



## Shushanik Asmaryan

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**ORCID**: <https://orcid.org/0000-0002-6538-9171>

**Date of birth**: 03/03/1978 **Nationality**: Armenian

### WORK EXPERIENCE

[ 24/05/2020 – Current ]

#### Deputy Director for Science

**CENS NAS RA**

**City**: Yerevan

**Country**: Armenia

[ 30/09/2010 – Current ]

#### Lecturer of Master Program "Nature protection and use"

**International Scientific educational Centre (ISEC) at the National Academy of Sciences RA** [www.isec.am](http://www.isec.am)

**Address**: 24d M. Baghramyan ave., 0019, Yerevan, Armenia

**Business or sector**: Education

- Landscape planning
- Spatial Data Infrastructures and management

[ 31/12/2008 – Current ]

#### Head of the Department of GIS and Remote Sensing of CENS NAS RA

**CENS NAS RA**

**City**: Yerevan

**Country**: Armenia

Research and department manager in the field of

1. Remote sensing (RS) of water, soil, plants
2. Landscape (urban and rural) planning
3. GIS and data management (spatial data infrastructures)
4. RS application in agriculture

[ 31/01/1998 – 31/12/2008 ]

#### Junior researcher

**CENS NAS RA** [www.cens.am](http://www.cens.am)

**Address**: 68 Abovyan str., 0025, Yerevan, Armenia

**Business or sector**: Professional, scientific and technical activities

### EDUCATION AND TRAINING

[ 31/08/2000 – 30/05/2003 ]

#### PhD in Geography

**International Scientific Educational Centre at the National Academy of Sciences RA National Acad**

**City**: Yerevan

**Country**: Armenia

[ 30/09/1994 – 30/05/1999 ]

#### Diploma in Geography (equivalent to master's degree)

**Department of Geography, Yerevan State University**

**City**: Yerevan

**Country**: Armenia

[ 01/09/2000 – 01/12/2000 ]

## Internship

*Institute of Geography on Russian Academy of Sciences*

**Address:** 29, Staromonetni , 119017, Moscow, Russia

## LANGUAGE SKILLS

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**Mother tongue(s):** Armenian

**Other language(s):**

### Russian

LISTENING C2 READING C2 WRITING C1

SPOKEN PRODUCTION C1 SPOKEN INTERACTION C1

### English

LISTENING C1 READING C1 WRITING C1

SPOKEN PRODUCTION C1 SPOKEN INTERACTION C1

### French

LISTENING A2 READING A2 WRITING A2

SPOKEN PRODUCTION A2 SPOKEN INTERACTION A2

*Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user*

## PUBLICATIONS

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[ 2019 ]

[Relationships between NDVI and climatic factors in mountain ecosystems: A case study of Armenia.](#)

**Reference:** Remote Sensing Applications: Society and Environment, Volume 14, Pages 158-169

[ 2022 ]

[Shoreline delineation service: using an earth observation data cube and sentinel 2 images for coastal monitoring](#)

**Reference:** Earth Science Informatics volume 15, pages1587–1596

[ 2018 ]

[Continuous impact of mining activities on soil heavy metals levels and human health](#)

**Reference:** Science of The Total Environment Volume 639, Pages 900-909

[ 2020 ]

[Estimating Mo, Cu, Ni, Cd Contents in the Crop Leaves Growing on Small Land Plots Using Satellite Data](#)

**Reference:** Communications in Soil Science and Plant Analysis, Volume 51, Issue 11, Pages 1457-1468

[ 2023 ]

[Exploring relationship of soil PTE geochemical and “VIS-NIR spectroscopy” patterns near Cu–Mo mine \(Armenia\)](#)

**Reference:** Environmental Pollution Volume 323, 121180

[ 2021 ]

[Air temperature forecasting using artificial neural network for Ararat valley](#)

**Reference:** Earth Science Informatics, volume 14, pages 711–722

[ 2022 ]

[Multidecadal Trend Analysis of Armenian Mountainous Grassland and Its Relationship to Climate Change Using Multi-Sensor NDVI Time-Series](#)

**Reference:** Geosciences 2022, 12(11), 412

[ 2020 ]

[UAV-Derived Data Application for Environmental Monitoring of the Coastal Area of Lake Sevan, Armenia with a Changing Water Level](#)

