

CURRICULUM VITAE

Dr. Mei Wei

Associate Vice President for Research and Creative Activity, Ohio University

EDUCATION AND QUALIFICATIONS

2017 Certificate

Management Development Program, Harvard Graduate School of Education, Harvard University

1994-1998 Ph.D.

Materials Science and Engineering, University of New South Wales, Australia

1992-1994 M.E.

Materials Science and Engineering, University of New South Wales, Australia

1986-1990 B.E.

Metallurgy Materials and Engineering, Shenyang University of Technology, China

PROFESSIONAL APPOINTMENTS

2022-present Associate Vice President for Research and Creative Activity, Ohio University

2019-2022 Dean and Moss Professor of Engineering Education

Russ College of Engineering and Technology, Ohio University

2019-present Professor

Department of Mechanical Engineering, Ohio University

2013-2019 Associate Dean for Research and Graduate Education

School of Engineering, University of Connecticut

2013-2019 Director for General Electric Center of Excellence in Advanced Materials and Modeling

School of Engineering, University of Connecticut

2018-2019 Director for Master's of Engineering in Global Entrepreneurship

University of Connecticut

2015-2016 Interim Department Head

Department of Mechanical Engineering, University of Connecticut

2014-2022 Co-founder and Chief Scientist, OrteoPoniX LLC,

OrteoPoniX was a biomedical device start-up company

2012-2019 Professor

Department of Materials Science and Engineering, and Department of Biomedical Engineering, University of Connecticut

2008-2009 Visiting Professor

Department of Reconstructive Sciences, Biomaterials and Skeletal Development, School of Dental Medicine, University of Connecticut Health Center

2007 – 2012 Associate Professor

Department of Chemical, Materials, and Biomolecular Engineering, and Department of Biomedical Engineering, University of Connecticut

2002-2007 Assistant Professor

Department of Materials Science and Engineering, and Department of Biomedical Engineering, University of Connecticut

1999-2001 Postdoc Research Fellow

Centre for Rehabilitation Science and Engineering, Queensland University of Technology, Australia

1998-1999 Postdoc Research Fellow

Faculty of Engineering, Division of Materials Engineering, Kyoto University, Japan

MEMBERSHIP OF PROFESSIONAL BODIES AND SOCIETIES

Member of: American Society for Biomaterials, Materials Research Society, American Society for Engineering Education

Secretary of Council of Chinese American Deans and Presidents (CCADP) (10/2020-present)

AWARDS AND PROFESSIONAL ACTIVITIES

2017 Fellow of American Institute for Medical and Biological Engineering (AIMBE)

2015 *INSIGHT Into Diversity* 2015 Inspiring Women in STEM Award

2013 Member of the Connecticut Academy of Science and Engineering (CASE)

2007 2007 Women of Innovation Award, Connecticut Innovation – first female faculty in Engineering received this award

2007 Professional Excellence Awards, Educator of the Year, 2007, UConn

2005 Outstanding Department Member, Dept. of Materials Science and Eng., UConn

1998-1999 Postdoc Fellowship of Japan Society for the Promotion of Science (JSPS)

1999 Australian Postdoctoral Research Fellowship (ARC, not taken up as the offer received after the commencement of the fellowship in Japan)

LEADERSHIP EXPERIENCE

Associate Vice President for Research and Creative Activity, 2022 – present

Ohio University statistics: The oldest university in Ohio; R1 public research university with an annual research expenditure of \$87 M, 250 programs, and 28,000 students.

- Lead an analysis of internal and external mechanisms required to sustain and expand a R1 research program at OU and thereby guide university-level strategic investment.
- Formulate multidisciplinary research collaborations among faculty members across different colleges and with industry partners.
- Further establish relationships with state and federal funding agencies and connect them with faculty.
- Oversea the Translational Biomedical Sciences Doctoral Program, an interdisciplinary doctoral program, to further enhance collaborations of Science and Engineering faculty with those in Healthcare (Medical School and Nursing).
- Coordinate the planning effort of the \$160 M NSF ENGINES grant application.
- Play a major role in strategic planning of the research office.

