


Ilias I. Giannakopoulos, PhD

Postdoctoral Fellow, Department of Radiology
The Bernard and Irene Schwartz Center for Biomedical Imaging
NYU Langone Health - NYU Grossman School of Medicine

NIH/NIBIB K99 Fellow
ISMRRM Junior Fellow

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Research Interests

Computational and learning-based methods for biomedical imaging applications. Computational electromagnetics. Numerical linear algebra. Inverse problems. Deep Learning. Electrical property mapping. MRI image reconstruction. Tissue-mimicking phantom construction. Radiofrequency coil design for high and ultra-high field MRI applications.

Education

- 09/2016–09/2020 **PhD in Computational and Data Science and Engineering**, Skolkovo Institute of Science and Technology (Skoltech), Moscow, Moscow Oblast, Russian Federation. *PhD Thesis: [Memory compression of the Galerkin volume integral equation and coil modeling for the electrical property mapping of biological tissue](#)*. Remotely supervised by [Dr. Jacob K. White](#) from the Massachusetts Institute of Technology (MIT).
- 10/2018–11/2019 **Visiting PhD student in Research Laboratory of Electronics**, Department of Electrical Engineering and Computer Science, MIT, Cambridge, MA, USA, Invited by Dr. White.
- 09/2011–07/2016 **Diploma in Electrical and Computer Engineering** (equivalent to MSc), Aristotle University of Thessaloniki (AUTH), Thessaloniki, Greece. *Diploma Thesis in Wireless Telecommunications: [Analysis of Planar Microwave and Photonic devices using the method of Integral Equations and the Calculation of the Green function of Multilayered media](#)* (in Hellenic). Supervised by Dr. Traianos Yioultzis. *Specialization field: Telecommunications*.

Work Experience

- 03/2021–now **Postdoctoral Fellow**, New York University (NYU) Grossman School of Medicine.
Member of the Bernard and Irene Schwartz Center for Biomedical Imaging (CBI), Department of Radiology, NYU Grossman School of Medicine, New York, NY, USA, working with [Dr. Riccardo Lattanzi](#). Research on implementing and testing novel numerical methods for the rational design and assessment of MRI coils and novel algorithms for accelerated image reconstruction and electrical property mapping based on deep neural networks and optimization frameworks. Participation in several collaborative projects with multiple research groups around the world. Technical adviser of several undergraduate students and doctoral candidates.
- 10/2018–11/2019 **Graduate Research Assistant**, MIT, EECS.
Member of the *RLE Computational Prototyping Group*.
- 09/2016–09/2020 **Graduate Research Assistant**, Skoltech, CDISE.
Member of the *CDISE Computational Prototyping and Computational Imaging Groups*.

Grants

Principal Investigator

- 08/2024–05/2026 **K99 EB035163 (Giannakopoulos, I.) NIH/NIBIB**, *Open-Source Software Tools for Rapid Radiofrequency Coil Modeling and Simulation in MRI*.
- ### Postdoctoral Fellow
- 09/2024–08/2028 **R01 EB036483 (Lattanzi, R.) NIH/NIBIB**, *A Novel Open-Source Optimization Framework for the Design and Simulation of Radiofrequency Coils for Magnetic Resonance Imaging*.
- 08/2023–07/2026 **2313156 (Zorin, D. and Lattanzi R. and Panozzo D.) NSF, HCC: Medium: Shape Optimization for the Design and Simulation of Electromagnetic Systems**.
- 01/2023–11/2026 **R01 EB024536 (Lattanzi, R.) NIH/NIBIB**, *Cloud MR: an Open-Source Software Framework to Democratize MRI Training and Research*.

Honors and Awards

- 05/2025 **ISMRM Junior Fellow** (475\$).
- 09/2023 **2023 Outstanding Postdoctoral Scholar Award** (2,500\$). To recognize the achievements of postdoctoral scholars at NYU Langone Health whose contributions to science go beyond research to serve the scientific community through teaching, mentoring, and volunteering.
- 07/2023 **2023 Harold A. Wheeler Prize Paper Award** (1,000\$), to recognize the *best applications paper published in IEEE Transactions on Antennas and Propagation* in 2022.
- 05/2024 **Annual Meeting Program Committee (AMPC) selected abstract**, *ISMRM 2024*.
- 05/2024 **Magna Cum Laude Merit Award**, *ISMRM 2024*.
- 05/2024 **Finalist submission**, *2024 ISMRM-EMTP* study group abstract competition.
- 03/2024 **Distinguished Specialist Scientist** by the *Hellenic Ministry of Defense*.
- 02/2023 **Trainee (Educational) Stipend Award** (575\$), *ISMRM 2023*.
- 05/2022 **Finalist submission**, *2022 ISMRM-EMTP* study group abstract competition.
- 02/2022 **Trainee (Educational) Stipend Award** (655\$), *ISMRM 2022*.
- 02/2022 **Trainee (Educational) Stipend Award** (475\$), *ISMRM Workshop on Ultra-High Field MR, 2022*.
- 03/2021 **Trainee (Educational) Stipend Award** (250\$), *ISMRM 2021*.
- 05/2018 **Honorable Mention Award** (1,500\$), *2018 IEEE AP-S* Student Paper Competition.
- 09/2014 **Honorary Scholarship** (350\$), *Greek State Scholarships Foundation*.

