

JOSEPH M. REINHARDT, PH.D.

ROY J. CARVER CHAIR IN BIOMEDICAL ENGINEERING
PROFESSOR OF BIOMEDICAL ENGINEERING
ROY J. CARVER DEPARTMENT OF BIOMEDICAL ENGINEERING
THE UNIVERSITY OF IOWA

ACADEMIC APPOINTMENTS

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| 2020–Present | Roy J. Carver Chair in Biomedical Engineering |
| Summer 2023 | Acting Dean, College of Engineering University of Iowa, Iowa City, IA |
| 2018–2023 | Department Executive Officer (Chair), Roy J. Carver Department of Biomedical Engineering, University of Iowa, Iowa City, IA |
| 2009–Present | Professor of Biomedical Engineering, University of Iowa, Iowa City, IA |
| 2009–2016 | Department Executive Officer (Chair), Department of Biomedical Engineering, University of Iowa, Iowa City, IA |
| 2016–Present | Professor of Radiology (courtesy), University of Iowa, Iowa City, IA |
| 2003–2009 | Associate Professor of Biomedical Engineering, University of Iowa, Iowa City, IA |
| 1997–2003 | Assistant Professor of Biomedical Engineering, University of Iowa, Iowa City, IA |
| 1996–1997 | Assistant Research Scientist, Department of Radiology, University of Iowa College of Medicine, Iowa City, IA |
| 1996–1999 | Adjunct Assistant Professor of Radiology, University of Iowa, Iowa City, IA |
| 1994–1995 | Postdoctoral Research Fellow, Department of Radiology, University of Iowa, Iowa City, IA |

PROFESSIONAL POSITIONS

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|--------------|--|
| 2003–Present | Co-Founder, VIDA Diagnostics, Inc., Iowa City, IA http://www.vidalung.ai |
| 1989–1990 | Senior Engineer, Communications Research and Development, Wang Laboratories, Lowell, MA |
| 1985–1989 | Systems Engineer, Radar Systems Laboratory, Raytheon Company, Wayland, MA |

EDUCATION

| | |
|-----------|---|
| 1990–1994 | Ph.D. The Pennsylvania State University, University Park, PA (Electrical Engineering) Dissertation Title: <i>Shape Representation and Automatic Object Extraction Using Mathematical Morphology</i> Advisor: Prof. W. E. Higgins |
| 1985–1988 | M.S. Northeastern University, Boston, MA (Electrical Engineering) |
| 1981–1985 | B.S. Carnegie Mellon University, Pittsburgh, PA (Electrical Engineering) |

HONORS AND AWARDS

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|-----------|---|
| 2024 | Elected Fellow, International Academy of Medical and Biological Engineers (IAMBE) |
| 2023 | Iowa Board of Regents Award for Faculty Excellence |
| 2021 | Elected Fellow, Asia-Pacific Artificial Intelligence Association (AAIA) |
| 2020 | Elected Fellow, Institute of Electrical and Electronics Engineers (IEEE) |
| 2019 | 1 st place, AAPM Computed Tomography Ventilation Imaging Evaluation Challenge 2019 (CTVIE19), Wei Shao, Joseph M. Reinhardt, and Gary E. Christensen |
| 2019 | 3 rd place, AAPM Computed Tomography Ventilation Imaging Evaluation Challenge 2019 (CTVIE19), Sarah E. Gerard, John E. Bayouth, and Joseph M. Reinhardt |
| 2008 | Honorable Mention Poster Award, SPIE Symposium on Medical Imaging, 2008, “Tracking the motion of the hyoid bone in videofluoroscopic swallowing studies”, Patrick Kellen, Darci Becker, Joseph M. Reinhardt, and Douglas van Daele |
| 2008 | Nominated for Graduate College “Outstanding Graduate Mentor” award for 2008. |
| 2007 | Honorable Mention Poster Award, SPIE Symposium on Medical Imaging, 2007, “Feature-based pairwise retinal image registration by radial distortion correction”, Sangyeol Lee, Michael Abramoff, and Joseph M. Reinhardt |
| 2007 | 1 st place Siemens Preclinical CT Image of the Year for “Imaging and analysis for the assessment of the normal mouse lung,” acquired by Eric A. Hoffman, Geoffrey McLennan, Joseph M. Reinhardt, Gary E. Christensen, Deekie Chon, Eman Namati, Jacqueline Namati, Lijun Shi, Joo Hyun Song, Kunlin Cao, and Jered Sieren from The University of Iowa, 2007. |
| 2006 | Elected Fellow, American Institute for Medical and Biological Engineering (AIMBE) |
| 1998 | Tau Beta Pi Excellence in Teaching Award, University of Iowa, Iowa City, IA. |
| 1994 | Graduate Research Award, The Pennsylvania State University, University Park, PA. Awarded top prize for research in Science and Engineering category for entry titled “Toward Efficient Morphological Shape Representation.” |
| 1990–1991 | Palmer Graduate Fellowship, The Pennsylvania State University, University Park, PA. Awarded for academic excellence. |
| 1984 | Tau Beta Pi Honor Society |