Dean, Russ College of Engineering and Technology, Ohio University, 2019-2022

Russ College statistics: 1600 undergraduate students, 500 graduate students, 80 faculty members, \$14.5 M annual research expenditure, 7 research centers (including one \$5 M commercial research center), 5 online programs, 7 academic departments, 10 undergraduate programs, 14 graduate programs, \$16.5 M operational budget, and home to Russ Prize - a \$500 k top bioengineering award comparable to the Nobel Prize.

- **Planning and Management:**

Vision: While we actively address the challenges caused by COVID-19, budget cut, and enrollment drop, we must plan strategically on how to build and grow the college and how to turn challenges into opportunities.

- Worked with all stakeholders (college leadership team, faculty and staff, students, advisory board, alumni, industry, Vice President for Admission, and Vice President for Research (VPR)) developed a 5-year strategic plan to guide the advancement of the College in the following five areas: curriculum innovation, research excellence, workforce and professional development, diversity, equality, inclusion, accessibility, and belonging (DEIAB), and fundraising.
- Hired 11 faculty members and 10 staff members, and proposed an additional three cluster hires in Cybersecurity, Artificial Intelligence and Advanced Manufacturing, and Autonomy for a total of 11 tenure track faculty positions.
- Invested \$40 million to renovate an existing building into a new research building with an open and collaborative design to facilitate interdisciplinary research collaborations and promote industry engagement.
- Designed a central shared facility space to for high-cost equipment in order to increase the utilization of equipment and allow resources for new equipment.
- Formed a college wide DEIAB committee with the participation of faculty and staff from each department and appointed two female faculty as co-chairs of the committee.
- Established and implemented a workload policy to balance teaching and research and promote excellence in both areas.
- Made personnel adjustments to the college leadership to form a collegial, collaborative, innovative, and forward-thinking leadership team.
- Managed three consecutive years of significant budget cut.

- **Research:**

Vision: Enhancing research growth with focuses on interdisciplinary collaborations, industry engagement, and collaborations with state and mission-driven federal funding agencies.

- Achieved an annual research award of \$14.5 million – the highest since FY17.
- Strategized the Dayton Russ Research Center (RRC) management, established a clear vision, brought the RRC budget to positive within the first 6 months of my arrival, hired a consultant to help for relationship-build with Wright Patterson Air Force Base (WPAFB), surrounding companies and local community, and received nearly \$9 M research awards due to these collaborations within 3 years.
- Received a \$1.5 M federal appropriation fund for setting up Digital Design Studio near WPAFB and expand educational opportunities.

- Established a Digital Design Studio at RRC to address the urgent needs of WPAFB and other defense companies in the Dayton region. It is a space where Air Force personnel, contractors, and Ohio University faculty and staff can collaborate on digital engineering projects and provide training opportunities to students.
 - Identified faculty to form interdisciplinary research clusters and connected them with industry, engineering organizations (Strategic Ohio Council for Higher Education (SOCHE), Ohio's Manufacturers Association, etc.), federal and state funding agencies (JobsOhio, DriveOhio, Ohio Department of Transportation (ODOT), APEC, WPAFB, etc.) and other universities.
 - Paid visits to Ohio senators and congressmen/congresswomen to discuss priorities for increasing funding in engineering research, education, and workforce development, showcase the role of engineering colleges in innovation and workforce development, and application for federal appropriation funds.
 - Organized a series of workshops to mentor junior faculty on grant writing (especially NSF CAREER), coached faculty to write SBIR/STTR, OFRN, NSF IUCRC, DoE GAANN, and federal appropriation grants.
 - Mentored faculty to apply for the prestigious Graduate Assistance in Areas of National Needs (GAANN) award from the Department of Education. Among the five grants submitted, three were awarded with the amount of \$2 million.
 - Supported a team of Engineering faculty to secure the \$3 million Intel grant for establishing an Appalachian Semiconductor Education and Technical (ASCENT) Ecosystem in collaboration with faculty in science, regional campuses, community colleges, and community.
 - Established Faculty Research Advisory Committee to provide me with advice regarding research strategies and measures.
 - Established Industry Advisor Board to solicit inputs regarding market trend and opportunities, industry research collaborations, experiential learning opportunities for students, and entrepreneurship.
 - Worked with Vice Provost for Information Technology to establish a secured network at Ohio University to meet the compliance requirements of different funding agencies, such as Federal Aviation Administration (FAA) and Department of Defense (DOD).
 - Eliminated mandatory buyout policy to motivate faculty to conduct research and pursue extramural research fundings.
 - Revised graduate student supporting policy to incentivize departments to secure extramural funding to support graduate students.
 - Planned to establish a few industry-sponsored training centers to facilitate on-campus internship opportunities and enhance industrial collaborations.
- Academic affairs:
 - Vision: Providing students with high-quality education is the top priority of the college. We focused on maximizing students' success and cultivating them to be future leaders in engineering and technology.
 - Achieved record high undergraduate freshmen enrollment in 2022.
 - Curriculum innovation - creating technical certificates and soft skill credentials to enhance our students' success after their graduation.