Invited Research Visits

- 04/2025 **UT Southwestern, Advanced Imaging Research Center, Dallas, TX, USA**. Invited by Dr. Bei Zhang (one day).
- 01/2025 **Massachusetts General Hospital, Athinoula A. Martinos Center for Biomedical Imaging, Charlestown, MA, USA**. Invited by Drs. Bastien Guerin and Jason Stockmann (two days).
- 10/2019 **NYU Grossman School of Medicine, Bernard and Irene Schwartz Center for Biomedical Imaging, New York, NY, USA**. Invited by Dr. Lattanzi, (one week).
- 03/2019 **NYU Grossman School of Medicine, Bernard and Irene Schwartz Center for Biomedical Imaging, New York, NY, USA**. Invited by Dr. Lattanzi, (one week).

Invited Talks

In Conferences and Workshops

- 10/2025 **Invited Talk on uISNR and optimal UHF arrays**, at the 15th Biennial Minnesota Workshop, University of Minnesota, Center for Magnetic Resonance Research, Minneapolis, MN, USA. *Computational Electromagnetics for Automatic Coil Optimization*
- 09/2024 **Invited Talk on State of the art ETP-related technologies**, at EMTP Chile, 2024 Joint Workshop on MR Phase, Magnetic Susceptibility and Electrical Properties Mapping, Santiago, Chile. *ETP-related activities at New York University*

In Universities

- 04/2025 **Research Seminar**, Advanced Imaging Research Center at UT Southwestern, Dallas, TX, USA. Host: Dr. Bei Zhang. *Accelerated computational electromagnetics methods for the analysis and design of MRI systems*.
- 02/2025 **Neuroimaging Seminar**, BioMedical Engineering and Imaging Institute and Department of Diagnostic, Molecular & Interventional Radiology at Icahn School of Medicine at Mount Sinai, New York, NY, USA. Host: Dr. Akbar Alipour. *Fast Computational and AI-Driven Methods for the Analysis and Design of RF Coils*.
- 02/2025 **CBI's Acquisition and Reconstruction Meetings**, Department of Radiology, NYU Grossman School of Medicine, New York, NY, USA. Hosts: Drs. Marcelo W. V. Zibetti and Li Feng. *Electrical Properties Tomography*
- 01/2025 **BrainMap Seminar**, Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Charlestown, MA, USA. Host: Dr. Abbas Sohrabpour. *Fast Computational and AI-Driven Methods in Biomedical Imaging: From Radiofrequency coil modeling to Image Reconstruction*.

- 05/2024 **Electromagnetic Effects Research Laboratory Seminar**, School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore. Host: Dr. Abdulkadir C. Yucel. *Electrical Property Mapping via Magnetic Resonance Imaging.*
- 11/2023 **Ultrasound and Elasticity Imaging Laboratory Seminar**, Columbia University Medical Center, New York, NY, USA. Host: Dr. Elisa E. Konofagou. *Electrical Property Mapping via Magnetic Resonance Imaging.*
- 02/2023 **Joint Tsirigos Lab and Applied Bioinformatics Laboratories Seminar**, Institute for Computational Medicine, NYU Grossman School of Medicine, New York, NY, USA. Host: Dr. Aristotelis Tsirigos. *Computational and machine learning approaches for MRI applications.*
- 10/2021 **Radiology Research Forum and Vilcek Seminars in Biomedical Imaging**, Department of Radiology, NYU Grossman School of Medicine, New York, NY, USA. Host: Dr. Mariana Lazar. *Novel numerical methods based on integral equations for computational electromagnetics applications at ultra-high-field MRI.*

Teaching Experience

- 06/2021–now **PhD Thesis Mentoring**, NYU Grossman School of Medicine, Department of Radiology. Mentoring of PhD students working on machine learning, computational electromagnetics, and computational geometry.
- 11/2024–now **Semester Project Mentoring**, NYU Courant Institute of Mathematical Sciences. Mentoring of undergraduate and graduate students working on semester projects for AI-based MRI image reconstruction.
- 09/2024–05/2025 **Capstone Team Mentor**, NYU Courant Institute of Mathematical Sciences. Mentoring of four undergraduate students working on diffusion neural networks for MRI image reconstruction.
- 09/2024–12/2024 **Course Instructor**, NYU Grossman School of Medicine, Department of Radiology, PhD level. Practical Magnetic Resonance Imaging II.
- 02/2018–03/2018 **Graduate Teaching Assistant**, Skoltech, CDISE, PhD level. Computational Science and Engineering II: Discretization.

