

## Ֆիզիկայի գիտահետազոտական ինստիտուտ

Պինդ մարմնի ֆիզիկայի լաբորատորիա

Ավագ գիտաշխատող

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### **l-Carrageenan Manganese Oxide Bionanocomposites as a Promising Solution to Agricultural Challenges**

Spartak S Khutsishvili, Nino Gagelidze, Astghik S Tsokolakyan, Mkrtych A Yeranosyan, Eteri Tkesheliadze,

Vardan A Sargsyan, Darejan Dughashvili, Natela Dzebisashvili, Keso Aronia, Archil Benashvili,

Dali Dzanashvili, Irine Gurgenidze, Grigor Tatishvili, Paula Fraga-García

MATERIALS 2025 495

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### **Urea Detection in Phosphate Buffer and Artificial Urine: A Simplified Kinetic Model of a pH-Sensitive EISCAP Urea Biosensor**

Karen Simonyan, Astghik Tsokolakyan, Vahe Buniatyan, Artem Badasyan, Mkrtych Yeranosyan

Sensors 2025 6596

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### **PEGylated Albumin-Based Drug Carriers for the Treatment of Experimental Stroke**

Nazeli Zaqaryan, Rita Khallouf, Arpi Manukyan, Vahe Atoyanyan, Astghik Tsokolakyan,

Mkrtych A Yeranosyan, Samvel G Chailyan, Kristine E Danielyan

Open Biotechnology Journal 2025 e18740707379038

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### **Effect of Pyrolysis Temperature on the Performance of Malt Biochar in Cement Mortars**

Roza Shainova, Nelli Muradyan, Avetik Arzumanyan, Marine Kalantaryan, Rafayel Sukiasyan,

Mkrtych Yeranosyan, Yeghvard Melikyan, Avetis Simonyan, David Laroze, Elisabetta Zendri,

Manuk Barseghyan

Mathematics MDPI 2025 5105

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### **Proline-rich peptide-linked albumin particles in an experimental oxidative brain damage model**

Kristine Edgar Danielyan, Nazeli Zaqaryan, Rita Khallouf, Maria Kojoyan, Kristine Tspnetsyanyan,

Arpi Manukyan, Astghik Tsokolakyan, Mkrtych Alexan Yeranosyan, Samvel G. Chailyan

Bioactive Compounds in Health and Disease 2025 527-544

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### **Urea Biosensor Based on a Field-Effect Capacitor Modified With a Stacked Weak Polyelectrolyte/Enzyme Bilayer**

Astghik S. Tsokolakyan, Vardan A. Hayrapetyan, Derenik K. Petrosyan, Melanie Welden, Heiko Iken,

Michael J. Schöning, Mkrtych A. Yeranosyan, Arshak Poghosyan

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**Formation of zinc oxide composites of doxycycline with high antibacterial activity based on DC-magnetron deposition of ZnO nanoscale particles on the drug surface**

Ashkhen L. Zatikyan, Armen I. Martiryan, Emma R. Arakelova, Ashot M. Khachatryan, Anait A. Mirzoian, Susanna L. Grigoryan, Rafayel E. Muradyan, Hrachik R. Stepanyan, Stepan G. Grigoryan,

Mkrtich A. Yeranosyan

Applied Physics A: Materials Science and Processing 2024 152

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**E-beam induced micropattern generation and amorphization of L-cysteine-functionalized graphene oxide nano-composites**

Y. Melikyan, H. Gharagulyan, A. Vasil'ev, V. Hayrapetyan, M. Zhezhu, A. Simonyan, D.A. Ghazaryan, M.S. Torosyan, A. kharatyan, J. Michalicka, M. Yeranosyan

Colloids and Interface Science Communications 2024 100766-7

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**Effect of Silica Fume Concentration and Water-Cement Ratio on the Compressive Strength of Cement-Based Mortars**

Maria M. Badalyan, Nelli G. Muradyan, Roza S. Shainova, Avetik A. Arzumanyan, Marine A. Kalantaryan, Rafayel R. Sukiasyan, Mkrtich Yeranosyan, David Laroze, Yeghiazar V. Vardanyan, Manuk G. Barseghyan  
Buildings 2024 757

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**Improving the electro-optical properties of MoS<sub>2</sub>/rGO hybrid nanocomposites using liquid crystals**

A. Vasil'ev, Y. Melikyan, M. Zhezhu, V. Hayrapetyan, M.S. Torosyan, D.A. Ghazaryan, M. Yeranosyan, H. Gharagulyan

Materials Research Bulletin 2024 113036

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**Broadband THz metasurface bandpass filter/antireflection coating based on metalized Si cylindrical rings**

