

Sanjay P. Prabhu, MBBS FRCR
Harvard Medical School Curriculum Vitae

Sanjay P. Prabhu, MBBS, DCH, FRCR
Curriculum Vitae (Abbreviated)

Name: Sanjay P. Prabhu, MBBS, DCH, FRCR
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Education

08/91-12/97	MBBS	Medical School: Kasturba Medical College, Mangalore, India
		Manipal Academy of Higher Education (M.A.H.E) University, Manipal, India

Postdoctoral Training

03/96-03/97	Intern	Medicine/Surgery	Kasturba Medical College, Mangalore, Karnataka, India
11/98-10/00	Resident	Pediatrics	Sheffield Children's Hospital, Sheffield & Fairfield Hospital, Bury, Lancashire
10/00-12/05	Resident	Radiology	United Bristol NHS Trust, Bristol, United Kingdom
12/05-05/07	Fellow	Pediatric Radiology	Royal Children's Hospital, Melbourne, Australia
07/07-06/08	Fellow	Pediatric Neuroradiology	Boston Children's Hospital, Boston, MA
07/08-06/09	Fellow	Pediatric Neuroradiology/Pediatric Cardiac Radiology	Boston Children's Hospital, Boston, MA

Faculty Academic Appointments

07/07-06/09	Clinical Fellow	Radiology	Harvard Medical School, Boston, MA
07/09-09/12	Instructor	Radiology	Harvard Medical School, Boston, MA

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10/12- present	Assistant Professor	Radiology	Harvard Medical School, Boston, MA
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[Major Administrative Leadership Positions_\(current\)](#)

Local

2010-Present	Neuroradiology Liaison, Epilepsy Program	Boston Children’s Hospital, Boston, MA
2014-2017	Co-Director, BCH SIMPeds3D Print Service	Boston Children’s Hospital, Boston MA
2016- 2017	Chair, Industry Liaison committee, Special interest group 3D Printing	Radiological Society of North America
2016- present	Director, Boston Children’s Hospital Radiology Foundation	Boston Children’s Hospital, Boston MA
2017-present	Clinical Director, BCH SIMPeds3D Print Service	Boston Children’s Hospital, Boston MA
2017-present	Leader, Digital Education, WFPI	World Federation of Pediatric Imaging
2018- present	Chair, Simulation committee, Special interest group on 3D Printing	Radiological Society of North America
2018-present	Medical Director, Imaging Informatics	Boston Children’s Hospital, Boston MA

[Committee Service \(current\)](#)

2013-Present	Webmaster and Social Media education Coordinator	World Federation of Pediatric Imaging
2015-Present	Coordinator, WFPI Online Video Library Committee	World Federation of Pediatric Imaging
2015-Present	Education committee member	Society of Pediatric Radiology
2017-Present	Member, Regional Committee for Asia and Oceania	Radiological Society of North America
2017-Present	Member, Executive Committee	World Federation of Pediatric Imaging

Professional Societies

2003-Present	Radiological Society of North America	Member
2003-Present	Royal College of Radiologists	Member
2004-Present	European Congress of Radiology	Member
2009- Present	American Society of Neuroradiology	Member
2009- Present	American Roentgen Ray Society	Member
2009- Present	Society for Pediatric Radiology	Member
2012- Present	American Society of Pediatric Neuroradiology	Member
2012- Present	Indian Society of Pediatric Radiology	Member (Life member)
2016- Present	Special Interest Group on 3D Printing, RSNA	Member

Local Invited Presentations_(last 3 years)

2016	ORL 3D Prints for CRM and Surgical Skills Applications
2017	Imaging in Pediatric Epilepsy- Tips, Tricks and Traps, , Boston Children's Hospital
2017	Introduction to 3D Post Processing at BCH, Boston Children's Hospital
2018	Practical MR Spectroscopy, Boston Children's Hospital
2018	Epilepsy Imaging in Children-Tips, Tricks and Traps, Boston Children's Hospital
2018	MRI Vent Checks- how to avoid errors, Boston Children's Hospital
2018	WFPI Cases from around the world, Boston Children's Hospital
2018	Congenital brain malformations, Brigham and Women's Hospital
2019	Advances in 3D printing for pediatric head and neck applications, ORL Research Meeting, Boston Children's Hospital
2019	3D printing of pediatric head and neck pathologies, Boston Children's Hospital

National/International Presentations and Courses (last 3 years)