PROFESSIONAL MEMBERSHIPS

Fellow, AIMBE; Fellow, IAMBE, Fellow, IEEE; Fellow, AAIA, Member, AAAS; Member, AAPM; Member, BMES; Member, Sigma Xi; Member, Tau Beta Pi.

TEACHING ACTIVITIES

I. Classroom Teaching

| Semester | Course | Course Title |
|-------------|------------|---|
| Spring 2024 | ENGR:1300 | Intro. to Engineering Computing |
| Summer 2019 | ENGR:2210 | Electrical Circuits (online) |
| Summer 2018 | ENGR:2210 | Electrical Circuits (online) |
| Spring 2018 | BME:2210 | Bioimaging and Bioinformatics (team taught) |
| Spring 2018 | ENGR:1300 | Engineering Problem Solving II |
| Summer 2017 | ENGR:2210 | Electrical Circuits (online) |
| Spring 2017 | BME:2210 | Bioimaging and Bioinformatics (team taught) |
| Spring 2017 | ENGR:1300 | Engineering Problem Solving II |
| Summer 2016 | ENGR:2210 | Electrical Circuits (online) |
| Spring 2016 | BME:1010 | First-Year Forum |
| Summer 2015 | ENGR:2210 | Electrical Circuits (online) |
| Fall 2015 | BME:5210 | Medical Imaging Physics (team taught) |
| Fall 2015 | BME:2210 | Bioimaging and Bioinformatics (team taught) |
| Fall 2015 | BME:3010 | Leadership and Resourcefulness |
| Fall 2014 | 51:080 | Bioimaging and Bioinformatics (team taught) |
| Fall 2014 | 51:092 | Leadership and Resourcefulness |
| Spring 2014 | 51:080 | Bioimaging and Bioinformatics (team taught) |
| Fall 2013 | 51:185 | Physics of Medical Imaging |
| Fall 2013 | 51:080 | Bioimaging and Bioinformatics (team taught) |
| Spring 2013 | 51:185 | Physics of Medical Imaging |
| Fall 2012 | 51:080 | Bioimaging and Bioinformatics (team taught) |
| Spring 2012 | 51:080 | Bioimaging and Bioinformatics (team taught) |
| Fall 2011 | 51:185 | Physics of Medical Imaging |
| Spring 2011 | 51:080 | Bioimaging and Bioinformatics (team taught) |
| Fall 2010 | 51:185 | Physics of Medical Imaging |
| Fall 2009 | 51:185 | Physics of Medical Imaging |
| Spring 2009 | 51:060 | Data Acquisition and Analysis (team taught) |
| Spring 2009 | 51:080 | Data Acquisition and Analysis Lab (team taught) |
| Fall 2008 | 51:185 | Physics of Medical Imaging |
| Spring 2008 | 51:186 | Multi-dimensional Image Processing |
| Fall 2007 | 51:185 | Physics of Medical Imaging |
| Spring 2007 | 59:008 | Electrical Circuits |
| Spring 2007 | 51:060 | Data Acquisition and Analysis (team taught) |
| Spring 2007 | 51:080 | Data Acquisition and Analysis Lab (team taught) |
| Spring 2006 | 51:186 | Multidimensional Image Processing (team taught) |
| Fall 2005 | 51:092 | Leadership and Resourcefulness |
| Fall 2005 | 51:091 | Professional Seminar |
| Fall 2005 | 51:060/161 | Introduction to Biomedical Imaging |
| Spring 2005 | 59:006 | Engineering Problem Solving II |
| Fall 2004 | 51:040/141 | Biosystems Analysis I |
| Fall 2004 | 51:186 | Physics and Analysis of Medical Images II |
| Spring 2004 | 51:185 | Physics and Analysis of Medical Images I |
| Fall 2003 | 51:085/178 | Biomedical Engineering Senior Design Project |
| Fall 2003 | 51:186 | Physics and Analysis of Medical Images II |
| Fall 2002 | 51:085/178 | Biomedical Engineering Senior Design Project |
| Fall 2002 | 51:185 | Physics and Analysis of Medical Images I |
| Spring 2002 | 57:008 | Electrical Circuits |