- Re-organized career service to better serve students and help them with internships, co-ops, and job placement. Between 2019-2022, 97% of the students received at least one job offer within six months of their graduation even during the pandemic.
 - Recruited undergraduate students with significantly higher academic records than university average and maintained an average (FY19-22) of 10% higher student retention rate compared to that of the university average.
 - Integrated two regional campus programs with Athens departments: Engineering Technology program and Computer Technology Program.
 - Implemented OHIO Guarantee Plus in six departments and hired three additional professional student success advisors to assist with student advising.
 - Created two BS degrees in Artificial Intelligence and Cybersecurity.
 - Worked with an overseas university to create a 2+2 dual-degree program, and explored the possibility of to extend the program to 2+2+x.
 - Centralized graduate service and made effort to recruit high-quality graduate students at the college level using external recruiting tools.
 - Promoted doctoral, online, hybrid, and certificate programs as well as accelerated graduate pathways (4+1) and shrank residential M.S. programs to enhance the college's graduate education, reputation, and revenue generation.
 - Established the Office for Professional and Workforce Development and created new online, microcredential, and certificate programs.
 - Created interdisciplinary M.S. programs, Project Management in Business and Project Management in Healthcare.
 - Worked with the Lancaster regional campus, community college, and county leadership and established the Fairfield County Workforce Development Center to provide training opportunities and enhance economic development of the local community.
 - Secured \$2 M from the American Rescue Plan Act of 2021 to expand educational opportunities offered at the Fairfield County Workforce Development Center by working with Lancaster regional campus, county leadership and Hocking College.
 - Leveraged the resources in the Workforce Development Center and secured \$3 M from the Intel Semiconductor Education and Research Program for Ohio in collaboration with community colleges, regional campuses, and the Fairfield County.
- Fundraising:
Vision: Due to the ongoing reduction in state support for higher education and budget constrain of the university, increasing fundraising capacity has become vital to sustain scholarship, cutting-edge research, and other operations.
 - Received \$13.4 million virtual license donation from software companies and \$200 k hardware donation to support general education and the newly developed Digital Design Studio.
 - Secured an average of \$2 million annual giving.
 - Successfully organized a series of fundraising activities, such as baseball game, alumni homecoming, alumni reunion, and corporate visiting.
 - Engaged advisory board and set up goals for the upcoming fundraiser campaign.

Associate Dean for Research and Graduate Education, UConn, 2013-2019

University of Connecticut (UConn): R1 research-intensive, land-grant university with an annual research expenditure of \$260 million; 32,000 students.

UConn School of Engineering statistics: 3,478 undergraduate students, 911 graduate students, 183 faculty members, \$67 M annual research expenditure, 25 research centers/industrial partnerships, and 7 academic departments.

