

## Education

- Oct 2017 – Present **Doctor of Science in Seismology**, *Institut de Physique du Globe de Strasbourg*,  
Thesis title: Monitoring of deep reservoirs with ambient seismic noise,  
Supervisors: Jerome Vergne, PhD. IPGS, Jean Schmittbuhl.  
Keywords: Ambient Seismic Noise Interferometry, Python, Mass Processing, Data Science
- Oct 2015 – Jul 2017 **Master of Science in Geophysics**, *University of Silesia in Katowice*,  
Thesis title: Seismic noise analysis for purpose of Active Layer of Permafrost investigations in a region of Polish Polar Station in Hornsund, Svalbard,  
Supervisor: Dorota Olszewska, PhD. Institute of Geophysics, PAS.  
Keywords: HVSR, Local effects, Python, ObsPy, Matlab, Git.
- Oct 2012 – Jun 2015 **Bachelor of Science in Geophysics**, *University of Silesia in Katowice*,  
Thesis title: Seismic network optimization in the LGCD area with use of simulated annealing algorithm,  
Supervisor: Maciej Mendecki, PhD. University of Silesia.  
Keywords: Matlab, Monte Carlo Sampling, D-optimum solution.

## Experience

- April 2017 – Sep 2017 **Junior Java Programmer**, *ACC Cyfronet AGH*.  
Responsibilities Programming in Java with use of Spring, MongoDB, GWT, Angular. Programming in Python with use of ObsPy, Numpy, Scipy.
- May 2016 – Nov 2016 **Intern**, *Institute of Geophysics, Polish Academy of Sciences*.  
Internship coordinator Dorota Olszewska, PhD.  
Responsibilities Creating Python scripts to process seismic signal to apply HVSR method; Creating and maintaining SQLite database of PGA parameters for LGCD region; Creating Python scripts for solving different problems and tasks in the Institute
- Jun 2015 – Jul 2015 **Intern**, *Institute of Geophysics, Polish Academy of Sciences*.  
Internship coordinator Dorota Olszewska, PhD.  
Responsibilities Seismic signal processing in Matlab; HVSR method implementation in Matlab
- Jan 2015 – Oct 2017 **Member of a scientific project**, *University of Silesia in Katowice*.  
Member of a project *Permafrost interaction as an environmental continuum between glacial and periglacial domain in Tarfala (Scandinavia) and Hornsund area, Spitsbergen* under leadership of dr hab. Wojciech Dobiński, University of Silesia, Department of Earth Science.  
Participant of the Scientific Expedition to the Spitsbergen in Aug - Sep 2015  
Responsibilities Preparing and conducting Electrical Resistivity Tomography surveys; Data processing and interpretation

## Programming

Python	3 years of experience	<i>Obspy, Scipy, Numpy, Matplotlib, Pandas, SQLAlchemy</i>
Java	1 year of experience	<i>Spring, Springboot, GWT</i>
SQL	1 year of experience	
Utilities	Docker, Docker Compose, Apache Airflow, Git, Latex, Bash	
Databases	SQLite, PostgreSQL, MongoDB	
Minor experience	R, Matlab	

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## Voluntary Services

- Oct 2015 – Aug 2016 **Organizing Committee Member.**  
7<sup>th</sup> International Geosciences Student Conference in Katowice, 11<sup>th</sup> -14<sup>th</sup> July 2016  
Responsibilities Organization of worldwide scientific conference for 150 students and young professionals as a core member of organizing committee
- Jan 2016 **Volunteer, Biebrza National Park, Poland..**  
Responsibilities Data preparation, processing and preparing for publishing in form of maps using ArcGis software.
- Oct 2014 – May 2015 **Organizing Committee Leader.**  
VIII Student Scientific Workshops Geosfera 2015 in Żory, 23-26<sup>th</sup> April 2015  
Responsibilities Organization of scientific conference for 130 students as leader of organizing committee

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## Languages

Polish	Native	
English	B2/C1	<i>Certificates: English in Geophysics – Level C1</i>
French	Elementary	
Russian	Elementary	

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## Computer Skills

- o ArcGis
- o Res2Dinv
- o Adobe Illustrator
- o Surfer
- o MS Office

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## Grants and Awards

- 2016 — Best Student Poster Award of Session 18 during 35<sup>th</sup> General Meeting of European Seismological Commission, Trieste 2016  
— Travel grant to participate in Advanced School on Seismology Beyond Textbooks & 35<sup>th</sup> General Meeting of European Seismological Commission, Trieste, 2016
- 2015 — Travel Grant to participate in Society of Exploration Geophysicists & Chevron Student Leadership Symposium, New Orleans, 2015.
- 2012 — Winner of the XVI Contest of Technical Knowledge 2012, organized by University of Silesia in Katowice( XVI Konkurs Wiedzy Technicznej).