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|-------------|------------|---|
| Fall 2001 | 51:085/178 | Biomedical Engineering Senior Design Project |
| Fall 2001 | 51:286 | Contemporary Topics in Medical Imaging |
| Fall 2000 | 57:006 | Engineering II |
| Fall 2000 | 51:185 | Physics and Analysis of Medical Images I |
| Spring 2000 | 57:008 | Electrical Circuits |
| Spring 2000 | 51:090 | BME Freshman Forum |
| Fall 1999 | 51:040/141 | Biosystems Analysis |
| Fall 1999 | 51:185 | Physics and Analysis of Medical Images I |
| Fall 1999 | 51:189 | Health Informatics I |
| Spring 1999 | 57:008 | Electrical Circuits |
| Spring 1999 | 51:091 | Professional Seminar |
| Spring 1999 | 51:189 | Health Informatics I |
| Fall 1998 | 51:040/141 | Biosystems Analysis |
| Fall 1998 | 51:185 | Physics and Analysis of Medical Images I |
| Spring 1998 | 51:080/181 | Biomeasurements |
| Spring 1998 | 51:189 | Medical Informatics |
| Fall 1997 | 51:185 | Physics and Analysis of Medical Images I |
| Fall 1997 | 96:283 | Informatics Tools for Healthcare Decision Support |
| Spring 1997 | 51:080/180 | Biomeasurements |
| Fall 1996 | 74:191 | Medical Informatics |
| Spring 1996 | 51:186 | Physics and Analysis of Medical Images II |

II. Postdoctoral Fellow Supervision

| Trainee Name | Period | Current Position |
|------------------------|-------------------------|-------------------------|
| Luis Vargas Buonfiglio | August 2021–August 2023 | Asst. Prof., Univ. Utah |
| Sarah Gerard | January–March 2019 | Asst. Prof., Univ. Iowa |
| Shiba Kuanar | April 2019–August 2020 | Staff, Yale Univ. |

III. Graduate Student Supervision

| Student Name | Degree | Grad. Date | Current Position |
|----------------------------|--------|---------------|--|
| Zachary Althof | Ph.D. | May 2025 | In progress |
| Hira Awan | Ph.D. | May 2025 | In progress |
| Joshua Carrizales | Ph.D. | December 2025 | In progress |
| Erik Cole | Ph.D. | December 2025 | In progress |
| Faizyab Chaudhary | Ph.D. | May 2024 | Instructor, Univ. of Alabama Birmingham |
| Zachary Althof | M.S. | May 2021 | PhD student |
| Patrick Wilhelm | M.S. | May 2020 | Rockwell Collins |
| Sarah Gerard | Ph.D. | Dec 2018 | Asst. professor, Univ. of Iowa |
| Sandeep Bodduluri | M.S. | May 2012 | |
| | Ph.D. | Dec 2016 | Asst. Professor, Univ. of Alabama Birmingham |
| Yang Wook Kim | M.S. | Aug. 2013 | Samsung Corp. |
| Kaifang Du ¹ | M.S. | Aug. 2011 | |
| | Ph.D. | May 2013 | Medical Physicist Residency |
| Vinayak Joshi ² | Ph.D. | Dec. 2012 | Engineer, VisionQuest Biomedical |
| Xiayu Xu ² | M.S. | Dec. 2010 | |
| | Ph.D. | Dec. 2012 | Asst. Professor, Xi'an Univ. |
| Richard Amendola | M.S. | May 2012 | Medical School |
| Panfang Hua | M.S. | Dec. 2010 | Software Engineer |
| Tarunashree Yavarna | M.S. | Dec. 2010 | Software Engineer |
| Kai Ding | M.S. | Aug. 2008 | |
| | Ph.D. | May 2010 | Asst. Professor, Johns Hopkins Univ. |
| Matthew Ternus | M.S. | Dec. 2009 | Systems Engineer, Cerner Corp. |
| Shalmali Bodas | M.S. | Dec. 2008 | Medical Physicist, Emory University |
| Sudharshan Bommu | M.S. | Dec. 2008 | Engineer, Abbott Labs |
| Lijun Shi | M.S. | Dec. 2008 | Senior Engineer, TerraRecon |
| Sangyeol Lee ² | Ph.D. | May 2008 | Research Engineer, Alcon Corp. |
| Patrick Kellen | M.S. | May 2008 | Software Engineer, VIDA Diagnostics |
| Soumik Ukil | Ph.D. | Dec. 2006 | Senior Engineer, TerraRecon |
| Jennifer Dempsey | M.S. | May 2006 | Engineer, VA Hospital |
| Yan Pan | M.S. | May 2005 | Engineer, GE Medical Systems |
| Lina Arbach | Ph.D. | May 2005 | Senior Scientist, Philips Medical Systems |
| Baojun Li | Ph.D. | Dec. 2004 | Asst. Professor, Boston Univ. |
| Deepa Gopalakrishnan | M.S. | Dec. 2002 | Software engineer |
| Li Zhang | Ph.D. | Dec. 2002 | Senior Engineer, Siemens Corporate R&D |
| Osama Saba | M.S. | May 2001 | Lecturer, Univ. of Iowa |
| Shiyang Hu | M.S. | May 2001 | Engineer, TerraRecon |
| Deniz Bilgen | M.S. | Dec. 2000 | Member Technical Staff, Oak Ridge National Labs |

