

# Curriculum Vitae

## Dr. Lena NOHAVA

Postdoctoral researcher  
High Field MR Center  
Center for Medical Physics and Biomedical Engineering  
Medical University of Vienna  
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[Google Scholar](#) profile | [ResearchGate](#) profile | Medical University of Vienna [researcher profile](#)  
Medical University of Vienna [Homepage](#)

### Personal information

**Nationality:** Austrian

**Date and place of birth:** June 11, 1993 in Oberpullendorf, Austria

### Main areas of research

MR hardware engineering | innovative radiofrequency (RF) coils for (ultra-)high field MRI | wearable MR technology | RF safety | EM simulation | clinical studies and medical device certification

### Professional record

#### Post Doc position

*01/2021 – now*

High Field MR Center at the CMPBME, Medical University of Vienna, Vienna, Austria  
& IADI, Université de Lorraine, Nancy, France (08/2021-11/2021).

- Design and implementation of wearable MR technology for 3 T MRI
  - a modular system of flexible receive-only coil arrays
  - a flexible one-size-fits-all breast coil array for MR mammography
- Testing of motion correction strategies for supine breast MRI (beat pilot tones, on-coil sensors)
- Development of an optical wireless link for MR applications
- Documentation and testing of RF coils according to the EU Medical Device Regulation
- Clinical study management (breast cancer patients, healthy volunteers)
- Horizon Europe project “CITRUS”: development of a TUS-MRI head coil system
- Citizen Science project organization involving high school students in research projects
- Patient comfort evaluation during supine and prone breast MRI with a flexible coil vest
- Co-organization of science communication activities of the HFMR Center Vienna

#### PhD fellow

*10/2017 – 12/2020*

BioMaps (former IR4M) laboratory, Université Paris-Saclay, Orsay, France, in collaboration with the RF Lab at the CMPBME, Medical University of Vienna, Vienna, Austria.

- Design and implementation of lightweight flexible radio frequency coils for 3 and 7 T MRI
- Design of wearable MR technology (a flexible coil vest for MR mammography)
- Strategies for (optical) wireless data transmission in the MR environment

#### Diploma thesis internship

*10/2016 – 06/2017*

RF Lab at the CMPBME, Medical University of Vienna, Vienna, Austria

#### Internship

*08/2015 – 09/2015*

RF Lab at the CMPBME, Medical University of Vienna, Vienna, Austria

## Educational record

### Université Paris-Saclay, Orsay, France & Medical University of Vienna, Vienna, Austria

10/2017 – 12/2020

PhD studies “Medical Physics and Imaging” at the Université Paris-Saclay, registered in parallel at the Medical University of Vienna. Thesis: *“Concepts for Wearable Technology in MR: Lightweight Flexible Radio Frequency Coils and Optical Wireless Communication”*. Available online: <https://tel.archives-ouvertes.fr/tel-03141307>. Supervisors: Dr. Jean-Christophe Ginefri and Assoc.-Prof. Dr. Elmar Laistler. Defense reviewers and examiners: Ass.-Prof. Irena Zivkovic, Ass.-Prof. Simon Lambert, Prof. Andrew Webb, Prof. Jacques Felblinger, Prof. Marie Poirier-Quinot, Prof. Maxim Zaitsev.

### University of Vienna, Vienna, Austria

10/2012 – 08/2017

Diploma studies, teacher training in Physics and French, focus on MR Physics. Thesis: *“A parallel transmission pulse design framework for 7 T MRI with physical constraints and SAR minimization”*

## International

### Nancy, France

08/2021 – 11/2021

Research collaboration, IADI, Université de Lorraine

### Paris, France

10/2017 – 12/2020

PhD studies, Orsay, France

01/2012 – 06/2012

French linguistics and civilization courses (CCFS, Fondation Robert de Sorbon)

08/2011 – 08/2012

Au-pair year

### Nice, France

01/2016 – 07/2016

Erasmus semester, Université Sophia Antipolis

## Language skills

German (native), English (fluent, C2), French (fluent, C2), Spanish (intermediate, A2)