Patents

- 03/2025 **Patent Pending**. *Radiologist-Informed Image Reconstruction Networks*. Co-inventors: **Ilias I. Giannakopoulos**, Patricia Johnson, Riccardo Lattanzi.
- 01/2025 **Patent Pending**. *Adaptive Sampling for Parallel Imaging*. Co-inventors: Riccardo Lattanzi, **Ilias I. Giannakopoulos**, Yvonne W. Lui.
- 04/2024 **WO/2024/081966**, *Systems and Methods for Magnetic Resonance Based Reconstruction and Tomography of Electrical Properties*. Co-inventors: Xinling Yu, Ziyue Liu, Zheng Zhang, Jose Serralles, **Ilias I. Giannakopoulos**, Luca Daniel, Riccardo Lattanzi.

Research Publications

Peer-Reviewed Journal Articles

- [J1] Stefano Mandija, Alessandro Arduino, Cornelis A.T. van den Berg, Patrick Fuchs, **Ilias I. Giannakopoulos**, Yusuf Ziya Ider, Kyu-Jin Jung, Ulrich Katscher, Dong-Hyun Kim, Riccardo Lattanzi, Thierry G. Meerbothe, Khin-Khin Tha, and Luca Zilberti, “The first MR Electrical Properties Tomography (MR-EPT) reconstruction challenge: preliminary results of simulated data.” *In preparation.*
- [J2] Khin-Khin Tha*, Stefano Mandija*, **Ilias I. Giannakopoulos**, Lars Hanson, Nitish Katoch, Ulrich Katscher, Dong-Hyun Kim, Yusuf Ziya Ider, Kyu-Jin Jung, Riccardo Lattanzi, Jierong Luo, Rosalind Sadleir, Karin Schmueli, Axel Thielscher, Cornelis van den Berg, “Conductivity Imaging and Its Role for Clinical Applications.” *In preparation.* *Equivalent contribution. **Invited.**
- [J3] Stefano Mandija, Alessandro Arduino, Chuanjiang Cui, Patrick Fuchs, **Ilias Giannakopoulos**, Yusuf Ziya Ider, Kyu-Jin Jung, Nitish Katoch, Ulrich Katscher, Dong-Hyun Kim, Riccardo Lattanzi, Thierry Meerbothe, Takaaki Nara, Freddy Odille, Karin Schmueli, Paul Soullie, Khin Khin Tha, Luca Zilberti, Nico van den Berg, “Standardization of MR Electrical Properties Tomography publications: A guideline from the ISMRM Electro-Magnetic Tissue Properties Study Group.” *In preparation.* **Invited.**
- [J4] **Ilias I. Giannakopoulos**, Jose Serralles, Jan Paška, Martijn A. Cloos, Ryan Brown, Riccardo Lattanzi, “Global Maxwell Tomography Using the Volume-Surface Integral Equation for Improved Estimation of Electrical Properties.” *Under Review.*