IV. Visiting Student Supervision

| Trainee Name | Program | Period | Home Institution |
|-------------------------------|---------|--------------------|---------------------------|
| Xabier Artaechevarria Artieda | Ph.D. | April–June 2009 | Univ. of Navarra, Spain |
| Jinglong Niu | Ph.D. | Oct 2016–Sept 2017 | BieHang Univ., China |
| Diedre Carmo | Ph.D. | Sept 2022–Feb 2023 | Univ. of Campinas, Brazil |

¹Jointly supervised with J. E. Bayouth, The Univ. of Iowa.

²Jointly supervised with M. D. Abrámoff, The Univ. of Iowa.

SERVICE ACTIVITIES

Department: Department Executive Officer, March 1, 2018–Present; Member, Medical Imaging Faculty Search Committee, 2017–2018; Department Executive Officer, March 1, 2009–June 30, 2016; Chair, Undergraduate Program Committee, 2008–2009; Chair, Undergraduate Program Committee, 2007–2008; Chair, Departmental Consulting Group on Promotions and Tenure, 2007–2008; Member, DEO Search Committee, 2007–2008; Chair, Undergraduate Program Committee, 2006–2007; Member, Departmental Consulting Group on Promotions and Tenure, 2006–2007; Chair, Departmental Consulting Group on Promotions and Tenure, 2005–2006; Undergraduate Program Committee, 2005–2006; Member, Departmental Consulting Group on Promotions and Tenure, 2004–2005; Undergraduate Program Committee, 2004–2005; Research Thrust Committee, 2004–2005; Member, Departmental Consulting Group on Promotions and Tenure, 2003–2004; Chairman, Undergraduate Program Committee, 2003–2004; Member, Strategic Planning Committee, 2002–2003; Undergraduate Internship Coordinator, 2001–2004; Member, Undergraduate Curriculum Committee, 2002–2003; Member, Graduate Program Enhancement Committee, 2001–2002; Assistant Program ABET Coordinator, 2001–2002; Chairman, Teaching Equipment Purchasing Committee, 2000–2001; Chairman, Digital Signal Processing Faculty Search Committee, 2001; Chairman, Strategic Planning Committee, 1999–2000; Chairman, Academic Affairs Committee Task force on new BME Fundamentals Course, 2000; Member, Department Enhancement Committee, 1999–2000; Faculty Secretary, 1997–1998; Faculty Secretary, 1998–1999; Member, Graduate Committee, 1997–1998.

College: Chair, APR Revision Task Force, 2020–2021; Chair, Iowa Flood Center director review committee, 2019; Member, Senior HR Director search committee; 2019; Member, Strategic Planning Committee, 2018; Member, Dean’s Advisory Instructional Faculty Promotion Committee, 2017–2018; Member, Teaching Committee, 2007–2008; IEEE Student Chapter Faculty Mentor, 2005–2007; Chair, Engineering Faculty Council, 2004–2005; Member, Engineering Faculty Council, 2003–2006; Member, EFC Computer Services Committee, 2003–2004; Member, College of Engineering Curriculum Committee, 2001–2002; Member, Faculty Outreach Planning Committee, Fall 2000; Member, College of Engineering Internship Director search committee, Fall 2000; Faculty Secretary, 1999–2000.