## Awards and scholarships

2024

**Dora Brücke-Teleky Award**, Alumni Club and College of Physicians, Medical University of Vienna

**EUSOBI best abstract award**, Lisbon, Portugal

**Top 200 best-rated abstracts at the ECR (European Congress of Radiology) 2024**

2023

**EUSOBI best abstract award**, Valencia, Spain

**ISMRM Magna Cum Laude Merit Award**, Toronto, Canada

2022-2024

**ÖFG International Communication stipend**

2021

**SFRMBM PhD thesis award**

**Gorter Prize Finalist**, German Chapter of the ISMRM

2019, 2020, 2021, 2022

**ISMRM Educational Stipend**

2019

**SFRMBM stipend**, Montréal, Canada

**ISMRM Magna Cum Laude Merit Award**, Montréal, Canada

2018

**ISMRM New Entrant Stipend**, Paris, France

2017

**MESR (Ministère de l'Enseignement Supérieur et de la Recherche) PhD funding for 3 years**, Orsay, France

2013, 2014, 2016

**Erasmus+** scholarship, Nice, France

**Excellent performance scholarship**, University of Vienna, Austria

## Memberships

2024

ESMRMB Medical Device Regulation (MDR) working group

2022-2024

European Society of Radiology (ESR)

European Society of Breast Imaging (EUSOBI)

2016-2024

International Society for Magnetic Resonance in Medicine (ISMRM)

MR Engineering Study Group (ISMRM)

2016-2020

IEEE Associate Member

Société Française de Résonance Magnétique en Biologie et Médecine (SFRMBM)

Young Scientist Association (YSA) of the Medical University of Vienna

European Society for Magnetic Resonance in Medicine and Biology (ESMRMB)

## Workshops and Trainings

10/2021

Good Clinical Practice (GCP) training certificate by NIDA (<https://gcp.nidatraining.org/>).

2017-2023

Austrian-Czech Workshop on Magnetic Resonance

09/2018

ESMRMB Lectures on MR: Course on *RF coils: Design and build your own*. L'Aquila. Italy.

04/2018

Intellectual Property Rights and Project Management. Medical University, Vienna, Vienna, Austria.

02/2017

ESMRMB Lectures on MR: *Course on RF Simulation for MR systems: Coil design and safety*. Utrecht, NL.

## Teaching & reviewing activities

Reviewer activity for *European Journal of Radiology Experimental*, *IEEE Transactions on Medical Imaging*

PhD student co-supervision (2022-ongoing)

Supervision of FFG young talent internships for high school students (Medical University of Vienna, since 2021)

Practical course in Medical Physics for physicians (Medical University of Vienna, since 2021)

Co-organization of "KinderUni" (Kids' university) and "Lange Nacht der Forschung" (2022 – ongoing)

## Grants

Österreichische Gesellschaft für Senologie (Austrian Society for Senology) project funding 2022 (24k €)

FFG young talent internship funding (July/August 2021, 2.4k €)

Co-author of FWF and FFG projects

## Patents

Laistler E, Obermann M, Nohava L, Roat S. *Coil module for magnetic resonance imaging applications*. EU Patent EP21020242.0, 2021 (filed).

