

MATEO ABOY

Professor of Engineering (EERE, ETM, OIT)

Senior Research Scholar (LML, U.Cambridge)

mateo.aboy@oit.edu (OIT), ma608@cam.ac.uk (Cambridge)

— www.oit.edu/mse — www.lml.law.cam.ac.uk/people/members — https://www.apdm.com —

Profile Summary

Teaching: Professor with a track-record of outstanding teaching excellence (150+ class sections).

Research: Author of 100+ scholarly publications, H-index: 25+, i10-Index: 50+.

Invention: Creator of 20+ inventions which received US patent protection.

Innovation: Founder of 4 companies to commercialize key patented technologies & offer professional services.

Funding: Experienced securing and administering various types of funding for public/private initiatives.

Patent Law: Licensed to practice in patent cases before USPTO & 10 years of patent prosecution experience.

Administration: Experienced as a Program Director, Department Chair, VPR and Associate Provost.

Leadership: Experienced in C-Level Management, Strategy Development, and Negotiation.

Technical Expertise: Engineering (Data Science, DSP & AI), Law (IP & IT), Technical Management.

Languages: English, Spanish, Galician, Portuguese (C1), Italian (B2), French (A1), German (A1).

Education

Science & Engineering

- PhD, Electrical & Communications Engineering (Information & Data Science), University of Vigo, ES, EU
- Cert., Digital Signal Processing, University of Oxford, UK
- Prof. Cert., Sustainable Energy Conversion and Storage, Stanford University, CA, US
- MPhil, (DEA) Information & Telecommunications Engineering, ETSET, University of Vigo, ES, EU
- MS, Electrical & Computer Engineering, CECS, Portland State University, OR, US
- Ing, (Engineer) Telecommunications Engineering, MEC, Spain, EU
- BS, Electrical Engineering & Physics, Minor in Mathematics, CECS, Portland State University, OR, US

Law, Patent Prosecution & IP Technology Transfer/Licensing

- SJD/LLD, Doctor of Juridical Science, Faculty of Law, University of Salamanca, ES, EU (*IP*)
- Law Degree, Graduate Qualifying Law Degree (Grad QLD LLB), UCL/ULLS, University of London, UK
- Law Revision Programme (Contract, Trusts, Tort, Property, Public & EU), University of Cambridge, UK
- Cert., Negotiation & Leadership, Harvard Law School, Harvard University, MA, US
- RPA, Registered Patent Agent, United States Trademark & Patent Office, VA, US
- CLP, Certified Licensing Professional, Licensing Executives Society, VA, US

Management & Leadership

- MBA, International Management, University of London, UK, EU
- Exec. Cert., Management & Leadership, MIT Sloan, Massachusetts Institute of Technology, MA, US
- Cert., Strategy, Financial Analysis & Technical Management, MIT Sloan, MIT, MA, US

§**Academic Honors & Awards:** BSEE (High Honors), Outstanding Undergraduate Student Award, Outstanding Senior Project Award, National Research Society (Full Member based on “Noteworthy Research Contributions”), National Engineering Honor Society, International Engineering Honor Society, Golden-Key Honor Society; MSECE (Summa Cum Laude), Outstanding Graduate Student Award; MS (DEA) & PhD - Doctorate (Summa Cum Laude), MBA (Honors/Merit), Intel Faculty Fellow (Intel Fellowship Award), University Faculty Achievement Award (highest university-wide distinction awarded to a faculty member for excellence in teaching and service at Oregon Institute of Technology), 2013 Portland Business Journal “40 under 40” Award, Nightingale Best Scientific Paper Award (awarded 2015 for paper published in MBEC in 2012).

Professional Licenses & Bar Admissions

Chartered Professional Engineer (PE), Electrical & Telecommunications (COIT 12640), Licensed in the EU.

Bar Admission to Practice in Patent Cases before the USPTO (Prosecution of Patent Cases before USPTO).

Bar Admission to Practice before the Patent Trial & Appeals Board (PTAB), USPTO.

Faculty Experience

2016-Pres :: Senior Research Scholar, LML, University of Cambridge, UK
2012-Pres :: Full Professor (Tenured), EERE, College of Engineering, Technology & Management, OIT, US
2015-2017 :: Professor (Visiting Academic), CIPIL, University of Cambridge, UK
2008-2012 :: Doctoral Professor (Joint Appointment), Biomedical Engineering Div, OHSU, US
2008-2012 :: Associate Professor (Tenured), Electrical Engineering & Renewable Energy Department, OIT
2007-2011 :: Research Professor (Joint Appointment), Polytechnic University of Valencia, ES, EU
2006-2012 :: Doctoral Professor (Joint Appointment), DSP Doctoral Program, ETSIT-U.Vigo, ES, EU
2004-2008 :: Assistant Professor (Tenure Track), EET (15-17) & EERE Department, OIT, US

Fellowships

2009-Pres :: Scientific Fellow, APDM Inc, US
2016-2017 :: Visiting Fellow, Wolfson College, University of Cambridge, UK
2005-2007 :: Intel Faculty Fellow, Intel Inc, US

Academic Leadership & Service

2016-Pres :: Program Director, MS in Engineering (MSE), Oregon Institute of Technology
2011-2015 :: Vice President for Research, Oregon Institute of Technology
2011-2015 :: Associate Provost (VP for Portland/Wilsonville Campus), Oregon Institute of Technology
2011-2015 :: University President's Council, Oregon Institute of Technology
2008-2015 :: University Provost's Council, Oregon Institute of Technology
2008-2015 :: University Provost's Academic Council, Oregon Institute of Technology
2008-2012 :: Department Chair, Electrical Engineering & Renewable Energy Department, OIT
2009-2012 :: Chair, Task Force on Research, Innovation, and Technology Transfer, OIT
2009-2013 :: Director & Patent Counsel, Office of Innovation & Technology Transfer (OITT), OIT
2010-2011 :: Graduate Council, Oregon Institute of Technology
2008-2012 :: ETM School Dean's Academic Council, Oregon Institute of Technology
2006-2007 :: President's Strategic Positioning Team, Oregon Institute of Technology
2006-2007 :: President's Applied Research Strategy Council, Oregon Institute of Technology
2006-2007 :: Executive Committee, Oregon Center for Health Professions, OIT
2006-2009 :: Strategic Enrollment Management Committee, OIT-PDX
2005-2008 :: Program Director, Electronics Engineering Technology & EE Post-Bacc., EERE, OIT

Professional Memberships

Chartered Professional Engineer, COIT Professional Engineering Society (COIT No. 12684), EU
Scientific Research Honor Society, US
IEEE-Institute of Electrical & Electronics Engineers, IEEE Engineering in Medicine & Biology Society
National Association of Patent Practitioners (NAPP), Licensing Executives Society (LES)

Teaching: Summary by Area & Expertise

- Data Science: Statistical Data Processing, Computational Data Analysis, Programming for Data Science
- Information Engineering: Linear Systems, Digital Signal Processing, Communication System Design
- Programming: Computer Programming for Engineers, MATLAB Programming, LabVIEW Programming
- Electronics Engineering: Circuit & Systems, Analog Electronics, ASIC Design, DSP
- Law: Intellectual Property Law, Patent Law, and Business Law for Engineers & Managers
- Management: Engineering Management, Strategy, Innovation & Entrepreneurship
- Research: Research Methods (Peer-Reviewed Research, Empirical IP Research, Technology Management Research)

Teaching Experience: Selected Courses Taught

Teaching Assignments: >150 classes taught at OIT from 2004/5 to 2017 (Total Class Enrollment: >1500 students)

Course Evals: Average Numerical Course Evaluations: 4.7/5.0; Student Comments & Evals Available Upon Request

Listing Format: Course Prefix/Number – Course Title – Term/Year – University

Doctoral Level Courses

- T141a173 – Patent Fundamentals for Researchers and Inventors – S09, F15 – ETSIT-U. Vigo
- CSEE580/680 – Signals & Linear Systems – F08, W09, F10, F11 – OHSU
- BME582/682 – Nature & Analysis of Biomedical Signals – W05, W08, W09, F09, W10 – OHSU
- T141a171 – Data Science: Advanced Statistical Signal Processing (Online) – S07,S08,F09,F10,F11 – U. Vigo
- T141a172 – Biomedical Signal Processing (Online) – 08-09 – ETSIT-U. Vigo

Master Level Courses

- ENGR/REE511 – RM&I: Intellectual Property & Patent Law – F12, F13, F14 - OIT
- ENGR/REE512 – RM&I: Research Methods & Innovation: Peer-Review Research – S17 - OIT
- ENGR/REE513 – RM&I: Commercialization & Technology Transfer – S13, S14 - OIT
- SUS 542 – Alternative & Renewable Energies – S10 – Marylhurst University

Engineering Courses

- EE407 – Patent Fundamentals for Engineers and Managers – Su08, Su09, Su10, F10, S11 – OIT
- EE407 – Advanced Digital Signal Processing – S10, F10 – OIT
- EE431 – Digital Signal Processing – W10, W11, W12, W13, W16, W17 – OIT
- ENGR267 – Programming for Engineers – Su10, W11, Su11, Su13, W14, Su14, Su15, W16, S16 – OIT
- EE225 – Circuits III - Laplace Transforms & Applications – S08, F08, S09, F09, S10, S11, F11 – OIT
- EE321 – Electronics I - Amplifiers & Semiconductors – F07, F08, F09, S10, F10, F11, F16, F17 – OIT
- EE323 – Electronics II - Transistor Amplifiers – W08, F09, W10, W16 – OIT
- REE201 – Introduction to Renewable Energy – F09 – OIT
- REE221 – LabVIEW Programming – W06, Su06, W07, Su07, W08, W09 – OIT
- ENGR407/465 – Senior Project – F09, W10, S10, F10, W11, S11, Su11, F11 – OIT
- Other: Reliability & Quality Control, ASIC Design, Laplace Transforms & Applications, Data Science

Mathematics and Statistics

- MATH465 – Mathematical Statistics – W06 – OIT
- MATH407 – Special Topics in Linear Algebra – S09 – OIT