- [J5] **Ilias I. Giannakopoulos***, Alessandro Arduino*, Nico van den Berg, Zhongzheng He, Kyu-Jin Jung, Dong-Hyun Kim, Riccardo Lattanzi, Jessica Martinez, Thierry Meerbothe, Freddy Odille, Adriano Troia, Luca Zilberti, Stefano Mandija, “Construction of phantoms for MR Electrical Properties Tomography (from structure to composition): Guidelines from the ISMRM Electro-Magnetic Tissue Properties Study Group.” *Under Review*. *Equivalent contribution. **Invited**.
- [J6] Stefano Mandija, Cornelis A.T. van den Berg*, **Ilias Giannakopoulos***, Zhongzheng He*, Yusuf Ziya Ider*, Kyu-Jin Jung*, Nitish Katoch*, Dong-Hyun Kim*, Riccardo Lattanzi*, Paul Soullie*, Ulrich Katscher, “MR Electrical Properties Tomography acquisitions: A guideline from the ISMRM Electro-Magnetic Tissue Properties Study Group” *Under Review*. *Equivalent contribution. **Invited**.
- [J7] Damiano Franzó, **Ilias I. Giannakopoulos**, Adrien Merlini, Francesco Andriulli, Riccardo Lattanzi, “Higher Order Volume-Surface Integral Equation Methods for Robust Radiofrequency Coil Modeling in MRI.” Under review in *Journal of Physics D: Applied Physics*.
- [J8] Russell Luke Lagore, Alireza Sadeghi-Tarakameh, Andrea Grant, Matt Waks, Edward Auerbach, Steve Jungst, Lance DelaBarre, Steen Moeller, Yigitcan Eryaman, Riccardo Lattanzi, **Ilias Giannakopoulos**, Luca Vizioli, Essa Yacoub, Simon Schmidt, Gregory J Metzger, Xiaoping Wu, Gregor Adriany, Kamil Ugurbil, “[A 128-channel receive array with enhanced SNR performance for 10.5 tesla brain imaging](#),” Under review in *Magnetic Resonance in Medicine*. **Figure 9 A appeared in Eisenstein, Michael. “Pushing the limits of MRI brain imaging.” Nature Methods 21.11 (2024): 1975-1979.**
- [J9] **Ilias I. Giannakopoulos**, Giuseppe Carluccio, Mahesh B. Keerthivasan, Gregor Koerzdoerfer, Karthik Lakshmanan, Hector Lise de Moura, Jose Serralles, Riccardo Lattanzi, “[Magnetic Resonance Electrical Properties Mapping Using Vision Transformers and Canny Edge Detectors](#).” *Magnetic Resonance in Medicine*, 93.3 (2025): 1117-1131. **Editor’s choice for March 2025.**
- [J10] Matt Waks, Russell L. Lagore, Edward Auerbach, Andrea Grant, Alireza Sadeghi-Tarakameh, Lance DelaBarre, Steve Jungst, Nader Tavaf, Riccardo Lattanzi, **Ilias Giannakopoulos**, Steen Moeller, Xiaoping Wu, Essa Yacoub, Luca Vizioli, Simon Schmidt, Gregory J. Metzger, Yigitcan Eryaman, Gregor Adriany, Kamil Ugurbil, “[RF Coil Design Strategies for Improving SNR at the Ultrahigh Magnetic Field of 10.5 tesla](#),” *Magnetic Resonance in Medicine*, 93.2 (2025): 873-888. **Cover Image for Magnetic Resonance in Medicine: Volume 93, Issue 2.**
- [J11] **Ilias I. Giannakopoulos**, Matthew J. Muckley, Jesi Kim, Matthew Breen, Patricia M. Johnson, Yvonne W. Lui, Riccardo Lattanzi, “[Accelerated MRI Reconstructions via Variational Network and Feature Domain Learning](#),” *Sci Rep* 14, 10991 (2024).
- [J12] Bei Zhang, Jerahmie Radder, **Ilias Giannakopoulos**, Andrea Grant, Russell Lagore, Matt Waks, Nader Tavaf, Pierre- Francois van de Moortele, Gregor Adriany, Alireza Trakameh, Yigitcan Eryaman, Riccardo Lattanzi, Kamil Ugurbil, “[Performance of Receive Head Arrays versus Ultimate Intrinsic SNR at 7 Tesla and 10.5 Tesla](#),” *Magnetic Resonance in Medicine*, 92.3 (2024): 1219-1231.
- [J13] **Ilias I. Giannakopoulos**, Ioannis P. Georgakis, Daniel K. Sodickson, Riccardo Lattanzi, “[Computational methods for the estimation of ideal current patterns in realistic human head models](#),” *Magnetic Resonance in Medicine*, 91.2 (2024): 760-772. **Editor’s choice for February 2024.**
- [J14] Xinling Yu, Jose Serralles, **Ilias I. Giannakopoulos**, Ziyue Liu, Luca Daniel, Riccardo Lattanzi, Zheng Zhang, “[PIFON-EPT: MR-Based Electrical Property Tomography Using Physics-Informed Fourier Networks](#),” *IEEE Journal on Multiscale and Multiphysics Computational Techniques*, vol. 9, pp. 49-60, December 2023.
- [J15] Georgy D. Guryev, Eugene Milstyen, **Ilias I. Giannakopoulos**, Riccardo Lattanzi, Lawrence L. Wald, Elfar Adalsteinsson, Jacob K. White, “[MARIE 2.0: A Perturbation Matrix Based Patient-Specific MRI Field Simulator](#),” *IEEE Transactions on Biomedical Engineering*, vol. 70, no. 5, pp. 1575-1586, May 2023.
- [J16] **Ilias I. Giannakopoulos**, Georgy Guryev, Jose Serralles, Jan Paška, Bei Zhang, Luca Daniel, Jacob K. White, Christopher Collins, Riccardo Lattanzi, “[A hybrid volume-surface integral equation method for rapid electromagnetic simulations in MRI](#),” *IEEE Transactions on Biomedical Engineering*, vol. 70, no. 1, pp. 105-114, Jan. 2023.
- [J17] **Ilias I. Giannakopoulos**, Georgy Guryev, Jose Serralles, Ioannis P. Georgakis, Luca Daniel, Jacob K. White, Riccardo Lattanzi, “[Compression of volume-surface integral equation matrices via Tucker decomposition for magnetic resonance applications](#),” *IEEE Transactions on Antennas and Propagation*, vol. 70, no. 1, pp. 459-471, Jan. 2022. **Harold A. Wheeler Prize Paper Award.**