- Academic affairs: Oversaw ranking analysis, tenure and promotion, junior faculty and female faculty mentoring and professional development, leadership training, joint appointment, faculty nomination, awards, recruitment and retention, online programs, data collection for departmental assessment and resource allocation, and DEI
 - Organized the ranking promotion campaign, developed and implemented research strategies, and the school's ranking improved 8 spots within 3 years.
 - Led the School's research, teaching and advising data collection effort to establish a more sensible, comprehensive, and transparent platform for resource allocation among departments.
 - Established joint appointment procedures to promote multi-disciplinary research collaborations.
 - Led the effort in establishing an across-campus Biomedical Engineering department with the participation of faculty from Engineering, Medicine, and Dental Medicine.
 - Revamped and oversaw the Continuing and Distance Engineering Education (CDEE) online teaching program.
 - Recommended one female faculty to be department chair, one to be the Director for data analysis and graduate education, and one staff to be the Director of CDEE. All three were appointed to their positions, and the two directors were under my supervision.
 - Oversaw the CDEE program and established 2 degrees and 4 certificate programs to meet the needs of local industry and the state.
- Research: Cultivated SoE-industry partnerships, managed Academic Plan Proposal cost-share and submission, facilitated cross-disciplinary collaborations as well as collaborations with industry, managed and mentored grant writing and submission, and cultivated faculty entrepreneurship.
 - Doubled research awards in three years.
 - Mentored faculty for successfully securing 8 Department of Education GAANN grants (worth approximately \$6 million), 5 NSF REU Sites (worth approximately \$2 million), 1 NSF IUCRC, and a few UConn Academic Plan proposals.
 - Led three State-wide multi-universities, entrepreneurial programs, including the Biopipeline program (\$1 M), the Northeastern Connecticut Innovation Places initiative (\$500 k), and the Master's of Engineering in Global Entrepreneurship (\$260 k).
 - Led the planning effort for NSF MRSEC center as well as a congressional proposal involving 15 faculty across two UConn campuses.
 - Initiated cross-campus interdisciplinary collaborations among faculty in the Engineering, Medical, and Dental schools, and secured \$120 K seed fund to further support this initiative.
 - Facilitated collaborations between Engineering faculty and other schools (e.g., with Nursing, Law, Fine Arts, Business, Science and Pharmacy), other universities,

national laboratories, industry, state, and federal funding agencies.

- Facilitated non-traditional collaborations between disparate research disciplines (e.g. between Fine Arts and STEM fields, between Social Work and Engineering, between Law and Medicine).
- Graduate student education: Oversaw graduate student recruitment and retention, cultivated graduate students into future leaders, promoted DEI among graduate students, managed scholarships and awards, led graduate course and curriculum committee, and managed graduate students at the college level
 - Created the Master's of Engineering in Entrepreneurship program jointly with the School of Business and two other universities.
 - Participated the effort of the establishment of the Human Rights in Engineering program.
 - Received \$1 million endowment and established Graduate Leadership Council for cultivating graduate student leaders.
 - Established Woman Graduate Leadership group to mentor and cultivate female graduate leaders.
 - Established a mentoring platform to connect graduate students with highly successful alumni from industry, national laboratories, and start-up companies.
 - Strived to increase the diversity of graduate student population by recruiting students from the Graduate Education Minority (GEM) list and SWE, SHPE and NSBE conferences.
 - Hosted the NSF Bridge to the Doctorate Fellowship Program with an aim to recruit and retain minority students in a research/academic career.
 - Managed the McNair Scholars Program to provide enriching experiences that prepare eligible students for doctoral study.
 - Led the effort in the development of a recruitment platform for recruiting top-quality, minority graduate students.
 - Advised Student Association of Graduate Engineers (SAGE) and established a functional, productive structure.
 - Mentored graduate students, managed fellowship selection and awards, led graduate student recruitment and retention, and provided career guidance and assistance, leadership training, and entrepreneurial training and support.
 - Managed graduate course and curriculum changes, and re-shaped graduate course design in all seven School of Engineering departments.
 - Worked closely with students, faculty, department heads, Ombudsman, and the Graduate School to manage conflicts between graduate students and faculty advisors.
 - Worked with the Graduate School, Legal, Title IX office, Provost office, departments, faculty advisors, and students to manage misconducts of students and faculty advisors.
 - Worked with students, faculty, and departments on students' grade appeals.
 - Secured external funding to support graduate activities and promoted diversity among the graduate student population.
 - Worked with Graduate School and organized graduate fellowship application workshops and mentored students on fellowship applications.
 - Managed two international programs, EuroTech and AsianTech, and worked to

establish 3+1+x programs with overseas universities.

