

Vitaliy Atamaniuk

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Google Scholar

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Career Goals

I aim to enhance the diagnostic accuracy of innovative medical imaging techniques, improve patient outcomes, and increase the clinical and research impact of imaging technologies.

Work Experience

Rzeszow University of Technology, Rzeszow, Poland 01.2026 – present
Assistant Professor, Tenure Track.

Rzeszow University of Technology, Rzeszow, Poland 03.2025 – 01.2026
Research and Teaching Assistant.

University of Rzeszow, Rzeszow, Poland 02.2025 – present
Principal Investigator, NCN Preludium Grant.

MSWiA Healtcare Center in Rzeszow, Rzeszow, Poland 10.2024 – present
Clinical Research Specialist, Department of Radiology.

Universitat Politècnica de València, València, Spain 08.2024 – 09.2024
Visiting Researcher, PRHLT Center.

Mayo Clinic, Rochester, MN, USA 08.2022 – 09.2022
Visiting Researcher, Department of Radiology.

Charité Clinic, Berlin, Germany 07.2022 – 08.2022
Visiting Investigator, MR Elastography group.

University of Rzeszow, Rzeszow, Poland 10.2020 – 05.2025
PhD Student, MR Elastography group.

Australian Synchrotron, Melbourne, Australia 08.2018 – 11.2018
Beamline Fellow Scientist, IR Beamline.

Education

University of Rzeszow, PhD (with distinction) 10.2020 – 12.2025
Physical Sciences

University of Rzeszow, MSc 02.2019 – 06.2020
Physics – Specialization in Medical Physics

Lviv Polytechnic National University, BSc 09.2015 – 09.2019
Electrical Engineering and Electric Power Distribution

University of Rzeszow, BEng 10.2015 – 02.2019
Medical Diagnostic Systems

Teaching Activity

Developed syllabus and served as coordinator for the following courses in both Bachelor's (Engineering) and Master's programs:

1. **Contemporary Medical Imaging Methods**
2. **Medical Equipment**
3. **Hospital Ward Equipment**
4. **Analysis of Medical Signals and Images**

Editorial Appointments

- **Experimental Biology and Medicine 10.2026–12.2028**

Early Career Researcher Editorial Board Member, inaugural board.
Society for Experimental Biology and Medicine (SEBM).

Publications

1) **Atamaniuk V.**

“Ease the struggle of young researchers.” *Science* 391, 998-998, 2026. DOI - 10.1126/science.aef4462

2) **Atamaniuk V, Anders M, Obrzut M, Pozaruk A, Hańczyk Ł, Obrzut B, Skoczylas M, Sack I, Cholewa M.**

"Toward self-contained cardiac magnetic resonance elastography: Deep learning-based segmentation of the left ventricular myocardium.” *Magnetic Resonance Imaging* 134:110768. DOI – 10.1016/j.mri.2026.110768

3) **Domka W, Böhm O, Atamaniuk V, Domka J, Hańczyk Ł, Kaznowska E, Obrzut M, Zhao W, Sack I, Gutkowski K, Cholewa M.**

"Multiparametric Ex Vivo Evaluation of Parotid Tumors: Feasibility and Preliminary Results." *NMR in Biomedicine* 39, no. 9 (2026): e70361, DOI 10.1002/nbm.70361.

4) **Atamaniuk V, Obrzut M, Hańczyk Ł, Böhm O, Domka J, Kaznowska E, Zhao W, Gutkowski K, Sack I, Cholewa M, Domka W.**

“Magnetic Resonance Elastography for Noninvasive Evaluation of Parotid Tumors: Feasibility and Preliminary Results”. *European Journal of Radiology.* 2026 Sep;202:112970. doi: 10.1016/j.ejrad.2026.112970.

5) **Hańczyk Ł, Obrzut M, Cholewa M, Atamaniuk V.**

„Dependence of Magnetic Resonance Elastography-Derived Stiffness Values on Selected Imaging Parameters” *Magnetic Resonance in Medicine* 2026: 1–14, doi: 10.1002/mrm.70391.

