

# Lusine Rafik Aloyan

## Institute of Physics

Chair of Molecular Physics

Acting head of the chair, assistant

☎ 29-30

✉ aloyan@ysu.am



## Education

---

<b>Institution</b>	Yerevan State University
<b>Faculty</b>	Molecular Physics
<b>Date</b>	2002 - 2006
<b>Degree name</b>	PhD student

---

<b>Institution</b>	Yerevan State University
<b>Faculty</b>	Physics
<b>Date</b>	2000 - 2002
<b>Degree name</b>	Masters

---

<b>Institution</b>	Yerevan State University
<b>Faculty</b>	Physics
<b>Date</b>	1996 - 2000
<b>Degree name</b>	Bachelor

---

## Scientific Rank/degree

---

<b>Institution</b>	Yerevan State University
<b>Date</b>	2008
<b>Degree name</b>	Postgraduate
<b>Scientific Supervisor</b>	Yeva Dalyan
<b>Research Topic</b>	The role of side substituents in the complex formation of pyridyl porphyrins with DNA.

---

## Language skills

English Русский

---

## Publications

*Article*

**Enhanced DNA damage induced by ultrashort electron beams in the presence of a Cu-containing porphyrin**

L. Aloyan, H. Margaryan, P. Karataev

*Manual*

**Պարոլյո-կծիկ անցումը ԴՆԹ-ի մոլեկուլում**

Լուսինե Ալոյան  
2024 50

---

*Article*

**Spectral Study of the Binding of TMetAlPyP3 and ZnTMetAlPyP3 Porphyrins to DNA**

L. R. Aloyan, A. A. Avetisyan

Journal of Contemporary Physics (Armenian Academy of Sciences) 2023 99–103

---

*Article*

**Influence of Cation Porphyrins on DNA Damage during Irradiation by X-rays**

L Aloyan, A Avetisyan, V Arakelyan, H Margaryan

Journal of Physics: Conference Series 2023 012009

---

*Article*

**Photovoltaic Tweezers Based on Optical Holography: Application to 2D Trapping of DNA Molecules on a Lithium Niobate Crystal**

Lusine Aloyan, Yeva Dalyan, Lusine Tsarukyan, Anahit Badalyan, Rafael Drampyan

Optical Memory and Neural Network 2023 S384–S395

---

*Article*

**FLAP Collaboration: Tasks and Perspectives. Study of Fundamentals and New Applications of Controllable Generation of Electromagnetic Radiation by Relativistic Electrons Using Functional Materials**

L. Aloyan, A. Avetisyan, Y. Dalyan, L. Grigoryan, N. Karapetyan, V. Kocharyan, A. Mkrtchyan, A. Movsisyan, A. Saharian, A. Shahbazyan, A. Baldin, 37

Physics of Particles and Nuclei Letters 2021 338–353

---

*Article*

**Formation of Parallel X-ray Beams with Controllable Quantity and Distances**

T.R. Muradyan, E.H. Bagdasaryan, S.M. Petrosyan, H.H. Samsonyan, L.R. Aloyan, A.V. Shahverdyan, V.R. Kocharyan

Armenian Journal of Physics 2020 175-179

---

*Article*

**Focusing of X-Rays inside a single crystal under the temperature gradient**

L. R. Aloyan, V. V. Margaryan, K. T. Hayrapetyan, S. N. Noreyan, V. A. Khachatryan, A. A. Kiziridi

Journal of Contemporary Physics (Armenian Academy of Sciences) 2017 264-270

---

*Article*

**AREAL low energy electron beam applications in life and materials sciences.**

V.M. Tsakanov, R.M. Aroutiounian, G.A. Amatuni, L.R. Aloyan, L.G. Aslanyan, V.Sh. Avagyan, N.S. Babayan, V.V. Buniatyan, Y.B. Dalyan, H.D. Davtyan, M.V. Derdzian, B.A. Grigoryan, N.E. Grigoryan, L.S. Hakobyan, S.G. Haroutyunian, V.V. Harutiunyan, K.L. Hovhannesian, V.G. Khachatryan, N.W. Martirosyan,