- **Fundraising:**
 - Raised funds by working UConn Foundation and cultivated alumni relationship.
 - Raised \$1 million to form the John Lof Graduate Leadership Academy and Women's John Lof Leadership Group to provide graduate students, especially female students, with leadership training opportunities.

Director for General Electric Center of Excellence in Advanced Materials and Modeling, UConn, 2013-2019

GE Center statistics: \$7.5 M UConn-GE partnership, including 1.5 million endowment, \$2.7 million grant for graduate and undergraduate fellowships, \$3.3 million GE-directed research.

- Cultivated UConn-GE relationship.
- Managed annual GE fellowship awards and GE research projects at UConn.
- Hosted annual UConn-GE Night.
- Organized visits to GE, GE's visits to UConn, and GE-UConn workshops.

Director for Master's of Engineering in Global Entrepreneurship, UConn, 2017-2019

Program Statistics: This is a joint program between three Connecticut Universities (UConn Engineering, UConn Business, University of Trinity, and University of New Haven) with the involvement of local industry and community. The goal of the program is to recruit and retain the best and the brightest entrepreneurial talents to Connecticut and cultivate them into future leaders to contribute to the economic development in the State.

- Worked with the Dean of Graduate School, the Global Affairs office, the Business School, the Office of General Counsel, the Bursar's office, the Registrar, the Master's of Engineering Program, the International Office, and all engineering departments to establish the Master's of Engineering in Global Entrepreneurship.
- Formed the Governing Board including members from academic, local industry and the State.
- Established curriculum and got the program approved at UConn and other partner universities.

Interim Department Head of Mechanical Engineering, UConn, 08/2015-12/2016

UConn Mechanical Engineering statistics: 600 undergraduate students, 150 graduate students, 31 faculty members and 7 staff members, \$6 M annual research expenditures, and \$5.5 M operational budget.

- Worked closely with ME faculty and staff, the Provost and the Provost Office, Dean, Ombudsman, American Association of University Professors (AAUP), and the Office of Faculty and Staff Labor Relations to stabilize the department and improve the morale.
- Secured 5 tenure track faculty lines.
- Secured substantial funding for renovating undergraduate labs, the conference room, and a few faculty labs and offices.
- Facilitated the move of Management and Engineering for Manufacturing (MEM) program into Mechanical Engineering department and re-shaped the program.
- Mentored junior faculty members to ensure their career advancement during the most

difficulty time of the department – received two ONR Young Investigator award, three received NSF CAREER award, and couple of received substantial funding from NSF during my tenure as the Head of the department.

- Adjusted teaching loads, laboratory spaces, and office spaces.
- Improved the department ranking from 59 to 51.

Professor, Department of Materials Science and Engineering (MSE) and Department of Biomedical Engineering (BME), UConn, 2002-2019

UConn MSE statistics: 19 tenure-track faculty, 168 graduate students, 99 graduate students

UConn BME statistics: 40 core faculty (including 34 tenure track faculty and 6 teaching faculty), 100 graduate students and 450 undergraduate students

- Member, MSE ABET Committee, 2002-2014
- Member, BME ABET Committee, 2002-2007
- Member, several faculty search committees in both BME and MSE, 2002-2013
- Chair, MSE Undergraduate Committee, 2012-2013
- Chair, BME biomaterial faculty search committee, 2013

Management Development Program training, Harvard University, 2017

Participated the management development training held by the Harvard Institute for Higher Education, Harvard University. The goal of the program is to train higher educational leaders with skill sets that will strengthen their professional development and enhance the performance of their institutions.

