

CURRICULUM VITAE

Liisa Tiina Kuhn, PhD, FAIME, FASTM, FBSE

Professor and Associate Department Head

Fellow of AIMBE and ASTM and IUSBSE

Department of Biomedical Engineering

School of Dental Medicine

University of Connecticut Health Center (UConn Health)

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Major Research Areas:

- Design of implantable drug delivery systems for localized, controlled release of therapeutics with applications in orthopaedics, dental implants, cancer therapies and gastroenterology.
- 3D bioprinting of elastomeric materials for soft tissue prosthetics.
- Medical product standards writing for the American Society of Testing and Materials (ASTM) in the area of biomaterials, bioprinting, and cell culture for tissue engineering/regenerative medicine applications.

EMPLOYMENT HISTORY

- 2024 - present Professor. Department of Biomedical Engineering. School of Dental Medicine, University of Connecticut Health Center (UConn Health), Farmington, CT.
- 2022 - 2024 Professor and Associate Department Head. Department of Biomedical Engineering. School of Dental Medicine, University of Connecticut Health Center (UConn Health), Farmington, CT.
- 2017 - 2022 Associate Professor and Associate Department Head. Department of Biomedical Engineering. School of Dental Medicine, University of Connecticut Health Center (UConn Health), Farmington, CT.
- 2011 - 2017 Associate Professor with tenure. Center for Regenerative Medicine and Skeletal Development, Reconstructive Sciences Department. School of Dental Medicine, University of Connecticut Health Center, Farmington, CT.
- 2002 - 2011 Assistant Professor. Center for Biomaterials, Reconstructive Sciences Department. School of Dental Medicine, University of Connecticut Health Center, Farmington, CT.
- 2000 - 2002 Director, Orthopaedics Product Development (2001-2002). Assistant Director, Oncology Development (2000 – 2001). ETEX Corporation, Cambridge, MA. Supervised technical staff conducting preclinical studies and product development activities in the area of orthobiologics specifically spinal fusion and long bone repair, generation of design control documentation, interfacing with quality and regulatory departments.
- 1998 - 2000 Co-owner/co-founder of NaturApatites Co., Inc., Boston, MA, specializing in orthopedic and oncology applications of calcium phosphate biomaterials. Directed two preclinical study programs: (1) localized delivery of chemotherapy and (2) delivery of osteogenic agents from composite biomaterial scaffolds. NaturApatites Co. was acquired by ETEX Corp. in 2000.
- 1994 -1997 Consulting Director of Development. Bio-Crystals Corporation, Boston, MA, specializing in orthopedic applications of calcium phosphate biomaterials.

- 1984 -1986 Directed manufacturing scale-up and preclinical testing of a novel bone substitute material.
Engineer. Signature Materials and Composite Design, General Dynamics, San Diego, CA. Developed stealth materials to reduce radar cross-sections of missile components.

Other professional appointments

- 2019 Visiting Professor. University of Toulouse, CIRIMAT Institute – “Phosphates, Pharmacokinetics, Biomaterials” PPB group, Toulouse, France. October-November, 2019
- 2017 Visiting Professor. University of Bordeaux, French National Institute of Health and Medical Research (INSERM) U1026 BioTis, Bordeaux, France. June 2017.
- 2012-2013 Visiting Professor. French National Institute of Health and Medical Research (INSERM) U1109, Department of Osteoarticular and Dental Regenerative Nanomedicine, Faculté de Médecine, University of Strasbourg; Strasbourg, France. August 2012-July 2013.

EDUCATION

- Ph.D. 1992 University of California – Santa Barbara, Santa Barbara, CA.
Materials Engineering, Advisor: Prof. R.M. McMeeking
- M.S. 1989 University of California – Santa Barbara, Santa Barbara, CA.
Materials Engineering, Advisors: Profs. R.M. McMeeking and F.F. Lange
- B.S. 1984 Duke University, Durham, NC. Major: Mechanical Engineering

Postdoctoral Training

- 1994-1997 Children’s Hospital, Harvard Medical School, Boston, MA.
Dept. of Skeletal Disorders and Rehabilitation/Dept. of Orthopaedic Surgery.
Mentor: Prof. M. Glimcher, MD. Topic: Bone biology and bone mineral.
- 1992-1994 Case Western Reserve University, Cleveland, OH.
Department of Materials Science and Engineering
Mentors: Prof. Arthur Heuer and Prof. Arnold Caplan. Topic: Biomineralization.
- 1992 University of California – Santa Barbara, Santa Barbara, CA.
Department of Materials
Mentor: Professor R.M. McMeeking. Topic: Models for powder deformation.