Overall Research Summary

- Current Primary Research Topic: “Empirical Study on the Patentability of Information Age Inventions”
- Engineering Research Areas: Data Science, IP Analytics, DSP, BSP, Medical Devices
- Law Research Areas: Patent Law, Medical Device Law, Tech Transfer, Computational Law
- Management Research Areas: Competitive Strategy, Disruptive Innovation, Enterprise Valuation, Biotech
- Scholarly Articles Published: 100+ (Available in Google Scholar)
- Inventive Activity: 20+ issued patents and patent publications (Available in USPTO)
- Research Statistics: h-Index: 25+, i10-index: 50+, Citations: >2000, MAR 14 Ranking: 51 out of 48515
- Funding: Secured \$10.0M+ in funding for R&D initiatives (public & private)

Engineering Research Summary: DSP, BSP & Applications

The overall theme of my research in this area is to develop novel engineering methods to help solve relevant data science (big data), digital signal processing, and biomedical engineering problems. I’m particularly interested in problems involving the application of advanced statistical signal processing & data science techniques to develop novel methods to analyze and extract information from physiologic signals that can help doctors make better diagnostic decisions and improve patient outcome. Additionally, I’m interested in the development of innovative medical devices & diagnostic systems that have the potential to improve patient treatment and quality of life while reducing the overall cost of healthcare. As part of technology transfer efforts to commercialize part of these research outputs, I co-founded APDM Inc (a wearable technologies company that commercializes best-in-class solutions for quantification of human movement using inertial sensors). For additional details visit: <http://www.mateoaboy.com> & <http://www.apdm.com>

Data Science Research Summary: Data Science, AI & Applications

This area of research is focused on the development and application of computational data science & artificial intelligence to solve data intensive problems of public and private interest. The research projects in this area typically lie at the interface between engineering, law, and management sciences. The overall objective is to apply computational data science in order to conduct evidence-based (empirical) studies to guide public policy and/or private strategy. Sample areas of research include: Computational Data Science & IP, Legal/IP Informatics & Computational Analytics, Automated Patent Search Algorithm Development, Patent Landscape Studies, Empirical Legal Research (Impact Empirical Analysis of IP Decisions), Machine Learning & IP (e.g., Automatic Analysis of Patent Claims to Determine Similarity, Scope, and/or Validity), Empirical Patent Valuation, Empirical Licensing & Technology Transfer, Intellectual Capital & IP Strategy, and Computational Law. For additional details visit: <https://www.lml.law.cam.ac.uk/people/members>

Law & Management Research Summary: IP, Strategy & Innovation

This area of research is focused on intellectual property, competitive strategy, and innovation. I’m interested in conducting research on intellectual property strategy, IP valuation, developing models and theoretical frameworks for examining IP strategy and early stage patent valuation, and preparing review articles on “recent patents” on particular methods and technology areas (patent landscape studies). Currently, I am actively conducting research on fundamental patent law questions involving subject matter eligibility of information age inventions (e.g., computer-related inventions, data science inventions, biotech) and the impact of recent US Supreme Court case law including *Myriad v AMP*, *Mayo v Prometheus* and *Alice Corp v CLS Bank*, as well as the parallel jurisprudence of the EPO and countries signatory of the European Patent Convention. A related area of research is focused on medical device law and regulation (US, UK and EU). In order to bring this patent law research to practice, I also actively prosecute selected patent applications before the USPTO. My part-time boutique patent practice is focused on cases raising interesting issues of patent law resulting in challenging patent prosecutions from a legal and technical standpoint. I have successfully prosecuted to Allowance dozens of patent cases overcoming USPTO Office Actions raising complex 35 USC 101, 102, 103 and/or 112 legal rejections. In the field of strategy, I’m primarily interested in application of the Delta Model (Hax) and the theory of disruptive innovation to various firms and their generalizations. For additional details visit: <http://www.aboypatents.com> and <https://www.lml.law.cam.ac.uk/people/members>

Departmental Leadership Experience

Department Chair (2008-2012), Electrical Engineering & Renewable Energy (EERE), OIT

Portland Program Director (2017-Pres), MS in Engineering (MSE), OIT

Portland Program Director (2005-2008), EE(T), OIT

§ Summary of Accomplishments: Under my leadership and execution as the EERE Department Chair (2008-2012) and as a Portland Program Director (2005-2008), the EERE Department team achieved the objectives outlined below, resulting in the transformation of a technology department (Department of Electronics Engineering Technology in 2005) with a single program (BS in Electronics Engineering Technology) to a full engineering department (Department of Electrical Engineering & Renewable Energy) offering a BS in Electrical Engineering, a BS in Renewable Energy Engineering, a BS in Electronics Engineering Technology, a BS/MS (4+1) in Engineering & Applied Physics (Partnership with University of Oregon), a MS in Renewable Energy Engineering, and a MS in Engineering (Systems, Embedded, etc).

ABET Accreditation (New Program Accreditation for BSREE & BSEE)

- Secured ABET accreditation for the BS in Renewable Energy Engineering program (ABET EAC, 2011).
- Secured ABET accreditation for the BS in Electrical Engineering (ABET EAC, 2012).
- Secured ABET accreditation for the BS in Electronics Engineering Technology (ABET TAC, 2008).

Development of Graduate Programs

- Designed, developed, obtained approval for, and launched a Master of Science in Engineering (MSE) with multiple specialties including MSE in Systems Engineering, and MSE in Embedded Systems Engineering.
- Designed, developed and obtained approval for launching a Master of Science in Renewable Energy Engineering (Launched in Fall 2012 and became the largest graduate program at Oregon Tech).
- Launched a 4+1 partnership program with University of Oregon leading to a BS in Engineering from OIT and a MS in Applied Physics from University of Oregon.

Transformation from Technology to Engineering

- Transformed from a technology department with no faculty at the Ph.D./P.E. level to a full engineering department attracting 12 new full-time faculty at the Ph.D. level (11) or with P.E. licensure (2).
- Transformed from a single technology program EET department to a multidisciplinary department with Ph.D. faculty with graduate degrees in Electrical Engineering, Materials Science, Physical Chemistry, Physics, Mechanical Engineering, Energy Efficient, and Energy Policy.
- Obtained approvals to offer new BS degrees in Electrical Engineering (WLV), Renewable Energy Engineering (KF, PDX), BS in Electronics Engineering Technology (PDX-West), MSREE, and MSE.

Diversity and Global Perspective

- Transformed into a diverse department including faculty from 5 countries across 4 continents with higher education degrees from 8 countries, and attracted 3 woman engineering Ph.D. tenure/tenure-track professors.

Department Extension Operations

- Transformed the OIT-Portland Extension Operation for EET department from a 1.0 FTE faculty (W05) extension operation offering Engineering Technology in Clackamas (23 students) to a full EERE department (220 students) with 8 full-time faculty (7 Ph.D., 1 PE) across two locations: PDX-East (Clackamas, REE: >150 students) and PDX-West (Beaverton/Hillsboro, EE(T): > 75 students). Launched a full BS in Electronics Engineering Technology at the Portland Westside increasing the student-credit hours (SCH) generated by EET students at the at the PDX-West location from 192 to 2100+ SCH.

Strategic Enrollment Management

- Achieved a total department enrollment of over 375 EERE students - Increased enrollment in EERE PDX from 24 (2004) to 220 (2011) - Increased enrollment in BSEET at PDX West from 3 (2004) to 70 (2011) - Increased enrollment in BSREE at PDX East from 3 (2004) to 152 (2011) - Increased enrollment in BSREE at KF from 2 (2008) to 98 (2011) - Increased enrollment in BSEE at KF from 10 (2008) to 57 (2011)

Funding

- Attracted over \$2,500,000 in federal funding for the EERE department (labs and faculty support) - Attracted \$793,394 in equipment funding through internal competitive processes (Engineering Fee Fund, Resource Based Fee Fund grants, etc.) - Attracted NSF S-STEM funding of > \$1,1175,000.

National Recognition - Contributed to OIT being nationally ranked by US News & World Report in the category of Best Undergraduate Engineering Programs (BS/MS universities): 35th

University Leadership Experience

Associate Provost (2011-2015), Oregon Institute of Technology

§ **Brief Description of Position:** As the Associate Provost, I served as the executive in residence at the Portland-Metro/Wilsonville Campus (i.e., VP for the Oregon Tech Wilsonville Campus) with overall responsibility for developing and executing the strategy to create a new urban, industry-focused branch-campus for Oregon Tech. Additionally, as the Wilsonville Campus Chief Academic & Operating Officer (Chief Campus Administrator), I had overall responsibility for strategy, daily operations and administration of the campus (Academics, F&A, Student Services). **Illustrative accomplishments** include serving as the Founding Vice President for the Oregon Tech-Portland Metro Campus responsible for developing, leading, and successfully executing an academic strategy for establishing an urban branch campus in Wilsonville (\$30M+ capital project), doubling the number of academic programs offered, creating a full-portfolio of engineering programs at the Wilsonville Campus, securing funding to launch and sustain academic programs (NPV > \$25M), and growing the enrollment over 133% (SCH) in three academic years.

Vice President for Research (2011-2015), Oregon Institute of Technology

§ **Brief Description of Position:** As the first Vice President for Research (VPR) at Oregon Tech, my responsibility focused on promoting research, sponsored projects, innovation, and technology transfer at the university. As the Chief Research Officer, I was responsible for university-wide advancement of the research mission by encouraging and facilitating excellence in scholarly, sponsored research, and innovation activities. As the VPR, I served as the Authorized University Official with signature authority over Sponsored Projects, Grant-related agreements, Intellectual Property Agreements, Patentable Subject Matter, and Research Administration & Research/IP regulatory compliance. **Illustrative accomplishments** include: (1) Founding and overseeing the Office of Sponsored Projects & Grants Administration, founding and directing the Office of Innovation & Technology Transfer (OITT), overseeing Graduate Council, and overseeing Oregon Tech IRB; (2) Representing Oregon Tech in external Councils and Boards with the other Oregon VPRs including the Oregon Innovation Council (OregonInc), the Commercialization Research Council, the BEST Board, the NWCSM Board, AUTM, and LES; (3) Providing faculty support to secure external funding by encouraging investment in research infrastructure and promoting scholarship on campus. Major accomplishments include the founding and establishment of the Office of Innovation & Tech Transfer (OITT) and the Office of Sponsored Projects & Grants Administration (SPA) at Oregon Tech.

