

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
School of Engineering Faculty Personnel Record

Date: November 18, 2018 Name: Brian W. Anthony

Department: Mechanical Engineering / Institute of Medical Engineering and Science

1. Date of Birth: July 1972

2. Citizenship: USA

3. Education:

| <u>School</u> | <u>Degree</u> | <u>Date</u> |
|----------------------------|---------------|-------------|
| Carnegie Mellon University | BS | 1994 |
| MIT | SM | 1998 |
| MIT | PhD | 2006 |

4. Title of Thesis for Most Advanced Degree:

Video Based System Monitoring

5. Principal Fields of Interest:

Computational Instrumentation, Medical Device Design and Manufacturing, Innovation and Product Realization, Ultrasound Imaging and Novel uses of Ultrasound

6. Name and Rank of Other Department Faculty in the Same Field:

Harry Asada, Professor
Ian Hunter, Professor
Kamal Youcef-Toumi, Professor
Charlie Sodini, Professor (EECS)

7. Non-MIT Experience (including military service):

| <u>Employer</u> | <u>Position</u> | <u>Beginning</u> | <u>Ending</u> |
|------------------------|-----------------|------------------|---------------|
| LANL | Scientist | 1992 | 1994 |
| Independent Consultant | Consultant | 1994 | 1998 |
| Xcitex | CoFounder / CTO | 1998 | 2005 |
| Cooper Perkins | CTO | 2005 | 2007 |
| dRNOME | CoFounder | 2011 | 2016 |

8. History of MIT Appointments:

| <u>Rank</u> | <u>Beginning</u> | <u>Ending</u> |
|--|------------------|---------------|
| Lecturer, Sloan | 2006 | 2009 |
| Lecturer, MechE | 2006 | (present) |
| Research Scientist | 2006 | 2013 |
| Principal Research Scientist | 2013 | (present) |
| Director Singapore MIT Alliance – Manufacturing Systems and Technology Program (SMA-MST) | 2006 | 2010 |
| Director Master of Engineering in Manufacturing Program (MEngM) | 2006 | (present) |
| Faculty Lead for Education, MIT Skoltech Initiative | 2011 | 2016 |
| Deputy Director, MIT Skoltech Initiative | 2014 | 2016 |
| Associate Director, AIM Academy | 2016 | 2017 |
| Associate Director, MIT.nano | 2017 | |
| Faculty Lead for Industry Engagement, MechE | 2018 | |

9. Consulting Record:

| <u>Firm</u> | <u>Beginning</u> | <u>Ending</u> |
|------------------------------------|------------------|---------------|
| Engagements greater than 3 months. | | |
| Los Alamos National Labs | | 2000 |
| Textron | | 2000 |
| Federal Trade Commission | | 2000 |
| FAA | | 2004 |
| Kodak | | 2004 |
| Redlake | | 2005 |
| Olympus | | 2006 |
| TIS | 2009 | 2012 |
| Photron | 2009 | 2011 |
| Cooper Perkins | 2010 | 2012 |
| IDEO | 2012 | --- |
| Alcon | 2012 | --- |
| Ximedica | 2013 | 2014 |
| Herman Miller | 2014 | 2014 |
| Novartis | 2015 | 2015 |
| Lenze | 2015 | 2016 |
| Apple | 2017 | |

10. Professional Service

| <u>Activity</u> | <u>Beginning</u> | <u>Ending</u> |
|----------------------------|------------------|---------------|
| MEngM Admissions Committee | 2006 | present |

| | | |
|--|--------|--------|
| CDO Admissions Committee | 2007 | 2008 |
| Career Fair – SMA in Singapore, Org Chair | 2007 | 2007 |
| Career Fair – SMA/MIT in Singapore, Org Chair | 2008 | 2008 |
| Mfg. microFluidics Symp, Chair | 2009 | 2010 |
| SMART Proposal Lead on Med Devices | 3/2010 | 9/2010 |
| LMP Summit Co-Chair | 2011 | 2011 |
| MEDRC Workshop, Chair | 2012 | 2012 |
| Pilot IMI Proposal, MIT Lead | 5/2012 | 6/2012 |
| Additive mfg working group, Lead | 6/2012 | 8/2012 |
| MIT's role in reducing the cost of health care | 2014 | 2015 |

| <u>Activity</u> | <u>Beginning</u> | <u>Ending</u> |
|--|------------------|---------------|
| SPIE Conference Committee | 2011 | 2012 |
| SPIE Conference Committee | 2012 | 2013 |
| Co-Chair Education Workstream, AMP 2.0 | 2013 | 2014 |