University: I-CLIC CT Research Facility Advisory Committee (NIH S10-130883); Faculty Senator, 2017–2020; Member, Vice President for Research UI-ISU Collaboration Pilot Grant Program Review Committee, Spring 2018; Member, College of Engineering Decanel Review Committee, Spring 2017; Chair, Search Committee for Director of National Advanced Driving Simulator, University of Iowa, Fall 2015–Spring 2016; Member, Review Committee for Department of Radiology, University of Iowa, Spring 2016; Member, TIER Presidential Advisory Board, Fall 2015/Spring 2016; Member, Interdisciplinary Program in Health Informatics Executive Committee, 2016; Member, Interdisciplinary Program in Health Informatics Executive Committee, Fall 2015; Member, Orthopaedics and Rehabilitation Associate Chair for Research Search Committee, Fall 2014/Spring 2015; Member, Director of Neurosciences Research Institute, Fall 2014/Spring 2015; Member, Head of Orthopaedics and Rehabilitation Search Committee, Spring 2013; Member, Director of Sponsored Programs Search Committee, Spring 2012; Member, Vice President for Research Conflict of Interest In Research Committee, AY 2008–2011; Member, Vice President for Research Internal Selection Committee for Biological Science Funding Programs, 2008; Judge, Jakobsen Conference, 2008; Member, Vice President for Research Internal Selection Committee for Biological Science Funding Programs, 2007; Judge, Jakobsen Conference, 2006; Member, Vice President for Research Internal Selection Committee for Major Research Equipment Grant Proposals, 2004; Member, Vice President for Research Advisory Committee on Biological Sciences, 2000–2003; Member, Grant Accounting Internal Review Committee, Fall 2001.

External: Conference Co-Organizer: Rising Scholars in BME Regional Conference, 2022, 2023; Biomedical Engineering Society (BMES) membership committee, 2021–present; European Science Foundation College of Experts, July 2020–present; AIMBE Fellow Selection Committee, 2019, 2020, 2021; Workshop Co-Organizer: “Interaction of Geometry and Topology in Biomedical Imaging,” IEEE International Symposium on Biomedical Imaging (ISBI) 2020; Clinical Program Committee, IEEE

