Dr. rer. nat. Ben Glocker
Reader in Machine Learning for Imaging

Imperial College London, Department of Computing
South Kensington Campus, London SW7 2AZ, UK
www.doc.ic.ac.uk/~bglocker | b.glocker@imperial.ac.uk

ACADEMIC & INDUSTRY POSITIONS

Reader (eq. Associate Professor) since 2019
Department of Computing
Imperial College London, UK

Visiting Researcher since 2019
Healthcare Intelligence
Microsoft Research Cambridge, UK

Adviser - Medical Image Analysis since 2018
HeartFlow, UK

Senior Lecturer (eq. Assistant Professor) 2013-2019
Department of Computing Senior since 2017
Imperial College London, UK

Postdoctoral Researcher 2010 – 2013
Machine Learning and Perception Group
Microsoft Research, Cambridge, UK

Research Assistant 2006 – 2010
Computer Aided Medical Procedures
Technische Universitaet Muenchen, Germany

Visiting Researcher 2006 – 2010
Laboratoire MAS
Ecole Centrale Paris, France

EDUCATION

Doctoral Degree in Computer Science with High Distinction 2011
Technische Universitaet Muenchen, Germany

Diploma in Computer Science with High Distinction 2006
Technische Universitaet Muenchen, Germany
Minor Subject: Theoretical Medicine

FELLOWSHIPS

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

AWARDS / HONOURS

Imperial President's Award for Outstanding Research Team 2019
Philips Impact Award – MIDL 2018 2018
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

BRIEF BIO

Ben Glocker is Reader in Machine Learning for Imaging at the Department of Computing at Imperial College London where he co-leads the Biomedical Image Analysis Group with more than 45 research staff. He also leads the HeartFlow-Imperial Research Team and is scientific advisor for Kheiron Medical Technologies and a Visiting Researcher at Microsoft Research Cambridge. He holds a PhD from TU Munich and was a postdoc at Microsoft and a Research Fellow at the University of Cambridge. His research is at the intersection of medical imaging and artificial intelligence aiming to build computational tools for improving image-based detection and diagnosis of disease. He has received several awards including a Philips Impact Award, a Medical Image Analysis – MICCAI Best Paper Award, and the Francois Erbsmann Prize. He is a member of the Young Scientists Community of the World Economic Forum and a member of the AI Task Group of the UK National Screening Committee advising the Government on questions around clinical deployment of AI for screening programmes. He was awarded an ERC Starting Grant in 2017.

PROFESSIONAL ACTIVITIES

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

Steering Committee
WEF Young Scientists' Code of Ethics

Scientific Lead
HeartFlow-Imperial Research Team

Scientific Advisor
Kheiron Medical Technologies
Definiens (2017 – 2019)

Conference Chair
International Conference on Medical Imaging with Deep Learning 2019

Program Committee & Area Chair
ECR 2020 Imaging Informatics Scientific Subcommittee
MICCAI 2013/15/16, SPIE Medical Imaging 2015-18/20, WBIR 2014/20, ISVC Special Track 2009

Co-Organizer
MICCAI 2020 Tutorial on Causality in Medical Image Computing
IPAM Workshop on Deep Learning and Medical Applications 2020
{U|I|K}CL Bio-Imaging Symposia
Church of England Symposium on Social and Ethical Implications of AI 2018
MICCAI 2018 Tutorial on Deep Learning for Medical Imaging
Workshop Medical Imaging meets NeurIPS 2017-2020
British Machine Vision Conference 2017
MedIAN CodeFest 2017 – Medical Imaging Hackathon
International Workshop on Biomedical Image Registration 2016
BIH 2015 Symposium on Clinical Applications of Machine Learning in Neuroimaging
MICCAI Workshop & Challenge CSI 2014-16, mTOP 2016, MSKI 2017
ISBI 2015 Special Session on Graphical Models for Biomedical Image Analysis
MICCAI 2010 Tutorial on Intensity-based Deformable Registration
1st Russian-Bavarian Conference on Biomedical Engineering 2005