- [J18] Ioannis P. Georgakis, **Ilias I. Giannakopoulos**, Mikhail S. Litsarev and Athanasios G. Polimeridis, “A Fast Volume Integral Equation Solver with Linear Basis Functions for the Accurate Computation of Electromagnetic Fields in MRI,” *IEEE Transactions on Antennas and Propagation*, vol. 69, no. 7, pp. 4020-4032, Jul. 2021.
- [J19] **Ilias I. Giannakopoulos**, Jose Serralles, Luca Daniel, Daniel K. Sodickson, Athanasios G. Polimeridis, Jacob K. White, Riccardo Lattanzi, “Magnetic-resonance-based electrical property mapping using Global Maxwell Tomography with an 8-channel head coil at 7 Tesla: a simulation study,” *IEEE Transactions on Biomedical Engineering*, vol. 68, no. 1, pp. 236-246, Jan. 2021.
- [J20] Jose Serralles, **Ilias I. Giannakopoulos**, Bei Zhang, Carlotta Ianniello, Martijn A. Cloos, Athanasios G. Polimeridis, Jacob K. White, Daniel K. Sodickson, Luca Daniel, Riccardo Lattanzi, “Noninvasive Estimation of Electrical Properties from Magnetic Resonance Measurements via Global Maxwell Tomography and Match Regularization,” *IEEE Transactions on Biomedical Engineering*, vol. 67, no. 1, pp. 3-15, Jan. 2020.
- [J21] **Ilias I. Giannakopoulos**, Mikhail S. Litsarev and Athanasios G. Polimeridis, “Memory footprint reduction for the FFT-based volume integral equation method via tensor decompositions,” *IEEE Transactions on Antennas and Propagation*, vol. 67, no. 12, pp. 7476-7486, Dec. 2019.

— Publications in Indexed Conference Proceedings

- [C1] **Ilias I. Giannakopoulos**, Georgy Guryev, Jose Serralles, Ioannis P. Georgakis, Luca Daniel, Jacob K. White, Riccardo Lattanzi, “A tensor train compression scheme for remote volume surface integral equation interactions,” *2021 International Applied Computational Electromagnetics Society (ACES) Symposium*. Oral Presentation. **Invited**.
- [C2] **Ilias I. Giannakopoulos**, Jose Serralles, Bei Zhang, Luca Daniel, Jacob K. White, Riccardo Lattanzi, “Global Maxwell Tomography using an 8-channel radiofrequency coil: simulation results for a tissue-mimicking phantom at 7T,” *2019 IEEE International Symposium on Antennas and Propagation & USNC/URSI National Radio Science Meeting*. Oral Presentation.
- [C3] **Ilias I. Giannakopoulos**, Mikhail S. Litsarev and Athanasios G. Polimeridis, “3D Cross-Tucker approximation in FFT-based volume integral equations,” *2018 IEEE International Symposium on Antennas and Propagation & USNC/URSI National Radio Science Meeting*. Poster Presentation. **Honorable Mention Award**.