6) **Atamaniuk V, Pozaruk A, Madera M, Wcisło M, Obrzut B, Cholewa M, Kluska J, Obrzut M.**

„A Unified Deep Learning Framework for Liver MR Elastography Postprocessing: Proof-of-Concept Study.” *NMR in Biomedicine*.39, no. 4. 2026. e70258, DOI - 10.1002/nbm.70258

7) **Obrzut B, Atamaniuk V, Vasilevska D, Hańczyk Ł, Obrzut M.**

„Evaluation of Tissue Stiffness: A Deeper Insight into the Nature of Uterine Leiomyomas and Its Possible Clinical Applications” *Int J Gynaecol Obstet*. 2026 Jan 16. doi: 10.1002/ijgo.70809.

8) **Pozaruk A, Atamaniuk V, Pawar K, Carey A, Cheng J, Cholewa M, Grummet J, Chen Z, Egan G.**

„Correlations Between MR Apparent Diffusion Coefficients and PET Standard Uptake Values in Simultaneous MR-PET Imaging of Prostate Cancer.” *Int. J. Mol. Sci*. 2025, 26, 905. DOI - 10.3390/ijms26030905

9) **Atamaniuk V, Chen J, Obrzut M, Glaser KJ, Hańczyk Ł, Pozaruk A, Gutkowski K, Obrzut B, Domka W, Ehman RL, Cholewa M.**

„High-frequency shear wave MR elastography of parotid glands: custom driver design and preliminary results.” *Scientific Reports* 14, 24496 (2024). DOI - 10.1038/s41598-024-75806-2

10) **Atamaniuk V, Hańczyk Ł, Chen J, Pozaruk A, Obrzut M, Gutkowski K, Domka W, Cholewa M, Ehman RL, Obrzut B.**

„3D vector MR elastography applications in small organs." *Magn Reson Imaging*. 2024 Jun 21;112:54-62. doi: 10.1016/j.mri.2024.06.005.

11) **M. Obrzut, V. Atamaniuk, R.L. Ehman, M. Yin, M. Cholewa, K. Gutkowski, W. Domka, B. Obrzut.**

„Postprandial splenic stiffness changes on magnetic resonance elastography in a young healthy population" *NMR in Biomedicine* 2023, e5047. DOI - 10.1002/nbm.5047

12) **M. Obrzut, V. Atamaniuk, R.L. Ehman, M. Yin, M. Cholewa, K. Gutkowski, W. Domka, D. Ozga, B. Obrzut.**

„Evaluation of spleen stiffness in young healthy volunteers using magnetic resonance elastography" *Diagnostics* 2023, 13, 2738. DOI - 10.3390/diagnostics13172738

13) **M. Obrzut， V. Atamaniuk, J. Chen, B. Obrzut, RL. Ehman, M. Cholewa, A. Palusinska, K. Gutkowski.**

"Postprandial hepatic stiffness changes on magnetic resonance elastography in healthy volunteers" *Scientific Reports*. 2021 Dec; 11(1):19786. DOI - 10.1038/s41598-021-99243-7

14) **M. Obrzut， V. Atamaniuk, KJ. Glaser, J. Chen, RL. Ehman, B. Obrzut, M. Cholewa, K. Gutkowski.**

"Value of liver iron concentration in healthy volunteers assessed by MRI" *Scientific Reports* 10 (2020) 17887, DOI - 10.1038/s41598-020-74968-z

15) **M. Obrzut, V. Atamaniuk, B. Obrzut, R. Ehman, M. Cholewa, M. Rzucidło, A. Pozaruk, K.Gutkowski**

"Normative values for magnetic resonance elastography-based liver stiffness in a healthy population" *Polish Archives of Internal Medicine* Vol. 129, No. 4 (2019): 242-252, DOI - 10.20452/pamw.4456

16) **M. Kołodziej, D. Jesionek-Kupnicka, M. Braun, V. Atamaniuk, J. Cebulski, M. Cholewa, S. Słoniec, J. Kopczyński, P. Herauld, M. Tobin, J. Vongsvivut, I. Zawlik**

"Discrimination of aggressive and classic subtypes variants of mantle cell lymphomas using synchrotron-FTIR microspectroscopy" *Scientific Reports* 9 (2019) 12857, DOI – 10.1038/s41598-019-49326-3

Conferences & Workshops

1) **ECMP 2026** "A novel two-branch passive driver for high-frequency thyroid magnetic resonance elastography". 23-26.09.2026. Valencia, Spain.

