

# CURRICULUM VITAE

## Personal data:

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## Education:

1991-1996: Faculty of Geology and Geophysics, Department of Geophysics, University of Bucharest: Engineer.

1996-1997: Master, Faculty of Geology and Geophysics, University of Bucharest.

2002-2007: Ph D Student, Department of Applied Earth Sciences, Delft University of Technology (The use of single sensors in seismic acquisition, processing and interpretation).

## Work experience:

*March 1996 – January 1998:* Research Assistant, Institute of Geodynamics “Sabba S. Stefanescu”, Romanian Academy, Bucharest.

*January 1998 - February 2001:* Geophysicist, CCPEG, PETROM RA.

*March 2001 – January 2008:* Teaching Assistant, Faculty of Geology and Geophysics, Department of Geophysics, University of Bucharest, Bucharest.

— *February 2008 – September 2014:* Assistant Professor, Faculty of Geology and Geophysics, Department of Geophysics, University of Bucharest, Bucharest.

*October 2014 – present –* Assoc. Professor, Faculty of Geology and Geophysics, Department of Geophysics, University of Bucharest, Bucharest.

## Foreign languages:

English, French (beginner)

## Computer skills:

Seismic Unix (seismic data processing), ProMAX (seismic data processing and modeling), Tesseral-Pro (seismic modeling), Geogiga (seismic data processing), Geometrics (active and passive seismic data acquisition and processing).

## Programming languages:

Fortran 90 (seismic modeling, frequency analysis), Matlab (2D/3D MVDR beamformer, trace interpolation in the f-k domain, standard processing of reflection data, seismic modeling, analysis of passive data – Seismic Interferometry by crosscorrelation and crosscoherence).

## International research projects / work visits:

1. NedSeis (phase I), Netherlands 2001, **Researcher** - involved in seismic data processing.
2. Danube And Carpathian Integrated Action on Processes in the Lithosphere And Neotectonics (DACIA PLAN) – Netherlands Research Centre for Integrated Solid Earth Science (ISES), Romania 2001, **Researcher** - responsible for seismic data processing and interpretation.

3. Netherlands Research Centre for Integrated Solid Earth Science (ISES) – CARFOR, Romania 2002, **Researcher** - responsible for seismic data acquisition, processing and interpretation.
4. DRACULA, Romania 2004, **Researcher** - involved in the deep seismic data processing of DRACULA II.
5. 2005-2006: two work visits at OPERA – TOTAL, Pau, France: Application of post-stack stereotomography on land seismic reflection data.
6. Special Project of Merit, SEG, 2008. Complex geophysical investigation of the waste dumps from Zlatna (Romania), **Scientific Coordinator**.
7. Geophysicists Without Borders – SEG, 2010-2011. Geophysical Investigations in the Benefit of the Local Communities in the Polluted Mining Area of Zlatna, Romania, **Director of project**.
8. Geophysical field camp in Jurilovca (EAGE/SEG), Romania, 2011, **Scientific Coordinator**.
9. SEG Field Camp, 2017: Extracting subsurface physical properties from natural Earth responses, **Director of Project**.
10. SEG Field Camp, 2018. Integrating geophysics, geology and geotechnics for a highway tunnel feasibility study, **Director of project**.
11. Norway Grant, 2020: Geothermal energy sources identification after joint interpretation of geo-data from the Baia Mare area (Romania), **Project manager**.

#### **National research projects (member):**

1. Geotectonic and dynamic models of the seismologic areas from Carpathians and their foreland, CEEEX, nr. 737, 2006-2008.
2. 3D determinations for the computation of dam displacements through satellite methods, CEEEX nr. 295, 2006-2008.
3. Seismotectonic models of the lithosphere in the seismogene Vrancea, Dobrogea and Moesic platform areas for the estimation of the dynamic behavior of the local geological structure in the presence of a major earthquake, CEEEX, nr. 725, 2006-2008.
4. Modeling of the deep structure of the Getic basement in the Southern Carpathians through the correlation of petrological, tectonic, geophysical data, CEEEX, X2C14, 2006-2008.
5. Subsidence of the lands affected by the underground mining exploitation. Case study: Petrosani Mining Basin, CEEEX, nr. 722, 2006-2008.
6. The response of the relief of the earth surface to the actual tectonic processes in the continental colision Vrancea zone, CEEEX, nr. 721, 2006-2008.
7. Modeling of induced local seismic effects by the crustal earthquakes in the Tulcea, Galati, Tecuci, Campulung and Banat areas and evaluation of the seismic risk of these areas, PNII, 2007-2009.
8. Modeling of seismic sources from the eastern part of Romania for the estimation of the seismic hazard, PNII, 2007-2008.
9. Multidisciplinary researches regarding the natural hazards. Case study: Tsunami phenomenon in the Black Sea, CEEEX, nr. 161, 2006-2008.
10. Geonomic characterization of major tectonic units from Romania. Velocity models of seismic waves, PNII, nr. 32-157, 2008-2010.
11. 3D distribution of elastic waves velocities from upper lithosphere of Transilvanian and Pannonian Basins from Romania, PNII, nr. 90, 2014-2017.