Founder, Director, and Patent Counsel (2009-2011), OITT, Oregon Institute of Technology Office of Innovation & Technology Transfer (OITT) – <http://www.oit.edu/faculty-staff/oitt>

§ **Summary of Accomplishments:** Founded the innovation and technology transfer office at OIT and designed the processes, procedures, and training for the university to meet the institutional responsibilities (OAR-580-043-0011) with regards to intellectual property, statutory protection of IP assets, and dissemination of technology through licensing. The OITT is responsible for managing the intellectual property assets of OIT. Accomplishments include:

OITT Office Creation

- Established the vision, mission, and objectives for the OITT.
- Registered OITT with USPTO (Customer Number and Digital Certificate for access to USPTO-EFS).
- Designed and oversaw the implementation of an advanced docketing system for accepting inventions disclosures and tracking the stages of patent prosecution before the USPTO, WIPO, and foreign offices.
- Created standardized templates, forms, and agreements to support the process of invention disclosure, statutory protection, and licensing of technology.

IP Guidelines Development

- Developed IP Guidelines interpreting the relevant OARs and IMDs for faculty & staff, industry sponsors, and companies and assured compliance with state and federal law (approved/adopted OUS Legal Counsel).
- Developed the “Agreement to Assign Rights to Inventions and Discoveries” employment agreement (adopted by OUS Legal Counsel).

Training Development

- Trained the IP Specialists to staff the OITT and designed a professional development plan including certification by WIPO, AUTM professional development, and LES coursework.
- Developed and delivered a training course for faculty and staff (OITT 101 “IP Basics for Faculty and Staff”)
- Developed training for faculty inventors (OITT 102) to draft invention disclosures with written descriptions with the required level of detail established by statute 35 USC § 112 (written description, enablement, and best mode).

Summary of Professional Service & Appointments

2014-16 Chair, Commercialization Research Committee, Oregon Innovation Council (OregonInc)
2012-16 Board of Directors – Technical Advisor, Oregon Innovation Council (OregonInc)
2013-16 Board of Directors, Northwest Collaboratory for Sustainable Manufacturing
2013-16 Board of Directors, Oregon BEST
2013-16 Research Council, Oregon BEST
2011-15 Associate Editor/Editorial Board, ISRN Signal Processing Journal
2008-11 Associate Editor, IEEE Engineering in Medicine & Biology (EMBC)
2006-16 Associate Editor, IEEE RITA Journal (IEEE Education Society)
2006-16 Scientific Committee Member, IEEE RITA Journal (IEEE Education Society)
2006-16 Chair, EEG Modeling & Processing Session, IEEE Engineering in Medicine & Biology C.
2006-08 Chair/President, IEEE Education Society (OR-Section)
2008 -08 Scientific Program Committee, ICMB, 2008
2005-06 Officer, IEEE Education Society (OR-North Representative)
2006-P Reviewer, Elsevier Science/Academic Press
2006-P Reviewer, Computer Methods in Biomedicine
2006-P Reviewer, American Journal of Physiology-Heart and Circulatory Physiology
2005-P Reviewer, IEEE Transactions on Industrial Electronics
2003-P Reviewer, IEEE Transactions on Biomedical Engineering
2005-P Reviewer, Medical Engineering and Physics
2005-P Reviewer, Medical & Biological Engineering & Computing
2005-12 Board of Advisors, Microelectronics Engineering Technology, PCC, OR
2005-12 Board of Advisors, Electronics Engineering Technology, PCC, OR
2005-12 Board of Advisors, Microelectronics, Chemeketa CC, OR
2005-12 Board of Advisors, Electronics & Microelectronics Technology, Clackamas CC, OR
2001-02 President, International Electrical Engineering Honor Society (HKN), PSU-Chapter
2001-02 Corresponding Secretary, National Engineering Honor Society (TBP), PSU-Chapter

Awards & Honors

2015 Nightingale Best Scientific Paper Award (MBEC 2012 Paper)
2013 Portland Business Journal “40 under 40” Award (The Portland Business Journal’s “40 Under 40” award recognizes those individuals who have had a massive impact on the Portland area but who have yet to cross the 40-year old mark).
2010 Faculty Achievement Award (University wide award for outstanding teaching and service), OIT
2006 Intel Faculty Fellow, Recipient of the Intel Fellowship Award & Grant
2005 Full Member, National Scientific Research Society (Sigma Xi)
2004 Best Paper Award, InterSymp-2004 Conference (Baden-Baden 04)
2001 International Electrical Engineering Honor Society (HKN), Lifetime member
2001 National Engineering Honor Society (TBP), Lifetime member
2001 Golden-Key Honor Society, Lifetime member

Selected Service to the State (State of Oregon)

Chair & Member (2012-2015)

Commercialization Research Committee, OregonInC

§ Brief Description: The Oregon Innovation Council (Oregon InC) is statutorily charged with recommending the establishment or continuation of Signature Research Centers (SRC) to enhance Oregon's global competitiveness: SB 838. The Commercialization Research Committee (CRC) within Oregon Inc is responsible for evaluating SRC applications and making funding recommendations based on how the Signature Research Centers advance the objectives of OBDD's Business Development Focus, which include: 1) Successfully compete for private and federal investment; 2) Generate new companies and jobs based on university R&D; 3) Identify and make strategic investments in emerging opportunities where Oregon has a competitive advantage; 4) Renew focus on business stability and job creation/retention; and 5) Help businesses access capital in an environment of tighter credit.

Oregon InC's mission is to create jobs, create companies and bring outside dollars back to Oregon. It does that by harnessing private sector leadership with Oregon's universities to commercialize cutting edge research; revitalize established industries and make them more competitive; help start-ups access capital, and provide Oregon businesses with access to otherwise out-of-reach R&D labs and researchers.

§ Illustrative Accomplishments: As the CRC Chair in 2014-2015, I led the development of the proposal for the 2015-2017 Innovation Plan (which resulted in an investment of \$24.65M from the State of Oregon in SRC's). Oregon InC's six initiatives for the biennium have captured \$197.5 million in federal and private grants for the state, and are on track to generate more than \$7 for every dollar the Legislature has invested so far. It has incubated 15 new companies, and its 11 shared labs have been used by more than 227 businesses to perfect ideas as diverse as portable kidney dialysis machines and new malaria-fighting drugs.

Board Member (2013-2015)

Northwest Collaboratory for Sustainable Manufacturing (NWCSM)

(Oregon Advanced Manufacturing Initiative (OMIC))

§ Brief Description: The mission of the NWCSM is to enable and facilitate collaborative applied research efforts to leverage and enhance the competitiveness of the metals manufacturing industries and universities in Oregon. NWCSM had its origins within HB 5028 during the 2013 Oregon Legislature. The Governor's budget allocated funds for universities to hire faculty, acquire necessary equipment and hire an executive director.

§ Illustrative Accomplishments: Major accomplishments include serving as part of the Founding Board that established the NWCSM as a legal entity, its mission, vision, strategy, as well as helping secure funding for its launch and ongoing operations.

Board of Member (2013-2015)

Oregon BEST

§ Brief Description: Oregon BEST (an OregonINC funded Signature Research Center) nurtures clean technology innovation by transforming new ideas, research, and products into green collar jobs, greater sustainability, and economic prosperity for Oregon. BEST was founded in 2007 as the Oregon Built Environment & Sustainable Technologies Center, Inc (Oregon BEST) – an independent nonprofit. BEST provides leadership and leverages its expertise, resources, and relationships to achieve impact beyond our scale. - See more at: <http://oregonbest.org>.

Summary of Industry Experience

- 2015-2017 :: Scientific Fellow, APDM, Inc, US
- 2007-2014 :: Chief IP Officer (CIPO), APDM, Inc, US
- 2009-2017 :: Principal, Aboy & Associates, PC, US
- 2005-2008 :: Principal Management & Technical Consultant, Simplex, Inc, US
- 2003-2007 :: Principal Design Engineer, Chief Scientist, Tiba Medical, Inc, US
- 2004-2007 :: Professional Engineer (Principal Electrical Engineer), Method Engineering, LLC, ES, EU
- 2000-2002 :: Engineering Research Associate, Complex System Lab - OHSU, US
- 1999-2002 :: Lead Systems Administrator, CNS-LCT, PSU, US

Industry Experience

APDM, INC, OR, USA — www.apdm.com (2007-Present)

Firm Profile: Wearable Technologies Company focused on Quantification of Human Movement.

Firm Size: Team of 20+ engineers and scientists.

Current Position: Fellow & Co-Founder (Part-Time).

Previous Positions/Titles: Chairman of the Board, President, COO/CFO, Chief IP Officer (CIPO).

Summary of Experience & Contributions:

- Board & C-level management, leadership and strategy formulation.
- Design of business strategy, corporate governance, and business operations.
- CIPO-level IP strategy and implementation (strategy, patent prosecution, licensing).
- CFO-level financial management.
- Design of accounting systems compliant with OMB A-133 & DCAA.
- Responsible for designing the QMS and QPM to enable ISO13485.
- Innovation and R&D (DSP IP conception, invention).

Illustrative Customers: NIH, NASA, DOD, Intel, Beth Israel Medical Center, Mayo Clinic, Massachusetts Institute of Technology, Stanford University, Columbia University, Imperial College London, Simon Fraser University, University of Michigan, University of Rochester, University of Pittsburgh, Oxford Brookes University, Oregon Health & Science University, University of Delaware, Kinetics Foundation

Top Commercialized Products: Opal (TM), Emerald (TM), Sapphire (TM), and Mobility Lab (TM)

ABOY & ASSOCIATES, PC — www.aboypatents.com (2009-Present)

Firm Profile: Patent Prosecution and IP Strategy Firm (Professional Corporation).

Firm Size: 2 Registered Patent Agents, 2 Patent Attorneys (Of-Counsel), 1 Patent Support Personnel.

Current Position: Principal (Part-Time).