International Symposium on Biomedical Imaging (ISBI) 2020; European Science Foundation Review Panel, Nov. 2019; VA PULM study section, Nov. 2018; Organizing Committee, AAPM VAMPIRE19 Grand Challenge; Program Committee, IEEE International Symposium on Biomedical Imaging (ISBI) 2019; Reviewer, FONDECYT-CHILE program 2018; Program Committee, IEEE International Symposium on Biomedical Imaging (ISBI) 2018; Program Committee, IEEE International Symposium on Biomedical Imaging (ISBI) 2017; Program Committee, Bioimaging 2017; 2016 Special Session Chair, IEEE International Symposium on Biomedical Imaging (ISBI) 2016, Special Session: Frontiers in Pulmonary Image Analysis Program Committee, IEEE International Symposium on Biomedical Imaging (ISBI) 2016; Session Chair, Machine Learning in Medical Imaging Workshop, October 2016; Member of Long Range Planning Committee for the Council of Chairs of Bioengineering and Biomedical Engineering, 2013–2015; Associate Editor, SPIE Journal on Medical Imaging, 2013–present; Program Committee, Quantitative Medical Imaging Meeting, Imaging and Applied Optics Congress, Optical Society of America Meeting 2013; Symposium Co-Chairman, SPIE Symposium on Medical Imaging 2012; Symposium Co-Chairman, SPIE Symposium on Medical Imaging 2011; Co-Organizer, ICASSP Special Session on Image Processing, 2011; Member, NIH-CSR-Small Business RES July 14-15, 2011 Meeting; Reviewer, NIH Director’s New Innovator Awards, Jan. 2010; Reviewer, NIH NCRR P41 site visit team, Feb. 2010; Workshop Organizer, Grand Challenge: Medical Image Segmentation and Registration in the Clinic, 2010; Workshop Organizer, Third Annual Workshop on Pulmonary Imaging, 2010; Workshop Organizer, Second Annual Workshop on Pulmonary Imaging, 2009; Workshop Organizer, First Annual Workshop on Pulmonary Imaging, 2008; Program Committee, International Summit on the Future of Quantitative and Functional Lung Imaging, 2008; Organizer, Iowa Workshop on Lung Image Processing, Feb. 2008; Program Committee, International Conference on Pattern Recognition, 2008; Program Committee, SPIE Medical Imaging 2009: Image Processing Conference; Program Committee, International Symposium on Biomedical Imaging, 2008; Conference Chairman, SPIE Medical Imaging 2005–2008: Image Processing Conference; Reviewer, Dutch Science Foundation (NWO) Innovational Research Incentives Scheme, 2006, 2007; Member, NIH SBIR ZRG1-BST-L 51 Study Section on “Continued Development and Maintenance of Software”, Jan. 17-18, 2006; Scientific Review Committee, Computer Vision Approaches to Medical Image Analysis, 2005; Associate Editor, IEEE Transactions on Medical Imaging, 2005 - 2016; Scientific Review Committee, Information Processing in Medical Imaging Conference, 2005–2007; Scientific Review Committee, International Association of Science and Technology for Development Biomedical Engineering Conference, 2005-2007; External Reviewer, National Science and Engineering Research Council, Canada, 2005; Associate Editor, IEEE Transactions on Information Technology in Biomedicine, 2004, 2005; Program Committee, Computer Vision Approaches to Medical Image Analysis Workshop, 2004; Program Committee, IEEE International Symposium on Biomedical Imaging, 2003, 2005, 2007; Program Committee, SPIE Medical Imaging 2001–2004: Image Processing Conference; Scientific Review Committee, Information Processing in Medical Imaging Conference, 2003; Newsletter Editor, ASEE Biomedical Engineering Division 2001, 2002; Peer Review Committee, NSF SBIR Panel on Visualization and Imaging, Sept. 2001; Review Panelist, Civilian Research and Development Foundation, U.S. Department of State, June 2001; Program Committee, IEEE Southwest Symposium on Image Analysis, 2000; Newsletter Editor, ASEE Biomedical Engineering Division 2000; Ad-Hoc Member, NIH SBIR ZRG1-SSS-8 Study Section on Bioengineering and Physiology, Oct. 26-27, 1998; Ad-Hoc Member, NIH NHLBI Study Section on “Neurobiology of sleep and sleep apnea, airway biology, and pathogenesis of cystic fibrosis and acute lung injury”, Jan. 8, 1998; Program Committee, 1998 Symposium on Cardiovascular Imaging, University of Iowa; Program Committee, SPIE Medical Imaging 1997 Conference: Physiology and Function; Session Chairman, SPIE Medical Imaging 1997 Conference: Physiology and Function; Member, ISO X3S3.3 technical committee (OSI network layer), 1989–1990.

Other Outreach and Service: Participant, “Explore Engineering Day”, January 29, 2011; Coordinator, Workplace Learning Connection Program visit to Biomedical Engineering, January 19, 2011; Participant, “Explore Engineering Day”, March 27, 2010; Coordinator, Workplace Learning Connection Program visit to Cellular Engineering Technologies and VIDA Diagnostics, April 14, 2010; Middle

school STEM outreach program, April 13, 2010; “Introduction to Biomedical Engineering” panelist for area high school students, November 10, 2009; Participant, Freshman/Parent Summer Orientation Program, 2009; Participant, “Explore Engineering Day”, April 18, 2009; Participant, Freshman/Parent Summer Orientation Program, 2007; Participant, Freshman/Parent Summer Orientation Program, 2006; Speaker, Gladbook-Reinbeck High School Career Day, 2006; Speaker, College of Engineering Workplace Learning Connection Program, 2006; Participant, Freshman/Parent Summer Orientation Program, 2005; Participant, Freshman/Parent Summer Orientation Program, 2004; Participant, Freshman/Parent Summer Orientation Program, 2003; “Introduction to X-ray Imaging” program for Horn Elementary School science curriculum, Sept. 23, 2003; Participant, Freshman/Parent Summer Orientation Program, 2002; NSPE Review Session Leader (Circuits), Spring 2002; Participant, Freshman/Parent Summer Orientation Program, 2001; Participant, Engineering Day, 2001; NSPE Review Session Leader (Circuits), Spring 2001; Participant, Engineering Day, 2000; Participant, Engineering Day, 1999; Participant, Freshman/Parent Summer Orientation Program, 1999; Participant, Engineering Day, 1999; Judge, 1999 State Invention Convention, Ames, Iowa; Participant, Freshman/Parent Summer Orientation Program, 1998; Participant, Engineering Day, 1998.