#### **List of virtual courses organized for University of Bucharest, Faculty of Geology and Geophysics**

1. Draganov, D., Panea, I., 2013. Seismic Interferometry with ambient noise: Exploration examples, Delft University of Technology and University of Bucharest.
2. Landa, E., Panea, I., 2013. Seismic Diffraction: where's the value? OPERA and University of Bucharest.
3. Draganov, D., Panea, I., 2014. Ambient-Noise Seismic Interferometry (ANSI) for exploration applications, Delft University of Technology and University of Bucharest.
4. Prisacari, St., Panea, I., 2014. 3D Seismic survey design and 3D Ray Tracing in Tesseral-Pro, Tesseral-Technologies and University of Bucharest.
5. Tatanova-Malhaire, M., Panea, I., 2015. Novel seismic technologies for reservoir monitoring, Shell International Exploration and Production and University of Bucharest.
6. Draganov, D., Panea, I., 2015. Ambient-Noise Seismic Interferometry (ANSI) for exploration applications, Delft University of Technology and University of Bucharest.
7. Draganov, D., Panea, I., 2017. Ambient-Noise Seismic Interferometry (ANSI) for exploration applications, Delft University of Technology and University of Bucharest, 1<sup>st</sup> Workshop of SEG Field Camp 2017.

**List of publications (books, chapters in books):**

1. Dr.Ir. G.G.Drijkoningen, *Drs. I. Panea*, 2002. Results of feasibility test for a deep seismic line in the Netherlands (NedSeis phase I), ISES- Netherlands Research Centre for Integrated Solid Earth Science.
2. *Panea, I.*, 2007. The use of single sensors in seismic acquisition, processing and interpretation, *PhD dissertation*, Delft University of Technology, Delft, The Netherlands, ISBN 978-973-9467-88-9.
3. Balan, St.F., Ioane, D., Cioflan, C., *Panea, I.*, Apostol, B., Malita, Z., Chitea, F., Anghelache, M., 2014. Scenarios for Local Seismic Effects of Tulcea (Romania) Crustal Earthquakes – Preliminary Approach of the Seismic Risk Characterization for Tulcea City, Chapter 5 in *Earthquake Hazard Impact and Urban Planning*, Springer.

**List of publications (ISI articles):**

1. *Panea, I.*, R. Stephenson, C. Knapp, V. Mocanu, G. G. Drijkoningen, L. Matenco, J. Knapp and K. Prodelh, 2005. Near-vertical seismic reflection image using a novel acquisition technique across the Vrancea Zone and Foscani Basin, south-eastern Carpathians (Romania), *Tectonophysics*, Vol. 410, Issues 1-4, 293-309, IF = 1.81.
2. Bocin, A., R. Stephenson, A. Tryggvason, *I. Panea*, V. Mocanu and L Matenco, 2005. 2.5D seismic velocity modeling in the south-eastern Romanian Carpathians Orogen and its foreland, *Tectonophysics*, Vol. 410, Issues 1-4, 273-291, IF = 1.81.
3. *Panea, I.*, and Drijkoningen, G.G., 2008. The spatial data-adaptive minimum-variance distortionless beamformer on seismic single-sensor data, *Geophysics*, Vol 73 (5), Q29 – Q42, IF = 1.349.
4. *Panea, I.*, D. Draganov, C.A. Vidal, V. Mocanu, 2014. Retrieval of reflections from ambient noise recorded in the Mizil area, Romania, *Geophysics*, 79(3), Q31-Q42, IF = 1.612.
5. *Panea, I.*, Prisacari, St., Mocanu, V., Micu, M., Paraschivoiu, M., 2017. The use of seismic modeling for the geological interpretation of deep seismic reflection data with low signal-to-noise ratios. *Interpretation*, 5(1), T23-T31, IF = 0.69.
6. *Panea, I.*, Bugheanu, D., 2017. Analysis of crooked-line 2D seismic reflection data recorded in areas with complex surface and subsurface conditions, *Exploration Geophysics*, 48(4), 493-503, <http://dx.doi.org/10.1071/EG15107>, IF = 0.95.

