

# Heghine Hmayak Ghazoyan

## Faculty of Chemistry

Chair of Physical and Colloid Chemistry

Associate professor

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(060) 71-08-59

✉ heghine@ysu.am



## Education

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<b>Institution</b>	Yerevan State University
<b>Faculty</b>	Post-graduate Course
<b>Date</b>	1991 - 1999
<b>Degree name</b>	PhD student

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<b>Institution</b>	Yerevan State University
<b>Faculty</b>	Chemistry
<b>Date</b>	1986 - 1991
<b>Degree name</b>	Qualified specialist

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## Scientific Rank/degree

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<b>Institution</b>	Institute of Chemical Physics of the AR Academy of Sciences
<b>Date</b>	2002
<b>Degree name</b>	Candidate
<b>Specialty</b>	Chemical sciences
<b>Scientific Supervisor</b>	Doctor of Sciences, Professor Shiraz Markarian
<b>Research Topic</b>	Intermolecular Interactions and Solvation Processes in Dialkylsulfoxides Solutions of Acrylonitrile: Polymerization of Acrylonitrile and Physicochemical Properties of the Synthesised Polymers

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## Language skills

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Հայերեն English Русский

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## Work experience

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<b>Institution</b>	Yerevan State University
<b>Period of time</b>	2011 till now
<b>Rank/degree</b>	Associate Professor

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## Scientific interests

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- Thermodynamic Studies of Molecular Interactions in Chemical and Biochemical Systems
- The study of behavior of nanoparticles using light scattering methods

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## Participation in international conferences and seminars

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<b>09/07/2023 - 14/07/2023</b>	38th International Conference on Solution Chemistry University of Novi Sad Serbia
<b>19/06/2019 - 23/06/2019</b>	22 nd International Conference on Chemical Thermodynamics in Russia Saint Petersburg State University Russian Federation (the)
<b>16/09/2019 - 21/09/2019</b>	XVI International Conference "Spectroscopy of coordination compounds" Kuban State University Russian Federation (the)
<b>24/09/2017 - 30/09/2017</b>	XIV International Conference "Spectroscopy of coordination compounds" Kuban State University Russian Federation (the)
<b>24/06/2013 - 28/06/2013</b>	XIX International Conference on Chemical Thermodynamics in Russia (RCCT-2013) Lomonosov Moscow State University of Fine Chemical Technologies Russian Federation (the)

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## Publications

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*Article*

**Diphenyl selenoxide: Unraveled peculiarities in methanol and acetonitrile solutions**

Vitaly V. Chaban, Shiraz A. Markarian, Heghine H. Ghazoyan, Hasmik R. Sargsyan, Gevorg S. Grigoryan, Adrine D. Sahakyan, Levon A. Tavadyan  
Journal of Molecular Liquids 2024 125331

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*Article*

**Dimethyl sulfoxide fosters larger micelles of docusate sodium in the mixed solutions with water**

S.A. Markarian, H.R. Sargsyan, G.S. Grigoryan, H.H. Ghazoyan, V.V. Chaban  
Journal of Molecular Liquids 2023 120960

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*Article*

**Dimethyl sulfoxide heavily extends homogeneous regions of the Propionitrile/DMSO/Water mixtures**

Heghine H. Ghazoyan, Zara L. Grigoryan, Shiraz A. Markarian, Vitaly V. Chaban  
Journal of Molecular Liquids 2023 121734

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*Article*

**The Effect of Dimethylsulfoxide (or Diethylsulfoxide) on Methylene Blue-Calf Thymus DNA**

**Binding in Aqueous Solutions by Fluorescence Polarization and Steady-State Fluorescence Quenching**

Gohar A. Shahinyan, Heghine H. Ghazoyan, Shiraz A. Markarian

Journal of Solution Chemistry 2023 708-719

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*Article*

**Diphenylsulfoxide exhibits an outstanding solubility in Methanol: Physicochemical and quantum chemical evidences. Comparison to acetonitrile**

Shiraz A. Markarian, Heghine H. Ghazoyan, Hasmik R. Sargsyan, Gevorg S. Grigoryan, Vitaly V. Chaban, Adrine D. Sahakyan, Levon A. Tavadyan