G.S. Melikyan, A.G.Petrosyan, V.H.Petrosyan, A.A.Sahakyan, V.V.Sahakyan, A.A.Sargsyan, A.S.Simonyan, S.Sh.Tatikyan, G.V.Tsakanova, E.Tsovyan, A.S.Vardanyan, V.V.Vardanyan, A.S.Yeremyan, H.N.Yeritsyan, G.S.Zanyan

Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment  
2016 248-253

<http://www.journals.elsevier.com/nuclear-instruments-and-methods-in-physics-res...>

---

*Article*

**New Porphyrins/Calf Thymus DNA Complexes. Their Thermostability**

Lusine ALOYAN, Yeva DALYAN, Aleksey GOGOLEV

Advanced Materials Research 2015 554-558

---

*Article*

**X-ray diffraction method for determination of interplanar spacing and temperature distribution in crystals under an external temperature gradient**

V. R. Kocharyan, A. S. Gogolev, A. E. Movsisyan, A. H. Beybutyan, S. G. Khlopuzyan, L. R. Aloyan

Journal of Applied Crystallography 2015 853-856

---

*Article*

**The stability of DNA-porphyrin complexes in the presence of Mn(II) ions.**

G. Ananyan, A. Avetisyan, L. Aloyan, Y. Dalyan

Biophysical Chemistry 2011 96-101

<http://www.elsevier.com/locate/biophyschem>

---

*Conference*

**Development of anticancer drug transporter on base of gold nanoparticles**

L.R.Aloyan, Y.B.Dalyan

---

*Conference*

**INFLUENCE OF PORPHYRINS ON DNA DAMAGE INDUCED BY HIGHER ENERGY ELECTRONS**

L.R. Aloyan

---

*Conference*

**The DNA Damage Induced by Higher Energy Electrons in Presence of Porphyrins**

L. R. Aloyan, L.G. Aslanyan, Y. B. Dalyan

---

*Conference*

**High energy electron beam radiation influence on DNA in the presence of porphyrins**

L.R. Aloyan, L.G. Aslanyan, Y.B. Dalyan

---

*Conference*

**The influence of CuTOEPyP4 porphyrin on DNA damage induced by high energy electron beam radiation.**

L. R. Aloyan, Y. B. Dalyan, S.G Haroutiunian

---

*Conference*

**The influence of FeTOEPyP4 porphyrins on DNA damage induced by high energy electron beam radiation.**

L.R. Aloyan, Y.B. Dalyan, S.G. Haroutiunian

---

*Conference*

**INFLUENCE OF CATION PORPHYRINES ON DNA DAMAGE DURING ELECTRON BEAM IRRADIATION**

L.R. Aloyan, Y.B. Dalyan, S.G. Haroutiunian

---

*Conference*

**The DNA Damage Induced by X-Ray Irradiation in the Presence of Porphyrins**

L.R. Aloyan, H.G. Margaryan

---

*Conference*

**Bessel Beam Assisted Photovoltaic Trapping of Micro/nanoobjects on a Lithium Niobate Crystal**

L. Aloyan, Y. Dalyan, L. Tsarukyan, A. Badalyan, R. Drampyan

---

*Conference*

**Optical Techniques for the Study of DNA-porphyrin Interactions**

L. Aloyan, Y. Dalyan

---

*Conference*

**Влияние мультипликативного шума на выходной сигнал ДНК-биосенсора**

Алоян Л., Аракелян В.Б., Парсаданян М.А., Вардеванян П.О.

---

*Conference*

**Influence of Cation Porphyrins on DNA Damage during Irradiation by X-rays**

L.R. Aloyan, A.A. Avetisyan, V.B. Arakelyan, H.G. Margaryan

---

*Conference*

**Ionizing radiation effects on biological molecules**

L.R. Aloyan

---

*Conference*

**The Influence of Porphyrins on DNA Damage Induced by Electron Beam**

L. Aloyan, V. Arakelyan, A. Avetisyan, H. Margaryan

---