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## Student Scientific Associations

- Oct 2012 – Jul 2017 Student Science Association of Geophysicists PREM *Positions: Vicepresident, Member*
- Jan 2014 – Jul 2017 University of Silesia Student Chapter of the EAGE *Positions: President*
- Jan 2015 – Jul 2017 University of Silesia Student Chapter of the SEG *Positions: President, Vicepresident*

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## Personal interests

- o Hiking, running, swimming, mountaineering, polar regions
- o Technology, IT, programming
- o Seismology, geophysics, statistics, data science

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## Published materials

### Publications

- 2018 — Kula, D., Olszewska, D., Dobiński, W., Glazer, M.; Horizontal-to-vertical spectral ratio variability in the presence of permafrost, *Geophysical Journal International*, Volume 214, Issue 1, 1 July 2018, Pages 219–231, DOI 10.1093/gji/ggy118
- 2014 — Glazer, M., Kula, D., Saternus, R., Lewicki, P.; Geophysical Exploration of Castle Remains in Barwałd Górny (Near Kalwaria Zebrzydowska, Poland) Using Electrical Resistivity Tomography (ERT) with Assistance of Depth of Investigation Index (DOI) Method; *Contemporary Trends in Geoscience*, 3(1), 24–31., DOI 10.2478/ctg-2014-0019

### Presentations

- 2016 — Kula D. Comparison of methodology of calculating HVSR for seismic noise and seismic event (in Polish); Presentation during IX Nationwide Geophysical Workshops Geosphere 2016
- 2015 — Kula D. Seismic network D-optimization with use of simulated annealing algorithm; Presentation during 8<sup>th</sup> Geosymposium of Young Researchers "Silesia 2015"
- Kula D. Optimisation of seismic network using simulated annealing algorithm (in Polish); Presentation during VIII Nationwide Geophysical Workshops Geosphere 2015
- 2014 — Kula D., Saternus R., Lewicki P., Geophysical explorations of castle remains in Barwałd Górny using ERT method with assistance of 2,5D and DOI Index (in Polish); Presentation during VII Nationwide Geophysical Workshops Geosphere 2014

### Posters

- 2018 — Kula D., Lehujeur M., Vergne J., Schmittbuhl J., Zigone D.; Steps toward monitoring a deep geothermal reservoir in northern Alsace with ambient seismic noise interferometry; 80<sup>th</sup> EAGE Conference & Exhibition 2018; Copenhagen 2018;
- Kula D., Vergne J., Schmittbuhl J., Zigone D.; Monitoring a deep geothermal reservoir in northern Alsace with ambient seismic noise interferometry; 9<sup>th</sup> European Geothermal PhD Days; Zurich 2018;
- Kula D., Vergne J., Schmittbuhl J., Zigone D.; Towards monitoring deep geothermal reservoirs in Alsace with ambient seismic noise; 6<sup>th</sup> European Geothermal Workshop; Strasbourg 2018;
- 2017 — Kula D., Olszewska D.; Seasonal variability of Horizontal to Vertical Spectral Ratio in polar regions; European Geosciences Union General Assembly 2017; Vienna 2017;
- 2016 — Kula D., Olszewska D., Dobiński W., Glazer M.; Comparative analysis of ERT and seismic noise changes in time for purpose of active layer investigations; 35<sup>th</sup> General Assembly of European Seismological Commission, Trieste 2016; **Awarded with Best Student Poster Award**
- Olszewska D., Kula D.; Preliminary site-effects characterization by inversion of HVSR data in mining area; 35<sup>th</sup> General Assembly of European Seismological Commission, Trieste 2016
- Kula D., Olszewska D., Dobiński W., Glazer M.; Using HVSR Method for Estimating Thickness of Active Layer of Permafrost; 7<sup>th</sup> International Geosciences Student Conference, Katowice 2016
- Kula D., Olszewska D., Dobiński W., Glazer M.; Comparative analysis of ERT and seismic noise changes in time for purpose of active layer investigations; 36<sup>th</sup> Polar Symposium, Lublin 2016
- 2015 — Kula D., Glazer M., Bieta B.; ERT Surveys over anthropogenic void of known dimensions, 6<sup>th</sup> International Geosciences Student Conference, Prague 2015

- Bieta B., Kula D.; Results of electrical resistivity tomography surveys over anthropogenic void (in Polish), VIII Nationwide Geophysical Workshops Geosphere 2015, Żory 2015
- 2014 — Glazer M., Kula D., Saternus R.; Geophysical explorations of castle remains in Barwałd Górny, VII GeoSymposium of Young Researchers Silesia 2014, Ustroń 2014
- Kula D., Glazer M., Saternus R.; ERT surveys over ruins of Castle in Barwałd Górny (in Polish), I Ogólnopolski Zjazd Kół Geologicznych, Przesieka 2014.