Other Major Services:

- Co-led the strategic framework theme: “Amplify research, scholarly productivity, and creative activity”, May 2020 – 2021, OU
- Member of the Corporate Engagement Advisory Board, June 2020 – present, OU
- Board of Trustee of TechGROWTH Ohio Fund, August 2020 – present, OU
- Member of the University Budget Planning Council, October 2020 – present, OU
- Member of the University Communication and Marketing Dean’s Advisory Council, 2020-2022, OU
- Member of the OU AAPI-Lead, 2021-present, OU
- Member of the Foundation Account Working Group, 2022, OU
- Member, Search Committee for the UConn President, June 2018-2019
- Board Member, Executive Committee of the Institute for Systems Genomics (ISG), UConn 2018-2019
- Board Member, UConn Technology Incubation Program, 2017-2019
- Member, UConn Diversity Council, 2016-2019
- Member, UConn Senate, 2015-2019
- Member, UConn Senate Nominating Committee, 2018-2019
- Member, UConn Senate Student Welfare Committee, 2018-2019
- Board Member, \$30 million Thermo Fisher-UConn partnership, 2015-2019
- Member, UConn Financial Conflict of Interest Committee, 2014-2019

- Panel Member, pre-screen large grants with limited number of submissions, UConn, 2013-2019
- Chair, School of Engineering Large Grant Review Committee, UConn, 2010-2013
- Member, Search committee for the Associate Vice Provost for Research,
- Member, Search committee for the Associate Vice Provost for the Office of Institutional Research and Effectiveness (OIRE), UConn
- Member, Search Committee for the Vice President of the UConn Foundation, UConn

PROFESSIONAL ACTIVITIES

- Associate Editor of Journal of Biomedical Materials Research Part A (2015-2021)
- Member of the Editorial Board for the Bioceramics Development and Applications (2013 – present)
- Member of the Board of Review of Metallurgical and Materials Transactions A (2005 – present)
- Member of the Editorial Board of Innovative Biomedical Technologies & Health Care (2017-present)
- Organizer of Symposium BM3: Biomaterials for Regenerative Medicine, Materials Research Society (MRS) 2016 Fall meeting
- Co-Organizer of Symposium NN: Multifunctional Biomaterials, Materials Research Society (MRS) 2013 Spring meeting.
- Organizer of Symposium KK: Biomaterials for Tissue Regeneration, Materials Research Society (MRS) 2011 Fall meeting.
- Reviewer of grants for federal agencies
- Reviewer of manuscripts for more than 30 professional refereed journals

RESEARCH INTERESTS

Tissue engineering scaffolds; bioactive coatings on metallic and polymeric substrates; organic-inorganic composites; drug delivery; cell-biomaterial interactions; bone and cartilage repair and regeneration.

RESEARCH AND SCHOLARSHIP (SUMMARY)

- Extramural funding: \$7 million
- Patents: 6
- Book chapters: 4
- High impact referred journal articles: 110
- Conference proceedings: 100
- Postdoctoral fellows/visiting professors supervised: Yajing Zhang, Yong Wang, Le Yu, and Sacha Cavelier
- Doctoral students supervised: Haibo Qu, Xiaohua Yu, Zengmin Xia, Fei Peng, Erica Kramer, Max Villa, Michael Zilm, Bryant Heimbach, Stephanie Bendtsen, Drew Clearfield, Changmin Hu, and Le Yu
- Also supervised 8 M.S. students and more than 70 undergraduate students as the major advisor

RESEARCH GRANTS (2010-present)

09/20-07/22 PFI: AIR-TT: Prototyping and scale-up of novel scaffold fabrication for bone

	regeneration; NSF, \$200,000, PI.
09/14-08/18	EAGER: Fabrication of self-powered scaffolds for enhanced bone repair, NSF, \$236,673; PI.
07/15-06/19	Comparison of Xe plasma FIB and Ga FIB for microstructural studies in materials science, Thermo Fisher; \$400,000; PI.
08/16-07/20	GAANN: Medical devices for public health, US Department of Education, \$704,685, Team member (PI: Ki Chon)
06/18-06/19	Master's of Engineering in Global Entrepreneurship, CT Next, \$260,800, PI.
09/15-08/17	Connecticut Innovation and University Bioscience Grant, Connecticut Bioscience, \$314,000, PI.
05/14-10/17	PFI: AIR-TT: Prototyping bioabsorbable composites for bone-fixation applications involving low to medium loads, NSF, \$227,851, PI.
01/13-12/15	Fabrication of composite bone fixation devices, Teleflex Medical, \$20,000, PI.
07/11-07/14	Repair and Regeneration of Osteochondral Defects in Mouse Articular Joints; NSF; \$356,923; PI.
04/11-03/14	4-D imaging cell/scaffold interplays during in vivo bone repair process; NIH; \$382,113; PI.
07/09-08/12	Graduate assistance in areas of national need, Department of Education; \$653,280; PI.
09/07-08/11	BME/RAPD/GOALI: Fabrication of multi-functional composites for load-bearing skeletal; NSF; \$375,000; PI.
01/10-08/11	Evaluation and development of UConn Innovation, Teleflex Medical; \$63,000; PI.