11. Awards Received:

| <u>Award</u> | <u>Date</u> |
|---|-------------|
| National Television Academy, Emmy for Innovative Technical Achievement. "Golf on CBS, SwingVision." | 2005 |
| BPLA Invented Here, Featured Honoree | 2014 |

12. Current Organization Membership:

| <u>Organization</u> | <u>Offices Held</u> |
|---|---------------------|
| ASME | |
| IEEE | |
| SPIE | |
| AIUM (American Institute of Ultrasound in Medicine) | |
| Sigma Xi | |

13. Patents and Patent Applications Pending:

1. US Patent 5606130 "Method for determining the octane rating of gasoline samples by observing corresponding acoustic resonances therein."
2. US Patent 6393384 "Apparatus and method for remote ultrasonic determination of thin material properties using signal correlation."
3. US Patent 6226081 "Optical height of fill detection system and associated methods."
4. US Patent 8,333,704, B. Anthony and M. Gilbertson, "Handheld Force-Controlled Ultrasound Probe," Dec 11, 2012
5. US Patent 8,328,725, B. Anthony and M. Gilbertson, "Ultrasound Probe," Dec 18, 2012

6. US Patent 8,382,671, B. Anthony and M. Gilbertson, "Handheld Ultrasound Probe," Feb 26, 2013
7. US Patent 9,121,705, B. Anthony and D. Ljubicic, "Sensor for Simultaneous Measurement of Thickness and Lateral Position of a transparent object," Sept 1, 2015
8. US Patent 9,456,800, Brian W. Anthony, Matthew W. Gilbertson, "Ultrasound scanning system", Oct 4, 2016
9. MIT Case 14088, Force Controlled Ultrasound Probe, 16-Dec-09
10. MIT Case 14387, Deformation Estimation and Correction in Elastography with a Handheld Force Controlled Ultrasound Probe, 16-Jul-10
11. MIT Case 14422, High-Speed Profilometer for Manufacturing Inspection, 30-Jul-10
12. MIT Case 14966J, Force Measurement Ultrasound Probe for Sonographer Fatigue Monitoring, 10-Jun-11
13. MIT Case 15012, A 6-DOF Optical System for Freehand 3D Ultrasound, 05-Jul-11
14. MIT Case 15681J, Local Actuation and Control of Stamp Deformation in Microcontact Printing, 06-Jun-12
15. MIT Case 15782, Usability Improvements to a Handheld Force-Controlled Ultrasound Probe, 03-Aug-12
16. MIT Case 15884, Computer-Guided Restoration of Ultrasound Scan Poses by Optical Tracking, 01-Oct-12
17. MIT Case 16160, Quick-Release Mechanism for a Force-Measuring Ultrasound Probe, 22-Feb-13
18. MIT Case 16447, Force-correlated Quantitative Ultrasound Image Analysis, 02-Jul-13
19. MIT Case 17106J, Acoustic Characterization of Superficial Body Fluids, 07-May-14
20. MIT Case 17211J, Wireless Capsule Endoscopic Ultrasound, 24-Jun-14
21. MIT Case 17259K, A Concentric Circle Scanning Technique for Large Area Inspection, 09-Jul-14
22. MIT Case 17260K, Grid-Based Matching for Full-Field Large-Area Deformation Measurement, 09-Jul-14
23. MIT Case 17344, Recovery and Computer-Guided Restoration of Ultrasound Scan Poses Based on Human Skin Features, 21-Aug-14
24. MIT Case 17864J, Ultrasound-Based Individual Scatterer Detection Method Using Scatterer Motion Induced by Acoustic Radiation Force, 21-Apr-15
25. MIT Case 17865, Ultrasound-Based Absolute Scatterer Concentration Measurement Technique: Image Volume Estimation from Scatter Spread Function Extracted From the Image, 21-Apr-15
26. MIT Case 17990, Hydrogel Ultrasound Angle Wedge, 04-Jun-15
27. MIT Case 18074, Joint Camera-Ultrasound Data Acquisition for Limb Scanning, 13-Jul-15
28. MIT Case 18544, An Iterative RTM with a Priori Data to Estimate Bone Thickness Using a Cylindrically Scanning Ultrasound Tomography Scanner, 22-Feb-16
29. MIT Case 18545K, Block-Wise Inversion for the Soundspeed of Human Soft Tissue and Bone Using Ray Based Travel Time Tomographic Techniques, 22-Feb-16
30. MIT Case 18636, Concentric Ring-Based Point Pattern Matching of Skin Features, 05-Apr-16
31. (to be updated)

14. Professional Registration:

N/A.

15. Major New Products, Processes Designs, or Systems:

See next.

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