Previous Positions/Titles: Managing Director

Summary of Experience & Contributions:

- Strategy: Intellectual Property Strategy Development.
- Analysis: Conduction of Prior-Art Searches, Patentability Opinions, and Patent Portfolio Analysis.
- US Patent Preparation & Filing: Preparing & Filing Provisional, Utility, and Design Applications.
- US Patent Prosecution: Elections, Amendments, Office Actions Responses, Examiner Interviews.
- US Continuations: Preparing & Filing Continuations, Continuations-in-Part and Divisional Applications.
- International Applications: Prosecution of PCT Applications: International & National Stage Applications.
- Training & Education: Corporate training on innovation, patent fundamentals, development of patent strategy, university lecturing (Workshops on Patent Fundamentals for Engineers, Managers, & Entrepreneurs).
- Technical Services: Expert Opinions in DSP, Biomedical Signal Processing, Medical Devices, and SSP.

Principal Practice Areas: Electrical Engineering, Computer Engineering, Telecommunications, Digital Signal Processing, Biomedical Signal Processing, Medical Devices, Cryptography Systems, Computer-Implemented Methods.

Industry Experience - Continuation

TIBA MEDICAL, INC, OR, USA — www.tibamedical.com (2003-2007)

Profile: Medical Devices Company focused on Ambulatory Blood Pressure Monitoring

Position/Title: Principal Design Engineer (2003-2005) and Chief Scientist (2005-2007)

Summary of Experience & Contributions:

- Product Definition & Design of Ambulatory Blood Pressure Monitoring Systems.
- Design of Signal Processing Algorithms for Ambulatory Blood Pressure Monitors -ABPM (Ambulo 2400).
- Design of Signal Processing Algorithms for Actigraphy.
- Clinical Device Validations (AAMI, SP10, BHS, ESH, FDA 510k).
- Development of IP portfolio and statutory protection of key inventions.
- Research & Development, MATLAB modeling and implementation of BP algorithms.

Firm Status: Tiba's blood pressure devices, products, technology, and IP assets were acquired in 2011 by Mortara Instrument, Inc (industry leader in ECG monitoring solutions).

Top Commercialized Products: Ambulo 2400 APBM System (TM)

SIMPLEX, INC, OR, USA (2005-2008)

Profile: Professional Services Firm Specialized in Strategic & Technical Consulting.

Position/Title: Principal Technical & Management Consultant (2005-2008)

Summary of Experience & Contributions:

- Provide integrated strategic consulting to technology firms: electrical, biomedical, medical devices.
- Technical engineering consulting: product definition, DSP engineering, product validations.
- Strategic position analysis and development based on the delta model.
- IP strategy development & technology transfer consulting.

Representative Clients: Tiba Medical, Inc (consulting principal engineer 2003-2007), OHSU (development of a PPV system), Innovatec SL (Representation, Strategy Development, Outsourcing Brokerage).

METHOD ENGINEERING, LLC, Spain, EU — www.metodweb.com (2004-2007)

Profile: Architectural Engineering Firm based in the European Union (Spain).

Position/Title: Professional Engineer & Partner (2004-2007) (Chartered Engineer licensed in the EU)

Summary of Experience & Contributions:

- Practicing professional engineer: responsible for the design, development, and approval of ICT projects.
- Design, development, and management of ICT projects for residential buildings and commercial spaces.
- General firm leadership & strategy development.
- Coordination of a team of Architects, Architectural Engineers, Construction, Mechanical, Electrical Engineers, and Industrial Engineers.

Representative Clients: Architecture, Construction and Development Firms

COMPLEX SYSTEMS LAB, Doernbecher Children's Hospital/BSP Lab, OR, US (2000-03)

Profile: Research Laboratory part of the Hospital ICU (Position funded by grants).

Position/Title: Engineering Research Assistant (2000-2002), DSP Engineer & Researcher (2002-2003)

Summary of Experience & Contributions:

- Simulation and validation of DSP systems and algorithms for biomedical signals.
- Design automatic QRS and pressure detection algorithms.
- Design novel analysis techniques for biomedical signals.
- Design signal processing and analysis algorithms for biomedical signals.
- Conduct clinical research, publish results in conferences and journals, and mentor research assistants.

OFFICE OF INFORMATION TECHNOLOGIES, PSU, OR, US (1999-2002)

Profile: Information Technology Division of Portland State University.

Position/Title: Project Coordinator & Lead System Administrator, CNS-LCT (April 01-January 2002)

Team Coordinator & Systems Administrator, CNS-LCT (June 00-April 01)

Computer & Network Technician, CNS-LCT (September 99-June 00)

Summary of Experience & Contributions:

- Manage new Information Technology deployments.
- IT system administration (Network+ Certified), CCNA.
- Supervise a team of 9 computer and network professionals.
- Support 600+ campus computers.

Selected Peer-Reviewed Journal Publications

1. After Myriad, what makes a gene patent claim markedly different from nature?
M Aboy, J Liddicoat, K Liddell, M Jordan, C Crespo
Nature Biotechnology 35 (9), 820-825, 2017
2. Inertial and time-of-arrival ranging sensor fusion
P Vasilyev, S Pearson, M El-Gohary, M Aboy, J McNames
Gait & Posture 54, 1-7, 2017
3. Review of Recent Patents in the Area of Intelligent, Adaptive, Wireless and GPS Enabled HVAC Control Devices
E Polk, L Polk, M Aboy, C Crespo
Recent Patents on Engineering 10 (3), 175-186, 2016
4. Myriad's impact on gene patents
M Aboy, K Liddell, J Liddicoat, C Crespo
Nature biotechnology 34 (11), 1119-1123, 2016
5. A novel particle filtering method for estimation of pulse pressure variation during spontaneous breathing
S Kim, F Noor, M Aboy, J McNames
Biomedical engineering online 15 (1), 94, 2016
6. Review of Recent Patents on Anaerobic Digester Gas for Fuel Cell Applications
B Warlick, C Diaz, P S Vasconcelos, C Crespo, M Aboy
Recent Patents on Engineering 9 (2), 113-123, 2015
7. Review of Recent Patents on Carbon Nanotube Based Electrodes for use in Supercapacitor Applications
C Diaz, A R Ponder, M McGee, C Crespo, M Aboy
Recent Patents on Engineering 9 (1), 21-28, 2015
8. Review of Recent Patents on Flexible Photovoltaic Applications in Portable and Niche Markets
R Smith, C Crespo, M Aboy
Recent Patents on Engineering 7 (3), 153-166, 2013
9. Review of recent patents on wearable movement sensors
M Aboy, J McNames, C Crespo
Recent Patents on Biomedical Engineering 6 (2), 82-88, 2013
10. Review of Recent Patents on Detection and Quantification of Tremor
M Aboy, C Crespo, J McNames, J Sprunger
Recent Patents on Biomedical Engineering 6 (2), 89-96, 2013
11. Influence of QRS complex detection errors on entropy algorithms. Application to heart rate variability discrimination
A Molina-Pic, D Cuesta-Frau, P Mir-Martinez, S Oltra, Crespo, M Aboy
Computer methods and programs in biomedicine 110 (1), 2-11, 2013
12. Clinical application of a novel automatic algorithm for actigraphy-based activity and rest period identification to accurately determine awake and asleep ambulatory blood pressure monitoring parameters and cardiovascular risk
C Crespo, JR Fernandez, M Aboy, A Mojn
Chronobiology international 30 (1-2), 43-54, 2013
13. Pulse Pressure Variation Tracking Using Sequential Monte Carlo Methods
Biomedical Signal Processing and Control.
Sunghan K, Aboy M, McNames J
Biomedical Signal Processing and Control, Vol 8, Page(s): 333-340, 2013
14. Automatic identification of activity-rest periods based on actigraphy
C Crespo, M Aboy, JR Fernandez, A Mojn
Medical & biological engineering & computing 50 (4), 329-340, 2012
15. Automated prediction of the apnea-hypopnea index from nocturnal oximetry recordings
JV Marcos, R Hornero, D Alvarez, M Aboy, F Del Campo
IEEE Transactions on Biomedical Engineering 59 (1), 141-149, 2012

16. Comparative study of approximate entropy and sample entropy robustness to spikes
A Molina-Pic, D Cuesta-Frau, M Aboy, C Crespo, P Mir-Martnez
Artificial intelligence in medicine 53 (2), 97-106, 2011
17. Influence of QRS Complexity Detection Error on Entropy Measures.
Molina-Pic A, Cuesta-Frau D, Mir-Martnez P,Oltra-Crespo S, Aboy M
Medical & Biological Engineering and Computing, 2013, Vol 110(1)
Page(s): 2-11
18. Pulse Pressure Variation: Where Are We Today?
Cannesson M, Aboy M, Hofer C, Rehman M.
Journal of Clinical Monitoring and Computing, 2011, Feb; 25(1)
Page(s): 45-46
19. Automated detection of obstructive sleep apnoea syndrome from oxygen saturation recordings using linear discriminant analysis.
Marcos JV, Hornero R, Alvarez D, Del Campo F, Aboy M.
Medical & Biological Engineering and Computing, 2010 Sep;48(9)
Page(s): 895-902
20. Automatic segmentation of long-term ECG signals corrupted with broadband noise based on sample entropy.
Mic P, Mora M, Cuesta-Frau D, Aboy M.
Computer Methods and Programs in Biomedical Engineering, 98, 2010
Page(s): 118-129
21. An enhanced automatic algorithm for estimation of respiratory variations in arterial pulse pressure during regions of abrupt hemodynamic changes.
Aboy M, Crespo C, Austin D.
IEEE Transactions on Biomedical Engineering, Volume: 56, 2009
Page(s): 2537-2545
22. A Novel Recursive Fourier Transform for Nonuniform Sampled Signals: Application to Heart Rate Variability Spectrum Estimation.
Holland, A; Aboy, M.
Medical & Biological Engineering and Computing, Volume: 47, Number: 7, 2009
Page(s): 1741-0444
23. Can a simulation study of T-wave alternans (TWA) resolve whether TWA is T-wave amplitude dependent?
Cuesta-Frau D, Aboy M, Biagetti M.
Medical & Biological Engineering and Computing, 2009 Jan 31
Page(s): 353-354
24. A Novel Method for Nonstationary Power Spectral Density Estimation of Cardiovascular Pressure Signals Based on a Kalman Filter with Variable Number of Measurements.
Tsui, KM; Zhang, S; Chan, WY; Aboy, M
Medical & Biological Engineering and Computing, Volume: 46, Issue: 8, 2008
Page(s): 789-797
25. Complexity Analysis of Arterial Pressure During Periods of Abrupt Hemodynamic Change
Hornero, R; Aboy, M; Gomez, C; Hagg, D; Phillips, C
IEEE Transactions on Biomedical Engineering, Volume: 55, Issue: 2, 2008
Page(s): 797-801
26. Statistical modeling of cardiovascular signals and parameter estimation based on the extended Kalman filter.
McNames, J.; Aboy, M.
IEEE Transactions on Biomedical Engineering, Volume: 55, Issue: 1, 2008
Page(s): 119-129
27. Enhanced modified moving average analysis of T-wave alternans using a curve matching method: a simulation study.
Cuesta-Frau D, Mic-Tormos P, Aboy M, Biagetti MO, Austin D, Quinteiro RA.
Medical & Biological Engineering and Computing, 2008, Oct 21
Page(s): 323-331

