



Thomas Pock

Curriculum Vitae

Personal Data

Name Thomas Georg Pock
Born May 23rd, 1978
Family Married to Sidonie Pock, 4 children (Sophie, Lisa, Georg, Teresa)
Citizenship Austria

Education

2009–2017 **Habilitation**, *Computer Vision and Optimization Methods*, Graz University of Technology.
2005–2008 **PhD**, *Telematik*, Graz University of Technology, with distinction.
1998–2004 **MSc**, *Telematik*, Graz University of Technology, with distinction.
1997–1998 **Military service**, Klagenfurt, Villach and Graz.
1992–1997 **Matura**, Höhere Technische Bundeslehranstalt für Maschinenbau Klagenfurt, with distinction.

Habilitation

Title *Convex Approaches for Computer Vision*
Scientific subject *Computer Vision and Optimization Methods*

PhD Thesis

Title *Fast Total Variation for Computer Vision*.
Supervisors Prof. Horst Bischof and Prof. Daniel Cremers

Masters Thesis

Title *Robust Segmentation of Tubular Structures in 3D Volume Data*.
Supervisors Prof. Horst Bischof

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🌐 www.tugraz.at/institute/icg/research/team-pock

Professional

- 06/2014–present **Professor (AIT Stiftungsprofessur)**, *Graz University of Technology*, Institute of Computer Graphics and Vision.
- 01/2012–05/2014 **Assistant Professor**, *Graz University of Technology*, Institute of Computer Graphics and Vision.
- 10/2008–12/2011 **Post doctoral research and teaching assistant**, *Graz University of Technology*, Institute of Computer Graphics and Vision.
- 03/2008–09/2008 **Post doctoral researcher**, *University of Bonn*, Hausdorff Center for Mathematics, Prof. Daniel Cremers.
- 09/2006–02/2008 **PhD student, research and teaching assistant**, *Graz University of Technology*, Institute of Computer Graphics and Vision.
- 01/2005–08/2006 **PhD student**, *Graz University of Technology*, Institute of Computer Graphics and Vision.

Research stays

- 09/2017-10/2017 **Visiting Scientist**, *Variational methods and effective algorithms for imaging and vision*, University of Cambridge.
- 03/2013 **Visiting Professor**, *TU Prague*.
- 03/2011 **Visiting scientist**, *IST Austria*, Host: Prof. Christoph Lampert.
- 04/2006 **Visiting PhD student**, *University of Zagreb*, Host: Prof. Sven Loncaric.

Citation indices

- Total citations: 9600+
- h-index: 42
- i-10-index: 87

According to Google scholar (08/2017)

Scientific Activities

- 03/2017 Co-organizer of the workshop *Shape imaging and optimization*, Münster, Germany
- 11/2016 Co-organizer of the Dagstuhl seminar on *Inpainting and compression*, Dagstuhl, Germany
- 06/2014 Organizer of the *Austrian Computer science day* in Graz
- 06/2013 Co-organizer of *Scale Space and variational Methods conference 2013* in Seggau/Graz
- 08/2012 Program co-chair of the *DAGM-OAGM conference 2012* in Graz
- 11/2011 Co-organizer of the Dagstuhl seminar on *Efficient algorithms for global optimization algorithms in computer vision*, Dagstuhl, Germany
- 11/2011 Tutorial on *variational methods in computer vision*, with B. Goldlücke and D. Cremers, ICCV 2011, Barcelona, Spain

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- 09/2011 Tutorial on *Convex relaxation methods in computer vision*, with X. Bresson, ICIP 2011, Brussels, Belgium.
- 09/2011 Tutorial on *Variational methods in computer vision*, with D. Cremers, DAGM 2011, Frankfurt, Germany.
- 07/2011 Co-organizer of the *Symposium on variational image analysis*, Heidelberg, Germany
- 09/2010 Tutorial on *Variational methods in computer vision*, with B. Goldlücke and D. Cremers, ECCV 2010, Crete, Greece.
- 05/2009 Co-organizer of the *OAGM conference 2009* in Stainz.
- 05/2009–05/2013 Chairman of the Austrian Association for Pattern Recognition.

Reviewing and Editorial Activities

- 06/2012–present Associate Editor of Image and Vision Computing
- 05/2013–present Associate Editor of SIAM Journal of imaging sciences
- 02/2014–present Associate Editor of Journal of Mathematical Imaging and Vision
- 10/2016 Area chair at ECCV 2016 in Amsterdam
- 06/2016 Area chair at CVPR 2016 in Las Vegas
- 12/2015 Area chair at ICCV 2015 in Santiago de Chile
- 12/2013 Area chair at ICCV 2013 in Sydney
- PC member of CVPR, ICCV, ECCV, MICCAI, GCPR
- Reviewer for PAMI, IJCV, JMIV, SIIMS