— Abstracts in non-Indexed Conference Proceedings

- [A1] Jose Serralles*, **Ilias Giannakopoulos***, Siqi Wang, Damien Chen, Xin Zhao, Daniel Zint, Daniele Panozo, Denis Zorin, Riccardo Lattanzi, “A fully automatic pipeline to optimize radio-frequency coil design using the ultimate intrinsic signal-to-noise ratio as the benchmark,” in *2025 ISMRM Annual Meeting & Exhibition*. *Equivalent contribution.
- [A2] Anais Artiges, Amanpreet Singh Saimbhi, Carlos Castillo-Passi, Eros Montin, **Ilias Giannakopoulos**, Riccardo Lattanzi, Kai Tobias Block, “Open-source pulse sequences: conversion from mtrk to Pulseseq and comparison with vendor sequence in simulation, phantom, and in vivo,” in *2025 ISMRM Annual Meeting & Exhibition*.
- [A3] Eros Montin, Jose Serralles, **Ilias Giannakopoulos**, Anais Artiges, Carlos Castillo-Passi, Riccardo Lattanzi, “A modular end-to-end open-source software pipeline to simulate the entire MRI experiment,” in *2025 ISMRM Annual Meeting & Exhibition*.
- [A4] Stefano Mandija, Alessandro Arduino, Cornelis A. T. van den Berg, Patrick Fuchs, **Ilias Giannakopoulos**, Yusuf Ziya Ider, Kyu-Jin Jung, Ulrich Katscher, Dong-Hyun Kim, Riccardo Lattanzi, Thierry G. Meerbothe, Khin Khin Tha, and Luca Zilberti, “First MR Electrical Properties Tomography reconstruction challenge: phase 3 - conductivity reconstructions from measured data,” in *2025 ISMRM Annual Meeting & Exhibition*.
- [A5] **Ilias I. Giannakopoulos**, Riccardo Lattanzi, “In vivo brain electrical property mapping using vision transformers and magnetic resonance measurements,” in *2025 National Radio Science Meeting*. Oral Presentation. **Invited**.
- [A6] Alireza Sadeghi-Tarakameh, Andrea Grant, **Ilias I. Giannakopoulos**, Matt Waks, Russell L. Lagore, Lance DelaBarre, Edward Auerbach, Riccardo Lattanzi, Gregor Adrian, Kamil Ugurbil, Yigitcan Eryaman, “Capturing Central uiSNR at Ultrahigh Field: Number and Size of the Receive Elements Matter,” in *2024 ISMRM Annual Meeting & Exhibition*. **Magna Cum Laude Merit Award**.
- [A7] Gonzalo Rodriguez, Hector Lise de Moura, **Ilias Giannakopoulos**, Riccardo Lattanzi, Ravinder Regatte, and Guillaume Madelin, “Super-resolution Y-Net for simultaneous ^1H MR/ ^{23}Na MRI,” in *2024 ISMRM Annual Meeting & Exhibition*.




