

# Liana Sergey Gabrielyan

## Faculty of Chemistry

Chair of Physical and Colloid Chemistry

Associate professor

☎ 38-57  
(060) 71-08-57

✉ lgabriel@ysu.am



## Education

---

|                    |   |
|--------------------|---|
| <b>Institution</b> | Yerevan State University                                      |
| <b>Faculty</b>     | Faculty of Chemistry/Chair of Physical and Colloids Chemistry |
| <b>Date</b>        | 1994 - 1999   |
| <b>Degree name</b> | Qualified specialist  |

---

## Scientific Rank/degree

---

|                    |                          |
|--------------------|--------------------------|
| <b>Institution</b> | Yerevan State University |
| <b>Date</b>        | 2009                     |
| <b>Degree name</b> | Associate professor      |
| <b>Specialty</b>   | Chemical sciences        |

---

|                              |   |
|------------------------------|---|
| <b>Institution</b>           | Yerevan State University  |
| <b>Date</b>                  | 2004  |
| <b>Degree name</b>           | Candidate   |
| <b>Specialty</b>             | Chemical sciences   |
| <b>Scientific Supervisor</b> | Շիրազ Մարգարյան   |
| <b>Research Topic</b>        | Լիթումի աղերի սուլֆօքսիդային լուծույթների ֆիզիկաքիմիական ուսումնասիրությունները |

---

## Language skills

Հայերեն Русский English Deutsch Français

---

## Work experience

---

|                       |   |
|-----------------------|---|
| <b>Institution</b>    | Institute of Physical and Theoretical Chemistry, Saarland University, Saarbruecken, Germany, Erasmus+ |
| <b>Period of time</b> | 2019 - 2019   |
| <b>Rank/degree</b>    | Visiting Lecturer   |

---

|                       |   |
|-----------------------|---|
| <b>Institution</b>    | FH Joanneum, Graz, Austria, Erasmus Printel |
| <b>Period of time</b> | 2018 - 2018                                 |

|                       |   |
|-----------------------|---|
| <b>Rank/degree</b>    | Visiting Lecturer   |
| <b>Institution</b>    | Institute of Physics, Experimental physics II, Bayreuth University, Germany   |
| <b>Period of time</b> | 2017 - 2017   |
| <b>Rank/degree</b>    | Visiting Researcher   |
| <b>Institution</b>    | Institute of Physical Chemistry, Ruhr-University Bochum, Germany  |
| <b>Period of time</b> | 2013 - 2013   |
| <b>Rank/degree</b>    | Visiting Researcher   |
| <b>Institution</b>    | Experimental physics V, Augsburg University, Germany  |
| <b>Period of time</b> | 2013 - 2013   |
| <b>Rank/degree</b>    | Visiting Researcher   |
| <b>Institution</b>    | Institute of Physical Chemistry, Ruhr-University Bochum, Germany  |
| <b>Period of time</b> | 2009 - 2009   |
| <b>Rank/degree</b>    | Visiting Researcher   |
| <b>Institution</b>    | Chair of Physical and Colloids Chemistry, Faculty of Chemistry, Yerevan State University  |
| <b>Period of time</b> | 2009 till now   |
| <b>Rank/degree</b>    | Associate professor   |
| <b>Institution</b>    | Chair of Physical and Colloids Chemistry, Faculty of Chemistry, Yerevan State University  |
| <b>Period of time</b> | 2005 - 2009   |
| <b>Rank/degree</b>    | Assistant professor   |
| <b>Institution</b>    | Institute of Physical Chemistry, University Karlsruhe, Germany  |
| <b>Period of time</b> | 2004 - 2005   |
| <b>Rank/degree</b>    | Participant in the 40th International Seminar for Research and Teaching in Chemical Engineering and Physical Chemistry, Scientific Researcher |
| <b>Institution</b>    | Chair of Physical and Colloids Chemistry, Faculty of Chemistry, Yerevan State University  |
| <b>Period of time</b> | 1999 - 2004   |
| <b>Rank/degree</b>    | Junior Scientific Researcher  |

## Scientific interests

- Physical Chemistry
- Quantum chemical calculations
- Solution Chemistry

- FTIR and Raman Spectroscopy
  - Dielectric Relaxation Spectroscopy
- 

## Publications

---

*Article*

**Improvement of biomass and biohydrogen generation in *Parachlorella kessleri* using ethanol and brewery production wastes as cultivation media**

Jemma Manoyan, Diana Hakobyan, Lilit Gabrielyan, Iren Shahazizyan, Lusine Sahakyan, Ela Minasyan,

Liana Gabrielyan

International Journal of Hydrogen Energy 2025 400-410

---

*Article*

**Comparative Study of Physicochemical Properties and Antibacterial Potential of Cyanobacteria *Spirulina platensis*-Derived and Chemically Synthesized Silver Nanoparticles**

Ani Harutyunyan, Liana Gabrielyan, Anush Aghajanyan, Susanna Gevorgyan, Robin Schubert,

Christian Betzel, Wojciech Kujawski, Lilit Gabrielyan

ACS Omega 2024 29410–29421

---

*Article*

**Synthesis and Investigation of Polymers Containing Different Ratio of Quinonediiminic and Benzenoid Units in PANi-Like Structure**

Parandzem Minasyan, Svetlana Sargsyan, Narine Durgaryan, Liana Gabrielyan

ChemistrySelect 2024 e20240194

---

*Article*

**Пиразолины и пиримидины на основе (E)-1-(4-пентилоксифенил)-3-арилпроп2-ен-1-онов. Синтез, докинг-исследование и люминесцентные свойства**

Исаханян А.У., Овсян З.А., Григорян Г.С., Мхитарян Р.П., Габриелян Л.С., Паносян Г.А.,

Дангян М.Ю., Саргсян А.С., Амбарцумян А.А., Арутюнян А.А.

