

# Benjamin B Bartelle PhD

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**Massachusetts Institute of Technology**  
**Department of Biological Engineering**  
**Center for Neurobiological Engineering**  
**The Lab of Professor Alan P Jasanoff**  
Building 16-560, 32 Vassar St.  
Cambridge MA 02139

## Education:

NYU Sackler Institute	PhD Molecular Biophysics	5/12
UC Santa Cruz	BS Biochemistry/Molecular Biology	9/00

## Research Experience:

<b>MIT</b>	Post Doctoral Associate	Alan P Jasanoff	6/12 –
Multidisciplinary technology development for molecular fMRI.			
<b>New York University</b>	PhD Candidate	Daniel H Turnbull	9/04 – 5/12
Engineering of novel reporter proteins and neonatal imaging methods for MRI and ultrasound.			
<b>Sentigen Biosciences</b>	Research Associate	Kevin J Lee	6/01 – 8/04
Molecular tool development for receptor neurobiology including the Invitrogen “Tango” GPCR assay			
<b>Cold Spring Harbor Labs</b>	Molecular Biologist	Robert A Martienssen	2/00 – 6/01
High throughput transgenic library construction for the <i>Arabidopsis</i> Genome Sequencing Consortium.			
<b>Advanced Medicine Inc.</b>	Chemist	David Oare	12/98 – 8/99
Combinatorial chemistry for psychiatric pharmacology.			

## Teaching Experience:

<b>MIT Biomaker Space</b>		Maxine Jonas	2/17 –
Lab manager and mentor for independent student projects.			
<b>MIT</b>	Neurotechnology in Action	Alan Jasanoff / Ed Boyden	6/15 –
Teaching assistant: MRI lab section			
<b>NYU Med</b>	Physics for MCAT	Mekbib Gameda	3/09 – 6/11
Instructor			
<b>UCSC Chemistry</b>	Organic/Biochemistry	Joseph Konopelski	9/97 – 12/98
Lab Teaching Assistant			

## Peer Reviewed Publications :

**(8 first author research, 1 first author review \*equal authorship)**

Barandov A\*, **Bartelle BB\***, Williamson CG, Loucks E, Jasanoff AP. [Sensing intracellular calcium ions using a manganese-based MRI contrast agent](#) (submitted: *Nature Chemistry*, January 2018)

Okada S\*, **Bartelle BB\***, Li N, Breton-Provencher V, Lee J, Rodriguez E, Melican J, Bricault S, Sur M, Jasanoff AP. [Calcium Dependent Molecular fMRI Using Magnetic Nanosensors](#). *Nature Nanotechnology* (Accepted: January 2018)

**Bartelle BB**, Barandov A, Jasanoff A. [Molecular fMRI](#). *J Neurosci*. 2016 Apr 13;36(15):4139-48. Review. PubMed PMID: 27076413; PubMed Central PMCID: PMC4829642.

Barandov A\*, **Bartelle BB\***, Gonzalez BA, White WL, Lippard SJ, Jasanoff A. [Membrane-Permeable Mn\(III\) Complexes for Molecular Magnetic Resonance Imaging of Intracellular Targets](#). *Journal of the American Chemical Society*. 2016 May 4;138(17):5483-6. Epub 2016 Apr 22. PubMed PMID: 27088782.

**Bartelle BB**, Mana MD, Suero-Abreu GA, Rodriguez JJ, Turnbull DH. [Engineering an effective Mn-binding MRI reporter protein by subcellular targeting](#). *Magnetic Resonance in Medicine*. 2015 Dec;74(6):1750-7. Epub 2014 Dec 17. PubMed PMID: 25522343; PubMed Central PMCID: PMC4470876.

**Bartelle BB**, Szulc KU, Suero-Abreu GA, Rodriguez JJ, Turnbull DH. [Divalent metal transporter, DMT1: a novel MRI reporter protein](#). *Magnetic Resonance in Medicine*. 2013 Sep;70(3):842-50 Epub 2012 Oct 12. PubMed PMID: 23065715; PubMed Central PMCID: PMC3587026.

Gruppi F\*, Liang J\*, **Bartelle BB\***, Royzen M, Turnbull DH, Canary JW. [Supramolecular metal displacement allows on-fluorescence analysis of manganese\(II\) in living cells](#). *Chemical Communications (Camb)*. 2012 Nov 11;48(87):10778-80. PubMed PMID: 23023093; PubMed Central PMCID: PMC3722360.

**Bartelle BB**, Berríos-Otero CA, Rodriguez JJ, Friedland AE, Aristizábal O, Turnbull DH. [Novel genetic approach for in vivo vascular imaging in mice](#). *Circulation Research*. 2012 Mar 30;110(7):938-47. PubMed PMID: 22374133; PubMed Central PMCID: PMC3319022.