28. A Statistical Model and Simulator for Cardiovascular Pressure Signals.
Staats, C; Austin, D; Aboy, M
Journal of Engineering in Medicine, Volume: 222, Issue: 6, 2008
Page(s): 991-998
29. Design and implementation of a portable physiologic data acquisition system
Vincore, K.; Aboy, M.; McNames, J.; Phillips, C.; Goldstein, B.
Pediatric Critical Care Medicine, Volume: 8, Issue: 6, 2007
Page(s): 563-569
30. Pulse Morphology Visualization and Analysis with Applications in Cardiovascular Pressure Signals.
Ellis, T.; McNames, J.; Aboy, M.
IEEE Transactions on Biomedical Engineering, Volume: 54, Issue: 9, 2007
Page(s): 1552-1559
31. Predicting survival in critical patients by use of body temperature regularity measurement based on approximate entropy.
Cuesta D, Varela M, Mir P, Galds P, Absoló D, Hornero R, Aboy M.
Med Biol Eng Comput. 2007 Jul;45(7)
Page(s): 671-8.
32. A novel automatic image processing algorithm for detection of hard exudates based on retinal image analysis.
Snchez CI, Hornero R, Lpez MI, Aboy M, Poza J, Absoló D.
Medical Engineering Physics, Volume: 30(3), 2007
Page(s): 350-357
33. Analysis of intracranial pressure during acute intracranial hypertension using Lempel-Ziv complexity: further evidence.
Hornero R.; Aboy M.; Absoló D
Medical & Biological Engineering and Computing, Volume: 45, Issue: 3 2007
Page(s): 229-239
34. Unsupervised Classification of Ventricular Extrasystoles using Bounded Clustering algorithms and Morphology Matching.
Cuesta-Frau, D.; Biagetti, MO.; Quinteiro, RA.; Mico-Tomos, P., Aboy, M
Medical & Biological Engineering and Computing, Volume: 45, 2007
Page(s): 229-239
35. Reliability and Accuracy of Heart Rate Variability Metrics versus ECG Segment Duration.
McNames; Aboy, M
Medical & Biological Engineering and Computing, Volume: 44, Issue: 9, 2006
Page(s): 747-756
36. Interpretation of the Lempel-Ziv complexity measure in the context of biomedical signal analysis.
Aboy M, Hornero R, Abasolo D, Alvarez D
IEEE Transactions on Biomedical Engineering, Volume: 53, Issue: 11, 2006
Page(s): 2282-228
37. An Automatic Algorithm for Stationary Segmentation of Extracellular Microelectrode Recordings.
Aboy, M; Falkerberg, JH.
Medical & Biological Engineering and Computing, Volume: 44, Issue: 6, 2006
Page(s): 511-515
38. The Population RDH Index. A Novel Index and Graphical Method for Statistical Assessment of Antihypertensive Treatment Reduction Duration, and Homogeneity.
Aboy, M.; Fernandez, J.R.; Hermina, R.C.
Blood Pressure Monitoring. Volume: 11, Issue: 3, 2006
Page(s): 143-155
39. Variability, Regularity, and Complexity of Time Series Generated by Schizophrenic Patients and Control Subjects.
Honero, R.; Absoló, D.; Jimeno, N.; Sanchez, C.; Poza, J.; J.; Aboy, M.
IEEE Transactions on Biomedical Engineering, Volume: 52, Issue: 10, 2006
Page(s): 210-218

40. Complex Analysis of Intracranial Hypertension using Approximate Entropy.
Honero, R.; Aboy M.; Absolo, D.; Wakeland, W.; Goldstein, B.
Critical Care Medicine, Volume: 34, Issue: 1, 2006
Page(s): 87-95
41. The Individual RDH Index. A Novel Vector Index for Statistical Assessment of Antihypertensive Treatment Reduction, Duration, and Homogeneity.
Aboy, M.; Fernandez, J.R.; Hermina, R.C.
Blood Pressure Monitoring. Volume: 11, Issue: 2, 2006
Page(s): 69-78
42. An Automatic Beat Detection Algorithm for Pressure Signals.
Aboy, M.; McNames. J; Thong, T.; Tsunami, D.; Ellenby, M. Goldstein, B.
IEEE Transactions on Biomedical Engineering, Volume: 52, Issue: 10, 2005
Page(s): 1662-1670
43. Interpretation of Approximate Entropy. Case Studies in the Analysis of Intracranial Pressure During Acute Elevations in Traumatic Brain Injury.
Honero, R.; Aboy, M.; Absalo, D.; McNames, J.; Goldstein, B.
IEEE Transactions on Biomedical Engineering, Volume: 52, Issue: 10 , 2005
Page(s): 1671-1680
44. Adaptive Modeling and Spectral Estimation of Nonstationary Biomedical Signals Based on Kalman Filtering.
Aboy, M.; Mrquez, O.W.; McNames, J.; Hornero, R.; Thong, T.; Goldstein, B.
IEEE Transactions on Biomedical Engineering, Volume: 52, Issue: 8, 2005
Page(s): 1485-1489
45. Methodological Considerations in the Evaluation of the Duration of Action of Antihypertensive Therapy Using Ambulatory Blood Pressure Monitoring. Aboy, M.; Fernandez, J.R.; Hermina, R.C.
Blood Pressure Monitoring. Volume: 10, Issue: 3, 2005
Page(s): 111-115
46. Pulse and Mean Intracranial Pressure Analysis in Pediatric Traumatic Brain Injury.
Aboy, M.; McNames, J.; Wakeland, W.; Golstein, B.
Acta Neurochirurgica (Suppl), Volume: 95 2005
Page(s): 307-310
47. A Novel Algorithm to Estimate the Pulse Pressure Variation Index
Aboy, M.; McNames. J; Thong, T.; Phillips, C.R.; Ellenby, M. Goldstein, B.
IEEE Transactions on Biomedical Engineering, Volume: 51, Issue: 12, 2004
Page(s): 2198 - 2203
48. A Microcontroller-Based Portable Electrocardiograph Recorder.
Segura-Juarez, J.J.; Cuesta-Frau, D.; Samblas-Pena, L.; Aboy, M.;
IEEE Transactions on Biomedical Engineering, Volume: 51, Issue: 9, 2004
Pages: 1686 - 1690
49. Prediction of Paroxysmal Atrial Fibrillation by Analysis of Atrial Premature Complexes.
Thong. T; Goldstein, B.; McNames. J; Aboy, M.
IEEE Transactions on Biomedical Engineering, Volume: 51, Issue: 4, 2004
Page(s): 561-569
50. Pattern Matching Techniques Applied to Biomedical Signal Processing.
Cuesta-Frau, D.; Mico Tormos, P.; Novak, D.; Aboy, M.
IIAS Transactions of Systems Research and Cybernetics Volume: 4, Issue: 1, 2004
Page(s): 29-35

Selected Peer-Reviewed Conference Publications & Book Chapters

41. Statistical model for cardiovascular signals with independent respiratory modulation for tracking pulse pressure variation.

- McNames J, Kim S, Aboy M;
 IEEE Engineering in Medicine and Biology Society (EMBS), 2011.
 Proceedings of the 33rd International Conference of the IEEE, Volume: 1, 2011
 Page(s): 4681-4684
42. Determination of sleep/wake periods based on actigraphy signals
 Crespo, C; Fernndez, JR; Aboy, M; Mojn, A
 Proceedings of the 26th Conference of the International Society for Chronobiology 2010, 2010
 Page(s): 98-99
 43. Clinical Implications of Automatic Activity/Rest Identification in Cardiovascular Risk Assessment
 Crespo, C; Fernndez, JR; Aboy, M; Mojn, A
 Proceedings of the 26th Conference of the International Society for Chronobiology 2010, 2010
 Page(s): 101-102
 44. Algorithm for Sleep/Wake Identification From Actigraphy
 Crespo, C; Aboy, M; Fernandez, JR; Mojn, A
 European Association for Speech, Signal and Image Processing (EURASIP), 2010.
 Proceedings of the 20th International EURASIP Conference BIOSIGNAL 2010, Volume: 1, 2010
 Page(s): 224 -228
 45. Comparison of Automatic Sleep/Wake Detection Algorithms for Cardiovascular Risk Assessment
 Crespo, C; Aboy, M; Fernndez, JR; Mojn, A
 European Association for Speech, Signal and Image Processing (EURASIP), 2010.
 Proceedings of the 20th International EURASIP Conference BIOSIGNAL 2010, Volume: 1, 2010
 Page(s): 229-232
 46. Measuring body temperature time series regularity using approximate entropy and sample entropy.
 Cuesta-Frau, D.; Miro-Martinez, P.; Oltra-Crespo, S.; Varela-Entrecanales, M.; Aboy, M.; Austin, D;
 IEEE Engineering in Medicine and Biology Society (EMBS), 2011.
 Proceedings of the 31st International Conference of the IEEE, Volume: 1, 2009
 Page(s): 3461-3464
 47. Neurologic Monitoring
 Goldstein, B.; Aboy, M.; Graham, A.
 Roger's Textbook of Pediatric Intensive Care (2008)
 48. Characterization of sample entropy in the context of biomedical signal analysis.
 Aboy, M.; Cuesta-Frau, D.; Austin, D.; Mico-Tormos,, P.;
 IEEE Engineering in Medicine and Biology Society (EMBS), 2007.
 Proceedings of the 27th International Conference of the IEEE, Volume: 1, 2007
 Page(s): 5942-5
 49. T-wave Alternans Analysis Improvement by Means of Curve Alignment Prior to Distance Calculation.
 Cuesta-Frau, D.; Biagetti, M.; Mico-Tormos, P.; Aboy, M.; Austin, D.; Quinteiro, R.
 IEEE Engineering in Medicine and Biology Society (EMBS), 2007.
 Proceedings of the 27th International Conference of the IEEE, Volume: 1, 2007
 Page(s): 690-3
 50. Cardiovascular Signal Decomposition and Estimation with the Extended Kalman Smoother
 McNames, M; Aboy, M
 IEEE Engineering in Medicine and Biology Society (EMBS), 2006.
 Proceedings of the 28th International Conference of the IEEE, Volume: 1, 2006
 Page(s): 3708-3711
 51. A Novel Approach to Pulse Pressure Variation
 Austin, D.; Staats, C.; Aboy, M
 IEEE Engineering in Medicine and Biology Society (EMBS), 2006.
 Proceedings of the 28th International Conference of the IEEE, Volume: 3, 2006
 Page(s): 1391-1393
 52. Speech recognition methods applied to biomedical signals processing
 Novak, D.; Cuesta-Frau, D.; Al ani, T.; Aboy, M.; Mico, R.; Lhotska, L.