Журнал Общей Химии 2024 569-582

---

*Article*

**QUANTUM CHEMICAL CALCULATION OF STRUCTURAL AND THERMODYNAMIC PROPERTIES OF ETHYL METHYL SULFONE IN THE GAS PHASE**

L. S. Gabrielyan, Z. Kh. Papanyan

Proceedings of the YSU B: Chemical and Biological Sciences 2023 199-206

---

*Article*

**PREDICTION OF DIPROPYL SULFONE PROPERTIES BY DENSITY FUNCTIONAL THEORY METHODS: CONFORMATIONAL ANALYSIS AND SIMULATED IR SPECTRUM**

Z. Kh. PAPANYAN, L. S. GABRIELIAN

Proceedings of the YSU B: Chemical and Biological Sciences 2022 185-202

---

*Article*

**Dielectric relaxation and proton field-cycling NMR relaxometry study of dimethyl sulfoxide/glycerol mixtures down to glass-forming temperatures**

Max Flämig, Liana Gabrielyan, Rafael Minikejew, Shiraz Markarian, Ernst A. Rössler

Physical Chemistry Chemical Physics 2020 9014-9028

---

Manual

**Ֆիզիկական քիմիայի խնդիրների ժողովածու**

Գաբրիելյան Լ. Ս., Խաչատրյան Ա. Գ., Մարգարյան Շ. Ա.

2020 222

---

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

---

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

---

Article

**Dielectric Relaxation Spectroscopy Study of the Structure and Dynamics of Dialkyl Sulfoxide Solutions**

L.S. Gabrielyan, Sh.A. Markaryan

Russian Journal of Physical Chemistry A 2018 205-213

---

Article

**Quantum chemical study on the solvation of lithium chloride in dimethyl- and diethyl sulfones**

A.S. Mkhitarian, Z. K. Papanyan, L.S. Gabrielyan

Proceedings of the YSU B: Chemical and Biological Sciences 2018 10-19

<http://www.y-su.am/science/hy/1520431333>

---

Article

**Theoretical ab initio calculation of entropy and heat capacity of dialkylsulfones in the gas phase**

A.S. Mkhitarian, Z.K. Papanyan, L.S. Gabrielyan, S.A. Markarian

Chemical Journal of Armenia 2018 13-22

---

Article

**КВАНТОВО-ХИМИЧЕСКОЕ ОПРЕДЕЛЕНИЕ ТЕПЛОТЫ ГИДРАТАЦИИ ДИЭТИЛСУЛЬФОНА**

Л.С. Габриелян, Ш.А. Маркарян, З.Х. Папанян, А.С. Мхитарян

Известия высших учебных заведений. Серия: химия и химическая технология (Izvestiya Vysshikh Uchebnykh Zavedenii, Seriya Khimiya i Khimicheskaya Tekhnologiya)  
2018 17-21

---

Article

**AB INITIO HARTREE-FOCK AND DENSITY FUNCTIONAL THEORY INVESTIGATIONS ON THE POTENTIAL ENERGY SURFACE AND VIBRATIONAL SPECTRA OF DIETHYL SULFONE**

Z. Kh. PAPANYAN, A. S. MKHITARYAN, L. S. GABRIELIAN

Proceedings of the YSU B: Chemical and Biological Sciences 2018 147-154

---

Article

**Dielectric relaxation study of sulfolane-water mixtures**

Liana S. Gabrielyan  
Journal of Molecular Liquids 2017 217-220  
<https://www.journals.elsevier.com/journal-of-molecular-liquids/>

---

*Article*

**FTIR and Ab Initio Studies of Diisopropylsulfoxide and its Solutions**

Liana S. Gabrielyan  
Journal of Solution Chemistry 2017 759-776  
<http://link.springer.com/journal/10953>

---

*Article*

**Изучение диэлектрической релаксации бинарной системы  
сульфолан/диметилсульфоксид.**

Л.С. ГАБРИЕЛЯН, Ш.А. МАРКАРЯН  
Հայաստանի քիմիական հանդես 2017 37-44  
<http://www.flib.sci.am/eng/Qimia/Frame.html>

---

*Article*

**Low temperature dielectric relaxation study of aqueous solutions of diethylsulfoxide**

Liana Gabrielyan, Shiraz Markarian, Peter Lunkenheimer, Alois Loidl  
European Physical Journal Plus 2014 245