PUBLICATIONS:

I. Patents

- [1] M. Wei, H. Qu, X. Yu, "Ceramic coating and method of preparation thereof", Patent number US 8,007,854 B2, August 30, 2011.
- [2] M. Wei, J. Olson, M. Shaw, "Calcium phosphate polymer composite and method ", serial number 11/790,345, pending
- [3] M. Wei, F. Peng, Z. Xu, "Electrospun apatite/polymer nano-composite scaffolds", Patent number US 7,879,093 B2, February 1, 2011.
- [4] M. Wei, H. Qu "Ceramic/structural protein composites and method of preparation thereof", patent number US 8,084,095 B2, Dec 27, 2011.
- [5] M. Wei, H Qu, "Apatite/Collagen Composite Scaffold and Method of Preparation Thereof", patent serial number 12/265,956, pending.
- [6] M Wei, Z Xia. Biomimetic scaffold for bone regeneration. Patent number: 9,078,832, July 14, 2015.

II. Book Chapters

- [1] M. Wei and H. Qu, "Biomimetic Apatite Coatings – A Review", pp. 143-158 in Biomimetic and Supramolecular Systems Research, edited by AH Lima, Nova Science Publishers, Inc., 2008.
- [2] Sorrell C.C., Taib H., Palmer T.C., Peng F., Xia Z., and Wei M., "Biomedical coatings by electrophoretic deposition", pp. 81-136 in Biological and Biomedical Coatings Handbook, edited by S. Zhang, Talyor and Francis Group, New York, 2011.
- [3] B Heimbach, M Wei. "Composite orthopedic fixation Devices", p 399-425 in Orthopedic Biomaterials – Advances and Applications, Springer, March 22, 2018

- [4] Guest editor. *Frontiers in Materials/ Frontiers in Bioengineering and Biotechnology* Special issue: Advanced Biomaterials for Osteochondral Regeneration, in preparation.

