
Postdoctoral Researcher	Navitas, 05.091
Mechanical Metamaterials and Soft Matter Group	Inge Lehmanns Gade 10
Solid Mechanics and Materials Engineering	8000, Aarhus, Denmark
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Aarhus University	E-mail: souhayl.sadik@gmail.com
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	Date of birth: 10.07.1987

Research Interests

Kirigami; Mechanical Metamaterials; Shape-changing Structures; Soft Materials; Additive Manufacturing; Morphoelasticity; Biomechanics

Disciplines

Solid Mechanics; Continuum Mechanics; Structural Mechanics; Engineering Mechanics; Geometric Mechanics; Nonlinear Elasticity; Anelasticity; Applied Mathematics; Mathematical Modelling

Education

Aug 2012 – Dec 2016	Doctor of Philosophy, Engineering Science and Mechanics Thesis: “ Referential and Spatial Evolutions in Nonlinear Elasticity ” Advisor: Professor Arash Yavari College of Engineering, Georgia Institute of Technology , Atlanta, GA, USA
Aug 2012 – May 2014	Master of Science, Mathematics School of Mathematics, Georgia Institute of Technology , Atlanta, GA, USA
Sep 2010 – May 2012	Master of Engineering, Civil Engineering Ecole des Ponts ParisTech and Ecole Centrale Paris , Paris, France
Sep 2007 – Jul 2010	Diplôme d'Ingénieur, Civil Engineering Ecole Hassania des Travaux Publics , Casablanca, Morocco
Sep 2005 – Jul 2007	Classes Préparatoires, Mathematics, Physics, and Engineering Sciences Lycée Mohammed V , Béni Mellal, and Lycée Moulay Youssef , Rabat, Morocco

Professional Experience

Since Aug 2019	Postdoctoral Researcher Mechanical Metamaterials and Soft Matter Group Department of Mechanical and Production Engineering, Aarhus University , Aarhus, Denmark
Feb 2019 – May 2019	Dresden Junior Fellow Institute of Scientific Computing Faculty of Mathematics, TU Dresden , Dresden, Germany
Jan 2017 – Jan 2019	Postdoctoral Research Fellow Pattern Formation, Energy Landscapes, and Scaling Laws Group Max Planck Institute for Mathematics in the Sciences , Leipzig, Germany
Aug 2012 – Dec 2016	Graduate Research Assistant (Fulbright Scholar) Geometric Solid Mechanics Group College of Engineering, Georgia Institute of Technology , Atlanta, GA, USA

Mar 2010 – May 2012 **Structural Engineer,**
Dams and Hydroelectric Projects
Tractebel Engineering France, Paris, France

Teaching Experience

Since Jan 2021 **Instructor,** Department of Mechanical and Production Engineering, **Aarhus University,** Aarhus, Denmark
- Mathematical Modelling for Applications in Science and Engineering [graduate]
- Mechanics and Physics [undergraduate]

Aug 2019 – Dec 2020 **Co-instructor,** Department of Engineering, **Aarhus University,** Aarhus, Denmark
- Mathematical Modelling for Applications in Science and Engineering (Autumn 2019, Autumn 2020) [graduate]

Aug 2013 – May 2016 **Teaching Assistant,** College of Engineering, **Georgia Institute of Technology,** Atlanta, GA, USA
- Mechanics of Deformable Bodies (Fall 2013) [undergraduate]
- Structural Analysis (Spring 2014) [undergraduate]
- Advanced Strength of Materials (Fall 2014) [graduate]
- Advanced Mathematics for Engineers I & II (Fall 2015, Spring 2016) [graduate]

Sep 2009 – Jun 2010 Independent **High School Tutor,** Mathematics, Physics, and Chemistry, Paris, France