Journal Reviewing: *Computer Vision and Image Understanding; IEEE Transactions on Biomedical Engineering; IEEE Transactions on Image Processing; IEEE Transactions on Signal Processing; IEEE Transactions on Medical Imaging; IEEE Transactions on Pattern Analysis and Machine Intelligence; IEEE Computer Graphics and Image Processing; Automedica; Annals of Biomedical Engineering; Journal of Visual Communication and Image Representation; Multidimensional Systems and Signal Processing; Medical Image Analysis; Pattern Recognition*

RESEARCH FUNDING

Grants and Contracts as Principal Investigator

NHLBI, National Institutes of Health: *R01 HL151421, Structural Determinants of Disease Progression in COPD*. JM Reinhardt, Iowa site PI (Bhatt, project PI). Annual amount: \$2,637,144 total direct costs. 04/05/20-03/31/25.

NHLBI, National Institutes of Health: *T32 HL144461, Iowa Lung Imaging Training Program*. EA Hoffman and JM Reinhardt, MPI. Annual amount: \$1,553,354 total direct costs. 08/01/19-07/31/24.

NHLBI, National Institutes of Health: *R01 HL142625, Lung Biomechanics and Disease Progression in SPIROMICS*. JM Reinhardt, PI. Annual amount: \$448,905 direct costs year 1. 08/01/18-05/31/22.

NCI, National Institutes of Health: *R01 CA166703, Predicting Pulmonary Function Change to Improve Radiation Planning and Outcome*. JM Reinhardt, PI of Iowa subcontract; JE Bayouth, project PI. Annual amount: \$2,435,546 total direct costs. 6/1/13-3/31/18.

University of Iowa: *Developmental Leave*. JM Reinhardt, PI. Annual amount: 100% salary support. Fall 2016.

Cystic Fibrosis Foundation: *Tracking insufflated microdisks to quantify MCT in CF*. Reinhardt, PI; M. Welsh, program director. Annual amount: \$40,000/year direct costs. 6/1/14–5/31/16. (This pilot and feasibility project supports one PhD student to study the use of image analysis to quantify mucocilliary transport in normals and in CF.)

NHLBI, National Institutes of Health: *R01 HL079406, CT measurement of regional lung mechanics*. JM Reinhardt, PI. Annual amount: \$225,000 direct costs per year. 4/06–7/12.

Vital Images, Inc.: *Jennifer Dempsey BS/MS Project: Colonography Image Registration*. JM Reinhardt, PI. Annual amount: \$8,623 direct costs. 6/04–5/05.

University of Iowa: *Developmental Leave*. JM Reinhardt, PI. Annual amount: 100% salary support. Spring 2003.

Whitaker Foundation: *Transition Year: Measurement of Lung Parenchymal Strain via X-ray CT*. JM Reinhardt, PI. Annual amount: \$76,250 direct costs per year. 9/01–8/02.

National Science Foundation: *CAREER: Program in Pulmonary Imaging*. JM Reinhardt, PI. Annual amount: \$75,000 direct costs per year. 3/01–2/06.

Whitaker Foundation: *Biomedical Engineering Internship Program at the University of Iowa*. JM Reinhardt, PI. Annual amount: \$60,000 direct costs per year. 7/00–6/03.

University of Iowa: *Old Gold Summer Fellowship*. JM Reinhardt, PI. Annual amount: 1 month salary. Summer 1999.

Whitaker Foundation: *Measurement of Lung Parenchymal Strain via X-ray CT*. JM Reinhardt, PI. Annual amount: \$70,000 direct costs per year. 4/97–2/01.

Environmental Health Sciences Research Center (University of Iowa): *Accurate Measurement of Intrathoracic Airways*. JM Reinhardt, PI. Annual amount: \$15,000 direct costs. 4/97–3/98.

OTHER SIGNIFICANT FUNDING

The Carver Charitable Trust. Project title: *Biomedical Engineering to Address Respiratory and Pulmonary Disease*. Project period: 1/1/2019-12/31/2027. Budget: \$12,000,000 total direct costs. Joseph M. Reinhardt, program director.

This gift will be used to rapidly expand the research capabilities of the Biomedical Engineering Department by hiring five new tenure-track faculty in the areas of respiratory and pulmonary biomedical engineering. Funds from the gift will be used to support faculty start-up and PhD graduate students. A portion of this gift will be used to create a permanent endowment to enhance research and graduate education in the Department and to create a number of endowed professorships.

This gift is the largest gift ever received by the Department or by the College of Engineering.

