



Dr. rer. nat. Ben Glocker

Senior Lecturer in Medical Image Computing

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RESEARCH POSITIONS

University Senior Lecturer Department of Computing Imperial College London, UK	since 2013 Senior since 2017
Postdoctoral Researcher Machine Learning and Perception Group Microsoft Research, Cambridge, UK	2010 – 2013
Research Assistant Computer Aided Medical Procedures Technische Universitaet Muenchen, Germany	2006 – 2010
Visiting Researcher Laboratoire MAS Ecole Centrale Paris, France	May – Oct 2006

EDUCATION

Doctoral Degree in Computer Science with High Distinction Computer Aided Medical Procedures Technische Universitaet Muenchen, Germany	2011
Diploma in Computer Science with High Distinction Technische Universitaet Muenchen, Germany Minor Subject: Theoretical Medicine	2006

FELLOWSHIPS

Microsoft Research Fellow Darwin College University of Cambridge, UK	2010 – 2012
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AWARDS / HONOURS

Member of the World Economic Forum's Young Scientists Community	2016
NVIDIA Global Impact Award – Honorable Mention	2016
ERCIM Cor Baayen Award – Honorable Mention	2013
Medical Image Analysis – MICCAI Best Paper Award	2013
Werner von Siemens Excellence Award	2007
Francois Erbsmann Prize	2007

EXECUTIVE SUMMARY

BG (h-index=32, citations >3500) is Senior Lecturer in Medical Image Computing at the Department of Computing, Imperial College London, and deputy head of the Biomedical Image Analysis Group. He is Research Stream lead for Image Computing in the EPSRC CDT in Medical Imaging. His research focus is on machine learning for biomedical image analysis. He has published over 100 peer-reviewed conference papers and journal articles and holds 5 international patents. He has received several awards including a Medical Image Analysis – MICCAI Best Paper Award and the prestigious Francois Erbsmann Prize. In 2016, he was invited to join the Young Scientists Community of the World Economic Forum. He holds an ERC Starting Grant (MIRA) and is investigator on multiple grants awarded by UK Research Councils. BG is currently supervising 2 postdocs and 8 PhD students.

PROFESSIONAL ACTIVITIES

Editorial Board

Elsevier's Journal on Medical Image Analysis, Elsevier's Journal on Image and Vision Computing

Steering Committee

EPSRC-NIHR HTC Partnership Award: Medical Image Analysis

Program Committee & Area Chair

MICCAI 2013/15/16, SPIE Medical Imaging 2015/16/17/18, WBIR 2014, ISVC Special Track 2009

Co-Organizer

NIPS Workshop Medical Imaging meets NIPS (MEDNIPS) 2017

British Machine Vision Conference (BMVC) 2017

1st MedIAN CodeFest 2017 – Medical Imaging Hackathon

International Workshop on Biomedical Image Registration (WBIR) 2016

BIH 2015 Symposium on clinical applications of machine learning in neuroimaging

MICCAI Workshop & Challenge CSI 2014/2015/2016, mTOP 2016, MSKI 2017

ISBI Special Session on Graphical Models for Biomedical Image Analysis 2015

MICCAI Tutorial on Intensity-based Deformable Registration 2010

1st Russian-Bavarian Conference on Biomedical Engineering 2005

Departmental Roles

Champion for Public Engagement

Affiliations

World Economic Forum's Young Scientists Community

Imperial Tech Foresight

Imperial Neurotrauma Centre

EPSRC Centre for Doctoral Training in Medical Imaging

EPSRC Centre for Doctoral Training in High Performance Embedded and Distributed Systems

Science and Solutions for a Changing Planet DTP

Centre for Doctoral Training in Neurotechnology

Guest Editor

Medical Image Analysis Special Issue on Discrete Graphical Models in Biomedical Image Analysis

Society Memberships

MICCAI Society, EuSoMII, BMVA

Co-Founder

SpineWeb - Collaborative Platform for Research on Spine Imaging and Image Analysis

Journal & Conference Reviewer

IEEE T-PAMI, TMI, TIP, TBME, Springer Nature, IJCV, Elsevier MEDIA, CVIU, IMAVIS, Annals of Biomedical Engineering, MICCAI, IPMI, NIPS, CVPR, ICCV, ECCV, ISBI, SPIE

