

Dr. Tessa Nogatz

Personal Details

Name Tessa Nogatz
Date of Birth 24/5/1993

Education

- 10/2018–12/2022 **Dr. rer. nat. Mathematics**, *Technische Universität Kaiserslautern*, Germany
Overall Grading: With distinction – summa cum laude
Title of dissertation: “Estimation of Motion Vector Fields of Complex Microstructures by Time Series of Volume Images,” supervised by Prof. Dr. Claudia Redenbach (TU Kaiserslautern) and Dr. Katja Schladitz (Fraunhofer ITWM Kaiserslautern)
- 04/2016–10/2018 **M.Sc. Mathematics**, *Universität Würzburg*, Germany
Overall Grading: 1.1 with distinction
Master Thesis “Reconstruction of the lung during free breathing in Magnetic Resonance Imaging,” supervised by Prof. Dr. Bernadette Hahn-Rigaud
- 10/2015–01/2016 **M.Sc. Mathematics**, *Technische Universität Berlin*, Germany
Switch to Universität Würzburg with summer term 2016
- 2011–2015 **B.Sc. Mathematics**, *Technische Universität Berlin*, Germany
Overall Grading: 2.8
Bachelor Thesis “Backward error analysis and long-term energy conservation of symplectic integrators,” supervised by Prof. Dr. Yuri B. Suris

Work Experience

Academic Services

- SINCE 01/2023 **Postdoc**, *RPTU Kaiserslautern-Landau*
Postdoc at Chair for Statistics with Prof. Dr. Claudia Redenbach
Classification of lung tissue based on CT and Synchrotron image data
- 08/2021–12/2022 **Scientific Assistant**, *TU Kaiserslautern*
Scientific Assistant at Chair for Statistics with Prof. Dr. Claudia Redenbach
Teaching assistant for lectures on “Stochastic Methods” and “Regression and Time Series Analysis”
- 10/2018–02/2021 **PhD Scholar**, *Fraunhofer-Institut für Techno- und Wirtschaftsmathematik, Abteilung für Bildverarbeitung, Kaiserslautern*

Industry Work Experience

- 03/2021–08/2021 **Scientific Assistant**, *Fraunhofer-Institut für Techno- und Wirtschaftsmathematik, Abteilung für Bildverarbeitung, Kaiserslautern*
Development & implementation of algorithms for defect detection on industrial surfaces
- 12/2017–09/2018 **Working student software development**, *InstruNEXT GmbH, Würzburg*
Development & implementation of computer vision algorithms
- 03/2016–11/2017 **Working student software development**, *stroemtec GmbH, Würzburg*
Development & implementation of CAD/CAM algorithms
- 07/2015–03/2016 **Working student software development**, *compuccino GmbH, Berlin*
Backend development of information dashboards
- 03/2012–07/2015 **Online-Tutor**, *Integral Learning GmbH, Berlin*

Languages

- German Mother tongue
- English **Fluent**, *in speech and writing*
- Latin **Good Knowledge**, *5 years in school, written*
- Russian **Basics**, *in speech and writing*

Volunteer Work

- 2013–2018 **Niedersächsische Schachjugend**, *Vice Chair*
- 2009–2014 **Schachjugend im Schachbezirk Hannover**, *Designee for Girls in Chess*

Technical Skills

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| Languages | Python, Java, C, C++, Matlab | Databases | MySQL, MongoDB, Redis |
| Environments | Qt, Eclipse, VS Code, PyCharm | Versioning | Git, Subversion |

Publications

- 2023 **Paper**, *MorphFlow: Estimating Motion in In Situ Tests of Concrete*
Tessa Nogatz, Claudia Redenbach, and Katja Schladitz (arXiv:2310.11109)
- 2022 **Journal Paper**, *3D Optical Flow for Large CT Data of Materials Microstructures*
Tessa Nogatz, Claudia Redenbach, and Katja Schladitz (*Strain* 58.3)

Scientific Service

- 2023 **Session Chair**, *12th Intl. Conf. on Industrial Computed Tomography (iCT 2023)*
- 2022 **Journal Reviewer**, *Journal for Composite Materials*, 2022
- 2018–2022 **Student member in PhD committee**, *TU Kaiserslautern*
Committee for admission and organization of PhD students at TU Kaiserslautern
- 2018 **Student member in PhD guidelines committee**, *TU Kaiserslautern*
Committee for redrafting PhD guidelines in Mathematics Department