Karen Simonyan, Hermine Gharagulyan, Henrik Parsamyan, Ashot Khachatryan, Mkrtich Yeranosyan

Semiconductor Science and Technology 2024 095012

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**Essential L-Amino Acid-Functionalized Graphene Oxide for Liquid Crystalline Phase Formation**

H. Gharagulyan, Y. Melikyan, V. Hayrapetyan, Kh. Kirakosyan, D.A. Ghazaryan, M. Yeranosyan

Materials Science and Engineering: B 2023 116564

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**Նանոտեխնոլոգիաներն արմատապես փոխում են երկրների ռազմավարական առաջնահերթությունները**

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**The Use of Biosilica to Increase the Compressive Strength of Cement Mortar: The Effect of the Mixing Method**

Nelli G. Muradyan, Avetik A. Arzumanyan, Marine A. Kalantaryan, Yeghiazar V. Vardanyan, Mkrtych Yeranosyan, Malgorzata Ulewicz, David Laroze, Manuk G. Barseghyan  
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**Antibacterial activity of royal jelly-mediated green synthesized silver nanoparticles**

Susanna Gevorgyan, Robin Schubert, Mkrtych Yeranosyan, Lilit Gabrielyan, Armen Trchounian, Kristina Lorenzen, Karen Trchounian  
AMB Express 2021 51

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**Zinc Oxide Composites of Doxorubicin in the Form of Coating, Composite Films and Gels with a High Antitumor Activity and Low Toxicity**

Emma R. Arakelova, Stepan G. Grigoryan, Ashot M. Khachatryan, Anahit A. Mirzoian, Zoya M. Farmazyan, Susanna L. Grigoryan, Mkrtych A. Yeranosyan, Flora G. Arsenyan, Rafayel E. Muradyan, Hrachik V. Gasparyan  
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**Energy loss rate of hot electrons due to polar-optical phonon modes in a semiconductor nanowire under transverse electric field**

A. Stepanyan, A. Asatryan, M. Yeranosyan, K. Vardanyan, A. Kirakosyan, A. Vartanian  
Physica B: Condensed Matter 2018 340-346

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**Energy-loss rate of hot electrons due to confined acoustic phonon modes in a semiconductor quantum wire under transverse electric field.**

A. Stepanyan, M. Yeranosyan, L. Vardanyan, A. Asatryan, A. Kirakosyan, A. Vartanian  
Physica B: Condensed Matter 2017 102-107  
<http://www.journals.elsevier.com/physica-b-condensed-matter>

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**Influence of spin-orbit interactions on the polaron properties in wurtzite semiconductor quantum well**

Mkrtych A. Yeranosyan, Arshak L. Vartanian, Karen A. Vardanyan  
Physica E: Low-dimensional Systems and Nanostructures 2016 330-335  
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**Phonon confinement effect on the polaron states in a double quantum ring structure in the presence of electric and magnetic fields**

Mkrtych A. Yeranosyan, Arshak L. Vartanian, Abbas Shahbandari, Albert A. Kirakosyan  
Physica B: Condensed Matter 2015 365-370  
<http://www.journals.elsevier.com/physica-b-condensed-matter>

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**Spin-orbit interaction enhanced polaron effect in wurtzite semiconductor quantum well.**

M.A. Yeranosyan, K.A. Vardanyan, A.L. Vartanian, A.A. Kirakosyan

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**Effect of Rashba and Dresselhaus spin-orbit interactions on the polaron properties in wurtzite semiconductor quantum dot in the presence of external fields.**

M.A. Yeranosyan, K.A. Vardanyan, A.L. Vartanian, A.A. Kirakosyan

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**The influence of the transverse electric field on the hot electron energy loss rate via polar-optical phonons in nanowires**

A.Asatryan, A.Stepanyan, M.Yeranosyan, A.Kirakosyan, A.Vartanian

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*Գիտաժողովի նյութ*

**Investigation of Antibacterial Properties of Green Synthesized Silver Nanoparticles**

S. Gevorgyan, M. Yeranosyan, R. Schubert, A. Trchounian

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**Filtering of terahertz radiation by a metasurface structure**

Simonyan Karen, Parsamyan Henrik, Gharagalyan Hermine, Khachatryan Ashot, Yeranosyan Mkrich

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**Stability Controlling of L-arginine- and L-nitroarginine-Functionalized Graphene Oxide**

Yeghvard MELIKYAN, Alexey VASIL'EV, Marina ZHEZHU, Elen MNATSAKANYAN, Deren PETROSYAN,

Mkrich YERANOSYAN, Ruben APREYAN, Hermine GHARAGULYAN

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**Royal Jelly in the Development of Nano-strategies against Pathogenic Bacteria**

S. Gevorgyan, M. Yeranosyan, R. Schubert, A. Trchounian

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