Funding Body Reviewer

European Research Council, Research Council UK, The Wellcome Trust (UK), Technology Foundation STW (NL), Action Medical Research (UK)

External PhD Examiner

Dr Bo Xiang (Ecole CentraleSupélec, N. Paragios), 28 Nov 2013; Dr Meelis Lootus (University of Oxford, A. Zisserman), 02 July 2015; Dr Monica Enescu (University of Oxford, J. Schnabel), 28 Sep 2015; Dr Vivien Fecamp (Ecole CentraleSupélec, N. Paragios), 12 Jan 2016; Dr Malte Hoffmann (University of Cambridge, G. Williams), 30 Jan 2017; Dr Martin Kochan (University College London, D. Stoyanov), 27 Oct 2017

PATENTS

Modelling a Three-Dimensional Space

Pub. No. WO2016189274

Tracking using Sensor Data

Pub. No. US2015347846

Camera/Object Pose from Predicted Coordinates

Pub. No. US2014241617

Method for Combining Images and Magnetic Resonance Scanner

Pub. No. US2010067762

System and Method for Dense Image Registration using Markov Random Fields and Efficient Linear Programming

Pub. No. US2009046951

INVITED TALKS, KEYNOTES & LECTURES

EuSoMII Academy 2017: Game Changers in Radiology	2017
Unlocking patterns in medical images with AI Erasmus MC, Rotterdam, Netherlands, November 18	
BMVA Symposium: Computer Vision in Cancer	2017
Brain Tumour Segmentation with Deep Neural Nets British Computer Society, London, UK, October 11	
Deep Learning in Healthcare Summit	2017
Deep Learning in Medical Imaging – Successes and Challenges LSO St Luke's, London, UK, February 28	
Medical Computer Vision: Algorithms for Big Data	2016
Deep Learning for Brain Lesion Segmentation MICCAI Workshop Invited Talk, Athens, Greece, October 21	
Bayesian and Graphical Models for Biomedical Imaging – BAMBI	2016
Solving Continuous Problems with Discrete Optimization MICCAI Workshop Keynote, Athens, Greece, October 21	
Medical Imaging Summer School – MISS	2016
Medical Imaging meets Machine Learning Favignana, Sicily, Italy, July 31 – August 6	
UCL Medical Image Computing Summer School	2016
CMIC, London, UK, July 22	
Girls' Engineering Summer School	2016
London, UK, July 19/20	
World Economic Forum IdeasLab	2016
Unlocking Patterns in Medical Images with Artificial Intelligence WEF Annual Meeting of the New Champions, Tianjin, China, June 26	
Deep Learning in Healthcare Summit	2016

Deep Learning for Semantic Understanding of Medical Images LSO St Luke's, London, UK, April 7	
Academy of Medical Sciences Machine Learning for Complex Data Analyses London, UK, March 14	2016
Big Data, Multimodality & Dynamic Models in Biomedical Imaging Machine Learning for Medical Image Analysis Isaac Newton Institute, Cambridge, UK, March 9	2016
Royal College of Radiologists Machine Learning Event London, UK, January 7	2016
Alan Turing Institute: Scientific Scoping Workshop Big data in medical imaging: passing fad or paradigm shift British Library, London, UK, December 7	2015
UCL Medical Image Computing Summer School London, UK, August 10	2015
Girls' Engineering Summer School London, UK, July 23	2015
Launch Event: Imperial's Clinical Imaging Facility and the Biological Imaging Centre Semantic Imaging: Machine Learning in Medical Image Analysis Wolfson Education Centre, Hammersmith Campus, London, UK, July 16	2015
1st ICML Workshop on Machine Learning meets Medical Imaging Lille, France, July 11	2015
3rd Biomedical Image Analysis Summer School Institut Henri Poincare, Paris, France, July 10	2015
CSAIL Biomedical Imaging and Analysis Seminar Series Learning to Understand Medical Images MIT, Boston, USA, September 12	2014
London Critical Care Data Marathon Semantic Imaging – Learning to Understand Medical Images IDEALondon, London, UK, September 6	2014
Symposium of the Rank Prize Funds Medical Imaging meets Computer Vision Grasmere, Lake District, UK, March 18	2013
Darwin College Sciences Group Medical Image Computing – The role of computer science in clinical routine University of Cambridge, UK, November 11	2010