AWARDS and HONORS

- 2024 Election into the Connecticut Academy of Science and Engineering for scientific distinction and accomplishments in pioneering new and developing fields of applied science and technology.
- 2023 Selected by University of Connecticut President Radenka Maric to be one of seven faculty members from The University of Connecticut to present at President

Maric's inauguration ceremony held on September 29, 2023 at the University of Connecticut, Storrs, Connecticut.

- 2021 Society For Biomaterials. Award for Service. Honors significant service to the Society in establishing, developing, maintaining and promoting its objectives and goals.
- 2020 Elected as a fellow of the International Union of Societies for Biomaterials Science and Engineering (IUSBSE). Recognized for accomplishments and as a role model in the field of biomaterials science and engineering.
- 2018 Inducted as a fellow of the American Institute of Medical and Biological Engineers (AIMBE) for significant contributions to the medical and biological engineering. Represents top 2% of the medical and engineering community.
- 2016-2017 President of the Society For Biomaterials. Elected position (Board and Council Position).
- 2014 Award of Merit and Induction as Fellow, the American Society of Testing and Materials International (ASTM) – highest ASTM award for distinguished service and outstanding participation.
- 2004-2011 Elected General Interest Vice-Chair of Main Committee F04 Medical and Surgical Materials and Devices, American Society of Testing and Materials (ASTM).
- 2009 Winner of the Women of Innovation Award for Academic Innovation and Leadership from the Connecticut Technology Council.
- 2006 Patrick Liang Award from the American Society of Testing and Materials (ASTM) for significant and outstanding contributions in the field of medical and surgical devices.
- 2002 Overall Program Chair of the Annual Meeting of the Society For Biomaterials. This is the premier biomaterials meeting in the United States and was attended by approximately 3000 scientists from both the US and abroad. Led the team responsible for coordinating the entire scientific program.
- 2000 Scientific American Award from the American Society of Testing and Materials (ASTM).

PROFESSIONAL MEMBERSHIPS

- 2020 – present International Union of Societies for Biomaterials Science and Engineering (IUSBSE) College of Fellows. Honorific society.
- 2018 – present American Institute of Medical and Biological Engineers (AIMBE), College of Fellows, Honorific society.
- 1997 – present The Society For Biomaterials
- 1994 – present American Society of Testing and Materials
- 2004 – 2008 American Association of Pharmaceutical Scientists
- 2004 – 2008 Controlled Release Society

SERVICE AND LEADERSHIP ACTIVITIES

I. School of Dental Medicine Service, UConn Health

- 2020 - 2022 Dental Senate member representing the Department of Biomedical Engineering
- 2017 - 2022 Senior Appointments and Promotions Committee Member.
- 2019 Search Committee Member - Orthodontics Department Head/Chair.
- 2017 - 2019 Search Committee Member - Successful recruitment of five faculty for the newly formed Department of Biomedical Engineering.
- 2017 - 2018 Strategic Planning Committee Member.
- 2016 - 2018 Dental Senate member representing Dept. of Reconstructive Sciences.
- 2011 - 2012 Dental School Admissions Committee
- 2006 Advisory Committee, Center for Research and Education in Technology Evaluation (CRETE). School of Dental Medicine, UConn Health.

II. Service to the BME Department at Storrs or Biomedical Sciences Graduate program at UConn Health

- 2023 Interviewer, Biomedical Science Graduate Admissions
- 2022, 2023 Chair, UCONN Storrs BME PhD Qualifying Exam – Biomaterials track
- 2021 Co-chair, UCONN Storrs BME PhD Qualifying Exam with Syam Nukavarapu. Biomaterials Track
- 2018 – 2024 Member, UCONN Storrs BME Graduate Curriculum Committee.
- 2013 - 2015 Advisor, UCONN Storrs BME Biomaterials Track.
- 2010 -2012 Member, UCONN Storrs BME Graduate Curriculum Committee.
- 2009, 2010 UConn Health Biomedical Sciences program, Ph.D. Admissions Committee
- 2008 - present Graduate Admissions Committee, UCONN Biomedical Engineering program.
- 2008 - 2009 Graduate Program Committee, UCONN Biomedical Engineering program.
- 2005 Ph.D. Admissions Committee, UConn Health Biomedical Sciences program.

