Council (CNR) Italy
18/02/2020 - 21/02/2020	Discussion of joint educational programs Peoples' Friendship University of Russia, Belgorod State National Research University of RF Russian Federation (the)
01/09/2019 - 05/09/2019	VIII EFMC International Symposium on Advances in Synthetic and Medicinal Chemistry Athens Greece
08/07/2018 - 13/07/2018	16th Belgian Organic Synthesis Symposium Brusseles Belgium

24/07/2017 - 26/07/2017	5th International Conference of Green chemistry and Technology Rome Italy
03/08/2015 - 07/08/2015	14th International Congress on Amino Acids, Peptides and Proteins Vienna Austria
29/07/2014 - 31/07/2014	International Congress on Green Chemistry and Sustainable Engineering Barcelona Spain
09/10/2013 - 13/10/2013	11th International Congress of Young Chemists Poznan Poland
17/09/2013 - 21/09/2013	3th International Scientific Conference "New trends in the chemistry of heterocyclic compounds", Pyatigorsk Russian Federation (the)
17/05/2013 - 19/05/2013	3-rd International Conference of Young Scientists Tbilisi Georgia
12/11/2012 - 16/11/2012	6th International conference “Chemistry of Nitrogen Containing Heterocycles” Kharkov Ukraine
21/04/2012 - 23/04/2012	Second International Conference of Young Chemists Tbilisi Georgia

Membership

Institution	Member of the Association of Young Chemists
Period of time	2013 - 2023
Institution	Member of RA "Armenian Association of Biotechnologists" public organization
Period of time	2014 - 2023
Institution	Member of the Scientific Council of YSU Institute of Pharmacy
Period of time	2015 - 2023

State awards and honorary titles

2015 State prize in the field of exact and natural sciences for the work "Efficient small-scale production technology of new generation non-protein amino acids"

Publications

Article

Solvent-modulated antioxidant activity and molecular binding of a heterocyclic sulfur dipeptide: A spectroscopic and theoretical study

Tatevik Sargsyan, Silva Jamgaryan, Lala Stepanyan, Avetis Tsaturyan, Valentina Mittova, Zurab R. Tsetskhladze, Nino Motsonelidze, Ekaterine Gorgoshidze, Niccolò Nova, Hayarpi Simonyan, Karapet Ghazaryan, Franco Bisceglie, Giovanni N. Roviello

Results in Chemistry 2026 103214 - 103214

https://doi.org/10.1016/j.rechem.2026.103214

Article

Benzene-linked bis-amino acids via asymmetric synthesis: CD/UV studies, DNA and serum albumin binding, and MCF-7 cytotoxicity

Hayarpi Simonyan, Satenik Petrosyan, Nikolay Avtandilyan, Karapet Ghazaryan, Anna Mkrtchyan, Ruben Israyelyan, Ashot Saghyan, Giovanni N. Roviello

Spectrochimica Acta Part A Molecular and Biomolecular Spectroscopy 2026 128481 - 128481

https://doi.org/10.1016/j.saa.2026.128481

Article

Binding of G-quadruplex DNA and serum albumins by synthetic non-proteinogenic amino acids: Implications for c-Myc-related anticancer activity and drug delivery

Hayarpi Simonyan, Satenik Petrosyan, Lusine Sahakyan, Gagik Melikyan, Ashot Sagyan, Rosanna Palumbo, Caterina Vicidomini, Pasqualina Liana Scognamiglio, Giovanni N. Roviello

Molecular Therapy — Nucleic Acids 2025 102478

Article

Neuroprotective Properties of Clove (Syzygium aromaticum): State of the Art and Future Pharmaceutical Applications for Alzheimer's Disease

Tatevik Sargsyan, Hayarpi Simonyan, Avetis Tsaturyan, Lala Stepanyan, Raffaele Pastore, Caterina Vicidomini, Germano Guerra, Giovanni N. Roviello

Biomolecules 2025 452

Article

The Synthesis, Characterization, and Biological Evaluation of a Fluorenyl-Methoxycarbonyl-Containing Thioxo-Triazole-Bearing Dipeptide: Antioxidant, Antimicrobial, and BSA/DNA Binding Studies for Potential Therapeutic Applications in ROS Scavenging and...