---

*Article*

**Dielectric spectroscopy of dimethylsulfone solutions in water and dimethylsulfoxide**

Liana S. Gabrielyan, Shiraz A. Markarian, Hermann Weingärtner  
Journal of Molecular Liquids 2014 37-40

---

*Article*

**IR SPECTROSCOPY DETERMINATION OF THE COMPLEXATION CONSTANT FOR A  
CHOLESTEROL-DIISOPROPYL SULFOXIDE COMPLEX**

L. S. Gabrielyan, L. G. Melik-Ohanjanyan, S. A. Markarian  
Журнал прикладной спектроскопии (Journal of Applied Spectroscopy) 2013 135-137

---

*Article*

**FT IR ATR Study of Molecular Interactions in the Urea/Dimethyl Sulfoxide and Urea/Diethyl  
Sulfoxide Binary Systems**

Karine R. Grigoryan, Shiraz A. Markarian, Liana S. Gabrielyan  
Journal of Solution Chemistry 2004 1005-1015

---

*Conference*

**Диэлектрические и релаксационные характеристики водных растворов  
диэтилсульфоксида**

Л.С. Габриелян, Ш.А. Маркарян

---

*Conference*

**Dielectric relaxation on dialkylsulfoxides solutions**

L.S. Gabrielyan

---

*Conference*

**AB INITIO STUDY OF LITHIUM CHLORIDE SOLVATION BY SULFONES**

Gabrielyan L.S., Mkhitaryan A.S., Papanyan Z.K., Markarian S.A.

---

*Conference*

**AB INITIO STUDY OF ETHYLMETHYLSULFONE**

Gabrielyan L.S., Mkhitaryan A.S.

---

*Conference*

**Dielectric Relaxation and Field-Cycling 1H NMR Relaxometry Studies of Dimethylsulfoxide/Glycerol Mixtures at Low Temperatures**

Gabrielyan L.S., Markarian S.A., Flämig M., Rössler E.A.

---

*Conference*

**Quantum Chemical Calculation of Thermodynamic Properties of Diethyl Sulfone**

Gabrielyan L.S., Papanyan Z.K., Mkhitaryan A.S.

---

*Conference*

**Brewer's spent grain as a potential substrate for hydrogen production by *Parachlorella kessleri***

L. Gabrielyan, J. Manoyan, L. Gabrielyan

---

*Conference*

**COMPOSITION AND TEMPERATURE DEPENDENCE OF SURFACE TENSION AND DENSITY OF AQUEOUS SOLUTIONS OF DIBUTYL SULFONE**

Manucharyan V.K., Papanyan Z.K., Gabrielyan L.S.

---

*Conference*

**Quantum chemical studies of lithium ion/sulfone complexes**

Zakar Papanyan, Liana Gabrielyan

---

*Conference*

**CONFORMATIONAL AND VIBRATIONAL ANALYSIS OF DIPROPYL SULFONE BY DENSITY FUNCTIONAL THEORY METHODS**

Papanyan Z., Gabrielyan L.

---

*Conference*

**DFT AND EXPERIMENTAL UV/Vis SPECTRA OF SELECTED AZO DYES**

Petrosyan S., Papanyan Z., Zatikyan A., Gabrielyan L.

---

*Conference*

**THE PHYSICOCHEMICAL AND ANTIMICROBIAL PROPERTIES OF SILVER NANOPARTICLES SYNTHESIZED BY *Spirulina* BIOMASS**

Harutyunyan A., Manoyan J., Gevorgyan S., Gabrielyan L., Aghajanyan A., Gabrielyan L.

---

*Conference*

**The antibacterial potential of *Spirulina platensis*-mediated green synthesized silver nanoparticles**

L. Gabrielyan, A. Harutyunyan, A. Aghajanyan, L. Gabrielyan

---

*Conference*

**SPIRULINA-Ի ԿԵՆՍԱԶԱՆԳՎԱԾԻՑ ԱՐԾԱԹԻ ՆԱՆՈՄԱՍՆԻԿՆԵՐԻ ՍԻՆԹԵԶԸ ԵՎ ԴՐԱՆՑ  
ՀԱԿԱԲԱԿՏԵՐԻԱԿԱՆ ԱԿՏԻՎՈՒԹՅՈՒՆԸ**

Հարությունյան Ա.Ա., Մանոյան Ջ.Գ., Աղաջանյան Ա.Ա., Գաբրիելյան Լ.Ս., Գաբրիելյան Լ.Ս.

---

*Conference*

**Antibacterial, hemolytic and anticancer activities of silver nanoparticles biosynthesized by  
phycocyanin extracted from Spirulina**

L. Gabrielyan, A. Harutyunyan, A. Hambardzumyan, A. Aghajanyan, N. Avtandilyan, L. Gabrielyan

---

*Conference*

**Նոր մոտեցումներ միկրոօրգանիզմների կենսազանգվածից կենսաբանական ակտիվությամբ օժտված  
արծաթի նանոմասնիկների սինթեզի համար**

Հարությունյան Ա.Ա., Մանոյան Ջ.Գ., Աղաջանյան Ա.Ա., Գաբրիելյան Լ.Ս., Գաբրիելյան Լ.Ս.

---