   V. Atamaniuk, L. Hanczyk, M. Obrzut, Rzeszów/PL
   Physica Medica, Volume 149, Supplement, 2026, ISSN 1120-1797,
   https://doi.org/10.1016/j.ejmp.2026.106999

2) **ITEC 2026** "A Phase-based Volumetric Elastography Approach for Ultrasound and MR". 23-25.09.2026. Leipzig, Germany.

   E. González[1], V. Atamaniuk[2], N. Jiménez[1], [1]Valencia/ES, [2]Rzeszów/PL

3) **ECR 2026** "Towards Non-Invasive Characterization of Thyroid Tissue: Feasibility of Magnetic Resonance Elastography with a Custom Passive Driver". 04-08.03.2026. Vienna, Austria.

   V. Atamaniuk, L. Hanczyk, M. Obrzut, Rzeszów/PL
   ECR 2026 Book of Abstracts. *Insights Imaging* **17** (Suppl 1), 175 (2026).
   https://doi.org/10.1186/s13244-026-02345-x

4) **RSNA 2025** “Magnetic Resonance Elastography for Characterizing Parotid Tumors: Feasibility and Preliminary Results”. 30.11-04.12.2025. Chicago, IL, USA.

   V. Atamaniuk, W. Domka, Ł. Hańczyk, B. Obrzut, M. Obrzut, Rzeszów/PL. Abstract Archives of the RSNA, 2025: Abstract ID: W5A-SPHN-8

5) **3rd International Magnetic Resonance Elastography Workshop** “Automated Liver Stiffness Estimation in MR Elastography Using Deep Learning”. 18-19.09.2025. Mayo Clinic, Rochester, MN, USA.

   V. Atamaniuk, M. Obrzut , A. Pozaruk, M. Madera , M. Wcisło, K. Gutkowski, B. Obrzut, J. Kluska & M. Cholewa, Rzeszów/PL

6) **ISMRM 2025** “Deep learning-based segmentation of left ventricular myocardium in cardiac magnetic resonance elastography”. 10-15.05.2025. Honolulu, HI, USA.

   V. Atamaniuk[1], M. Anders[2], M. Obrzut[1], A. Pozaruk[1], Ł. Hańczyk[1], B. Obrzut[1], M. Skoczylas[3], I. Sack[2], M. Cholewa[1], [1]Rzeszów/PL, [2]Berlin/DE, [3]Białystok/PL
   Proc. Intl. Soc. Mag. Reson. Med. 33 (2025)
   https://doi.org/10.58530/2025/4271

7) **Mayo Clinic MRE Collaborators Meeting** “Magnetic Resonance Elastography for Parotid Tumors: New Frontiers in Head and Neck Imaging” 11.05.2025. Honolulu, HI, USA.

   V. Atamaniuk; Rzeszów/PL

8) **ECR 2025** “Magnetic resonance elastography of the liver: are the results reliable?” 26.02-02.03.2025. Vienna, Austria.

   V. Atamaniuk, M. Obrzut, L. Hanczyk, M. Cholewa, B. Obrzut; Rzeszów/PL
   ECR 2025 Book of Abstracts. Insights Imaging. 2025 Jul 17;16 (Suppl 1):147
   https://doi.org/10.1186/s13244-025-02003-8

9) **ECR 2025** “Magnetic resonance elastography of uterine leiomyomas”. 26.02-02.03.2025. Vienna, Austria.

   V. Atamaniuk, M. Obrzut, L. Hanczyk, B. Obrzut; Rzeszów/PL
   EPOS ECR 2025 https://dx.doi.org/10.26044/ecr2025/C-18364

10) **ISMRM 2024** “Automated Deep Learning-based Stiffness Quantification in Magnetic Resonance Elastography of the Liver”. 04-09.05.2024. Singapore.

    V. Atamaniuk, M. Wcisło, A. Pozaruk, Ł. Hańczyk, M. Obrzut, B. Obrzut, K. Gutkowski, M. Cholewa; Rzeszów/PL
    Proc. Intl. Soc. Mag. Reson. Med. 32 (2024) 2111
    https://doi.org/10.58530/2024/2111

11) **ECR 2024** “The role of magnetic resonance elastography in the evaluation of benign parotid tumours”. 28.02-03.03.2024. Vienna, Austria

    V. Atamaniuk, L. Hanczyk, M.Obrzut, I. Palasz-Krasowska, W. Domka, M. Cholewa, B. Obrzut; Rzeszow/PL
    ECR 2024 Book of Abstracts. *Insights Imaging* **15** (Suppl 2), 223 (2024).
    https://doi.org/10.1186/s13244-024-01766-w

12) **Red Hot Fluorine 19F MRI & Small Animal MRI Symposium** “Application of Deep Learning-Based Methods in Magnetic Resonance Elastography (MRE)”. 04-06.12.2023. Krakow, Poland.