Lala Stepanyan, Tatevik Sargsjan, Valentina Mittova, Zurab Tsetskhladze, Nino Motsonelidze, Ekaterina Gorgoshidze, Niccolo Nova, Monika Israyelyan, Hayarpi Simonyan, Franco Bisceglie, Lusine Sahakyan, Karapet Ghazaryan, Giovanni Roviello

Biomolecules 2025 933

Article

Biomacromolecular interactions and antioxidant properties of novel synthetic amino acids targeting DNA and serum albumin

Tatevik Sargsyan, Heghine Hakobyan, Hayarpi Simonyan, Tigran Soghomonyan, Avetis Tsaturyan, Anahit Hovhannisyan, Siranush Sardaryan, Ashot Saghyan, Giovanni N. Roviello

Journal of Molecular Liquids 2025 1-13

Conference

DEVELOPMENT OF NOVEL PEPTIDE-MIMETIC COMPOUNDS AS POTENTIAL ANTICANCER AGENTS: A COLLABORATIVE POLISH-ITALIAN-ARMENIAN STUDY

Danuta Witkowska, Giovanni N. Roviello, Agnieszka Rombel-Bryzek, Paweł Lenartowicz, Hayarpi Simonyan

2025 56

https://purhumandrome.uni.opole.pl/aktualnosci/1st-polish-italian-conference-on...

Article

BSA Binding and Aggregate Formation of a Synthetic Amino Acid with Potential for Promoting Fibroblast Proliferation: An In Silico, CD Spectroscopic, DLS, and Cellular Study

Hayarpi Simonyan, Rosanna Palumbo, Satenik Petrosyan, Anna Mkrtchyan, Armen Galstyan, Ashot Saghyan, Pasqualina Liana Scognamiglio, Caterina Vicidomini, Marta Fik-Jaskólka, Giovanni N. Roviello

Biomolecules 2024 579

Conference

Synthesis and Biological Evaluation of Unusual Alpha-amino Acids for Biomedical Strategies

Hayarpi Simonyan, Giovanni N. Roviello, Ernest Ewert, Marta Fik-Jaskółka, Anna Mkrtchyan

2024 29 - 29

https://mrtbs2024.inoz.uni.opole.pl

Article

Advances in Amino Acid-Based Chemistry

Hayarpi Simonyan, Rosanna Palumbo, Giovanni N.Roviello

Pharmaceuticals 2023 1490

Article

Asymmetric Synthesis of Derivatives of Alanine via Michael Addition Reaction and their Biological Study

Mkrtchyan Anna, Tovmasyan Anna, Paloyan Ani, Sargsyan Armen, Simonyan Hayarpi, Sahakyan Lusine, Petrosyan Satenik, Hayriyan Liana, Sargsyan Tatevik

Synlett 2022 2013-2018

Article

Spectroscopic and SEM evidences for G4-DNA binding by a synthetic alkyne-containing amino acid with anticancer activity

Marta A.Fik-Jaskółka, Anna F.Mkrtchyan, Ashot S.Saghyan, Rosanna Palumbo, Agnieszka Belter, Liana A.Hayriyan, Hayarpi Simonyan, ValentinaRoviello, Giovanni N.Roviello

SPECTROCHIMICA ACTA PART A-MOLECULAR AND BIOMOLECULAR SPECTROSCOPY 2020 117884

Article

Biological macromolecule binding and anticancer activity of synthetic alkyne-containing L-phenylalanine derivatives

Marta A. Fik-Jaskółka, Anna F. Mkrtchyan, Ashot S. Saghyan, Rosanna Palumbo, Agnieszka Belter,

Liana A. Hayriyan, Hayarpi Simonyan, Valentina Roviello, Giovanni N. Roviello

Amino Acids 2020 755–769

Article

Исследование асимметрического нуклеофильного бис-присоеденения дегидроаланиновых комплексов Ni(II)

Петросян С. Г., Симонян А. М, Мкртчян А. Ф., Саакян Л. Ю., Цатурян А. О., Сагян А. С.

Հայաստանի քիմիական հանդես 2020 213-222

Conference

SYNTHESIS OF A NOVEL HETEROCYCLIC AMINO ACID AND ITS USE FOR THE SYNTHESIS OF SUGAR-AMINO ACID CONJUGATES

Hayarpi Simonyan, Giovanni Roviello, Anna Mkrtchyan, Lusine Sahakyan, Satenik Petrosyan,

Ashot Saghyan

2019 420

https://www.efmc-asmc.org/

Conference

Asymmetric synthesis of new heterocyclic analogs of alpha-aminopropionic acid and alpha-aminobutyric acid via Michael nucleophilic addition reactions

Hayarpi Simonyan, Lusine Sahakyan, Anna Mkrtchyan, Satenik Petrosyan, Ashot Saghyan

2018 343

https://www.ldorganisation.com/v2/produits.php?langue=english&cle_menus=1238916...

Conference

Efficient method for the synthesis of novel enantiomericaly enriched derivatives of unsaturated amino acids

Ashot Saghyan, Anna Mkrtchyan, Liana Hayriyan, Zorayr Mardiyan, Hayarpi Simonyan

2018 342

https://www.ldorganisation.com/v2/produits.php?langue=english&cle_menus=1238916...