2016	3-D Printing for Pediatric Neuro Imaging, International Pediatric Radiology (IPR) meeting, Chicago, USA
2016	Invited Webinar: Imaging of hypoxic ischemic injury in neonates, Radiological Society of South Africa and South African Society of Pediatric Imaging, Cresta, South Africa
2016	Pre-surgical Imaging of Pediatric Epilepsy, Refresher Course, RSNA, Chicago, USA
2017	Imaging in pediatric epilepsy- Tips, Tricks and Traps- Indian Radiological and Imaging Association (IRIA) annual meeting, Jaipur, India
2017	Imaging in Pediatric Leukodystrophies- Indian Radiological and Imaging Association (IRIA) annual meeting, Jaipur, India

- 2018 Machine Learning in Tumor imaging, Keynote speaker, European Neurology and Oncology Convention, London, United Kingdom
- 2018 Artificial Intelligence and the Radiologist, Imaging in England Course, Oxford, United Kingdom
- 2018 3D Printing in Pediatrics- Opportunities & Challenges, Asia Oceania Society of Pediatric Radiology, Chandigarh, India
- 2019 AI in Pediatric Neuroimaging, Annual Meeting of the American Society of Pediatric Neuroradiology, New Orleans, USA.

Report of Scholarship

Publications (full list at [Harvard Catalyst Profile](#))

Peer reviewed publications (last 2 years)

1. Tsai A, Barnewolt CE, Prabhu SP, Hosmer A, Yonekura R, Schulz N, Weinstock P. Creation and Validation of a Simulator for Neonatal Brain Ultrasonography: A Pilot Study. *Acad Radiol* 2017; 24:76-83.
2. Karlin L, Weinstock P, Hedequist D, **Prabhu SP****. The surgical treatment of spinal deformity in children with myelomeningocele: the role of personalized 3D printed models. *J Pediatr Orthop* 2017; 26:375-382.
3. Dagi LR, MacKinnon S, Zurakowski D, **Prabhu SP**. Rectus muscle excyclorotation and V-pattern strabismus: a quantitative appraisal of clinical relevance in syndromic craniosynostosis. *Br J Ophthalmol*. 2017 Mar 20.
4. Weinstock P, Rehder R, **Prabhu SP**, Forbes PW, Roussin C, Cohen AR. Creation of a novel simulator for minimally invasive neurosurgery: fusion of 3D printing and special effects. *J Neurosurg Pediatr* 2017; 25:1-9.
5. LaRovere KL, Vonberg FW, **Prabhu SP**, Kapur K, Harini C, Garcia-Jacques R, Chao JH, Akhondi-Asl A, Thiagarajan R, Tasker RC. Patterns of Head Computed Tomography Abnormalities During Pediatric Extracorporeal Membrane Oxygenation and Association With Outcomes. *Pediatr Neurol*. 2017 May 18. pii: S0887-8994(17)30259-X.
6. Torre M, Lechpammer M, Paulson V, **Prabhu S**, Marshall AC, Juraszek AL, Padera RF, Bundock EA, Vargas SO, Folkner RD. Embolic Foreign Material in the Central Nervous System of Pediatric Autopsy Patients With Instrumented Heart Disease. *J Neuropathol Exp Neurol*. 2017 Jul 1; 76(7): 571-577.
7. Baumer F, Peters JM, Clancy S, Prohl AK, **Prabhu SP**, Scherrer B, Jansen FE, Braun KPJ, Sahin M, Stamm A, Warfield SK. Corpus callosum white matter diffusivity reflects cumulative neurological comorbidity in Tuberous Sclerosis Complex. *Cerebral Cortex* Sept 2017.
8. Chellamani H, Sharda S, Bergin AM, Poduri A, Yuskaitis CJ, Peters JM, Rakesh K, Kapur K, Pearl PL, **Prabhu SP****. Detailed magnetic resonance imaging in infantile spasms. *J Child Neurol*. *J Child Neurol*. 2018 May; 33(6):405-412.
9. Peters JM, Prohl A, Kapur K, Nath A, Scherrer B, Clancy S, Prabhu SP, Sahin M, Franz DN, Warfield SK, Krueger DA. Longitudinal Effects of Everolimus on White Matter Diffusion in Tuberous Sclerosis Complex. *Pediatr Neurol*. 2019 Jan; 90:24-30.
10. Chepelev L, Wake N, Ryan J, Althobaity W, Gupta A, Arribas E, Santiago L, Ballard DH, Wang KC, Weadock W, Ionita CN, Mitsouras D, Morris J, Matsumoto J, Christensen A, Liacouras P, Rybicki FJ, Sheikh A on behalf of the RSNA Special Interest Group for 3D Printing, including (**Prabhu SP**). Radiological Society of North America (RSNA) 3D printing Special Interest Group (SIG): guidelines for medical 3D printing and appropriateness for clinical scenarios. *3D Printing in Medicine*. 2018;4(1):11.