7. *Panea, I., Mocanu, V., 2017. Geophysical analysis of major geothermal anomalies in Romania, Pure and Applied Geophysics, 174(11), 4153 – 4169, IF = 1.591.*
8. *Panea, I., 2019. Physical properties and structure of the near subsurface in the Sacel area, Romania, from shallow seismic measurements, Journal of Environmental and Engineering Geophysics, 24(1), 133-140.*
9. *Panea, I., 2019. Shallow seismic reflection investigation of unstable sedimentary deposits in the Daneasa area, Romania, Journal of Environmental and Engineering Geophysics, 24(1), 151-156.*
10. *Panea, I., 2020. Imaging of hidden structures from the North Apuseni Mts, Romania, using narrow-angle seismic reflection data, Open Journal of Geology, 10, 53-70.*

**List of publications (BDI articles):**

1. Cloetingh, S., Horvath, F., Dinu, C., Stephenson, R.A., Bertotti, G., Bada, G., and Tecton Group, 2003. Probing tectonic topography in the aftermath of continental convergence in Central Europe, *Eos, Transactions American Geophysical Union*, 84(10), 89-93.
2. *Panea, I., E. Landa, G.G. Drijkoningen, R. Baina, 2005. Application of the poststack stereotomography to land-seismic reflection data, Balkan Geophysical Society Journal.*
3. *Panea, I., 2009. Array-forming in the presence of phase variations, The Leading Edge, February, 260 – 264.*
4. *Panea, I., Bocin, A., Mocanu, V., 2010. Analysis of the surface waves present on the passive seismic dataset recorded in the Mizil area (Romania), The Leading Edge, July, 796 – 799.*
5. *Panea, I., V. Mocanu, C. Iacob, 2012. Analysis of passive surface waves from ambient-noise recordings, The Leading Edge, 31(12), 1484 – 1488.*
6. *Panea, I., D. Draganov, V. Mocanu, M. Spita, 2013. Seismic Interferometry by cross-correlation with and without array-forming. Application on ambient-noise recordings from the Mizil area (Romania), Rev. Roum. GÉOPHYSIQUE, 56-57, 49-63, Bucuresti.*
7. *Panea, I., and Zgorcea, I., 2016. Effect of linear and non-linear geophone arrays on signal-to-noise ratio of seismic reflection data, Rev. Roum. GÉOPHYSIQUE, 60, 35-48, Bucuresti.*

**Extended abstracts (international conferences - selection):**

1. Stephenson, R.A., Mocanu, V.I., *Panea, I.*, Matenco, L., Diaconescu, C.C., and the DACIA-PLAN Team, 2002. Deep seismic reflection line across the southeastern Carpathian belt (Vrancea zone) and its foreland basin, Abstract - AGU Conference, Nice, France.
2. Drijkoningen, G.G., Stephenson, R.A., Roy-Chowdhury, K., *Panea, I.*, 2002. A seismic feasibility test for Avalonian lower-crust investigation in the Netherlands, Abstract - AGU Conference, Nice, France.
3. *Panea, I.*, G. Drijkoningen, R. Stephenson, V. Mocanu, L. Matenco, M. Tarapoanca, 2003. Results of seismic processing of a deep seismic reflection line across the Carpathian Bending Zone and Focsani Basin, Abstract – 4<sup>th</sup> Stephan Mueller Conference, Romania.
4. Bocin, A., N. Cazan, M. Haldan, *I. Panea*, R. Stephenson, L. Matenco and V. Mocanu, 2003. 2D Seismic velocity modeling in Vrancea Zone and Focsani Basin, Abstract – 4<sup>th</sup> Stephan Mueller Conference, Romania.