Awards

- 05/2017 Best paper Award at ICCP 2017 for the paper *Real-time Panoramic Tracking for Event Cameras*
- 06/2016 Magna cum laude award at ISMRM for the paper *Learning a Variational Model for Compressed Sensing MRI Reconstruction*
- 05/2015 Best student paper award at SSVM 2015 for the paper *Bilevel Optimization with Nonsmooth Lower Level Problems*
- 02/2015 Best paper award at the Computer Vision Winter Workshop 2015 for the paper *Continuous Hyper-parameter Learning for Support Vector Machines*
- 11/2014 ERC Starting grant
- 09/2014 Honorable mention award at the GCPR 2014 conference for the paper *A deep variational model for image segmentation*
- 02/2014 Best paper award at the Computer Vision Winter Workshop 2014 for the paper *A bi-level view of inpainting-based image compression*
- 09/2013 German Pattern Recognition Award (Deutscher Mustererkennungpreis) of the German Association for Pattern Recognition
- 06/2013 START prize of the Austrian Science Fund (FWF)

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09/2007 DAGM 2007 Main Prize for the paper: *A Duality Based Approach for Realtime TV- ℓ^1 Optical Flow*

Selected Invited Talks

- May 12th, 2017 International Conference on New Computational Methods for Inverse Problems, ENS Paris-Saclay
- February 2nd, 2017 BASP Frontiers 2017, Villars-sur-Ollon
- September 22nd, 2016 Imaging with Modulated/Incomplete Data, TU-Graz
- September 20th, 2016 Optimization Techniques for Inverse Problems III, Modena
- September 6th, 2016 Continuous Optimization: Challenges and Applications, Technion
- September 8th, 2016 First European Machine Vision Forum, Heidelberg
- October 20th, 2015 First Computational Life Sciences Day, Graz
- October 31st, 2014 New Trends in Calculus of Variations, RICAM/Linz
- November 18th, 2013 First Workshop on Image and Signal Processing, Ecole Polytechnique, Paris
- February 12th, 2013 IPAM Workshop on Convex Relaxation Methods, IPAM/UCLA
- September 5th, 2012 Workshop on Advances in Mathematical Image Processing, Goettingen
- January, 16th, 2012 Mathematical Image Analysis 2012, IHP/Paris
- March, 29th, 2011 Microsoft Research, Cambridge

Selected Teaching

- 2014–present Optimization for computer science, lecture and exercise
- 2013–present Convex optimization, lecture and exercise
- 2006–present Image processing and pattern recognition, lecture and exercise
- 2014–present PhD student's seminar
- 2014–present Master student's seminar
- 2014 Introduction to software development and business management, lecture
- 2006–2014 Advanced computer graphics, seminar
- 2006–2014 Advanced computer vision, seminar
- 2008–2014 Mathematical foundations of vision and graphics, lecture and exercise
- 2010–2014 Introduction to scientific working, seminar

Selected Projects

- 2017–2018 Compressed Sensing Computed Tomography (with NYU), (PI), Euro 50.000
- 2017–2020 Image-based Learning in Predictive Personalized Models of Total Heart Function, (co-PI), Euro 400.000
- 2015–2020 High level prior models for computer vision, ERC starting grant, (PI), Euro 1.473.525

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- 2013–2019 Bilevel optimization for computer vision, FWF START project, (PI), Euro 1.186.260
- 2013–2017 Efficient algorithms for non-smooth optimization in imaging, Joint FWF-ANR project (co-PI), Euro 252.336
- 2010–2013 Higher order variational methods for computer vision, FWF project, (PI), Euro 237.710
- 2010–2013 High Definition Video Processing, FFG project (PI), Euro 278.900
- 2008–2010 Variational methods on the GPU for industrial problems, FFG project (PI), Euro 198.000

PhD Students

- Markus Hofinger *Deep Learning for Computer Vision*, (ongoing)
- Thomas Grandits *Machine Learning for Heart modeling*, (ongoing)
- Doris Antensteiner *Light field processing*, (AIT, ongoing)
- Daniel Steininger *Semantic segmentation*, (AIT, ongoing)
- Erich Kobler *High level Prior Models*, (ongoing)
- Kerstin Hammernik *Learning for MRI reconstruction*, (ongoing)
- Patrick Knöbelreiter *Learning with hybrid deep structured models*, (ongoing)
- Teresa Klatzer *Learning for computational imaging*, (ongoing)
- Gottfried Graber *3D Reconstruction and optical flow*, (ongoing)
- Wei Yu *Machine Learning Applications in Computer Vision*, 2017
- Yunjin Chen *Learning fast and effective image restoration models*, 2015
- Stefan Heber *Variational Shape from Unconventional Imaging Devices*, 2015
- René Ranftl *Higher-Order Variational Methods for Dense Correspondence Problems*, 2015
- Markus Unger *Convex Optimization for Image Segmentation*, 2012 (co-supervised)
- Manuel Werlberger *Video Quality Analysis using Motion Estimation*, 2012 (co-supervised)

Additional Qualifications

- Member of the mentoring program of Graz University of Technology
- Advanced leadership program of Graz University of Technology
- Management development program of Graz University of Technology
- Didactic 1,2,3 seminars of Graz University of Technology

Other Interests

- Violin, Guitar, Choir
- (Mountain) Running, Biking, Swimming

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