II. University-Wide Committee Service

- 2020 - present UConn Health Center Research Advisory Council (HCRAC) Member.

- 2016 - present Group on Women in Medicine and Science (GWIMS) Steering committee member. Local chapter of the national organization Association of the American Medical Colleges (AAMC) GWIMS.
- 2016 - 2019 UCONN Research Advisory Council (RAC) representative for School of Dental Medicine. This advisory council provides input to the Office of the Vice President of Research at the cross-campus level including both UConn Health and UConn Storrs.

III. Professional Society Leadership and Service (National or International Organizations)

International College of Fellows - Biomaterials Science and Engineering (ICF-BSE)

- 2024-present Elected to the Steering Committee and Appointed as Treasurer. The steering committee constitutes the governance of the ICF-BSE.

Society For Biomaterials -continuous membership since 1997

- 2024
- Symposium organizer at the World Biomaterials Congress 2024. Daegu, South Korea.
- 2020-present
- Delegate to the International Union of Societies for Biomaterials Science and Engineering (IUSBSE). Four year term renewed for another four year term. Quarterly meetings with a focus on bylaws updating, officer elections and new member inductions.
 - Assisted with preparation of the successful pitch for the US SFB to host the 2028 World Biomaterials Congress.
- 2019-2020
- Chair of the Awards Committee.
 - Moderator of award presentations at the 2020 World Biomaterials Congress.
- 2018-2019
- Second Past-President of the Society For Biomaterials, a Board and Council position.
 - Prepared draft of Code of Ethics presented at the Presidents Advisory Committee
- 2017-2018
- First Past-President of the Society For Biomaterials, a Board and Council Position.
 - Co-organized the first joint Biomaterials Summer School held June 2018 between the US Society For Biomaterials and the European Society for Biomaterials with Professor Joelle Amedee, University of Bordeaux. Goal: to foster international collaboration and training of the next generation of biomaterial scientists.
 - Chair of Presidents Advisory Committee
 - Annual Meeting Session Co-Chair, *BTI* Testing Methods for Evaluating Translational Biomaterials”.
 - Team presenter in Cage Match 2018 "Academia vs Industry -- Where can you have the greatest impact?"

- 2016-2017
- President of the Society For Biomaterials.
 - Overall Program Committee Member.
 - Keynote address at the Northeast Student Biomaterials Day Meeting.
- 2015-2016
- President-Elect (elected position)
 - Chair of Long Range Planning Committee.
- 2013
- Annual Meeting Symposium Co-Chair, “Implantable Drug Delivery Systems for Medical Devices and Cancer Therapy”.
- 2012
- Symposium Co-chair, Biomaterials and Hard Tissue Repair, 9th World Biomaterials Congress in Chengdu, China.
- 2011- 2016
- Executive Editor of the Biomaterials Forum (news magazine of the Society for Biomaterials). Issues published quarterly.
- 2011
- Invited Member of the 2011 Annual Program Committee
 - Drug Delivery Special Interest Group Chair.
- 2010
- Organized symposium and was chair of the session: Multi-factor Delivery for Musculoskeletal Regeneration.
 - Drug Delivery Special Interest Group Chair.
- 2009
- Drug Delivery Special Interest Group Chair.
 - Organized workshop: Regulatory Pathways for Combination Products for the annual meeting.
 - Elected member Awards, Ceremonies and Nominations Committee Member
- 2008
- Vice-Chair of the Drug Delivery Special Interest Group
- 2007
- Vice-Chair of the Drug Delivery Special Interest Group
 - Session moderator for Annual Meeting
 - Elected member Awards, Ceremonies and Nominations Committee
- 2006
- Vice-Chair of the Drug Delivery Special Interest Group
 - Symposium Co-organizer: Ophthalmic Drug Delivery
- 2005
- Vice-Chair of the Drug Delivery Special Interest Group.
 - Elected Member of the Membership Committee.
 - Annual Meeting Special Symposium Co-organizer: Drug Eluting Surfaces
 - Annual Meeting Program Chair for the Drug Delivery Special Interest Group
 - Annual Meeting Session Moderator: Biomaterials for Controlled Release

- 2003 • Elected Member, Education and Professional Development Committee
- 2002-2011 • Society For Biomaterials Book Reviewer, book reviews published quarterly in the Biomaterials Forum (news magazine of the Society for Biomaterials).
- 2002 • Overall Program Chair of the Annual Meeting
- 2001 • Assistant Program Chair of the Annual Meeting
• Orthopaedic Special Interest Group Program Chair
- 1999 • Treasurer, Orthopaedic Materials Special Interest Group

ASTM (American Society of Testing and Materials) continuous membership since 1994.