**Reference:** Remote Sensing. 2020, 12(22), 3821

- [ 2021 ]  
[Studying spatial-temporal changes and relationship of Land Cover and Surface Urban Heat Island derived through RS in Yerevan, Armenia.](#)  
Reference: Building and Environment Volume 187, 107390
- [ 2019 ]  
[Relationships between NDVI and climatic factors in mountain ecosystems: A case study of Armenia](#)  
Reference: Remote Sensing Applications: Society and Environment Volume 14, Pages 158-169
- [ 2019 ] [Paving the way towards an Armenian Data Cube](#)  
Reference: Data 2019, 4(3), 117
- [ 2019 ] [Lake Sevan shoreline change assessment using multi-temporal Landsat images](#)  
Reference: Geography, Environment and Society, Vol 12, No 4
- [ 2020 ]  
[Carcinogenic and non-carcinogenic risk assessment of trace elements and POPs in honey from Shirak and Syunik regions of Armenia](#)  
Reference: Chemosphere Volume 239,124809
- [ 2017 ]  
[Mapping Man-induced Soil Degradation in Armenia's High Mountain Pastures through Remote Sensing Methods: a case study](#)  
Reference: Remote Sensing Applications: Society and Environment Volume 8, Pages 105-113
- [ 2017 ]  
[A Landsat 8 OLI satellite data-based assessment of spatio-temporal variations of Lake Sevan phytoplankton biomass](#)  
Reference: Annals of Valahia University of Targoviste. Geographical Series
- [ 2016 ] [SWAT hydrological model as a DaaS cloud service](#)  
Reference: Earth Science Informatics volume 9, pages 401–407
- [ 2015 ] [An interoperable web portal for parallel geoprocessing of satellite image vegetation indices](#)  
Reference: Earth Science Informatics volume 8, pages 453–460
- [ 2015 ] [An interoperable cloud-based scientific GATEWAY for NDVI time series analysis](#)  
Reference: Computer Standards & Interfaces Volume 41, Pages 79-84
- [ 2015 ]  
[Applying landscape-ecological concept and GIS modelling for assessing and mapping of ecological situation of mountainous landscapes \(on the case of Syunik marz, Armenia\)](#)  
Reference: Geocarto International, Volume 30, Issue 10, Pages 1077-1091
- [ 2014 ]  
[Development of remote sensing methods for assessing and mapping soil pollution with heavy metals](#)  
Reference: Global Soil Map CRC
- [ 2013 ] [Mapping tree stress associated with urban pollution using the WorldView-2 Red Edge band](#)  
Reference: Remote Sensing Letters, Volume 4, Issue 2, Pages 200-209
- [ 2023 ]  
[Geochemical characterization and health risk assessment of surface and green barrier deposited PM particles in the proximity of a kindergarten](#)  
Reference: Environmental Pollution Volume 236, 110234

[ 2023 ]

**Machine Learning-Based Modeling of Air Temperature in the Complex Environment of Yerevan City, Armenia**

**Reference:** Remote Sensing 15 (11), 2795

**DIGITAL SKILLS**

Microsoft Office | Social Media | Microsoft Word | Microsoft Excel | Facebook | Outlook | Skype | REMOTE SENSING | GIS (Q-GIS , Arc-GIS) | Good listener and communicator | Team-work oriented | Zoom | Google Drive

**PROJECTS**

[ 01/10/2021 – Current ]

**Assessing spatio-temporal changes of the water quality of mountainous lakes using remote sensing data processing technologies.**

Project Code: 21T-1E252

Role in the project: **Project coordinator/principal investigator**

Funded by the **Committee of Science of Ministry of ESCS RA**

**(Granted 22 500 000 AMD)**

**The project has a strong cooperation with the German-Armenian joint research SEVAMOD2 project.**

[ 01/10/2020 – Current ]

**Capacity building of using machine learning for processing geospatial data in geocological investigations\_ML4GEO**

Project Code: 20TTCG-1E009

Role in the project: **Project coordinator/principal investigator**

Funded by the **Committee of Science of Ministry of ESCS RA**

**(Granted 57 000 000 AMD)**

**The project has a strong cooperation with the University of Pavia (Italy).**

[ 01/04/2020 – 01/04/2023 ] **SEVAMOD2 - Building up science-based management instruments for Lake Sevan, Armenia**

German-Armenian joint research project

Role in the project: Head of Remote Sensing group

Funded by the **Federal Ministry for Education and Research of Germany (Project ID 01DK20038; 91.5% of planned costs), Ministry of Environment of the Republic of Armenia (8.5% of planned costs)**

**(Granted 11.200,00 EUR)**

Link: <https://www.ufz.de/index.php?en=44302>

[ 01/03/2020 – 01/03/2023 ] **PREPARATION OF THE ATLAS OF ZONOTIC INFECTIONS IN SOUTH CAUCASUS**

Role in the project: GIS analyst

Funded by the **US Government's Defense Threat Reduction Agency (DTRA) Project No. HDTRA11910044**