- IEEE Engineering in Medicine and Biology Society (EMBS), 2004.
 Proceedings of the 26th International Conference of the IEEE, Volume: 1, 2004
 Page(s): 118-121
53. Lomb-Wech periodogram for non-uniform sampling
 Thong, T.; McNames, J; Aboy, M..
 IEEE Engineering in Medicine and Biology Society (EMBS), 2004.
 Proceedings of the 26th International Conference of the IEEE, Volume: 1, 2004
 Page(s): 271-274
54. Impulse rejection filter for artifact removal in spectral analysis of biomedical signals
 McNames, J.; Thong, T.; Aboy, M.; .
 IEEE Engineering in Medicine and Biology Society (EMBS), 2004.
 Proceedings of the 26th International Conference of the IEEE, Volume: 1, 2004
 Page(s): 145-148
55. Heart rate variability analysis of effect of nicotine using periodograms
 Thong, T.; Yung, I.O.; Zajdel, D.P.; Ellingson, R.M.; McNames, J.; Aboy, M.; Oken, B.S.; .
 IEEE Engineering in Medicine and Biology Society (EMBS), 2004.
 Proceedings of the 26th International Conference of the IEEE, Volume: 1, 2004
 Page(s): 294-297
56. Power spectral density estimation and tracking nonstationary pressure signals based on Kalman filtering
 Aboy, M.; McNames, J.; Marquez, O.W.; Hornero, R.; Thong, T.; Goldstein, B.; .
 IEEE Engineering in Medicine and Biology Society (EMBS), 2004.
 Proceedings of the 26th International Conference of the IEEE, Volume: 1, 2004
 Page(s): 156-159
57. ICU Monitoring of Continuous Physiologic Signals: Engineering Aspects, Clinical Interpretation, and Future Directions
 Goldstein, B.; McNames, J.; Ellenby, M.; Ibsen, L.; Jacques, S.; Aboy, M.; Thong, T.; Phillips, C
 Crit. Care Med, Current Concepts in Pediatric Critical Care, Volume: 1, Issue: 1, 2004
 Page(s): 201-229
58. Clustering of Intracranial Pressure Using Hidden Markov Models
 Novak, D.; Cuesta-Frau, D.; Aboy, M.; Goldstein, B.; Lhotska, L.
 EMCSR-17 European Meetings on Cybernetics and Systems Research, 2004
59. Morphology analysis of physiological signals using hidden Markov models
 Novak, D.; Lhotska, L.; Al-ani, T.; Hamam, Y.; Cuesta-Frau, D.; Mico, P.; Aboy, M.;
 Pattern Recognition, 2004. ICPR 2004. Proceedings of the 17th International Conference, Volume: 3, 2004
 Pages:754-757

60. A Novel Statistical Model for Simulation of Pressure Signals
Aboy, M.; McNames, J.; Thong, T.
European Association for Speech, Signal and Image Processing (EURASIP), 2004.
Proceedings, 17th International EURASIP Conference BIOSIGNAL 2004, Volume:17
Page(s): 364-367
61. Time-Delay Estimation between Arterial Blood Pressure and Intracranial Pressure Signals Based on Kalman Filtering
Aboy, M.; Marquez, O.W.; McNames, J.; Cuesta-Frau, D.
European Association for Speech, Signal and Image Processing (EURASIP), 2004.
Proceedings, 17th International EURASIP Conference BIOSIGNAL 2004, Volume: 17
Page(s): 355-357
62. Complex Analysis of Intracranial Hypertension in Traumatic Brain Injury using Approximate Entropy
Hornero, R.; Abasolo, D.E.; Aboy, M.; Mcnames, J.; Goldstein, B.
European Association for Speech, Signal and Image Processing (EURASIP), 2004.
Proceedings, 17th International EURASIP Conference BIOSIGNAL 2004, Volume: 17
Page(s): 15-17
63. Averaged Lomb Periodograms for Nonuniform Sampling
Thong, T.; McNames, J.; Aboy, M.; Oken, B.
European Association for Speech, Signal and Image Processing (EURASIP), 2004.
Proceedings, 17th International EURASIP Conference BIOSIGNAL 2004, Volume: 17
Page(s): 39-41
64. A Database of Oculographic Signals
Cuesta-Frau, D.; Novak, D.; Aboy, M.; Brzezny, R.; Cerny, R.; Jerabek, J.
European Association for Speech, Signal and Image Processing (EURASIP), 2004.
Proceedings, 17th International EURASIP Conference BIOSIGNAL 2004, Volume: 17
Page(s): 97-99
65. Designing Portable Biomedical Signal Recorders
Cuesta-Frau, D.; Segura-Juarez, J.J.; Aboy, M.; Samblas-Pena, L.
European Association for Speech, Signal and Image Processing (EURASIP), 2004.
Proceedings, 17th International EURASIP Conference BIOSIGNAL 2004, Volume: 17
Page(s): 155-157
66. Transient Pulse Morphology Analysis of Intracranial Pressure after Ventricular Drainage
Aboy, M.; Crespo, C.; McNames. J; Ellenby, M; Goldstein, B.
Society of Critical Care Medicine.
Critical Care Medicine (Part 2 Suppl.), Volume: 31, Number: 12, 2003
Page(s): 334
67. Evidence for Diminished Complexity During Acute Hypotension in Sepsis
Aboy, M.; McNames. J.; Goldstein, B.
Society of Critical Care Medicine.
Critical Care Medicine (Part 2 Suppl.), Volume: 31, Number: 12, 2003
Page(s): 229
68. Response Analysis of Intracranial Pressure to Changes in Respiratory Rate
Levitte, G.; Aboy, M.; McNames. J.; Goldstein, B.
Society of Critical Care Medicine.
Critical Care Medicine (Part 2 Suppl.), Volume: 31, Number: 12, 2003
Page(s): 333
69. Accuracy of ultra-short heart rate variability measures
Thong, T.; Li, K.; McNames, J.; Aboy, M.; Goldstein, B.;
IEEE Engineering in Medicine and Biology Society (EMBS), 2003.
Proceedings of the 25th International Conference of the IEEE, Volume: 3, 2003
Page(s): 2424-2427
70. Significance of Intracranial Pressure Pulse Morphology in Pediatric Traumatic Brain Injury
Aboy, M.; McNames, J.; Cuesta-Frau, D.; Wakeland, W.; Thong, T.; Lai, S.; Gold

- IEEE Engineering in Medicine and Biology Society (EMBS), 2003.
 Proceedings of the 25th International Conference of the IEEE, Volume: 3, 2003
 Page(s): 2491-2494
71. Pulse Pressure Variation Estimation Based on Rank-Order Fitlers
 Aboy, M.; McNames, J.; Thong, T.; Phillips, C.R.; Ellenby, M.S.; Goldstein, B.
 IEEE Engineering in Medicine and Biology Society (EMBS), 2003.
 Proceedings of the 25th International Conference of the IEEE, Volume: 3, 2003
 Page(s): 2435-2438
 72. Paroxysmal Atrial Fibrillation Prediction Using Isolated Premature Atrial Events and Paroxysmal Atrial Tachycardia
 Thong, T. ; McNames. J; Aboy, M. Goldstein, B
 IEEE Engineering in Medicine and Biology Society (EMBS), 2003.
 Proceedings of the 25th International Conference of the IEEE, Volume: 1, 2003
 Page(s): 163-166
 73. Morphology Analysis of Intracranial Pressure Using Pattern Matching Techniques
 Cuesta-Frau, D.; Aboy, M.; McNames, J.; Goldstein, B.
 IEEE Engineering in Medicine and Biology Society (EMBS), 2003.
 Proceedings of the 25th International Conference of the IEEE, Volume: 3, 2003
 Page(s): 2917-2920
 74. Biosignal Laboratory: A Software Tool for Complete Biomedical Signal Processing
 Cuesta-Frau, D.; Mico, P; Aboy, M.; Novak, D; Brezny, R.; Samblas, L; Pastor, D; Sancho, D.
 IEEE Engineering in Medicine and Biology Society (EMBS), 2003.
 Proceedings of the 25th International Conference of the IEEE, Volume: 4, 2003
 Page(s): 3544-3547
 75. Modeling intracranial fluid flows and volumes during traumatic brain injury to better understand pressure dynamics
 Wakeland, W.; McNames, J.; Aboy, M.; Hollemon, D.; Goldstein, B.;
 IEEE Engineering in Medicine and Biology Society (EMBS), 2003.
 Proceedings of the 25th International Conference of the IEEE, Volume: 1, 2003
 Page(s): 402-405
 76. Adaptive Comb Filter for Semi-Periodic Signals
 Cyril, D.; McNames, J.; Aboy, M.
 IEEE Engineering in Medicine and Biology Society (EMBS), 2003.
 Proceedings of the 25th International Conference of the IEEE, Volume: 3, 2003
 Page(s): 2439-2442
 77. A New Resource for Independent and Blinded Assessment of QRS Detection Algorithms
 Tsunami, D.; McNames, J.; Aboy, M. Ellenby, M.
 IEEE Engineering in Medicine and Biology Society (EMBS), 2003.
 Proceedings of the 25th International Conference of the IEEE, Volume: 3, 2003
 Page(s): 2889-2892
 78. Segmentation of Extracellular Microelectrode Recordings with Equal Power
 Falkenberg, J.H.; McNames, J.; Aboy, M.; Burchiel, K.J.
 IEEE Engineering in Medicine and Biology Society (EMBS), 2003.
 Proceedings of the 25th International Conference of the IEEE, Volume: 3, 2003
 Page(s): 2475-2478
 79. Stationarity of Ultra-Short Heart Rate Variability Measures
 Thong, T. ; Kehai, L; McNames. J; Aboy, M. Goldstein, B
 IEEE Engineering in Medicine and Biology Society (EMBS), 2003.
 Proceedings of the 25th International Conference of the IEEE,, 2003
 Page(s): 2424-2427
 80. Transient Pulse Morphology Analysis of the Intracranial Pressure Signal After Ventricular Drainage
 Aboy, M.; McNames. J.; Wakeland, W.; Ellenby, M.; Desiree, H.; Lai, S.; Goldstein, B.
 International Symposium Intracranial Pressure and Brain Monitoring, 2003.
 Proceedings of the 12th International Symposium Intracranial Pressure and Brain Monitoring Volume, 2003
 Page(s): 402-405