**Bartelle BB**, Parkhurst C, Friedland AE, Rodriguez JJ, Lafaille JJ, Gan WB, Turnbull DH. [Multimodal molecular imaging of Tie2 expression reveals cell-specific differences between skin and CNS injury models](#) (in preparation)

#### **Contributing authorship:**

Suero-Abreu GA, Aristizábal O, **Bartelle BB**, Volkova E, Rodríguez JJ, Turnbull DH. [Multimodal Genetic Approach for Molecular Imaging of Vasculature in a Mouse Model of Melanoma](#). *Mol Imaging Biol*. 2017 Apr;19(2):203-214. PubMed PMID: 27677887; PubMed Central PMCID: PMC5400104.

Szulc KU, Lerch JP, Nieman BJ, **Bartelle BB**, Friedel M, Suero-Abreu GA, Watson C, Joyner AL, Turnbull DH. [4D MEMRI atlas of neonatal FVB/N mouse brain development](#). *Neuroimage*. 2015 Sep;118:49-62. Epub 2015 May 30. PubMed PMID: 26037053; PubMed Central PMCID: PMC4554969.

Barch M, Okada S, **Bartelle BB**, Jasanoff A. [Screen-based analysis of magnetic nanoparticle libraries formed using peptidic iron oxide ligands](#). *Journal of the American Chemical Society*. 2014 Sep 10;136(36):12516-9. Epub 2014 Sep 2. PubMed PMID: 25158100; PubMed Central PMCID: PMC4160280.

Szulc KU, Nieman BJ, Houston EJ, **Bartelle BB**, Lerch JP, Joyner AL, Turnbull DH. [MRI analysis of cerebellar and vestibular developmental phenotypes in Gbx2 conditional knockout mice](#). *Magnetic Resonance in Medicine*. 2013 Dec;70(6):1707-17. Epub 2013 Feb 7. PubMed PMID: 23400959; PubMed Central PMCID: PMC3657598.

Hai A, Spanoudaki SC, **Bartelle BB**, Jasanoff AP  
[Wireless resonant circuits for remote sensing of biophysical processes in MRI](#) (submitted)

#### **Abstracts Selected for Presentation:**

##### **Boston Symposium on Careers and Collaboration in Science**

“Calcium Dependent Molecular fMRI” June 2017

##### **Biomedical Engineering Society Annual Meeting**

“Protein Engineering for Molecular Imaging Applications” October 2012

##### **Proceedings of the International Society of Magnetic Resonance in Medicine**

“Divalent Metal Transport Protein DMT1: A Novel MRI Reporter.” May 2011

##### **Proceedings of the World Molecular Imaging Congress**

“Divalent Metal Transport Protein DMT1: A Novel MRI Reporter.” September 2010

##### **Proceedings of the World Molecular Imaging Congress**

“Transgenic Mice for Multimodal Imaging of Angiogenesis.” September 2009  
**Proceedings of the International Society of Magnetic Resonance in Medicine**  
 “MntR, an MRI reporter provides cellular T1 contrast without Mn supplementation.” March 2008  
**Proceedings of the International Society of Magnetic Resonance in Medicine**  
 “A New MRI Reporter Gene: Mn Binding Protein Produces T1 Weighted Cellular Contrast.” May 2007

### **Awards and Funding:**

Boston Symposium on Careers and Collaboration in Science Outstanding Oral Presentation: 2017  
 MIT School of Science SPOT award: 2016  
 World Molecular Imaging Congress Travel Award: 2010  
 NYU GSAS Dean’s Travel Award: 2010  
 Gordon Conference Travel Award: 2010  
 World Molecular Imaging Congress Travel Award: 2009  
 International Society of Magnetic Resonance in Medicine Travel Award: 2008  
 International Society of Magnetic Resonance in Medicine Travel Award: 2007  
 NYU GSAS Dean’s Travel Award: 2007  
 NIH Graduate Partnerships Program Fellowship: 2004, 2005

### **Undergraduate Mentorship:**

<b>Catherine Williamson</b>	MIT 2019	2015 –
<b>Melat Anteneh</b>	MIT 2020	2017
<b>Andrew Tang</b>	MIT 2017	2014 – 2015
Instructor, MIT Emergency Medical Services		
<b>Emily Loucks</b>	Wellesly 2016	2014 – 2016
Research Associate Gensun Biopharma Inc.		
<b>Justin L Reid</b>	MIT 2018	2014
<b>Emily J Young</b>	MIT 2018	2014
Cofounder Okoa Ambulance		
<b>William L White</b>	MIT 2017	2013 – 2016
Ginko Biosciences, accepted at University of Washington Department of Bioengineering fall 2018		
<b>Stephanie Ihezue</b>	MIT 2015	2012 – 2014
Naval Medical Officer Training		
<b>Anne Friedland MD</b>	Tufts School of Medicine 2014	2008 – 2010
Resident University of Maryland Medical center		
<b>Joe J Rodriguez</b>	Ponce School of Medicine 2015	2008 – 2012
Resident University of Texas Health		