26.09.2024

# List of publications

Lena NOHAVA | 2016-2024

8 peer-reviewed journal articles

41 peer-reviewed conference proceedings

3 invited talks

## Peer-reviewed journal articles

1. Roat S & **Nohava L**, Laistler E. Mechanically Adjustable 4-Channel RF Transceiver Coil Array for Rat Brain Imaging in a Whole-Body 7 T MR Scanner. *Sensors* 24(16):5377 (2024). doi: 10.3390/s24165377.
2. Grosshagauer S, Woletz M, Vasileiadi M, Linhart D, **Nohava L**, Schuler AL, Windischberger C, Williams N, Tik M. Chronometric TMS-fMRI of personalized left dorsolateral prefrontal target reveals state-dependency of subgenual anterior cingulate cortex effects. *Mol Psychiatry* (2024). doi: 10.1038/s41380-024-02535-3.
3. **Nohava L**, Czerny R, Tik M, Wurzer D, Laistler E, Frass-Kriegl R. Citizen science approach to assessing patient perception of MRI with flexible radiofrequency coils. *Sci Rep* 14, 2811 (2024). doi: 10.1038/s41598-024-53364-x.
4. Obermann M & **Nohava L**, Frass-Kriegl R, Soanca O, Ginefri J-C, Felblinger J, Clauser P, Baltzer P, Laistler E. Panoramic Magnetic Resonance Imaging of the breast with a wearable coil vest. *Investigative Radiology* (2023). doi: 10.1097/RLI.0000000000000991.
5. **Nohava L**, Obermann M, Frass-Kriegl R, Soanca O, Laistler E. A modular system of flexible receive-only coil arrays for 3 T Magnetic Resonance Imaging. *Z Med Phys* (2023). doi: 10.1016/j.zemedi.2023.05.002.
6. Isaieva K, Meullenet C, Vuissoz P-A, Fauvel M, **Nohava L**, Laistler E, Zeroual MA, Henrot P, Felblinger J, Odille F. Feasibility of online non-rigid motion correction for high-resolution supine breast MRI. *Magn Reson Med* (2023). doi: 10.1002/mrm.29768.
7. **Nohava L**, Czerny R, Roat S, Obermann M, Kuehne A, Frass-Kriegl R, Felblinger J, Ginefri J-C, Laistler E. Flexible multi-turn multi-gap coaxial RF coils: design concept and implementation for Magnetic Resonance Imaging at 3 and 7 Tesla. *IEEE Trans Med Imaging* (2021) 40:1267-1278. doi:10.1109/TMI.2021.3051390.
8. **Nohava L**, Ginefri J-C, Willoquet G, Laistler E, Frass-Kriegl R. Perspectives in Wireless Radio Frequency Coil Development for Magnetic Resonance Imaging. *Front Phys* (2020) 8:11. doi:10.3389/fphy.2020.00011.

## Peer-reviewed conference proceedings

1. **Nohava L**, Clauser P, Baltzer P, Laistler E. Improved second-look US lesion localization based on supine (panoramic) 3 T breast MRI with a wearable coil. EUSOBI Annual Scientific Meeting, 2024, Lisbon, Portugal.  
*Best abstract award, oral presentation*
2. Isaieva K, Weber N, **Nohava L**, Fischer B, Megel A, Henrot P, Micard E, Laistler E, Felblinger J, Odille F. *Motion sensor selection for motion-corrected supine breast MRI with a wearable coil*. Proceedings of the ESMRMB, 2024, Barcelona, Spain.
3. Gnanago J-L, Gomez Tamm E, Hodul A, Nguyen Q, Soanca O, Woletz M, **Nohava L**, Laistler E, Frass-Kriegl R, *MR and Bench Characterization of a Novel Modular Torso Motion Phantom*. Proceedings of the ESMRMB, 2024, Barcelona, Spain.  
*oral presentation*
4. Windischberger C, Hewener H, Arbabi A, Campilho B, Risser C, Marques J, Grosshagauer S, Degel C, Van den Heuvel D, **Nohava L**, Hodono S, Laistler E, Tretbar S, Norris, D. *Cross-beam validation of 3D steerable TUS system*. Focused Ultrasound Neuronavigation (FUN) conference, 2024, Toronto, Canada.  
*poster presentation*
5. Czerny R, Clauser P, Obermann M, Baltzer P, Laistler E, **Nohava L**. *Supine breast MRI with a wearable coil (BraCoil) improves lesion localization and clinical workflow for US-guided biopsy*. Proceedings of the ISMRM, 2024, Singapore.  
*oral presentation*
6. **Nohava L**, Isaieva K, Frass-Kriegl R, Rapp B, Czerny R, Soanca O, Felblinger J, Odille F, Laistler E. *Motion-corrected supine breast MRI using a flexible coil vest and beat pilot tones – preliminary results*. Proceedings of the ISMRM, 2024, Singapore.  
*traditional poster presentation*
7. **Nohava L**, Czerny R, Baltzer P, Clauser P, Laistler E. *Improved lesion localization with a wearable coil for supine (panoramic) 3 T breast MRI*. European Congress of Radiology, 2024, Vienna, Austria, C-23237.  
*Among top 200 best-rated abstracts, digital poster + oral presentation*
8. Clauser P, **Nohava L**, Obermann M, Czerny R, Laistler E, Baltzer P. *Supine 3 T breast MRI using a wearable radiofrequency coil*. ÖGS (Austrian Society of Senology) Annual Meeting, 2023, Vienna, Austria.  
*digital poster presentation*
9. Rapp B, **Nohava L**, Isaieva K, Soanca O, Czerny R, Felblinger J, Odille F, Frass-Kriegl R, Laistler E, *Free breathing supine breast MRI using beat pilot tones for motion correction – preliminary results*, EUSOBI Annual Scientific Meeting, 2023, Valencia, Spain.  
*digital poster presentation*
10. **Nohava L**, Obermann M, Czerny R, Clauser P, Baltzer PAT, Laistler E, *Supine 3 T breast MRI using a wearable radio frequency coil*, EUSOBI Annual Scientific Meeting, 2023, Valencia, Spain.  
*digital poster presentation*
11. Czerny R, **Nohava L**, Obermann M, Clauser P, Baltzer PAT, Laistler E, *A panoramic view for supine breast MRI*, EUSOBI Annual Scientific Meeting, 2023, Valencia, Spain.  
*Best abstract award, oral presentation*