    M. Cholewa, V. Atamaniuk, A. Pozaruk, Ł. Hańczyk, M. Obrzut, B. Obrzut, K. Gutkowski; Rzeszów/PL

13) **RSNA 2023** “Postprandial Changes in Spleen Stiffness Assessed with Magnetic Resonance Elastography (MRE)”. 26-30.11.2023. Chicago, IL, USA.

M. Obrzut[1], V. Atamaniuk[1], R. Ehman[2], M. Yin[2], M. Cholewa[1], K. Gutkowski[1], W. Domka[1], B. Obrzut[1]; [1]Rzeszów/PL, [2]Rochester, MN/US. Abstract Archives of the RSNA, 2023: Abstract ID: W7-SSGI16-4

14) **ISMRM 2023** “Feasibility of high-frequency shear wave MR elastography of the parotid glands”. 03-08.06.2023. Toronto, ON, Canada.

V. Atamaniuk[1], J. Chen[2], K. Glaser[2], A. Pozaruk[1], M. Obrzut[1], B. Obrzut[1], W. Domka[1], K. Gutkowski[1], R. Ehman[2], M. Cholewa[1]; [1]Rzeszów/PL, [2]Rochester, MN/US
Proc. Intl. Soc. Mag. Reson. Med. 31 (2023) 4546
https://doi.org/10.58530/2023/4546

15) **ECR 2023** “Normal values of spleen stiffness assessed by magnetic resonance elastography”. 01-05.03.2023. Vienna, Austria

M. Obrzut[1], V. Atamaniuk[1], B. Obrzut[1], J. Chen[2], W. Domka[1], K. Gutkowski[1], R. Ehman[2], M. Cholewa[1]; [1]Rzeszów/PL, [2]Rochester, MN/US
EPOS ECR 2023.
https://dx.doi.org/10.26044/ecr2023/C-23243

16) **ISMRM Workshop on Magnetic Resonance Elastography 2022 “**Automated segmentation of glioblastoma using brain MR elastography images”. 25-26.08.2022. Berlin, Germany.

V. Atamaniuk[1], A. Pozaruk[1], I. Sack[2], M. Obrzut[1], B. Obrzut[1], D. Aebisher[1], M. Cholewa[1]; [1]Rzeszów/PL, [2]Charite, Berlin/DE
https://www.ismrm.org/workshops/2022/MRE/posters.htm

17) **ECR 2021** “Liver iron concentration in healthy volunteers evaluated by MRI”. 03-07.03.2021. Vienna, Austria.

M. Obrzut[1], V. Atamaniuk[1], K. Glaser[2], J. Chen[2], R. Ehman[2], B. Obrzut[1], M. Cholewa[1], K. Gutkowski[1]; [1]Rzeszów/PL, [2]Rochester, MN/US
ECR 2021 Book of Abstracts. Insights Imaging 12 (Suppl 2), 75 (2021), 160.
https://doi.org/10.1186/s13244-021-01014-5

18) **ECR 2021** “Impact of meal intake on the liver stiffness assessed by MRE in healthy volunteers”. 03-07.03.2021. Vienna, Austria.

M. Obrzut[1], V. Atamaniuk[1], J. Chen[2], R. Ehman[2], B. Obrzut[1], M. Cholewa[1], K. Gutkowski[1]; [1]Rzeszów/PL, [2]Rochester, MN/US
ECR 2021 Book of Abstracts. Insights Imaging 12 (Suppl 2), 75 (2021), 161-162. https://doi.org/10.1186/s13244-021-01014-5

Patents

- **Patent Application P.444675 – 28.04.2023**

The Patent Office of the Republic of Poland

Title: "A passive driver for the magnetic resonance elastography of the parotid glands".
V. Atamaniuk, M. Obrzut, B. Obrzut, W. Domka, A. Pozaruk, M. Cholewa.

- **Patent Application P.453374 – 30.09.2025**

The Patent Office of the Republic of Poland

Title: "A passive driver for the magnetic resonance elastography of the thyroid".
V. Atamaniuk.