Journal of Molecular Liquids 2023 122924

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*Article*

**Volumetric Properties of Butyronitrile-Dimethyl Sulfoxide and Butyronitrile-Diethyl Sulfoxide Binary Mixtures**

H.H. Ghazoyan, Sh.A. Markaryan

Журнал физической химии (Russian Journal of Physical Chemistry A) 2021 1811-1820

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*Article*

**VOLUMETRIC PROPERTIES OF ACRYLONITRILE+ETHANOL MIXTURE OVER TEMPERATURE RANGE FROM (293.15 TO 323.15) K AT AMBIENT PRESSURE**

H.H. Ghazoyan

Известия высших учебных заведений. Серия: химия и химическая технология (ChemChemTech) 2020 32-37

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*Article*

**Fluorescence anisotropy studies on the Hoechst 33258-DNA interaction: the solvent effect**

Karen Yu. Amirbekyan, Gohar A. Shahinyan, Heghine H. Ghazoyan, Hasmik R. Sargsyan,

Shiraz A. Markarian

Journal of Biomolecular Structure and Dynamics 2020 1-5

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*Article*

**Study of thermodynamic properties of binary mixtures of propionitrile with dimethylsulfoxide (or diethylsulfoxide) at temperatures from (298.15 to 323.15)K**

Heghine H. Ghazoyan, Zara L. Grigoryan, Liana S. Gabrielyan, Shiraz A. Markarian

Journal of Molecular Liquids 2019 147-156

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*Article*

**DENSITIES AND ELECTRICAL CONDUCTIVITIES OF COPPER(II) CHLORIDE SOLUTIONS IN DIMETHYL SULFOXIDE AND WATER-DIMETHYL SULFOXIDE EQUIMOLAR MIXTURE AT THE TEMPERATURES 298.15, 308.15 AND 318.15 K**

H. H. GHAZOYAN, Sh. A. MARKARIAN

Proceedings of the YSU B: Chemical and Biological Sciences 2019 3-9

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*Article*

**Synthesis, Structure, and Properties of Novel Enamine Containing Coumarin and Phosphonium Fragments**

L. D. Popov, I. N. Scherbakov, S. A. Borodkin, Yu. V. Revinskii, E. A. Kazoyan, G. A. Shaginyan,

A. R. Sarkisyan, Sh. A. Markaryan

Russian Journal of General Chemistry (Журнал общей химии) 2019 906-912

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Article

**Reply to “Comments on study of thermodynamic properties of binary mixtures of propionitrile with dimethylsulfoxide (or diethylsulfoxide) at temperatures from (298.15 to 323.15)K”**

Heghine H. Ghazoyan

Journal of Molecular Liquids 2019 111104-111105

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Article

**Synthesis of Phosponium Enamines: Physicochemical Properties of Dimethyl Sulfoxide Solutions**

S. A. Borodkin, E. A. Kazoyan, L. D. Popov, G. A. Shaginyan, A. R. Sarkisyan, I. N. Shcherbakov,

Sh. A. Markaryan

Russian Journal of Physical Chemistry A 2019 2187-2191

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Article

**Thermodynamic and Spectroscopic (UV-Vis, FT IR) Studies of Solutions of CoCl<sub>2</sub> (or NiCl<sub>2</sub>) in Diethylsulfoxide**

Shiraz A. Markarian, Heghine H. Ghazoyan, Hasmik R. Sargsyan, Gohar A. Shahinyan

Journal of Solution Chemistry 2019 1378-1392

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Article

**Corrigendum to “Volumetric properties of binary mixtures of acrylonitrile with dimethylsulfoxide (or diethylsulfoxide) at temperatures from 298.15 to 323.15K” [Chemical Journal of Armenia 70 (2017) 462-476]**

H.H. Ghazoyan

Հայաստանի քիմիական հանդես 2019 534-537

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Article

**Study of thermodynamic properties of binary mixtures of propionitrile with dimethylsulfoxide (or diethylsulfoxide) at temperatures from (298.15 to 323.15)K**

H.H. Ghazoyan, Z.L. Grigoryan, L.S. Gabrielyan, S.A. Markarian

Journal of Molecular Liquids 2019 147-156

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Article

**Densities and volumetric properties of L-ascorbic acid solutions in water-ethanol mixtures at temperatures from 298.15 to 318.15 K**