Conference

Asymmetric sytesis of opticaly active derivatives of α-aminobutric acid containing triazole groups in the side chain radical

L.Sahakyan, H.Simonyan, S. Petrosyan, A. MKrtchyan, A. Saghyan, E. Sekoyan

2018 106-107

http://pharmconf2018.ysu.am/#parentVerticalTab7

Study manual

Ամինաթթուների ֆիզիկաքիմիական, օպտիկական հատկությունները և ստացման եղանակները

Հ.Մ. Սիմոնյան, Ա.Ֆ. Մկրտչյան

2018 40

Study manual

ՊԵՊՏԻԴՆԵՐ, ՖԵՐՄԵՆՏՆԵՐ

Ա. Ֆ. Մկրտչյան, Հ.Մ. Սիմոնյան

2018 36

Article

Synthesis and biological evaluation of a novel Amadori compound

Hayarpi Simonyan, Giovanni N. Roviello, Roberta Iannitti, Valentina Roviello, Rosanna Palumbo,

Caterina Vicidomini

Amino Acids 2017 327-335

http://link.springer.com/journal/726

Article

Асимметрический синтез новых гетероциклически замещенных аналогов α-аминомасляной кислоты, содержащих замещенные триазольные группы в боковом радикале

А.С.Сагиян, Л.Ю.Саакян, А.М.Симонян, С.Г.Петросян, А.Ф.Мкртчян, М.А.Самвелян, Т.В.Кочикян,

П,Лангер

Химический Журнал Армении 2017 71-81

http://www.flib.sci.am/eng/Qimia/Frame.html

Article

Асимметрический синтез новых гетероциклически замещенных аналогов (S)-α-аланина, содержащих 3,4-дизамещенные -5-тиоксо-1,2,4-триазолы в боковом радикале

А.М.Симонян, А.С.Сагиян, Л.Ю.Саакян, Н.Н.Багян, А.О.Восканян, Ж.Н.Сарибекян, М.А.Самвелян,

Т.В.Кочикян

Химический Журнал Армении 2017 82-91

http://www.flib.sci.am/eng/Qimia/Frame.html

Article

Lac-L-TTA, a novel lactose-based amino acid–sugar conjugate for anti-metastatic applications

Hayarpi Simonyan, Giovanni N. Roviello, Roberta Iannitti, Rosanna Palumbo, Caterina Vicidomini,

Valentina Roviello

Amino Acids 2017 1347-1353

http://link.springer.com/journal/726

Article

Асимметрический синтез (S)-b-(4-(b-фенэтил)-3-бутил-5-тиоксо-1,2,4-триазол-1-ил)-α-аланина

А.М. Симонян

Հայաստանի քիմիական հանդես 2017 522-528.

Article

ВЫДЕЛЕНИЕ ПРОЛИНА ИЗ СМЕСИ АМИНОКИСЛОТ

А.М. Симонян, А.С. Сагян, Ж.Н. Сарибекян, А.Е. Агаджанян

Հայաստանի քիմիական հանդես 2017 417-429

Conference

Efficient method for the synthesis of novel enatiomerically enriched derivatives of propargylglycine

Anna F. Mkrtchyan, Ashot S Saghyan, Liana A Hayriyan, Ani J Karapetyan, Zorayr Z Mardiyan,

Hayarpi M Simonyan, Adonc Hovhannes

2017 71

http://alliedacademies.com/upcoming-conferences

Conference

Asymmetric synthesis of potential biologically active new heterocyclic analogs of (s)- -alanine containing 3,4-substituted 5-thioxo-1,2,4- triazoles in the side-chain radical
H.M. Simonyan, L.Yu. Sahakyan, S.Gh. Petrosyan, A.F. Mkrtchyan, N.N. Baghyan,, J.N. Saribekyan,

A.S. Saghyan
2017 69

http://greenchemistry.alliedacademies.com/registration

Conference

Asymmetric synthesis of enantiomerically enriched analog of α-aminobutyric acid containing heterocycle in the side chain radical .
L.Yu.Sahakyan, A.S. Saghyan, H.M. Simonyan, S.Gh.Petrosyan, A.F.Mkrtchyan

2017 141-142

http://armbiotech.am/arm/conf/conf4/index.html

Conference

Asymmetric synthesis and biological activity of novel heterocycle substituted analogues of α-aminobutyric acid
Sahakyan L.Yu., Simonyan H. M, Petrosyan S. Gh., Mkrtchyan A. F., Simonyan M. A., Saghyan A. S.,

Sekoyan E. S.
2017 344-344

http://fizecomed.com/hy/page.php?id=67

Conference

Asymmetric synthesis of potential biologically active new analogs of (S)-alanine containing nitrogenous bases in the side-chain radical
H.M.Simonyan, L.Yu. Sahakjan, A.F.Mkrtchyan, S.Gh.Petrosyan, N.N.Baghyan, A.O.Voskanyan,