81. Intracranial Pressure Pulse Amplitude and Mean Intracranial Pressure Analysis in Pediatric Traumatic Brain Injury
Aboy, M.; McNames, J.; Wakeland, W.; Ellenby, M.; Desiree, H.; Lai, S.; Goldstein, B.
International Symposium Intracranial Pressure and Brain Monitoring, 2003.
Proceedings of the 12th International Symposium Intracranial Pressure and Brain Monitoring, 2003
82. Evidence for Diminished Complexity During Intracranial Hypertension in Traumatic Brain Injury
Aboy, M.; Crespo, C.; McNames, J.; Ellenby, M.; Goldstein, B.
Society of Critical Care Medicine, December 2002.
Critical Care Medicine, Volume: 30, Number: 12, 2002
Page(s): A80 (355)
83. Automatic Detection Algorithm for Physiologic Pressure Signal Components
Aboy, M.; Crespo, C.; McNames, J.; Goldstein, B.
IEEE Engineering in Medicine and Biology Society (EMBS), 2002.
Proceedings of the 24th International Conference of the IEEE, Volume: 1, 2002
Page(s): 196-197
84. Harmonic Spectrogram for the Analysis of Semi-Periodic Signals
McNames, J.; Crespo, C.; Aboy, M.; Bassale, J.; Jenkins, L.; Goldstein, B.
IEEE Engineering in Medicine and Biology Society (EMBS), 2002.
Proceedings of the 24th International Conference of the IEEE, Volume: 1, 2002
Page(s): 143-44
85. A Biomedical Signal Processing Toolbox
Aboy, M.; Crespo, C.; McNames, J.; Bassale, J.; Jenkins, L.; Goldstein, B.
European Association for Speech, Signal and Image Processing (EURASIP), 2002.
Proceedings of the 16th International EURASIP Conference BIOSIGNAL 2002, Volume: 16, 2002
Page(s): 49-52 vol. 16
86. Techniques for the Visualization of Nonstationary Biomedical Signals
McNames, J.; Bassale, J.; Aboy, M.; Crespo, C.; Goldstein, B.
European Association for Speech, Signal and Image Processing (EURASIP), 2002.
Proceedings of the 16th International EURASIP Conference BIOSIGNAL 2002, Volume: 16, 2002
Page(s): 42-45 vol. 16
87. Precursors in the Arterial Blood Pressure Signal to Episodes of Acute Hypotension in Sepsis
Crespo, C.; McNames, J.; Aboy, M.; Bassale, J.; Ellenby, M.; Lai, S.; Goldstein, B.
European Association for Speech, Signal and Image Processing (EURASIP), 2002.
Proceedings of the 16th International EURASIP Conference BIOSIGNAL 2002, Volume: 16, 2002
Page(s): 206-208 vol. 16
88. Sensitive Precursors to Acute Episodes of Intracranial Hypertension
McNames, J.; Crespo, C.; Bassale, J.; Aboy, M.; Ellenby, M.; Lai, S.; Goldstein, B.
Proceedings of the 4th International Workshop Biosignal Interpretation, 2002
Page(s): 303-306
89. Changes in the Blood Pressure Signal Autocorrelation Function Prior To Hypotension in Septic Shock
Bassale, J.; McNames, J.; Ellenby, M.; Aboy, M.; Crespo, C.; Lai, S.; Goldstein, B.
Critical Care Medicine, 2001. Volume: 29, No. 12/SS
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90. Automatic Detection Algorithm of Intracranial Pressure Waveform Components
Aboy, M.; McNames, J.; Goldstein, B.
IEEE Engineering in Medicine and Biology Society (EMBS), 2001.
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91. Precursors to Rapid Elevations in Intracranial Pressure
McNames, J.; Crespo, C.; Aboy, M.; Ellenby, M.; Lai, S.; Sciabassi, R.; Goldstein, B.
IEEE Engineering in Medicine and Biology Society (EMBS), 2001.
Proceedings of the 23th International Conference of the IEEE, Volume: 4, 2001
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Inventorship: Selected Patents

92. US 9,301,712 Method and apparatus for continuous measurement of motor symptoms in Parkinsons disease and essential
93. US 8,926,521 Method for blood pressure measurement from noninvasive oscillometric pressure signals
94. US 7,927,283 Blood pressure algorithm
95. US 8,900,153 Ambulatory patient monitoring apparatus, system and method
96. US 8,315,698 Method and apparatus for automatic analysis of T-wave alternans
97. US 8,920,345 System and apparatus for continuous monitoring of movement disorders
98. US 8,647,287 Wireless synchronized movement monitoring apparatus and system
99. US 8,305,423 Communication system for remote patient visits and clinical status monitoring
100. US 8,057,398 Method, system, and apparatus for cardiovascular signal analysis, modeling, and monitoring
101. US 8,529,458 Method and apparatus for assessment of fluid responsiveness
102. US 8,298,151 Method and apparatus for evaluation of fluid responsiveness
103. US 8,647,287 Method and system for activity/rest identification
104. US 8,862,195 Method, system, and apparatus for automatic detection of obstructive sleep apnea from oxygen saturation recordings
105. US D614,979 Personal inertial monitor
106. US D625,729 Personal inertial monitor docking station
107. US D668,980 Wearable movement monitor docking station
108. US D651,103 Wireless access point
109. US D639,955 Wearable movement monitor
110. US 20150078140 Wearable apparatus
111. US 20140122958 Wireless synchronized apparatus and system

Selected Reports & Working Papers

114. Should We Change the EU Law to Disallow DNA Patents?
Aboy M. 3rd Annual Philomathia Symposium (2016)
115. Analysis of the Impact of the US Supreme Court decision *Mayo v Prometheus*.
Aboy M. Workshop on Realizing Genomic Medicine (2016),
116. Globalization of Financial Markets and Financial Crises
Financial Economics Network, Banking & Financial Institutions eJournal, SSRN, September, 2011.
Available at SSRN: <http://ssrn.com/abstract=1936141>
Author: Aboy, M.
117. Are Derivatives “Financial Weapons of Mass Destruction”? An Explanation of Why Derivatives Are Controversial and Often Considered High Risk
Financial Economics Network, Risk Management eJournal, SSRN, September, 2011.
Available at SSRN: <http://ssrn.com/abstract=1936168>.
Author: Aboy, M.
118. The Organization of Modern MNEs is More Complicated than the Old Models of Global, Multidomestic, and Transnational
Management Research Network, International Business Strategy & Structure eJournal, SSRN, March, 2009.
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Available at SSRN: <http://ssrn.com/abstract=1366055>
Author: Aboy, M.
119. Examination of the Relationship Between Charles Schwab’s Business and IS/IT Strategy
Information Systems & eBusiness Network, Information Technology & Systems eJournal, SSRN, March, 2009.
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Available at SSRN: <http://ssrn.com/abstract=1366570>
Author: Aboy, M.
120. An Examination of Quantitative Approaches to Tactical Asset Allocation and Risk Management in Global Financial Markets
Journal of Wealth Management, In Preparation
Author: Aboy, M
121. An Analysis of the Impact of the Human Rights Act 1998 on the Judicial Understanding of Precedent
Legal Scholarship Network, SSRN, LSN, May, 2012 Author: Mateo Aboy
122. English Contract Law: Case Law of Offer & Acceptance
Legal Scholarship Network, SSRN, LSN, May, 2012
Author: Mateo Aboy
123. English Contract Law: Case Law of the Doctrine of Consideration
Legal Scholarship Network, SSRN, LSN, May, 2012
Author: Mateo Aboy

Selected University Grants

Total Funding Received (2005-2017): >\$7.0M (PI, CO-PI, Co-Author); > 25M NPV (VPR)