H.H. Ghazoyan, Sh.A. Markarian

Proceedings of the YSU B: Chemical and Biological Sciences 2018 3-9

<http://www.ysu.am/science/hy/1520431333>

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Article

**ОБЪЕМНЫЕ СВОЙСТВА РАСТВОРОВ ДИМЕТИЛСУЛЬФОНА В СМЕШАННОМ РАСТВОРИТЕЛЕ (ЭТАНОЛ-ВОДА) В ИНТЕРВАЛЕ ТЕМПЕРАТУР 298,15-323,15 К**

Е.А. Казоян, Ш.А. Маркарян

Известия высших учебных заведений. Серия: химия и химическая технология (ChemChemTech) 2017 27-33

<http://ctj.isuct.ru/>

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Article

**Volumetric Properties and Viscosity of Diethylsulfoxide in Acetonitrile at Different**

## Temperatures

Z.L. Grigoryan, H.H. Ghazoyan, Sh.A. Markarian

Proceedings of the YSU B: Chemical and Biological Sciences 2017 147-155

<http://www.ysu.am/science/hy/1511853083>

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### Article

#### **Volumetric properties of binary mixtures of acrylonitrile with dimethylsulfoxide (or diethylsulfoxide) at temperatures from 298.15 to 323.15 K**

H.H. Ghazoyan, Z.L. Grigoryan, Sh.A. Markarian

Chemical Journal of Armenia 2017 462-476

<http://chemjournal.sci.am>

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### Article

#### **VOLUMETRIC PROPERTIES AND VISCOSITY OF DIETHYL SULFOXIDE IN ACETONITRILE AT DIFFERENT TEMPERATURES**

Z.L. Grigoryan, H.H. Ghazoyan, S.A. Markarian

ԵՊՀ Գիտական տեղեկագիր, Բնական գիտություններ 2017 147-155

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### Article

#### **Thermodynamics of Liquid-Vapor Phase Equilibrium in Dimethyl Sulfoxide-Alkanol Systems in the Range of 293.15-323.15 K**

Grigoryan Z.L., Ghazoyan H.H., Markarian S.A.

Russian Journal of Physical Chemistry A 2015 1790-1794

<http://link.springer.com/journal/11504>

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### Article

#### **Thermodynamics of Liquid-Vapor Phase Equilibrium in Dimethyl Sulfoxide-Alkanol Systems in the Range of 293.15-323.15 K**

Z. L. Grigoryan, E. A. Kazoyan, Sh. A. Markaryan

Russian Journal of Physical Chemistry A 2015 1588-1592

<http://link.springer.com/journal/11504>

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### Article

#### **Volumetric properties of dimethylsulfone in ethanol-aqueous solutions**

H.H. Ghazoyan

Proceedings of the YSU B: Chemical and Biological Sciences 2015 3-8

<http://www.ysu.am/science/hy/journals>

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### Article

#### **ИССЛЕДОВАНИЕ РАВНОВЕСИЯ ЖИДКОСТЬ-ПАР В БИНАРНОЙ СИСТЕМЕ ДИМЕТИЛСУЛЬФОКСИД-ЭТАНОЛ**

Է. Ա. ԿԱԶՅՈՅԱՆ, Յ. Լ. ԳՐԻԳՕՐՅԱՆ, Շ. Ա. ՄԱՐԿԱՐՅԱՆ

Chemical Journal of Armenia 2014 36-42

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### Article

#### **DENSITIES, EXCESS MOLAR AND PARTIAL MOLAR VOLUMES FOR DIETHYLSULFOXIDE WITH METHANOL OR ETHANOL BINARY SYSTEMS AT TEMPERATURE RANGE 298.15-323.15 K**

H. H. GHAZOYAN, Sh. A. MARKARIAN

Proceedings of the YSU B: Chemical and Biological Sciences 2014 17-25

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Article

**Densities and thermochemical properties of dimethylsulfone in dimethylsulfoxide and dimethylsulfoxide/water equimolar mixture**

Heghine H. Ghazoyan, Shiraz A. Markarian

Journal of Molecular Liquids 2013 85-88

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Conference

**Calorimetric study of interactions of amino acids with surfactants in aqueous solutions at 298.15 K**

Harutyunyan N.G., Harutyunyan L.R., Ghazoyan H.H., Harutyunyan R.S.

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Conference

**Molecular interaction between nitrile group containing compounds (acetonitrile, acrylonitrile, polyacrylonitrile) and dimethylsulfoxide**

Grigoryan Z.L., Ghazoyan H.H., Markarian S.A.