- [A8] Jose Serralles, **Ilias Giannakopoulos**, and Riccardo Lattanzi, “On the Extension of MARIE to Low Frequencies and Arbitrarily Fine Meshes,” in *2024 ISMRM Annual Meeting & Exhibition*.
- [A9] **Ilias Giannakopoulos**, Xinling Yu, Giuseppe Carluccio, Gregor Koerzdoerfer, Karthik Lakshmanan, Hector Lise de Moura, Jose Serralles, Jerzy Walczyk, Zheng Zhang, and Riccardo Lattanzi, “Electrical Property Mapping using Vision Transformers and Canny Edge Detection,” in *2024 ISMRM Annual Meeting & Exhibition*. Oral Presentation. **Finalist submission in the ISMRM-EMTP study group and Magna Cum Laude Merit Award**.
- [A10] Stefano Mandija, Alessandro Arduino, Cornelis A.T. van den Berg, Patrick Fuchs, **Ilias Giannakopoulos**, Yusuf Ziya Ider, Kyu-Jin Jung, Ulrich Katscher, Dong-Hyun Kim, Riccardo Lattanzi, Thierry G. Meerbothe, Khin-Khin Tha, and Luca Zilberti, “The first MR Electrical Properties Tomography (MR-EPT) reconstruction challenge: preliminary results of simulated data,” in *2024 ISMRM Annual Meeting & Exhibition*. **AMPC selected abstract**
- [A11] **Ilias Giannakopoulos**, Patricia Johnson, Jesi Kim, Matthew Breen, Yvonne Lui, and Riccardo Lattanzi, “Feature-Image Variational Network for Accelerated MRI Reconstructions,” in *2024 ISMRM Annual Meeting & Exhibition*. Poster Presentation.
- [A12] **Ilias I. Giannakopoulos**, Riccardo Lattanzi, “Using Tucker-Compressed Volume Integral Equation Methods to Accelerate the Estimation of Ideal Current Patterns in MRI,” *2023 IEEE MTT-S NEMO’2023*. Oral Presentation. **Invited**.
- [A13] **Ilias I. Giannakopoulos**, Patricia Johnson, Riccardo Lattanzi, Matthew Muckley, “Improving variational network based 2D MRI reconstruction via feature-space data consistency,” *2023 ISMRM Workshop on Data Sampling & Image Reconstruction*. Poster Presentation.
- [A14] Jose Serralles, **Ilias I. Giannakopoulos**, Georgy Guryev, Luca Daniel, Riccardo Lattanzi, “Simultaneous Estimation of Electrical Properties and Incident Fields Using Global Maxwell Tomography with B_1^+ and MR Signal Data,” *2023 ISMRM Annual Meeting & Exhibition*. Poster Presentation.
- [A15] Xinling Yu, Jose Serralles, **Ilias I. Giannakopoulos**, Ziyue Liu, Luca Daniel, Riccardo Lattanzi, Zheng Zhang, “PIFN EPT: MR-Based Electrical Property Tomography Using Physics-Informed Fourier Networks,” *2023 ISMRM Annual Meeting & Exhibition*. Poster Presentation.
- [A16] **Ilias I. Giannakopoulos**, Patricia Johnson, Riccardo Lattanzi, Matthew Muckley, “Improving variational network based 2D MRI reconstruction via feature-space data consistency,” *2023 ISMRM Annual Meeting & Exhibition*. Poster Presentation. **Trainee (Educational) Stipend Award**.
- [A17] Xinling Yu, Jose Serralles, **Ilias I. Giannakopoulos**, Ziyue Liu, Luca Daniel, Riccardo Lattanzi, Zheng Zhang, “[MR-Based Electrical Property Reconstruction Using Physics-Informed Neural Networks](#),” in *2022 Joint Workshop on MR phase, magnetic susceptibility and electrical properties mapping*. Oral Presentation.
- [A18] Jose Serralles, **Ilias I. Giannakopoulos**, Luca Daniel, Riccardo Lattanzi, “Replacing the Coil Model with a Numerical Electromagnetic Basis in Global Maxwell Tomography: Preliminary Experimental Results,” in *2022 Joint Workshop on MR phase, magnetic susceptibility and electrical properties mapping*.
- [A19] **Ilias I. Giannakopoulos**, Jose Serralles, Luca Daniel, Riccardo Lattanzi, “[Effect of the Coil’s Incident Field Accuracy on Global Maxwell Tomography](#),” in *2022 Joint Workshop on MR phase, magnetic susceptibility and electrical properties mapping*. Poster Presentation & Power Pitch.
- [A20] Georgy Guryev, Eugene Milshteyn, **Ilias I. Giannakopoulos**, Elfar Adalsteinsson, Lawrence L. Wald, Jacob K. White, “Fast full-wave patient-specific field simulations in seconds with MARIE 2.0,” *2022 ISMRM Annual Meeting & Exhibition*.
- [A21] **Ilias I. Giannakopoulos**, Jose Serralles, Jan Paška, Carlotta Ianniello, Georgy Guryev, Luca Daniel, Jacob K. White, Ryan Brown, Daniel K. Sodickson, Riccardo Lattanzi, “A Novel Volume-Surface Integral Equation Formulation of Global Maxwell Tomography: Simulations and Experiments,” *2022 ISMRM Annual Meeting & Exhibition*. Poster Presentation. **Trainee (Educational) Stipend Award and Finalist submission in the ISMRM-EMTP study group**.
- [A22] **Ilias I. Giannakopoulos**, Georgy Guryev, Jose Serralles, Jan Paška, Bei Zhang, Luca Daniel, Jacob K. White, Christopher Collins, Riccardo Lattanzi, “Hybrid volume-surface integral equation method for rapid electromagnetic simulations in ultra-high-field MRI,” *2022 ISMRM Workshop on Ultra-High Field MR*. Poster Presentation. **Trainee (Educational) Stipend Award**.
- [A23] Jose Serralles, **Ilias I. Giannakopoulos**, Jacob K. White, Luca Daniel, Riccardo Lattanzi, “An Application of a Projected Newton Method to Electrical Properties Estimation via Global Maxwell Tomography,” *2021 ISMRM Annual Meeting & Exhibition*.

- [A24] **Ilias I. Giannakopoulos**, Georgy Guryev, Jose Serralles, Ioannis P. Georgakis, Luca Daniel, Jacob K. White, Riccardo Lattanzi, “Decomposition of the incomplete volume-surface integral equation matrices for MR coil simulations,” *2021 ISMRM Annual Meeting & Exhibition*. [Poster Presentation](#). **Trainee (Educational) Stipend Award**.
- [A25] **Ilias I. Giannakopoulos**, Jose Serralles, Georgy Guryev, Luca Daniel, Elfar Adalsteinsson, Lawrence Wald, Daniel Sodickson, Jacob White, Riccardo Lattanzi, “On the usage of deep neural networks as a tensor-to-tensor translation between MR measurements and electrical properties,” *2020 ISMRM Virtual Conference & Exhibition*. [Poster Presentation](#).
- [A26] **Ilias I. Giannakopoulos**, Jose Serralles, Bei Zhang, Luca Daniel, Jacob K. White, Riccardo Lattanzi, “[Electrical properties mapping in a tissue mimicking phantom using Global Maxwell Tomography with a realistic coil model at 7 Tesla](#),” in *2nd International workshop of Mr-based Electrical Properties mapping (IMEP)*, 2019. [Oral Presentation](#).