5. *Panea, I.*, G.G. Drijkoningen, G. Bertotti, L. Matenco. 2003. Effect of perturbations on array forming, Abstract – 73<sup>th</sup> SEG Meeting, Dallas, SUA.
6. *Panea, I.*, G. G. Drijkoningen, G. Bertotti, L. Matenco. 2004. Analyzing the effect of intra-array variations using single-sensor seismic data, Abstract - EAGE Conference, Paris, France.
7. *Panea, I.*, G. Drijkoningen, A. J. van der Veen, G. Bertotti, L. Matenco, 2005. Applications of adaptive beamformers on seismic data, Abstract, EAGE Conference, Madrid, Spain.
8. *Panea, I.*, G.G. Drijkoningen, 2006. Adaptive beamformers and time corrections, Expanded Abstract, EAGE Conf, Vienna.
9. *Panea, I.*, G.G. Drijkoningen, 2007. Local versus global filters, Expanded Abstract, EAGE Conf., London.
10. Lazar, D., *Panea, I.*, Mocanu, V., 2008. Application of seismic trace interpolation to deep seismic reflection data, Expanded Abstract, EAGE Conf., Rome.
11. Iacob, C., *Panea, I.*, Drijkoningen, G.G., Mocanu V., 2008. Single sensors versus hard-wired arrays in pre-stack stereotomography, Expanded Abstract, EAGE Conf., Rome.
12. Orza, R., *Panea, I.*, 2008. Single sensors versus hard-wired arrays in amplitude analysis, Expanded Abstract, SEG Mtg. Las Vegas.
13. Iacob, C., *Panea, I.*, 2008. Array forming and prestack stereotomography, Expanded Abstract, SEG Mtg., Las Vegas.
14. *Panea, I.*, 2009. Array forming with and without other filters applied, Expanded Abstract, EAGE Conf., Amsterdam.
15. Orza, R., *Panea, I.*, Iacob, C., 2010. Integrating seismic and resistivity surveys on mine wastes, Expanded Abstract, EAGE Conf. and Exhib., Barcelona, Spain.
16. Nastase, A., *Panea, I.*, 2010. Multiples attenuation using the Radon filter, Expanded Abstract, 1<sup>st</sup> International Geoscientists Student Conference, Bucharest, Romania.
17. Calin, A., *Panea, I.*, 2010. Analysis of the coherent noise from passive seismic data, Expanded Abstract, 1<sup>st</sup> International Geoscientists Student Conference, Bucharest, Romania.
18. Draganov, D., and *Panea, I.*, 2011. Seismic Interferometry with ambient noise from Mizil area, Romania. Expanded Abstract, EAGE Conf. and Exhibition, Austria.
19. *Panea, I.*, Negut, A., and Mocanu, V., 2011. Correlation between the deep faults and geothermal structures present on the Moesian Platform territory, Expanded Abstract, EAGE Conf and Exhib, Austria.
20. *Panea, I.*, Negut, A., and Mocanu, V., 2011. The relationship between the deep faults and the geothermal structures identified on the Moesian Platform territory, Expanded Abstract, SEG Mtg, San Antonio, USA.
21. Mihai, A., and *Panea, I.*, 2011, The use of shallow seismic reflection surveys in environmental studies, Expanded Abstract, 2nd International Geosciences Student Conference, Krakow, Poland.
22. Iacob, C., *Panea, I.*, Orza, R., Furnica, M., Jianu, D., and Mocanu, V., 2011, Integrated geophysical and geochemical investigations for identifying potable water sources on Ampoi Valley, Romania. Expanded Abstracts, SEG, San Antonio, USA, doi:10.1190/1.3628226.
23. *Panea, I.*, Mocanu, V., and Stephenson, R., 2012. Effect of errors in the acquisition of deep seismic reflection data recorded in mountainous areas, Expanded Abstract, SEG Mtg., Las Vegas, USA.
24. *Panea, I.*, Rayner, J., Schultz, G., and Manea, C., 2013. 2D versus pseudo-3D seismic data processing in the AVP analysis – A case study, Expanded Abstract, EAGE Conf. and Exhib., London, UK.

25. *Panea, I., Mocanu, V., 2013. High-estimation of elastic properties of the near subsurface based on vertical-component seismic data processing, Expanded Abstract, SEG Mtg., Houston, USA.*
26. *Panea, I., Draganov, D., 2014, Case study of retrieval of body-wave reflections using ambient-noise Seismic Interferometry with extra noise recordings, EAGE, Amsterdam.*
27. *Panea, I., Mocanu, V., 2016, Eastern Pannonian Basin analysis of geothermal behavior by integrated geophysical information, EAGE, Vienna.*

