

# Christian Hafner

Last updated Apr 20, 2022

✉ chafner@ist.ac.at  
🌐 chrishafner.github.io

**Work** Institute of Science and Technology Austria  
Am Campus 1, 3400 Klosterneuburg

---

## EDUCATION

- 2017 – **PhD Candidate**, *Computational Fabrication*  
Institute of Science and Technology Austria (ISTA)  
Supervisor: Bernd Bickel  
Thesis committee: Chris Wojtan, Doug L. James, David I. W. Levin  
Defense date: Sep 2022
- 2015 – 2017 **Research Assistant**, *Computer Graphics & Applied Geometry*  
TU Wien, Austria
- 2013 – 2015 **Master of Science, pass with distinction**, *Visual Computing*  
TU Wien, Austria  
Thesis title: Optimization of Natural Frequencies for Fabrication-Aware Shape Modeling  
Supervisor: Michael Wimmer
- 2009 – 2013 **Bachelor of Science, pass with distinction**, *Software & Information Engineering*  
TU Wien, Austria

## PUBLICATIONS

- Hafner C.**, Bickel B. (2021).  
The Design Space of Plane Elastic Curves. *Siggraph 2021 Technical Paper*.
- Jeschke S., **Hafner C.**, Chentanez N., Macklin M., Müller-Fischer M., Wojtan C. (2020).  
Making Procedural Water Waves Boundary-Aware. *SCA 2020 Technical Paper*.
- Hafner C.**, Schumacher C., Knoop E., Auzinger T., Bickel B., Bächer M. (2019).  
X-CAD: Optimizing CAD Models with Extended Finite Elements. *Siggraph Asia 2019 Technical Paper*.
- Schreck C., **Hafner C.**, Wojtan C. (2019).  
Fundamental Solutions for Water Wave Animation. *Siggraph 2019 Technical Paper*.
- Musialski P.\*, **Hafner C.\***, Rist F., Birsak M., Wimmer M., Kobbelt L. (2016). (**\* joint 1st authors**)  
Non-Linear Shape Optimization Using Local Subspace Projections. *Siggraph 2016 Technical Paper*.
- Hafner C.**, Musialski P., Auzinger T., Wimmer M., Kobbelt L. (2015).  
Optimization of Natural Frequencies for Fabrication-Aware Shape Modeling. *Siggraph 2015 Poster*.

## AWARDS

- 2016 State Award for Best Master's and Diploma Theses, *Republic of Austria*
- 2016 Best Speaker Award (Information and Communication Technology),  
*Vienna young Scientists Symposium, Austria*
- 2013 Best Demo (Course Project, Real-Time Rendering), *TU Wien, Computer Graphics Group*
- 2013 Best Visualization (Course Project, Visualization 2), *TU Wien, Visualization Group*
- 2012 Best Game (Course Project, Computer Graphics 2), *TU Wien, Computer Graphics Group*

## TEACHING

Spring 2022	Computational Aspects of Digital Fabrication, <i>TU Wien</i> ( <b>Lecturer</b> )
Spring 2020	Data Science and Scientific Computing Track Core Course, <i>IST Austria</i> ( <b>Teaching Assistant, Student evaluation 4.9/5</b> )
Spring 2019	Data Science and Scientific Computing Track Core Course, <i>IST Austria</i> ( <b>Teaching Assistant, Student evaluation 4.6/5</b> )
Fall 2016	Modeling in Computer Graphics, <i>TU Wien</i> ( <b>Teaching Assistant</b> )
Spring 2016	Algorithms for Real-Time Rendering, <i>TU Wien</i> ( <b>Teaching Assistant</b> )

## INTERNSHIPS AND ROTATIONS

Jun – Oct 2018	Internship with Moritz Bächer, <i>Disney Research Zurich</i> ( <b>Developed simulation and shape optimization method for CAD models</b> )
Mar – Apr 2018	Rotation with Chris Wojtan, <i>IST Austria</i> ( <b>Developed real-time simulation of gravity-capillary rings on water</b> )
Jan – Feb 2018	Rotation with Herbert Edelsbrunner, <i>IST Austria</i> ( <b>Introduction to simplicial homology</b> )
Oct – Nov 2017	Rotation with Bernd Bickel, <i>IST Austria</i> ( <b>Developed computational tool for designing buckling behavior of elastic objects</b> )

## LEADERSHIP, SERVICE, AND OUTREACH

Aug 2021	Project mentor at MIT's Summer Geometry Institute 2021 ( <b>Mentored student research project</b> )
Aug 2019	Talk at 3D printing summer camp ( <b>Interactive talk for children aged 12-16</b> )
May 2019	OpenCampus@IST ( <b>Presented 3D printing exhibition</b> )
Sep 2017	European Researchers Night ( <b>Public outreach about 3D printing research</b> )

## CONFERENCE VISITS

Sep 20-25, 2021	Geometry Workshop Obergurgl 2021 ( <b>Presented ongoing work</b> )
Aug 9-13, 2021	Siggraph 2021 ( <b>Presented technical paper</b> )
Aug 17-28, 2020	Siggraph 2020
Nov 17-20, 2019	Siggraph Asia 2019 ( <b>Presented technical paper</b> )
Oct 24-25, 2019	Workshop Graphyz
Jul 28 – Aug 1, 2019	Siggraph 2019 ( <b>Presented fast forward</b> )
May 6-10, 2019	Eurographics 2019
Aug 12-16, 2018	Siggraph 2018
Apr 16-20, 2018	Eurographics 2018
Jul 24-28, 2016	Siggraph 2016 ( <b>Presented technical paper</b> )