12. **Nohava L**, Obermann M, Clauser P, Baltzer P, Laistler E, *A panoramic view for supine breast MRI*, European Congress of Radiology, 2023, Vienna, Austria, 17887.  
*oral presentation*
13. **Nohava L**, Obermann M, Clauser P, Baltzer P, Laistler E, *Supine 3 T breast MRI with a wearable radio frequency coil*, European Congress of Radiology, 2023, Vienna, Austria, 12293.  
*digital poster presentation*
14. **Nohava L**, Obermann M, Frass-Kriegl R, Soanca O, Laistler E, *First in vivo results with a modular system of flexible coil arrays for 3 T MRI (ModFlex)*, Proceedings of the ISMRM, 2023, Toronto, ON, Canada.  
*oral presentation*
15. **Nohava L**, Obermann M, Laistler E, *A panoramic view for supine breast MRI*, Proceedings of the ISMRM, 2023, Toronto, ON, Canada.  
*ISMRM Magna Cum Laude award, oral presentation*
16. Czerny R, Frass-Kriegl R, Cap V, Laistler E, **Nohava L**, *Twisted pair coils as flexible receive elements for 7 T - SNR and active detuning efficiency*, Proceedings of the ISMRM, 2023, Toronto, ON, Canada.  
*digital poster presentation*
17. Obermann M, **Nohava L**, Frass-Kriegl R, Soanca O, Ginefri J-C, Felblinger J, Laistler E, *In vivo performance of a wearable coil vest for 3 T breast MRI (BraCoil)*, Proceedings of the ISMRM, 2023, Toronto, ON, Canada.  
*oral presentation*
18. Obermann M, **Nohava L**, Clauser P, Roat S, Frass-Kriegl R, Soanca O, Felblinger J, Baltzer P, Laistler E, *BraCoil – a wearable breast coil for 3 T MR mammography*, European Congress of Radiology, 2022, Vienna, Austria, 21329.  
*oral presentation*
19. **Nohava L**, Obermann M, Clauser P, Frass-Kriegl R, Roat S, Soanca O, Baltzer P, Laistler E, *ModFlex – a modular system of flexible receive-only coil arrays for 3 T MRI*, European Congress of Radiology, 2022, Vienna, Austria, 21647.  
*digital poster presentation*
20. **Nohava L**, Obermann M, Frass-Kriegl R, Roat S, Soanca O, Weber N, Ginefri J.-C., Felblinger J, Laistler E. *ModFlex – a modular system of flexible receive-only coil arrays for 3 T MRI*. Proceedings of the ISMRM, 2022, London, UK.  
*oral power pitch presentation*
21. **Nohava L**, Obermann M, Frass-Kriegl R, Isaieva K, Dessale C, Felblinger J, Laistler E. *BraCoil – preliminary performance evaluation of a wearable breast coil array for 3 T MR mammography*. Proceedings of the ISMRM, 2022, London, UK.  
*digital poster presentation*
22. Obermann M, **Nohava L**, Roat S, Frass-Kriegl R, Soanca O, Gruber B, Ginefri J.-C., Felblinger J, Laistler E. *BraCoil – a wearable one-size-fits-all breast coil for 3 T MR mammography*. Proceedings of the ISMRM, 2022, London, UK.  
*oral power pitch presentation*
23. Gruber B, Obermann M, **Nohava L**, Zaitsev M, Wald L. L., Stockmann J. P., Laistler E. *A 4-channel flexible array with integrated B0 shimming for 3 T*. Proceedings of the ISMRM, 2022, London, UK.  
*digital poster presentation*