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Conference

**Volumetric properties of diethylsulfoxide-alkanol binary mixtures**

H.H. Ghazoyan, S.A. Markarian

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Conference

**Liquid-vapor equilibrium, volumetric and transport properties of dimethylsulfoxide-acetonitrile system**

H.H. Ghazoyan, Z.L. Grigoryan, S.A. Markarian

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Conference

**Viscosity and volumetric properties of acrylonitrile+ dimethylsulfoxide binary mixtures at T=(298.15-318.15)K**

Ghazoyan H.H., Grigoryan Z.L., Markarian S.A.

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Conference

**ИЗУЧЕНИЕ КОМПЛЕКСООБРАЗОВАНИЯ ХЛОРИДА И НИТРАТА МЕДИ (II) С ДИЭТИЛСУЛЬФОКСИДОМ МЕТОДОМ УФ СПЕКТРОСКОПИИ**

А.Р. Саркисян, Г.А. Щагинян, Е.А. Казоян, И.Н. Щербаков, Ш.А. Маркарян

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Conference

**The study of thermodynamic properties of binary mixtures diethylsulfoxide-acetonitrile (or propionitrile)**

Ghazoyan H.H., Grigoryan Z.L., Sargsyan H.R., Markarian S.A.

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Conference

**Thermodynamic Properties of Dimethylsulfone- Dimethylsulfoxide-Water Ternary System**

Ghazoyan H.H., Markarian S.A.

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Conference

**UV-VIS AND THERMODYNAMIC STUDIES OF COMPLEX FORMATION OF DIETHYLSULFOXIDE WITH  $\text{CoCl}_2$  AND  $\text{NiCl}_2$**

H.H. Ghazoyan, H.R. Sargsyan, Z.K. Papanyan, S.A. Markarian

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Conference

**Thermogravimetric and FT IR study of interaction of polyacrylonitrile with dimethylsulfoxide**  
H.H. Ghazoyan, Z.L. Grigoryan, S.A. Markarian

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*Conference*

**УФ-ИССЛЕДОВАНИЕ КОМПЛЕКСООБРАЗОВАНИЯ п-НИТРОАНИЛИНА С МОЛЕКУЛАМИ  
АЭРОЗОЛЯ ОТ В МИЦЕЛЛЯРНЫХ СИСТЕМАХ**

A.P. Саркисян, Е.А. Казоян, Ш.А. Маркарян

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*Conference*

**ИССЛЕДОВАНИЕ СМЕСЕЙ АЛИФАТИЧЕСКИХ НИТРИЛОВ С СУЛЬФОКСИДАМИ НА  
ОСНОВАНИИ ДАННЫХ ДЕНСИТОМЕТРИИ, ВИСКОЗИМЕТРИИ И ФАЗОВЫХ РАВНОВЕСИЙ**

Казоян Е.А., Григорян З.Л., Маркарян Ш.А.

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*Conference*

**THE DYNAMIC LIGHT SCATTERING OF B1 AND B6 VITAMINES IN DMSO-WATER MIXTURES**

H.H. Ghazoyan, L. Baghdasaryan, S.A. Markarian

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*Conference*

**THE MICELIZATION OF AOT IN AQUEOUS SOLUTION OF DMSO**

H. Sargsyan, G. Grigoryan, H. Ghazoyan, Sh. Markarian

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*Conference*

**Excess Molar Volumes in Homogeneous Region of Propionitrile+DMSO+Water Ternary Liquid  
Mixtures at Temperatures From (298.15 to 323.15)K**

Ghazoyan H.H., Markarian Sh.A.

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*Conference*

**Thermodynamic study of binary mixtures of aliphatic nitriles (acetonitrile, propionitrile,  
butyronitrile and acrylonitrile) with dimethylsulfoxide (or diethylsulfoxide)**

Shiraz Markarian, Zara Grigoryan, Heghine Ghazoyan

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*Conference*

**Size determination of nanoparticles of vitamins B1 and B6 in DMSO-water mixtures by  
dynamic light scattering**

Heghine Ghazoyan, Shiraz Markarian

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*Conference*

**THE THERMODYNAMIC STUDY OF SOLUTIONS OF DIALKYL SULFOXIDES WITH ALCOHOLS**

Ghazoyan H.H., Markarian S.A.

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