1. National Science Foundation (S-STEM) (16-20)
Title: Realizing Engineering Technology Achievement (RETA) Amount: \$997,000
T. Nelson (PI) PCC, C.Crespo/M.Aboy (Co-PIs OIT)
2. Murdock Trust (& ETIC Matching) (14-17)
Title: Funding to Enhance EERE Labs
Amount: \$568,000
M.Aboy (Proposer/Co-PI)
3. Northwest Collaboratory for Sustainable Manufacturing (15-17)
Title: Coordinated and Strategic Investment in New Faculty Capacity to Support the NWSM
Amount: \$1,300,000 (\$300,000 for OIT)
M.Aboy (Co-PI OIT), R. Stone (Co-PI OSU), R. Su (Co-PI PSU)
4. Engineering & Technology Industry Council (ETIC)
Title: New Program Development & Capacity Increases for High-Demand Engineering & Technology Degrees (2015/16): Systems Engineering, Optical Engineering & MS in Engineering
Amount: \$236,093
M.Aboy (Proposer, PI), C. Crespo (Co-PI)
5. Higher Education Coordinating Committee/Engineering & Technology Industry Council (ETIC)
Title: ETIC Sustaining Funding to Support Engineering Program at Oregon Tech (FY16-17)
Amount: \$2,204,400
M.Aboy (Proposer)
6. Engineering & Technology Industry Council (ETIC)
Title: New Program Development & Capacity Increases for High-Demand Engineering & Technology Degrees (2014/15)
Amount: \$236,093
M.Aboy (Proposer, PI), C. Crespo (Co-PI)
7. Engineering & Technology Industry Council (ETIC) Title: Development of an Optical Engineering Program (2014/15)
Amount: \$96,093
M.Aboy (Proposer, PI), Scott Prahl (Co-PI)
8. Engineering & Technology Industry Council (ETIC)
Title: Electrical and Computer Engineering Labs to Support Oregon Tech – PSU Westside Partnership (2013/14) Amount: \$80,000
C. Crespo (Proposer, PI), J. McNames (Co-PI), M. Aboy (Co-PI)
9. Engineering & Technology Industry Council (ETIC) (2013/14)
Title: Development of a Systems Engineering & Technology Management Program Amount: \$110,000
M.Aboy (Proposer, PI), C. Crespo (Co-PI)
10. Engineering & Technology Industry Council (ETIC)
Title: Development of an Optical Engineering Program (2013/14) Amount: \$96,093
M.Aboy (Proposer, PI), Scott Prahl (Co-PI)
11. National Science Foundation (NSF)
Title: Increasing Access and Diversity in Technology Programs — S-STEM (2012-2017)
Amount: \$599,000.00
M. Aboy (Co-PI), Cr. Crespo (Co-PI), T. Sanders (Co-PI), P. Kraft (Co-PI), D. Cornea-Hasegan (Co-PI)
12. Department of Energy - Strategic Training and Education in Power Systems — STEPS
Title: National Leadership in Power Engineering (2010-2013)
Amount: \$2,491,100 (Federal), \$266,000 (Collaborators)
B Bass (Principle Author, PD, PI, 2010-2011), M Aboy (Co-Author, Chair, CO-PI, 2011-2012.), F Ryttonen (Co-PI, 2011-2013.), C Crespo (Co-Author), L Colligan (Co-Author), M McCormic (Co-Author)

13. National Science Foundation (NSF)
 Title: Increasing Access and Diversity in Technology Programs — S-STEM (2008-2012)
 Amount: \$596,214.00
 M. Aboy (Co-PI), T. Sanders (PI), P. Kraft (Co-PI), D. Cornea-Hasegan (Co-PI)
14. Engineering Fee Fund (2008-2010)
 Title: Electronics, Electrical Engineering, and Renewable Energy Engineering Laboratory & Equipment Enhancement
 Amount: \$332,669.78 (Amount brought as Dept. Chair for EERE Labs from EFF Grant)
 M Aboy (Chair, Co-PI), B Bass (PD, Co-PI), C Crespo (PD, Co-PI), J Zipay (Co-PI), F Ryttonen (Co-PI)
15. Resource Fee Fund (2008-2010)
 Title: Electronics, Electrical Engineering, and Renewable Energy Engineering Laboratory & Equipment Enhancement
 Amount: \$124,566 (Amount brought as Chair for EERE Labs from RFF Grant)
 M Aboy (Chair, Co-PI), B Bass (PD, Co-PI), C Crespo (PD, Co-PI), J Zipay (Co-PI), F Ryttonen (Co-PI)
16. OIT Internal Funding
 Title: Enhancing OIT-Portland East Campus Laboratories Amount: \$ 340,000.00 M Aboy (Chair, Co-PI), B Bass (PD, Co-PI), F Ryttonen (Co-PI)
17. Ministry of Science and Innovation (Spain)
 Title: Interpretation and Characterization of Complexity Analysis Techniques in the Context of Biomedical Signal Processing (2008)
 Amount: \$17,872.20 for Phase I
 M Aboy (Co-PI), D Cuesta (Co-PI)
18. Ministry of Industry & Commerce R&D Grant (Spain)
 Title: Development of a Novel ABPM Monitor (2007)
 Amount: \$21,220 for Phase I
 M Aboy (Co-PI), D Cuesta (Co-PI)
19. Generalitat Valenciana (Spain)
 Title: Development of a Novel Multipurpose Noninvasive Medical Monitor-Biomult (2007)
 Amount: \$43,526, M Aboy (Co-PI), D Cuesta (Co-PI)
20. Intel Faculty Fellowship Grant
 Title: Modular Curriculum in Electronics for Increased Access to Undergraduate Education in Oregon (2006/07 Academic Year)
 Amount: \$40,000, M Aboy (PI)
21. RFC Grant. OIT Internal Funding
 Title: RFC - Laboratory Equipment for EERE PDX (2007/8 Academic Year)
 Amount: \$21,000, M Aboy (Co-PI), B. Bass (Co-PI)
22. Tektronix Donation
 Title: Electronics Lab Equipment Donation (2006/07 Academic Year)
 Amount: \$20,000, M Aboy (PI)
23. RFC Grant. OIT Internal Funding
 Title: Laboratory Development & Equipment. Electronics & Physics (2006/7 Academic Year)
 Amount: \$27,000, M Aboy (PI)
24. RFC Grant. OIT Internal Funding
 Title: Electronics Laboratory Development & Equipment (2005/6 Academic Year)
 Amount: \$6,000, M Aboy (PI) , R. Bass (Co-PI)
25. RFC Grant. OIT Internal Funding
 Title: Electronics Laboratory Development & Equipment (2004/5 Academic Year)
 Amount: \$13,000, M Aboy (PI)
26. Intel Curriculum Fellowship Grant
 Title: Development of Web-Based Electronics Laboratories with Real Instruments
 Amount: \$40,000 G Guran (PI), D Pocok (Co-PI), M Aboy (Co-PI/Developer)

Selected Industry Innovation Grants

Funding Received by APDM Inc (2007-2016): >\$12M (Below is a list of exemplary grants)

Background: I cofounded APDM, Inc in 2007 with Dr. James McNames and Mr. Andrew Greenberg. APDM is a wearable technologies company that engages in R&D, technology development, IP creation, and commercialization of systems for the quantification of human movement. One of my contributions at APDM was the development of a corporate strategy and associated policies to enable APDM to compete for federal grants & contracts in order to conduct R&D for projects in TRL 4-7, as well as the design and implementation of the necessary government contract & grant administration systems to comply with all the regulatory and audit requirements (e.g., DCAA Audits, A-133/Universal Audits, etc). This included the development of the contract, accounting, and grant/sponsored project administration systems, authoring the policies and procedures, designing the associated controls, and negotiating the initial indirect rate proposal with the Federal government. The list below shows an exemplary list of grants and government contracts earned by APDM, Inc.

27. Title: HOME: Monitoring Balance and Gait with the Home Objective Mobility Exam
Funding Agency: National Institute on Aging
Funding Method: Small Business Innovation Research (SBIR) - Phase II
Period: 01/01/2017 - 12/31/2018 Total Amount: \$1,657,649
28. Title: Mobility Life: Monitoring Mobility in Daily Lives of People with Neurological Disease
Funding Agency: National Institute on Aging
Funding Method: Small Business Innovation Research (SBIR) - Direct to Phase II
Period: 09/30/2016 - 05/31/2019 Total Amount: \$2,934,813
29. Title: A Wearable System for Assessment of Fall Risk Associated with Cancer Treatment
Funding Agency: NIH - National Cancer Institute
Funding Method: Small Business Innovation Research (SBIR) - Direct to Phase II
Period: 9/19/2016 - 09/18/2018 Total Amount: \$1,457,589
30. Title: Mobility Rehab: A Biofeedback System for Mobility Rehabilitation for Older Adults
Funding Agency: National Institute on Aging
Funding Method: Small Business Innovation Research (SBIR) - Phase I
Period: 9/30/2016 - 09/29/2018 Total Amount: \$298,607
31. Title: IMove: Instrumented Movement Analysis to Quantify Gait in Cerebral Palsy
Funding Agency: NIH - National Institute of Neurological Disorders and Stroke
Funding Method: Small Business Innovation Research (SBIR) - Phase I
Period: 08/01/2016 - 07/31/2018 Total Amount: \$662,890
32. Title: Home Objective Mobility Exam (HOME) for Balance and Gait Disorders in Parkinson's
Funding Agency: NIH - National Institute on Aging
Funding Method: Small Business Innovation Research (SBIR) - Phase I
Period: 6/1/2013 - 5/31/2016 Total Amount: \$698,866
33. Title: Continuous Monitoring of Turning in Patients with Parkinson's Disease
Funding Agency: NIH - National Institute of Neurological Disorders and Stroke
Funding Method: Small Business Technology Transfer (STTR) - Phase I
Period: 07/01/2012 - 03/31/2015 Total Amount: \$699,219
34. A Short Instrumented Test of Mobility for Neurological Disorders
Funding Agency: NIH - Eunice Kennedy Shriver National Institute of Child Health & Human Development
Funding Method: Small Business Technology Transfer (STTR) - Phase I & Phase II
Period: 04/01/2012 - 06/30/2018 Total Amount: \$2,178,004
35. Title: Ruby: a Hybrid, Wearable Motion Capture System
Funding Agency: Department of Defense - United States Air Force
Funding Method: Small Business Innovation Research (SBIR) - Phase II
Period: 12/03/2015 - 11/23/2018 Total Amount: \$749,560
36. Title: Ruby: A Hybrid, Wearable Motion Capture System
Funding Agency: Department of Defense - United States Air Force
Funding Method: Small Business Innovation Research (SBIR) - Phase I
Period: 8/26/2014 - 5/26/2015 Total Amount: \$149,797