Departmental and College Activities
Champion for Public Engagement (2017-2020)
CRUK Imperial Centre Development Fund Committee

Affiliations
AI Task Group of the UK National Screening Committee
World Economic Forum's Young Scientists Community
UKRI Centre for Doctoral Training in AI for Healthcare
EPSRC Centre for Doctoral Training in Smart Medical Imaging
EPSRC Centre for Doctoral Training in Neurotechnology for Life and Health

Guest Editor
Medical Image Analysis Special Issue on Medical Imaging with Deep Learning 2019
Medical Image Analysis Special Issue on Discrete Graphical Models in Biomedical Image Analysis
International Journal of Computer Vision Special Issue BMVC 2017

Society Memberships
MICCAI Society, European Society of Medical Imaging Informatics, British Machine Vision Association, European Society of Radiology

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, Brain, CVIU, IMAVIS, Annals of Biomedical Engineering, MICCAI, IPMI, NeurIPS, ICLR, CVPR, ICCV, ECCV, ISBI, SPIE

Funding Body Reviewer
European Research Council, Research Council UK, Engineering and Physical Sciences Research Council (UK), The Wellcome Trust (UK), Technology Foundation STW (NL), Action Medical Research (UK)

PhD Examiner
Dr Bo Xiang (Ecole CentraleSupelec, 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 CentraleSupelec, 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; **Dr Jianyu Lin** (Imperial College London, D. Elson), 21 Feb 2018; **Dr Amir Jamaludin** (Oxford, A. Zisserman, T. Kadir), 25 April 2018; **Dr Guotai Wang** (University College London, S. Ourselin, T. Vercauteren), 17 May 2018; **Dr Annegreet van Opbroek** (Rotterdam MC, W. Niessen), 06 June 2018; **Dr Raghav Selvan** (DIKU, M. de Bruijne), 16 Nov 2018; **Dr Nat Dilokthanakul** (Imperial, M. Shanahan), 11 Dec 2018; **Dr Samuel Cooper** (Imperial, R. Glen), 18 Jan 2019; **Dr Dimitrios Damopoulos** (University of Bern, G Zheng), 01 Feb 2019; **Dr Antoine Toisoul** (Imperial, A. Gosh), 28 Oct 2019; **Dr Tristan Laidlow** (Imperial, S. Leutenegger), 25 Feb 2020; **Dr Jan Czarnowski** (Imperial, A. Davison), 03 July 2020

PUBLICATIONS

Citations: >12,500; h-index: 48 (last accessed 27 September 2020)
List of publications: http://wp.doc.ic.ac.uk/bglocker/publications/
Google Scholar: https://scholar.google.co.uk/citations?user=g_HtjLIAAAAJ
dblp: https://dblp.uni-trier.de/pers/hd/g/Glocker:Ben

TEACHING

Machine Learning for Imaging (CO416), since 2019
Medical Image Computing (CO407H), 2014 – 2017
Algorithms (CO202), 2014 - 2018
More details on: http://wp.doc.ic.ac.uk/bglocker/teaching/

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

Artificial Intelligence in Clinical Medical Imaging 2020
AI in Radiology: The Story Behind the Data
sitem-insel (online), Bern, Switzerland, September 3

ECR 2020: Artificial intelligence in radiology: the basics you need to know 2020
Training data for deep learning: what is needed?
Online, July 15

Data Science Seminar | heidelberg.ai 2020
Uncertainty, causality and generalization: Attempts to improve predictive modelling
DKFZ (online), Heidelberg, Germany, July 8

BL.MIA Seminar Series 2020
Uncertainty, causality and generalization: Attempts to improve predictive modelling
CSAIL MIT (online), Boston, USA, June 18

