Dr. Bernhard Kainz

180 Queens' Gate, London SW7 2AZ, UK

b.kainz@imperial.ac.uk
http://bernhard-kainz.com/

Employment history

Lecturer, Department of Computing, Imperial College London, UK	10.2015 – today
Senior Research Fellow, ISBE, King's College London, UK	05.2015 – 10.2015
Marie-Curie Fellow, Department of Computing, Imperial College London, UK	03.2013 – 04.2015
Senior Research Fellow, ICG, Graz University of Technology, Austria	05.2011 – 02.2013
Research Associate, ICG, Graz University of Technology, Austria	01.2008 – 04.2011
Research Associate, Dept. Urology, Medical University of Innsbruck, Austria	06.2007 – 12.2007
Research Engineer, Test-lab for High-Voltage Engineering, Graz, Austria	06.2006 – 02.2013
part-time Research Engineer, Siemens Healthcare, Graz Austria/Erlangen, Germany	2004 – 2007

Academic history

Ph.D. Graz University of Technology:	2007 – 2011
Dissertation: "Ray-Based Image Generation For Advanced Medical Applications"	
(Advisor: Prof. Dieter Schmalstieg) (summa cum laude). Viva date: 25.05.2011	
M.Sc. Graz University of Technology:, (summa cum laude)	2005 – 2007
Specialization in Biomedical Engineering and Computer Science	
B.Sc. Graz University of Technology:,	2001 – 2005
Course: Telematics (Informatics and Electrical Engineering)	

Track record of research funding

award title	start/end date	funding body	value	type	role
ClinicImppact (610886)	02/2014 – 01/2017	EU FP7	3M/400k €	ICT@TUG	Co-Appl.
F.A.U.S.T. - (325661)	05/2013 – 04/2015	EU FP7	∼230k €	Fellowship	PI
Schrödinger Scholarship	resigned for above.	Austrian FWF	∼150k €	Fellowship	PI
GOSMART (223877)	04/2013 – 03/2016	EU FP7	4M/600k €	ICT@TUG	Co-I
MVP (P23329)	09/2011 – 08/2014	FWF	350k €	Research	Co-I
FutureLab	–	TU-Graz	30k €	Equipment	Co-Appl.

Current teaching

Hardware, Imperial College London	2015 – present
Introduction to Matlab, Imperial College London	2015 – present
Graphics, Imperial College London, co-delivering lecture	2013 – present
Ph.D. (5 co), M.Eng. (8) and M.Sc. (8) project student supervision (17)	2007 – present

Past teaching

Selected Chapters Computer Graphics 710.086, co-delivered lecture, TUG	2009 – 2013
Real-time Graphics 2 710.092, co-delivered lecture, TUG	2009 – 2012
Computer Graphics 1 710.003, marking, Graz University of Technology (TUG)	2008 – 2013
Medical Image Analysis 710.076, co-delivered lecture, TUG	2009 – 2009
Augmented Reality 710.008, Course Support Leader, TUG	2008 – 2009
Real-time Graphics 710.078, Course Support Leader, TUG	2007 – 2010
Virtual Reality 710.096, Course Support Leader, TUG	2008 – 2009

Achievement summary

16 peer reviewed articles in scientific journals	**1** patent
22 peer reviewed full papers at international conferences	**7** popular science contributions
14 refereed publications at international conferences (short papers, extended abstracts, posters)	**6** grants, approx. £1.6M acquired

Complete lists of my publications can be found here: bernhard-kainz.com and goo.gl/v8HRZd.

Current community engagement activities

International program committee member Eurographics VCBM	2013 – present
International program committee member AE-CAI MICCAI	2012 – present
International program committee member German "Computer- und Roboter-assistierte Chirurgie" (CURAC)	2012 – present

Awards and Prizes

- **2014** Best paper honorable mention award EuroGraphics 2014.
- **2014** Corporate Partnership Programme Award: award with my M.Eng. student at Imperial College.