24. Isaieva K, Vuissoz P.-A., **Nohava L**, Obermann M, Laistler E, Fauvel M, Dessale C, Weber N, Felblinger J, Odille F. *Motion-corrected supine breast MRI with online reconstruction*. Proceedings of the ISMRM, 2022, London, UK.  
*digital poster presentation*
25. **Nohava L**, Kuehne A, Laistler E, Roat S. *Performance comparison of a 10 cm single-gap vs. double-gap coaxial coil used as a transceiver for 7T MRI*. Proceedings of the ISMRM, 2021, virtual conference.  
*digital poster presentation*
26. Navarro de Lara L, Sundaram P, **Nohava L**, Laistler E, Daneshzand M, Stockmann J, Wald L, Nummenmaa A, *The “RF-EEG Cap”: a technological solution for high sensitivity whole-head concurrent TMS/EEG/fMRI experiments at 3T*, Brain Stimulation, Volume 14, Issue 6, 2021, Page 1618. Doi 10.1016/j.brs.2021.10.097.
27. Navarro de Lara L, Sundaram P, **Nohava L**, Laistler E, Daneshzand M, Wald L, Stockmann J, Nummenmaa A. *A wearable “RF-EEG Cap” for full head coverage concurrent TMS/EEG/fMRI experiments at 3T: a feasibility study*. Proceedings of the ISMRM, 2021, virtual conference.  
*digital poster presentation*
28. Roat S, Kuehne A, **Nohava L**, Laistler E. *Should coaxial coils be operated at their self-resonance? A simulation study*. Proceedings of the ISMRM, 2021, virtual conference.  
*digital poster presentation*
29. **Nohava L**, Czerny R, Obermann M, Felblinger J, Frass-Kriegl R, Ginefri JC, Laistler E. *Flexible transmit/receive multi-gap coaxial coils for 7 T MRI*. Proceedings of the ISMRM, 2020, virtual conference.  
*digital poster presentation*
30. **Nohava L**, Czerny R, Obermann M, Felblinger J, Frass-Kriegl R, Ginefri JC, Laistler E. *Flexible receive-only coaxial coils with multiple turns and gaps for 3 T MRI*. Proceedings of the ISMRM, 2020, virtual conference.  
*oral presentation*
31. Obermann M, **Nohava L**, Czerny R, Frass-Kriegl R, Roat S, Pichler M, Felblinger J, Ginefri JC, Laistler E. *Optimization and miniaturization of Rx-only coaxial coil interfacing*. Proceedings of the ISMRM, 2020, virtual conference.  
*digital poster presentation*
32. **Nohava L**, Czerny R, Roat S, Obermann M, Frass-Kriegl R, Felblinger J, Ginefri JC, Laistler E. *Flexible multi-turn multi-gap coaxial RF coils (MTMG-CCs) for 3 and 7 Tesla MRI*. Medical Imaging Cluster Meeting, 2020, Vienna, Austria.  
*digital poster presentation*
33. **Nohava L**, Czerny R, Roat S, Obermann M, Frass-Kriegl R, Felblinger J, Ginefri JC, Laistler E. *Flexible size-adaptable multi-turn multi-gap coaxial RF coils (MTMG-CCs) for Magnetic Resonance Imaging (MRI)*. Young Scientist Association Symposium, 2019, Vienna, Austria.  
*oral presentation*
34. **Nohava L**, Czerny R, Obermann M, Pichler M, Felblinger J, Frass-Kriegl R, Ginefri JC, Laistler E. *Flexible multi-turn multi-gap coaxial coils: investigation of size- and shape-adaptation for different anatomical targets at 1.5, 3 and 7 Tesla*. Proceedings of the ESMRMB, 2019, Rotterdam, Netherlands.  
*power pitch + traditional poster presentation*
35. Czerny R, **Nohava L**, Frass-Kriegl R, Felblinger J, Ginefri JC, Laistler E. *Flexible multi-turn multi-gap coaxial RF coils: enabling a large range of coil sizes*. Proceedings of the ISMRM, 2019, Montréal, Canada.  
*digital poster presentation*