[ 01/07/2017 – 01/07/2022 ]

**Co-production with nature for urban transition, innovation and governance, Connecting Nature**

Funded by the *Horizon 2020 Framework Programme of the European Union*: Grant Agreement No 730222

Role in the project: **Project sub-manager from Armenia**

**(Granted 11 106 375 EUR)**

Link: [www.connectingnature.eu](http://www.connectingnature.eu)

[ 01/10/2018 – 01/10/2020 ] **ADC4SD: Armenian Data Cube for Sustainable Development**

Swiss-Armenian joint research project

Role in the project: ***Project sub-manager from Armenia***

Funded by the **University of Geneva: Swiss Leading House on Science and Technology 2017-2020 grant programm**

***(Granted 10000 CHF)***

[ 01/10/2018 – 01/10/2020 ] **Developing a remote sensing method of studying heat islands in Yerevan area**

Role in the project: ***Project manager/ principal investigator***

Funded by The State Committee of Sciences of the Ministry of Education and Science of Armenia

***(Granted 26 000 EUR)***

[ 01/10/2018 – 01/10/2020 ]

**Developing remote sensing method for assessing ecological state of mountainous lakes using the data of very high resolution**

Russian-Armenian joint research project

Funded by The State Committee of Sciences of MES of Armenia and Russian Foundation of Basic Investigations"

Role in the project: ***Project manager/principal Investigator***

***(Granted 16 000 EUR)***

[ 01/02/2016 – 01/02/2017 ] **Developing a water quality remote sensing monitoring system for Lake Sevan**

Role in the project: ***Project coordinator/principal investigator***

Funded by the Foundation for restoration of Sevan trout stocks and development for aquaculture.

***(Granted 23 000 EUR)***

[ 01/01/2016 – 01/10/2016 ]

**Towards sustainable urban and land-use planning for South Caucasian cities: adopting a 'front-runner' and 'follower' cities approach for nature-based solutions**

Role in the project: ***Project submanager of Armenian team***

Funded by **IncoNet EaP Twinning grant program: Clustering of Scientific Projects and Institutions**

***(Granted 10000 EUR)***

[ 01/12/2011 – 01/12/2014 ]

**EU Cooperation Capacity Building of Center for Ecological-Noosphere Studies of National Academy of Sciences of Armenia: Towards Armenia's integration into the ERA (EcoArm2ERA)**

Role in the project: ***Project Coordinator***

Funded by **EU 7th framework program**

***(Granted 500000 EUR)***

Link: [www.ecoarm2era.eu](http://www.ecoarm2era.eu)

[ 01/10/2011 – 01/10/2014 ] **Assessing and mapping of the ecological state of grasslands of Armenia**

Role in the project: **Head of GIS Group**

Funded by the **World Bank**

[ 01/10/2011 – 01/10/2013 ]

**Deploying ARmenian distributed Processing capacities for Environmental GEOspatial data (ARPEGEO)**

Role in the project: **Project national team-leader**

Funded by **Swiss National Science Foundation (SNSF)**  
**(Granted 210000 CHF)**

[ 01/09/2011 – 01/09/2013 ]

**Development of remote sensing methods for assessment of heavy metal soil pollution (case study: Kajaran).**

Role in the project: **Project coordinator**

Funded by the **State Committee of Sciences of MES RA**  
**(Granted 26 000 EUR)**

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## HONOURS AND AWARDS

### Honours and awards

Youth Scientific Award of the President of Republic of Armenia, Earth Sciences Award  
Named A. Nazarov, III class award

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## ORGANISATIONAL SKILLS

### Organisational skills

Exceptional leadership skills developed through work experience in international research group and proven in international research project management (EU FP7 EcoArm2ERA; H2020 Connecting nature; Swiss-Armenian ARPEGEO projects etc.).

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## COMMUNICATION AND INTERPERSONAL SKILLS

### Communication and interpersonal skills

- Able to communicate effectively with a wide range of people, by showing interest and carefully listening to their needs.
- Strong presentation and demonstrating skills; Confident, articulate and professional speaking abilities.
- Flexible team player who prospers in a fast-paced work environment based on past experience

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## JOB-RELATED SKILLS

### Job-related skills

- Design and development of research projects
- Creation and maintenance of geodatabases,
- GIS modelling,
- Land-use planning,
- Satellite image classification and interpretation (forest mapping, land cover mapping, soil erosion
- mapping, environmental risk assessment, environmental pollution assessment),
- Field measurement with GPS.