ELLIS Health Workshop 2020
Causal considerations for machine learning in medical imaging
Online, June 16

ESR Connect – Reasons to do AI with Friends 2020
Episode 6 - The one with whole body MRI
Broadley Studios, London, UK, Feb 19

Machine Learning in Medicine: Virtual Seminar Series 2020
Causality matters in medical imaging
Cornell (online), New York, USA, Feb 14

IPAM Workshop: Deep Learning and Medical Applications 2020
Causality matters in medical imaging
UCLA, Los Angeles, USA, Jan 30

BIR/RCR Meeting: AI in Radiology 2020 2020
Good and bad data in machine learning for imaging
Cavendish Conference Centre, London, UK, Jan 23

Machine Learning for Translational Medicine & Personalized Healthcare 2019
Spot-the-Lesion: Image- based disease detection with deep learning
ITMAT Annual Workshop, Hammersmith Hospital, London, UK, Sep 19

Horizon Europe: New Parliament, new Commission, new agenda 2019
Value-based healthcare: How technologies can improve care across the EU
Science | Business, Brussels, Belgium, Sep 10

ConISyM – Converging Imaging and Systems Medicine 2019
Machine Learning for Imaging
Castle Ringberg, Germany, May 23

East Anglian Radiological Society Annual Meeting (EARS) 2019
Hopes and Hurdles for AI in Radiology
St. Catharine's College, University of Cambridge, UK, March 20

European Commission Expert Group on Liability and New Technologies 2018
Artificial Intelligence in Healthcare
European Commission, Brussels, Belgium, November 27

Artificial Intelligence and Machine Learning in Clinical Imaging Research 2018
Machine Intelligence in Clinical Imaging
Alan Turing Institute, London, UK, November 6th

BIR Annual Congress 2018
Machine learning in medical imaging
ETC Venues St. Paul's, London, UK, November 2nd

Imperial Global Science Policy Forum 2018
AI in Medical Imaging
Imperial College London, UK, October 30

Deep Learning in Healthcare Summit 2018
Deep Learning in Medical Imaging: Beyond Human-level Performance
ETC Venues 155 Bishopsgate London, UK, September 21

ISMRM 2018: Machine Learning for Magnetic Resonance in Medicine 2018
Deep Learning for MR Image Analysis
Paris expo Porte de Versailles, Paris, France, June 20

ECR 2018: Artificial intelligence and radiology: a perfect match? 2018
Deep learning for fully automatic segmentation of normal and pathological structures in medical images
Austria Center Vienna, Austria, March 1

ECR 2018: Artificial intelligence: a strategic view 2018
Machine learning for analysing medical images
Austria Center Vienna, Austria, March 1

Emerging Technologies in Medicine: Artificial Intelligence and Robotics 2018
Can we build a machine capable of interpreting medical scans with super-human performance?
Universitaets-Klinik Essen, Germany, February 16

EuSoMII Academy 2017: Game Changers in Radiology 2017
Unlocking patterns in medical images with AI
Erasmus MC, Rotterdam, The 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 2016

Machine Learning for Complex Data Analyses
London, UK, March 14

Big Data, Multimodality & Dynamic Models in Biomedical Imaging 2016
Machine Learning for Medical Image Analysis
Isaac Newton Institute, Cambridge, UK, March 9

Royal College of Radiologists 2016
Machine Learning Event
London, UK, January 7

Alan Turing Institute: Scientific Scoping Workshop 2015
Big data in medical imaging: passing fad or paradigm shift
British Library, London, UK, December 7

UCL Medical Image Computing Summer School 2015
London, UK, August 10

Girls' Engineering Summer School 2015
London, UK, July 23

Launch Event: Imperial's Clinical Imaging Facility and the Biological Imaging Centre 2015
Semantic Imaging: Machine Learning in Medical Image Analysis
Wolfson Education Centre, Hammersmith Campus, London, UK, July 16