- **2013** Short-listed for the OCG Heinz Zemanek Price 2012.
- **2013** *Best poster* honorable mention for IEEE SciVis 2013.
- **2012** VCBM Karl-Heinz-Höhne 3rd award for "Crepuscular Rays for Tumor Accessibility Planning".
- **2012** Short-listed for the GI-dissertation price 2011.
- **2011** *"Forum Technology and Society"* research/dissertation prize, Graz University of Technology.
- **2011** *Ing. F. Schmiedl research prize*, Research price for the best dissertation in human technology and communication technology in 2011, granted by the Ing. F. Schmiedl foundation.
- **2011** *Best paper award*, International Symposium on Non-Photorealistic Animation and Rendering.
- **2008** *ACM Honorable Mention*, CGEMS SIGGRAPH Educational Committee.
- **2007** *Award for excellent performance as a student*, Graz University of Technology.
- **2007** *Research grant for students*, Graz University of Technology, approx. 1.5k €.

Keynote talk: *Visualization for Medical AR*. A 'Look Into' Medical Augmented Reality Tutorial, International Symposium on Mixed and Augmented Reality, September 2014

Selected regular reviewing activities: IEEE TVCG, MICCAI, IEEE Computer, International Journal, Visual Computing for Biology and Medicine (VCBM), CURAC (deutsche Gesellschaft für Computer- und Roboterassistierte Chirurgie), CARS (Computer Assisted Radiology and Surgery), Elsevier International Journal of Computerized Medical Imaging and Graphics (CMIG), ACM Symposium on Virtual Reality Software and Technology, ACM SIGGRAPH and SIGGRAPH Asia, EG EuroGraphics (International Journal Computer Graphics forum), EG EuroVIS (International Journal Computer Graphics forum), Augmented Environments for Computer Assisted Interventions (MICCAI AE-CAI), IEEE PacificVis, Elsevier International Journal of Computer Methods and Programs in Biomedicine, IEEE International conference on Robotics and Automation (ICRA), International Journal of Computer Assisted Radiology and Surgery, International Conference on Advances in Computer Entertaiment Technology, IEEE Virtual Reality (VR), International Journal of Design Engineering, Elsevier International Journal of Computers & Graphics, High-Performance Medical Image Computing and Computer Aided Intervention (HP-MICCAI), Central European Seminar on Computer Graphics (CESCG)

Memberships of professional bodies

Austrian Computer Society - OCG	2011–today
Deutsche Gesellschaft für Computer- und Roboterassistierte Chirurgie CURAC	2010–today
Institute of Electrical and Electronics Engineers - IEEE	2009–today
Association for Computing Machinery - ACM	2009-2013
Medical Image Computing and Computer Assisted Intervention Society	2008–today
Eurographics Association - EG	2007–today

Outreach activities

1. **Bernhard Kainz**, Amir Alansary, Emma Robinson, Kerstin Pannek: Fetal Motion Compensation for Magnetic Resonance Imaging. Imperial Festival 2015, Imperial College London, May 2015 (coordinated a team of 4; present our work to an audience of more than 15,000 during an exhibit lasting for 3 days)
2. **Bernhard Kainz**: Medical Augmented Reality, Interview "European Hospital" (bimonthly Magazine, Nov. 2014) http://goo.gl/vuUStN
3. **Bernhard Kainz**: Medical Image Analysis, Reaching Further (program to promote STEM fields at schools in London); autonomously prepared and delivered several 1h–2h activities for 20-30 school students per session. Imperial College London (2014)
4. **Bernhard Kainz**: Medical Image Analysis, Silver Crest Award (A-level science projects at schools in London), Imperial College London (2014)
5. **Bernhard Kainz**: TU entwickelte Methode für bessere OP-Bilder. Radiointerview 03.01.2012 http://steiermark.orf.at/news/stories/2515046/
6. Stephan Pack, **Bernhard Kainz**: Project day in the high voltage engineering lab with primary schools. 2009–2012
7. **Bernhard Kainz**: Volume rendering, Augmented reality, medical image analysis, OpenLabNight, ICG, Graz University of Technology, 2008–2012
8. Alexander Bornik, **Bernhard Kainz**: Stereoscopic Volume Rendering. Graz:CSI VITAL 2010, Graz, Austria, (2010)
9. **Bernhard Kainz**, Dieter Schmalstieg: GPU Visualization of Four-Dimensional Cardiovascular Bood Flow ECR 2008 for the Austrian Image Processing Group, European Society of Radiology, Vienna (2008)
10. **Bernhard Kainz**, Dieter Schmalstieg: Live Demo of GPU Acceleration for Medical Visualization Significant Advances in Computer Science (SACS), Graz Universtiy of Technology, Graz (2007)