In recognition of this gift and the previous significant support to the Department from the Carver Charitable Trust over the past two decades, the Department was renamed to be “The Roy J. Carver Department of Biomedical Engineering.”

PATENTS

Geoffrey McLennan, Martin Donnelley, Deepa Gopalakrishnan, Eric Hoffman, Joseph Reinhardt and Melissa Suter, “Methods and devices useful for analyzing color medical images,” U.S. Patent No. 7,613,335. Issued November 3, 2009.

Joseph M. Reinhardt, Soumik Ukil, Milan Sonka, Geoffrey McLennan, and Eric A. Hoffman, “Methods of smoothing segmented regions,” U.S. Patent No. 8,073,210. Issued December 6, 2011.

Michael Abramoff, Sangyeol Lee, Joseph M. Reinhardt, and Meindert Niemeijer, “Optimal Registration of Multiple Deformed Images using a Physical Distortion Model of the Imaging Distortion,” U.S. Patent No. 8,194,936. Issued June 5, 2012.

Juerg Tschirren, Milan Sonka, Geoffrey McLennan, Eric Hoffman, and Joseph Reinhardt, "Methods and devices for airway tree labeling and/or matching," U.S. Patent No. 8,155,403. Issued April 10, 2012.

Juerg Tschirren, Milan Sonka, Joseph Reinhardt, Geoffrey McLennan, and Eric Hoffman, "Methods and devices for labeling and/or matching," U.S. Patent No. 9,820,651. Issued November 21, 2017.

Michael D. Abramoff, Meindert Niemeijer, Xiayu Xu, Milan Sonka, and Joseph M. Reinhardt, "Automated determination of arteriovenous ratio in images of blood vessels," U.S. Patent No. 9,924,867. Issued March 27, 2018.

Sarah E. Gerard and Joseph M. Reinhardt, "Fissurenet: a deep learning approach for pulmonary fissure detection in CT images," U.S. Patent No. 11,475,562. Issued October 18, 2022.

Michael Abramoff, Meindert Niemeijer, Xiayu Xu, Milan Sonka, Joseph M. Reinhardt, "Automated determination of arteriovenous ratio in images of blood vessels," U.S. Patent No. 11,638,522. Issued May 2, 2023.

Michael Abramoff, Meindert Niemeijer, Xiayu Xu, Milan Sonka, Joseph M. Reinhardt, "Automated determination of arteriovenous ratio in images of blood vessels," U.S. Patent No. 12,035,971. Issued July 16, 2024.

PATENT APPLICATIONS

Eric A. Hoffman, Amin Motahari Bidgoli, and Joseph M. Reinhardt "Regional pulmonary V/Q via image registration and multi-energy CT," U.S. Patent App. 62/846,394, filed on May 10, 2019.

M. Faizyab Chaudhary, Joseph M. Reinhardt, Sarah E. Gerard, and Eric A. Hoffman "Context-aware volumetric style transfer for estimating single volume surrogates of lung function," U.S. Patent App. 17/891,222, filed on August 19, 2022.

PUBLICATIONS

I. Books

- [1] K. B. Chandran, H. S. Udaykumar, and **J. M. Reinhardt**, Eds., *Image-Based Computational Modeling of the Human Circulatory and Pulmonary Systems*. Springer, 2011.

II. Conference and Workshop Proceedings

- [1] J. M. Fitzpatrick and **J. M. Reinhardt**, Eds., *Medical Imaging 2005: Image Processing*, vol. 5747, The Proceedings of the SPIE, International Society for Optical Engineering, 2005.
- [2] **J. M. Reinhardt** and J. P. Pluim, Eds., *Medical Imaging 2006: Image Processing*, vol. 6144, The Proceedings of the SPIE, International Society for Optical Engineering, 2006.
- [3] **J. M. Reinhardt**, B. van Ginneken, and M. Sonka, *Guest editorial: Pulmonary image processing*, Special Issue on Pulmonary Imaging, Apr. 2006.
- [4] J. P. Pluim and **J. M. Reinhardt**, Eds., *Medical Imaging 2007: Image Processing*, vol. 6512, The Proceedings of the SPIE, International Society for Optical Engineering, 2007.
- [5] J. Z. Liang, H. Lu, D. N. Metaxas, and **J. M. Reinhardt**, *Guest editorial: Medical imaging informatics — information processing from image formation to visualization*, Special Issue on Medical Image Reconstruction, Processing and Visualization, Jan. 2007.
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IV. Rigorously Reviewed Conference Articles

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VII. Other Publications

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