1st ICML Workshop on Machine Learning meets Medical Imaging 2015
Lille, France, July 11

3rd Biomedical Image Analysis Summer School 2015
Institut Henri Poincare, Paris, France, July 10

CSAIL Biomedical Imaging and Analysis Seminar Series 2014
Learning to Understand Medical Images
MIT, Boston, USA, September 12

London Critical Care Data Marathon 2014
Semantic Imaging – Learning to Understand Medical Images
IDEALondon, London, UK, September 6

Symposium of the Rank Prize Funds 2013
Medical Imaging meets Computer Vision
Grasmere, Lake District, UK, March 18

Darwin College Sciences Group 2010
Medical Image Computing – The role of computer science in clinical routine
University of Cambridge, UK, November 11

PHD STUDENTS

Current:
Margherita Rosnati, 1st Supervisor, since Oct 2019
James Batten, 1st Supervisor, since Oct 2019
Zeju Li, 1st Supervisor, since Oct 2018
Miguel Monteiro, 1st Supervisor, since Oct 2018
Daniel Coelho De Castro, 1st Supervisor**,** since Oct 2016
Nick Pawlowski, 1st Supervisor**,** since Oct 2016
Ian Walker, 1st Supervisor**,** since Oct 2016
Karl Hahn, 2nd Supervisor, since Oct 2018
Sebastian Popescu, 2nd Supervisor**,** since Oct 2017

Graduated:
Robert Robinson, 1st Supervisor, since Oct 2016 (graduated July 2020)

Konstantinos Kamnitsas, 1st Supervisor**,** since Oct 2014 (graduated November 2019)
Matthew Lee, 1st Supervisor**,** since Oct 2014 (graduated September 2019)
Vanya Valindria, 2nd Supervisor, since Apr 2015 (graduated March 2019)
Amir Alansary, 2nd Supervisor**,** since Oct 2014 (graduated Jan 2019)
Fahdi Kanavati, 2nd Supervisor, since Oct 2013 (graduated Dec 2017)

RESEARCH GRANTS

Innovate UK - AI Centre Grant
London Medical Imaging & Artificial Intelligence Centre for Value-Based Healthcare
Start 01/02/2019 End 30/04/22
PI: Prof Reza Razavi Co-I: Dr Ben Glocker (5% 2h/w)
Total value: £9,985,272

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 Impact Acceleration Award, EP/R511547/1
DeepMedic – An Easy-to-Use Deep Learning Image Segmentation Tool for Clinical Research
Start 01/04/2019 End 31/03/2020
PI: Dr Ben Glocker
Total value: £68,193

HeartFlow-Imperial Research Collaboration
Start 01/12/2018 End 30/11/22
PI: Dr Ben Glocker (10% 4h/w)
Total value: -confidential-

EPSRC, EP/S013687/1
Automated Fetal and Neonatal Movement Assessment for Very Early Health Assessment
Start 01/04/2019 End 31/03/2022
PI: Dr Bernhard Kainz, Dr Tomoki Arichi, Co-I: Dr Ben Glocker (3% 1h/w)
Total value: £851,997

MRC/NIHR Efficacy and Mechanism Evaluation, 16/68/34
MAchine Learning In MyelomA Response (MALIMAR study)
Start 01/07/2018 End 30/09/2021
PI: Prof Andrea Rockall, Co-I: Dr Ben Glocker (4% 1.5h/w)
Total value: £646,787

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 31/07/2022
PI: Prof Daniel Rueckert, Dr Andy King, Co-I: Dr Ben Glocker (10% 4h/w)
Total value: £707,983

EPSRC Healthcare Impact Partnerships, EP/P023509/1
Intelligent and Personalised Risk Stratification and Early Diagnosis of Lung Cancer
Start 01/10/2017 End 31/03/2021
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 31/03/2020
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 Strutton, 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 30/04/2020
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 01/10/2014 End 30/09/2015
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