Journal Publications

9. **S. Sadik,** M. G. Walker, & M. A. Dias, On Local Kirigami Mechanics II: Stretchable Creased Solutions <https://arxiv.org/abs/2109.03019> (September 2021)
8. **S. Sadik** & M. A. Dias, On Local Kirigami Mechanics I: Isometric Conical Solutions [*Journal of the Mechanics and Physics of Solids*, 151](#) (Feb 2021)
7. F. Sozio, M. Faghih Shojaei, **S. Sadik** & A. Yavari, Nonlinear Mechanics of Thermoelastic Accretion [*Zeitschrift für Angewandte Mathematik und Physik*, 71\(3\)](#) (May 2020)
6. **S. Sadik** & A. Yavari, Small-on-Large Geometric Anelasticity [*Proceedings of the Royal Society A*, 472\(2195\)](#) (Nov 2016)
5. A. Yavari, A. Ozakin, & **S. Sadik**, Nonlinear Elasticity in a Deforming Ambient Space [*Journal of Nonlinear Science*, 26\(6\)](#) (Jul 2016)
4. **S. Sadik**, A. Angoshtari, A. Goriely, & A. Yavari, A Geometric Theory of Nonlinear Morphoelastic Shells [*Journal of Nonlinear Science*, 26\(4\)](#) (May 2016)
3. A. Golgoon, **S. Sadik**, & A. Yavari, Circumferentially-Symmetric Finite Eigenstrains in Incompressible Isotropic Nonlinear Elastic Wedges [*International Journal of Non-Linear Mechanics*, 84](#) (Apr 2016)
2. **S. Sadik** & A. Yavari, On the Origins of the Idea of the Multiplicative Decomposition of the Deformation Gradient [*Mathematics and Mechanics of Solids*, 22\(4\)](#) (Oct 2015)
1. **S. Sadik** & A. Yavari, Geometric Nonlinear Thermoelasticity and the Time Evolution of Thermal Stresses [*Mathematics and Mechanics of Solids*, 22\(7\)](#) (Sep 2015)

Conference & Seminar Presentations

- Invited Talks:
 - A Geometric Theory of Nonlinear Morphoelastic Shells, **NUI Galway Applied Mathematics Seminar**, National University of Ireland Galway, Galway, Ireland, September 2018
 - Nonlinear Elasticity in a Deforming Ambient Space, **TUD IWR Seminar**, Institute of Scientific Computing, Technische Universität Dresden, Dresden, Germany, November 2017

- A Geometric Theory of Nonlinear Morphoelastic Shells, **SUNY Applied Mathematics Seminar**, SUNY Polytechnic Institute, Utica, NY, USA, April 2016
- Contributed Talks:
 - On Local Kirigami Mechanics, **25th International Congress of Theoretical and Applied Mechanics**, Online, August 2021
 - On Local Kirigami Mechanics, **SIAM Conference on Mathematical Aspects of Materials Science**, Online, May 2021
 - E-cone Mechanics, **ASCE Engineering Mechanics Institute International Conference**, Mechanics of Thin Sheets, from Origami and Kirigami to Creasing and Wrinkling, Online, April 2020
 - Kirigami Mechanics, **iMAT Student and Postdoc Seminar Meeting**, Aarhus University Centre for Integrated Materials Research, Aarhus, Denmark, November 2019
 - Nonlinear Elasticity on Abstract Manifolds, **MPI Seminar**, Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany, March 2017
 - Nonlinear Elasticity in a Deforming Ambient Space, **GaTech Structural Engineering Seminar Series**, Georgia Institute of Technology, Atlanta, GA, USA, February 2016
 - A Geometric Theory of Nonlinear Morphoelastic Shells, **GaTech Structural Engineering Seminar Series**, Georgia Institute of Technology, Atlanta, GA, USA, October 2015
 - Geometric Nonlinear Thermoelasticity, **53rd meeting of the Society for Natural Philosophy**, University of Calgary, Calgary, AB, Canada, August 2015
 - Geometric Nonlinear Thermoelasticity, **GaTech Structural Engineering Seminar Series**, Georgia Institute of Technology, Atlanta, GA, USA, February 2015
- Poster Presentations:
 - Nonlinear Morphoelastic Shells, **Workshop on Mathematics of Thin Structures**, Faculty of Mathematics, Technische Universität Dresden, Dresden, Germany, September 2018
 - Nonlinear Morphoelastic Shells, **NYU-Oxford Workshop on Mathematical Models of Defects and Patterns**, Courant Institute of Mathematical Sciences, New York University, New York City, NY, USA, January 2016