— Abstracts in Symposia and Seminars

- [S1] **Ilias I. Giannakopoulos**, Giuseppe Carluccio, Mahesh B. Keerthivasan, Gregor Koerzdoerfer, Karthik Lakshmanan, Hector Lise de Moura, Jose Serralles, Riccardo Lattanzi, “MR-Based Electrical Properties Mapping Using Vision Transformers and Canny Edge Detectors,” *CBI Science Day*, Department of Radiology, NYU Grossman School of Medicine, October 2024. [Oral Presentation](#).
- [S2] Bei Zhang, **Ilias I. Giannakopoulos**, Gregor Adriany, Kamil Ugurbil, Riccardo Lattanzi, “Performance Evaluation of 63-channel and 31-channel head arrays at 7T and 10.5T with uiSNR,” in *2023 i2i Workshop*.
- [S3] **Ilias I. Giannakopoulos**, Matthew J. Muckley, Patricia M. Johnson and Riccardo Lattanzi, “Advancing accelerated MRI reconstructions through novel variational network-based architectures,” *CBI Science Day*, Department of Radiology, NYU Grossman School of Medicine, May 2023. [Poster Presentation](#).
- [S4] **Ilias I. Giannakopoulos**, Matthew Muckley, Patricia Johnson, Riccardo Lattanzi, “Accelerated MRI reconstructions using a variational network with general conditioning layers,” in *11th Annual BMEII Symposium*, Icahn School of Medicine at Mount Sinai, April 2023. [Poster Presentation](#).
- [S5] **Ilias I. Giannakopoulos**, Ioannis P. Georgakis, Mikhail S. Litsarev and Athanasios G. Polimeridis, “A GPU-accelerated and highly accurate VIE solver for dielectric shimming in MRI via tensor decompositions,” *3rd Annual Skoltech-MIT Conference*, “Collaborative Solutions for Next Generation Education, Science and Technology,” October 2018. [Poster Presentation](#).

— Open-Source Software

- [O1] 3D Vision Transformer for MR Electrical Properties Tomography. 
- [O2] FI and Feature VarNets for Accelerated MRI Reconstructions. 
- [O3] Mie Scattering for Homogeneous Spheres. 

— Professional Service and Affiliations

— Reviewing

- 2023–now **Grant reviewing** for the *Dutch Research Council-Open Technology Programme*.
- 2023–now **Journal article reviewing** for *AJNR*, *MRM*, *JMRI*, *Human Brain Mapping*, *Frontiers*, *MDPI*.
- 2023–now **Conference abstract reviewing** for *ISMRM 2024*, *EMTP Chile, 2024*.

— Professional Memberships

- 03/2025–now Member, IEEE-APS.
- 03/2025–now Member, IEEE.
- 11/2019–now Trainee Member, ISMRM.
- 11/2019–now Member of the EMTP ISMRM Study Group.
- 01/2014–12/2016 Student Member, IEEE.

— Activities

- 09/2024 Member of the Scientific Committee of the [EMTP Chile](#), 2024 Joint Workshop on MR Phase, Magnetic Susceptibility and Electrical Properties Mapping.
- 05/2023–now Member of the Organizing Committee of the first *Electrical Properties Tomography Reconstruction Challenge*.
- 03/2024 Designer of the NYU Grossman School of Medicine Postdoctoral Association’s official Icon “[Unity in Innovation and Discovery](#).” Awarded 200\$.

Other

Media Exposure

- 07/2023 [Interview](#) titled “Ilias Giannakopoulos on Matrices, Electromagnetics, and Role Models” for the *Center of Advanced Imaging and Innovation and Research (CAI²R) Honor Roll and Lab Talk blogs*, Jul. 27, 2023, New York, NY, USA.
- 09/2018 [Recognition Spotlight](#) in an e-magazine, Greece.
- 03/2018 Interview titled “Why did I choose Skoltech?” featured in *Troickuy variant-Nauka*, Workshop of the Future column, vol. 254, no. 10, pp. 7, Mar. 22, 2018, Moscow, Russian Federation.

Volunteering

- 10/2023 Volunteer at I2I Workshop, NYU Langone Health, New York, NY, USA.
- 03/2021–now Volunteer for Knee MRI Scans at NYU Langone Health, New York, NY, USA.
- 03/2014–06/2014 Organizer of Student Symposium for the “Quantum Mechanics” course, ECE, AuTh.
- 01/2013–01/2014 Moderator of the online forum [THMMY.gr](#).

Languages

- Greek Native speaker.
- English Fully proficient, IELTS (2011), ECCE, University of Michigan (2006).
- French Working knowledge, DELF B1/A2/A1.