III. Journal articles (2010-present)

- [1] LF Charles, MT Shaw, JR Olson, M Wei. Fabrication and mechanical properties of PLLA/PCL/HA composites via a biomimetic, dip coating, and hot compression procedure. *Journal of Materials Science Materials in Medicine*, 21, 1845-54, 2010.
- [2] S-P Sun, JR Olson, M Wei, MT Shaw. Rheology of hydroxyapatite needles suspended in an organic fluid. *Rheol. Sun, Rheol. Acta*, 50, 65-74, 2011.8
- [3] F Peng, MT Shaw, JR Olson, M Wei. Hydroxyapatite needle-shaped particles/poly(L-lactic Acid) electrospun scaffolds with perfect particle-along-nanofiber orientation and enhanced mechanical properties. *J Phys Chem-C*, 115, 15743-51, 2011.
- [4] F Peng, X Yu, M Wei. In vitro rat osteosarcoma cell performance on hydroxyapatite particles/poly(L-lactic acid) nanofibrous scaffolds with an excellent particle-along-fiber orientation. *Acta Biomaterialia*, 7, 2585-92, 2011.
- [5] X Yu, M Wei. Controlling bovine serum albumin release from biomimetic calcium phosphate coatings. *Journal of Biomaterials and Nanobiotechnology*, 97, 345-54, 2011.
- [6] X Yu, M Wei. Preparation and evaluation of parathyroid hormone incorporated CaP coating via a biomimetic method. *Journal of Biomedical Materials Research: Part B-Applied Biomaterials*, 97, 345-54, 2011.
- [7] M Karl, MA Freilich, B Wen, M Wei, DM Shafer, LT Kuhn. Guided vertical bone regeneration by means of roughened and alkaline treated titanium implant surfaces: A comparison based on a rabbit mandible model. *Z Zahnarztl Impl*, vol. 27, pp. 1-15, 2011.
- [8] F Peng, E Veilleux, M Schmidt, M Wei. Synthesis of hydroxyapatite nanoparticles with tailorable morphology and carbonate substitutions using precipitation method. *Journal of Nanoscience and Nanotechnology*, 11, 1-9, 2012.
- [9] Z Xia, X Yu, M Wei. Biomimetic collagen/apatite coating formation on Ti6Al4V substrates. *Journal of Biomedical Materials Research*, 100B, 871-881, 2012.
- [10] X Yu, Z Xia, L Wang, F Peng, X Jiang, J Huang, DW Rowe, M Wei. Controlling the structural organization of regenerated bone by tailoring tissue engineering scaffold architecture. *Journal of Materials Chemistry*, 22, 9721-9730, 2012.
- [11] X Yu, L Wang, F Peng, Z Xia, X Jiang, J Huang, DW Rowe, M Wei. The effect of fresh bone marrow cells on reconstruction of calvarial defect combined with osteoprogenitor cells and collagen/apatite scaffold. *Journal of Tissue Engineering Regenerative Medicine*, 7, 974-83, 2013.
- [12] S-P Sun, JR Olson, M Wei, MT Shaw. Biodegradable composites with aligned hydroxyapatite nano needles. *Journal of Biomedical Materials Research B*, 100B, 1817-25, 2012.
- [13] X Yu, L Wang, X Jiang, DW Rowe, M Wei. Biomimetic CaP coating incorporated with parathyroid hormone improves the osteointegration of titanium implant. *Journal of Materials Science: Materials in Medicine*, 23, 2177-86, 2012.
- [14] F Peng, JR Olson, MT Shaw, M Wei. Influence of surface treatment and hydroxyapatite coating on mechanical properties of HA/PLLA composite fiber. *Journal of Biomaterials Applications*, 27, 641-9, 2013.
- [15] LF Charles, ER Kramer, MT Shaw, JR Olson, M Wei. Self-reinforced composites of hydroxyapatite-coated PLLA fibers: Fabrication and mechanical characterization. *Journal of the Mechanical Behavior of Biomedical Materials*, 17, 269-77, 2013.
- [16] E Kramer, M Staruch, A Morey-Oppenheim, M Jain, J Budnick, S Suib, M Wei. Synthesis and characterization of iron substituted hydroxyapatite prepared by a simple ion exchange soaking procedure. *J Mater Sci*, 48, 665-673, 2013.

- [17] Z Xia, Yu X, Jiang X, Brody HD, Rowe DW, M Wei. Fabrication and characterization of biomimetic collagen-apatite scaffolds with tunable structures for bone tissue engineering. *Acta Biomater*, 9, 7308-19, 2013.
- [18] MM Villa, L Wang, DW Rowe, M Wei. Observation of the progression of bone tissue engineering *in vivo* with 2-photon microscopy. *Tissue Engineering C*, 19, 839-49, 2013.
- [19] Z Xia, M Wei. Biomimetic Fabrication of Collagen-apatite Scaffold for Bone Repair and Regeneration. Review. *J Biomater Tissue Eng*, 3, 369-384, 2013.
- [20] E Kramer, M Wei. A comparative study of the sintering behavior of pure and iron-substituted hydroxyapatite. *Bioceramics Development and Applications*, 3, 9-13, 2013.
- [21] X Yu, M Wei. Cellular performance comparison of biomimetic calcium phosphate coating and alkaline treated titanium surface. *BioMed Res Int*, 2013, 832790, 2013.
- [22] Yu X, Wang L, Xia Z, Chen Li, Jiang X, Rowe D, Wei M. Modulation of host osseointegration during bone regeneration by controlling exogenous stem cells differentiation using a material approach. *Biomaterials Science*, 2, 242-251, 2014.
- [23] X Yu, J Walsh, M Wei. Covalent immobilization of collagen on titanium through polydopamine coating improved cellular performance of MC3T3-E1 cells. *RSC Advance*, 4, 7185-7192, 2014.
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