36. Obermann M, **Nohava L**, Goluch-Roat S, Pichler M, Sieg J, Felblinger J, Ginefri JC, Laistler E. *Ultra-flexible and light-weight 3-channel coaxial transmission line resonator receive-only coil array for 3T*. Proceedings of the ISMRM, 2019, Montréal, Canada.  
*digital poster presentation*
37. **Nohava L**, Czerny R, Obermann M, Pichler M, Frass-Kriegl R, Felblinger J, Ginefri J-C, Laistler E. *Flexible multi-turn multi-gap coaxial RF coils (MTMG-CCs): design concept and bench validation*. Proceedings of the ISMRM, 2019, Montréal, Canada.  
*ISMRM Magna Cum Laude award, power pitch + digital poster presentation*
38. **Nohava L**, Czerny R, Obermann M, Pichler M, Frass-Kriegl R, Felblinger J, Ginefri J-C, Laistler E. *Antennes RF coaxiales multitours et multifentes: conception et validation expérimentale*. 4<sup>th</sup> congress of the SFRMBM, 2019, Strasbourg, France.  
*traditional poster presentation*
39. Rund A, Aigner CS, **Nohava L**, Frass-Kriegl R, Laistler E, Kunisch K, and Stollberger R. *Optimal control based design of parallel transmission RF pulses with minimum local SAR*. Proceedings of the ISMRM/ESMRMB, 2018, Paris, France.  
*digital poster presentation*
40. **Nohava L**, Kuehne A, Aigner CS, Rund A, Moser E, Laistler E, and Frass-Kriegl R. *Evaluation of RF pulses for 8-channel pTx systems at 7T with respect to hardware constraints and the trade-off between local 10g SAR and excitation accuracy*. Proceedings of the ESMRMB, 2017, Barcelona, Spain.  
*oral presentation*
41. **Nohava L**, Navarro de Lara LI, Moser E, Laistler E, and Kriegl R. *Influence of the active detuning inductance in a receive-only surface coil on the transmit field homogeneity of a birdcage resonator*. Proceedings of the ESMRMB, 2016, Vienna, Austria.  
*traditional poster presentation*

### Invited talks

1. **Nohava L**, “Wireless coils”, Educational Talk, Session MR Engineering II: RF Coil for nerds, ISMRM, 2023, Toronto, ON, Canada.
2. **Nohava L**, “Lightweight Flexible Radio Frequency Coils & Perspectives in Wireless MRI”, Multiwave Imaging France, 2021, online lecture.
3. Frass-Kriegl R & **Nohava L**, “Options for Wireless MR Data Transmission”, Educational talk, ISMRM, 2020, virtual conference.