**Extended abstracts (national conferences - selection):**

1. *Panea, I., Bocin, A., Draganov, D., Mocanu, V., 2009. Retrieving the reflected waves from the background noise using seismic interferometry. Application in the Mizil area (Romania), Abstract, GEO2009, Romania.*
2. *Calin, A., Maxim, Lasco, Panea, I., 2010. Analysis of the coherent noise from passive land seismic data, Abstract, GEO2010, Bucharest.*
3. *Mihai, C-F, Panea, I., 2010. Geophysical models built for the Eastern part of the Moesian Platform, Abstract, GEO2010, Bucharest.*
4. *Nastase, A., Panea, I., 2010. Application of the Radon filter for multiples attenuation, Abstract, GEO2010, Bucharest.*
5. *Spita, M., Panea, I., 2010. Particularities of the processing of the interferometry responses, Abstract, GEO2010, Bucharest.*
6. *Andrei, M., Panea, I., 2011. The use of array-forming in very shallow seismic reflection surveys, Abstract, GEO2011, Bucharest.*
7. *Panea, I., Mocanu, V., Draganov, D., 2011. Seismic Interferometry on the ambient noise recorded in the Mizil area (Romania), Abstract, GEO2011, Bucharest.*
8. *Lasco, M., Panea, I., 2011. Errors in the use of pre-stack stereotomography, Abstract, GEO2011, Bucharest.*
9. *Panea, I., Mocanu, V., Stephenson, R., Manea, C., 2012. Effect of errors in the acquisition of deep seismic reflection data recorded in mountainous areas, Abstract, GEO2012, Bucharest.*
10. *Panea, I., Mocanu, V., Draganov, D., 2012. Ambient noise seismic interferometry on time-lapse seismic data, Abstract, GEO2012, Bucharest.*
11. *Panea, I., Stefan, A., 2014. Shallow seismic surveys in areas with salt formations, Abstract, GEO2014, Bucharest.*
12. *Panea, I., 2014. The use of refraction interferometry in seismic exploration for hydrocarbons, Abstract, GEO2014, Bucharest.*
13. *Drecea, A., Panea, I., Nichisoiu, R., 2014. Linear versus non-linear receiver arrays in seismic exploration for hydrocarbons, Abstract, GEO2014, Bucharest.*
14. *Vasilica, I., Panea, I., Draganov, D., 2014. Seismic Interferometry on time-lapse ambient noise, Abstract, GEO2014, Bucharest.*
15. *Paraschivoiu, M., Panea, I., 2014. Linear versus crooked line seismic data acquisition, Abstract, GEO2014, Bucharest.*
16. *Panea, I., Moldoveanu, T., Dinu, C., Scolaru, I., Radan, P., Prvulovic, J., 2015. Seismic measurements for the excavation of tunnels in areas with complex geology, Abstract, GEO2015, Bucharest.*
17. *Panea, I., Prisacari, St., Mocanu, V., 2015. Non-uniform seismic illumination from uniform surface sampling, Abstract, GEO2015, Bucharest.*
18. *Ungureanu, C., Buzuleac, V., Buzuleac, R., Damian, A., Panea, I., 2015. Seismic measurements for landslides investigations, Abstract, GEO2015, Bucharest.*
19. *Panea, I., Mocanu, V., 2016. Velocity distributions in the upper crust of the Eastern Pannonian Basin, Abstract, Geoscience2016, Bucharest.*

20. Zgorcea, I., *Panea, I.*, 2016. Effect of linear and non-linear geophone arrays on signal-to-noise ratio of seismic reflection data, Abstract, Geoscience2016, Bucharest.
21. Militaru, I., *Panea, I.*, Mocanu, V., 2016. Analysis of seismic reflection data with low signal-to-noise ratio, Abstract, Geoscience2016, Bucharest.
22. Talmaciu, A., *Panea, I.*, Iacob, C., Stefan, Al., 2018. Retrieval of body-wave reflections from ambient noise recorded in the Targoviste area, Romania, Abstract, Geoscience2018, Bucharest.
23. Peneoasu, C., *Panea, I.*, Iacob, C., Mocanu, D., 2018. Comparative analyses of raw and virtual surface waves recorded in passive seismic surveys, Abstract, Geoscience2018, Bucharest.
24. Popescu, I., *Panea, I.*, Iacob, C., Paun, M., 2018. Computation of P- and S-wave velocities using seismic waves generated by impact sources, Abstract, Geoscience2018, Bucharest.
25. Ciulica, V., Mihalcea, V., Tudor, E., *Panea, I.*, Iacob, C., Nache, F., 2018. Determination of subsurface geological structure using active shallow seismic reflection measurements, Abstract, Geoscience2018, Bucharest.

Date:  
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