Seminars

Seminar “From Concept to Clinic: Magnetic Resonance Elastography for Parotid Tumor Characterization”
Universitat Politècnica de València, 30.09.2025, València, Spain.

Seminar “Deep Learning-based Motion Correction in Magnetic Resonance Elastography”
Universitat Politècnica de València, 19.09.2024, València, Spain.

Seminar “AI in MRE: Hype or Revolution?”
Institute of Radiology of Charité – Medical University of Berlin, 12.12.2023, Berlin, Germany.

Grants

- **Grant PRELUDIUM 23 2024/53/N/ST7/00358, Polish National Science Center - PLN 139,864**

Grant for the research project "Development of dedicated passive drivers for magnetic resonance elastography of selected soft organs of the abdominal cavity, head and neck."

- **Grant STER BPI/STE/2023/1/00001/U/00001, Polish National Agency for Academic Exchange - PLN 15,000**

Grant for a 30-day visit to the Universitat Politècnica de València.

- **Grant NIG/25/2023, University of Rzeszow - PLN 9,965**

Grant for young researchers.

- **Grant NIG/45/2022, University of Rzeszow - PLN 10,000**

Grant for young researchers.

- **Grant 25 / NAWA-PROM-UR / 2019, Polish National Agency for Academic Exchange - PLN 17,000**

Grant for a 4-week visit to Mayo Clinic, Rochester, MN, USA.

Awards

- **Invest in the Youth Award – 03.12.2025. European Society of Radiology**

A grant supporting the active participation of young professionals in the annual European Congress of Radiology (ECR).

- **Trainee (Educational) Stipend – 21.02.2025. International Society for Magnetic Resonance in Medicine (ISMRM)**

A stipend for young professionals to support their active participation in the ISMRM 2025 annual meeting.

- **Invest in the Youth Award – 11.12.2024. European Society of Radiology**

A grant supporting the active participation of young professionals in the annual European Congress of Radiology (ECR).

- **Trainee (Educational) Stipend – 13.02.2024. International Society for Magnetic Resonance in Medicine (ISMRM)**

A stipend for young professionals to support their active participation in the ISMRM 2024 annual meeting.

- **Invest in the Youth Award – 13.12.2023. European Society of Radiology**

A grant supporting the active participation of young professionals in the annual European Congress of Radiology (ECR).

- **Invest in the Youth Award – 20.12.2022. European Society of Radiology**

A grant supporting the active participation of young professionals in the annual European Congress of Radiology (ECR).

- **Dean’s Recognition Award – 15.09.2019. University of Rzeszow**

An award for excellent academic achievements during the first-cycle studies.

Personal Skills

- Dedication
- Problem-solving
- Critical thinking
- Data analysis
- Imagination and creativity

Languages

English – C1, German – B1, Spanish – B1, French – A1
Ukrainian and Polish – Native Speaker, Russian – C2.

Courses and Training

- GE MR and CT Training
- MRI Sequence Programming Course
- Type R Radiological Protection Inspector Training
- Advanced ECDL – MS Excel
- MATLAB Course
- 3D Printing Workshop
- C# Programming Course
- Python Programming Course
- Statistical Analysis Course

Additional Information

- Professional music education (Clarinet and saxophone)
- Driving license – category B

Organizational Activity

- Organization of a lecture entitled “Biological Properties as a Function of Specific Frequencies” by independent researcher Hans Geesink (DSM) and Prof. Dick Meijer (University of Groningen), held on June 16, 2023, at the University of Rzeszów.

- Active participation in organizing the Conference of Young Physicists, held on July 1, 2022, at the University of Rzeszów.

- Organization of a lecture by Dr. Carolyn McMakin, which took place on June 7, 2022, at the University of Rzeszów, as part of the International Conference - "Frequency Therapy. 21st-century therapies. The lecture focused on modern Frequency Specific Microcurrent (FSM) therapy.

Peer Reviewer

- International Society for Magnetic Resonance in Medicine (ISMRM)
- Radiology Advances
- BMC Veterinary Research
- Quantitative Imaging in Medicine and Surgery
- French National Research Agency (ANR)
- Expert Review of Hematology
- Advanced Science
- Scientific Reports
- Abdominal Radiology
- BMC Medical Imaging
- Technology in Cancer Research & Treatment
- Journal of Imaging Informatics in Medicine
- Frontiers in Oncology
- Frontiers in Artificial Intelligence