J.N.Saribekyan, A.S.Saghyan

2017 139

http://armbiotech.am/arm/conf/conf4/index.html

Conference

Асимметрический синтез новых производных (S)-α-аланина, содержащих 3-замещенные 4-изобутил-5-тиоксо-1,2,4-триазолы в боковом радикале
А.М.Симонян, Н.Н.Багян, А.О.Восканян, Ж.Н.Сарибекян, Л.Ю.Саакян, А.Ф.Мкртчян, С.Г.Петросян,

А.С.Сагиян
2017 71

Conference

Asymmetric synthesis of enantiomerically enriched analogs of NiII complexes of (S)-allylglycine
L.A.Hayriyan, A.F.Mrtchyan, Z.Z.Mardiyan, A.J.Karapetyan, H.V. Adonc, H.M. Simonyan, S.Gh. Petrosyan,

L.Yu.Sahakyan, A.S. Saghyan

2017 62

Conference

Synthesis of optically pure (S)-2-amino-5-(3-fluorophenyl)-2-(prop-2-yn-1-yl)pent-4-yonic acid b y using Sonogashira reaction
Z.Z. Mardiyan, L.A. Hayriyan, A.F.Mkrtchyan, A.X.Tsaturyan, A.J. Karapetyan, H.V. Adonc, H.M. Simonyan,

S.Gh.Petrosyan, L.Yu.Sahakyan, A.S. Saghyan

2017 92

Conference

Asymmetric synthesis of enantiomerically enriched new analogs of Ni II complexes of (S)-propargylglycine

L. Hayriyan, A. Saghyan, H. Simonyan, A. Karapetyan, Z. Mardiyan, A. Mkrtchyan

2017 138

http://armbiotech.am/arm/conf/conf4/index.html

Article

New generations of optically active non-proteinogenic α-amino acids, synthesis and study

Hovhannisyan A. M., Saghyan A. S., Mkrtchyan A. F., Simonyan H. M

Հայաստանի քիմիական հանդես 2016 81-101

http://www.flib.sci.am/eng/Qimia/Frame.html

Article

Synthesis of enantiomerically enriched amino acids containing acetylenic bond in the side-chain radical

Hayarpi M. Simonyan, Ashot. S. Saghyan, Anna F. Mkrtchyan, Ani J. Karapetyan, Zorayr Z. Mardiyan,

Liana A. Hayriyan

International Journal of Chemical Engineering and Applications 2016 413-416

http://www.ijcea.org/

Article

Синтез положительно заряженных комплексов CoIII и их исследование в качестве хиральных катализаторов в реакциях асимметрического генерирования C-C связи.

Мкртчян А. Ф., Геолчанян А. В., Симонян А. М., Петросян С. Г., Сагиян А. С., Малеев В. И.,

Белоконь Ю. Н., Хрусталев В. Н

Химический Журнал Армении 2015 108-121

http://www.flib.sci.am/eng/Qimia/Frame.html

Article

АСИММЕТРИЧЕСКИЙ СИНТЕЗ НОВЫХ ЭНАНТИОМЕРНО ОБОГАЩЕННЫХ НЕНАСЫЩЕННЫХ α-АМИНОКИСЛОТ

А. Ф. МКРТЧЯН, З. З. МАРДИЯН, А. Ж. КАРАПЕТЯН, А. С. ПОГОСЯН, С. Г. ПЕТРОСЯН, А. М. СИМОНЯН,

А. О. ЦАТУРЯН, А. С. САГИЯН

Химический Журнал Армении 2015 403-412

http://www.flib.sci.am/eng/Qimia/Frame.html

Conference

Asymmetric synthesis of new enantiomerically enriched a-amino acids

A.S. Saghyan, A.F. Mkrtchyan, S.G. Petrosyan, A.M. Simonyan, A.V. Geolchanyan, J.A. Yedoyan,

A.M. Petrosyan, P. Langer

2015 1633

http://www.meduniwien.ac.at/icaap/

Conference

Metallocomplex precursors for the synthesis of 18f-fluorinated aromatic amino acids labelled in alpha fluoromethyl moiety

A. V. Geolchanyan, A. S. Saghyan, A. F. Mkrtchyan, S. G. Petrosyan, H. M. Simonyan, V. I. Maleev,

Yu. N. Belokon, R. Schibli, R. N. Krasikova

2015 627

http://www.meduniwien.ac.at/icaap/

Article

Thiophenyl-substituted triazolyl-thione L-alanine: asymmetric synthesis, aggregation and biological properties

Ashot S. Saghyan, Hayarpi M. Simonyan, Petrosyan G. Satenik, Arpine V. Geolchanyan,

Giovanni N. Riovello, Domenica Musumeci, Valentina Roviello

Amino Acids 2014 2325–2332

http://link.springer.com/journal/726