11. Jülich K*, Neuberger I, Sahin M, Takeoka M, Pinto A, **Prabhu SP**** Yield of emergent neuroimaging in patients with Sturge-Weber syndrome presenting with acute neurological symptoms. *J Child Neurol.* 2019 Jan; 34(1): 17-21.
12. Marami B, Scherrer B, Khan S, Afacan O, **Prabhu SP**, Sahin M, Warfield SK, Gholipour A. Motion-robust diffusion compartment imaging using simultaneous multi-slice acquisition. *Magn Reson Med.* 2018 Nov 16.
13. Hashemi SR, Salehi SSM, Erdogmus, D. **Prabhu SP**, Warfield SK, Gholipour A, Asymmetric similarity loss function to balance precision and recall in highly unbalanced deep medical image segmentation. *ArXiv preprint arXiv: 1803.11078.* 2018
14. Trowbridge SK, Yuskaitis, CJ, Baumer N, **Prabhu SP****, Chellamani H, Brain MRI abnormalities in patients with infantile spasms and Down syndrome, *Epilepsy & Behavior*, (accepted for publication Dec 2018)

Narrative Report

I work as a subspecialist in pediatric neuroradiology at one of the largest Children's Hospitals in the world. As a Pediatric Neuroradiologist, I have a special interest in the utility of advanced imaging techniques in the diagnosis and management of pediatric epilepsy and neurometabolic disease. More recently, my research involves exploring value of 3D printing in presurgical planning and surgical simulation, and clinical decision support tools including use of machine learning algorithms on the radiologist's desktop.

Some of my specific innovative clinical contributions include development of a high-resolution orbit imaging protocol for pediatric patients presenting with strabismus, development of a whole body MRI screening protocol for pediatric patients at risk for malignancies, developing an evidence-based algorithm for imaging pediatric patients with Horner's syndrome and establishing the use of functional MRI, tractography, high resolution MRI for detecting focal cortical dysplasias and multimodality image fusion for use in brain lab for epilepsy surgery. I was the lead radiologist in establishing the MRI-guided laser ablation of brain lesions in our hospital. More recently, I am working with our digital health team on the institution's machine-learning initiatives in field of imaging.

During my first few years on the faculty, I also worked as a cardiothoracic and body imager, leading development of optimal CT protocols for detecting thrombosis in patients with congenital heart disease who have a Fontan pathway, MRI protocols in patients with Paget-Schroetter disease and identifying the artery of Adamkiewicz in children of all ages on dynamic airway CT scans for surgical planning.

My varied interests come together in my role as the director of the advanced image analysis lab, where we look at new ways of enhancing the value of imaging studies using newer techniques like tractography, MR spectroscopy and functional MRI for both neuroradiology and body imaging studies to refine diagnoses of pediatric neurological diseases like mild to moderate brain injury and metabolic disease.

My role also involves developing efficient workflow practices to enable post processed image data to be integrated into the image interpretation process and working with the information technology division to ensure that appropriate image post processing capability is available where required and that systems are integrated into existing image distribution and information systems. A major component of this post includes identifying, trialing and advocating innovative image post processing methodology into the routine clinical workflow.

Over the last 5 years, I have helped established the 3D printing service at Boston Children's Hospital in conjunction with colleagues in the Simulation program, raising it to one of the leading medical 3D printing facilities in the world. I was appointed as Co-Director of the SIMPEDs 3D service in September 2014 and promoted to Clinical Director of the lab in 2017. I was recently appointed Medical Director of Imaging Informatics in 2018 and tasked with bringing next generation informatics to the radiologist's workstations.

I have a special interest in resident and fellow education and I was awarded the "Mentor of the Year" award in my first year as faculty member by the pediatric radiology fellows at our program. I am also the neuroradiology representative on the resident evaluation committee and the pediatric radiology fellowship committee. I have established a popular YouTube channel and social media-based educational offerings delivering free high-quality pediatric radiology education by experts to radiologists and trainees all over the world as part of my work as the Webmaster and social media education coordinator for the World Federation of Pediatric Imaging. More recently, I established the Digital Ambassador Program delivering free case-based education through social media channels to

radiologists around the world as part of my work as the Leader of Digital Education of the World Federation of Pediatric Imaging.