PHD STUDENTS

Daniel Coelho De Castro, 1st Supervisor, since Oct 2016
Robert Robinson, 1st Supervisor, since Oct 2016
Nick Pawlowski, 1st Supervisor, since Oct 2016
Ian Walker, 1st Supervisor, since Oct 2016
Konstantinos Kamnitsas, 1st Supervisor, since Oct 2014
Matthew Lee, 1st Supervisor, since Oct 2014
Sebastian Popescu, 2nd Supervisor, since Oct 2017
Vanya Valindria, 2nd Supervisor, since Apr 2015
Amir Alansary, 2nd Supervisor, since Oct 2014
Fahdi Kanavati, 2nd Supervisor, since Oct 2013 (graduated Dec 2017)

RESEARCH GRANTS

ERC Starting Grant, ERC-2017-STG-757173-MIRA

Next Generation Machine Intelligence for Medical Image Representation and Analysis

Start 01/02/2018 End 31/01/23

PI: Dr Ben Glocker (60% 22.5h/w)

Total value: €1,499,292

EPSRC, EP/R005982/1, EP/R005516/1

Efficient and Robust Assessment of Cardiovascular Disease Using Machine Learning and Ultrasound Imaging

Start 01/02/2018 End 31/01/2021

PI: Prof Daniel Rueckert, Dr Andy King, Co-I: Dr Ben Glocker (10% 4h/w)

Total value: £707983

EPSRC Healthcare Impact Partnerships, EP/P023509/1

Intelligent and Personalised Risk Stratification and Early Diagnosis of Lung Cancer

Start 01/10/2017 End 30/09/2020

PI: Prof Julia Schnabel, Co-I: Dr Ben Glocker (5% 2h/w)

Total value: £947,232

EPSRC First Grant, EP/N023668/1

QuantifyTBI: A Machine Learning Approach to Automatic Segmentation and Quantification of TBI Lesions

Start 01/06/2016 End 31/05/2017

PI: Dr Ben Glocker (8% 3h/w)

Total value: £97,534

EPSRC NetworksPlus, EP/N026993/1

EPSRC-NIHR HTC Partnership Award 'Plus': Medical Image Analysis Network (MedIAN)

Start 01/10/2016 End 30/09/2019

PI: Prof Alison Noble, Co-I: Dr Ben Glocker (4% 1.5h/w)

Total value: £507,583

Dunhill Medical Trust, R401/0215

Optimising diagnosis and prediction of outcome of spinal decompression surgery in older people

Start 01/10/2015 End 30/09/2017

PI: Dr Paul Stratton, Co-I: Dr Ben Glocker (1% 0.5h/w)

Total value: £176,510

MRC Developmental Pathway Funding Scheme, MR/M025004/1

Repurposing Low-Cost Consumer Technology for Motion Correction in Dementia Neuroimaging

Start 01/07/2015 End 31/12/2016

PI: Prof Roger Gunn, Co-I: Dr Ben Glocker (3% 1h/w)

Total value: £255,501

MRC/NIHR Efficacy and Mechanism Evaluation, 13/122/01

MALIBO – Machine Learning in Whole Body Oncology

Start 01/02/2015 End 31/07/2018

PI: Prof Andrea Rockall, Co-I: Dr Ben Glocker (5% 2h/w)

Total value: £578,090

AMR Paediatric

Network Dysfunction following Paediatric Traumatic Brain Injury

Start 01/02/16 End 31/01/19

PI: Prof David Sharp, Co-I: Dr Ben Glocker (1% 0.5h/w)

Total value: £200,000

EPSRC Pathways to Impact

Fast and fully automatic segmentation of magnetic resonance images for computer-aided diagnosis

Start 01/09/2014 End 31/08/2015

PI: Prof Daniel Rueckert, Co-I: Dr Ben Glocker (3% 1h/w)

Total value: £53,770

Wellcome Trust ISSF Networks of Excellence

Augmented Reality and Advanced Visualization of Medical Images for Education, Training and Interventional Planning

Start 01/11/2014 End 31/10/2015

PI: Dr Ben Glocker (10% 4h/w)

Total value: £53,667

Wellcome Trust ISSF Networks of Excellence

Optimising diagnosis and prediction of outcome of spinal surgery using DTI and machine learning

Start 01/10/2014 End 30/09/2015

PI: Dr Paul Strutton, Co-I: Dr Ben Glocker (1% 0.5h/w)

Total value: £100,000