- 2019-present Task group chair for ASTM F2900 Standard Guide for Characterization of Hydrogels used in Regenerative Medicine.
- 2018-present Task group chair and primary author of ASTM Work Item WK72274 Standard Test Method for Printability of Bioinks.
- 2018-2019 Task group chair for revision of F2450 Standard Guide for Assessing Microstructure of Polymeric Scaffolds for Use in Tissue Engineered Medical Products. Reapproved in 2019.
- 2017-present Task group chair for revision of F2883 Characterization of Ceramic and Mineral Based Scaffolds used for Tissue-Engineered Medical Products (TEMPs) and as Devices for Surgical Implant Applications
- 2010-2013 Task Group Chair and primary author of published standard: F2997 Standard Practice for Quantification of Calcium Deposits in Osteogenic Culture of Progenitor Cells Using Fluorescent Image Analysis
Task Group Chair and primary author of published standard: F3106 Standard Guide for *in vitro* Osteogenesis
- 2007 - 2010 Task Group Chair and primary author of published standard: F2739 Standard Guide for Quantitating Cell Viability
- 2004 - 2011 Elected General Interest Vice-Chair of the American Society of Testing and Materials (ASTM) Main Committee F04. Medical and Surgical Materials and Devices
- 2003-2023 Chair, F04.42 Biomaterials and Biomolecules Subcommittee, Tissue Engineered Medical Products Division
- 2000 - 2003 Vice-Chair, F04.42 Biomaterials and Biomolecules Subcommittee, Tissue Engineered Medical Products Division

- 1999 - 2008 Task Group Chair and primary author of published standard: F2027 Standard Guide for Characterization and Testing of Raw or Starting Biomaterials for Tissue Engineered Medical Products
- 1994 - 1997 Task Group Chair and primary author of published standard: F1581 Specification for Composition of Anorganic Bone For Surgical Implants

IV. Grant Reviewer

- 2023 Reviewer of a research project submitted to the University of Sharjah, Saudi Arabia.
- 2022 NIH Center for Scientific Review Special Emphasis Panel: Cellular Senescence Network: Murine Tissue Mapping Centers (U54) - ZRG1 IMST-M (70) R 2022/05 March 29 -30, 2022.
- 2016 - 2020 Permanent Study Section Member, Musculoskeletal Tissue Engineering (MTE) Study Section, National Institutes of Health (NIH), Center for Scientific Review (CSR).
- 2012 - 2016 Ad Hoc Grant Reviewer, National Institutes of Health, Center for Scientific Review, Musculoskeletal Tissue Engineering (MTE) Study Section (2014, 2015, 2016), Biomaterials and Biointerfaces (BMBI) Study Section (2013), Nanotechnology Special Emphasis Panel (2012).
- 2010, 2011, 2013 Grant Reviewer. Florida Department of Health, James and Ester King Biomedical Research Program and Bankhead-Coley Cancer Research Program.
- 2003 - 2012 National Institutes of Health, Center for Scientific Review Special Emphasis panel, Orthopedics Small Business Grants (SBIR/STTR), annual participation during this time except for 2011.

SCIENTIFIC ADVISORY AND EDITORIAL ACTIVITIES

I. SCIENTIFIC ADVISORY BOARD

- 2023-present Appointed as an Advisory Committee Member by State Senator M Looney, Connecticut Bioscience Innovation Fund (CBIF) Committee, Connecticut Innovations, Connecticut. The advisory committee helps guide the strategy of the \$200 million fund. <https://ctinnovations.com/learn-about-connecticut-innovations/governance/cbif-advisory-committee/>
- 2016-2019 Board Member, Bordeaux University Consortium for Regenerative Medicine, France. <https://bcm.u-bordeaux.fr>

II. JOURNAL EDITORSHIPS AND EDITORIAL BOARD MEMBER POSITIONS

- 2015 - present Editorial Board member of the Journal of Regenerative Engineering and Translational Medicine, Springer. <https://www.springer.com/journal/40883/editors>
- 2015 - present Editorial Board member of the Journal of Biomedical Materials Research A, Wiley.

<https://onlinelibrary.wiley.com/page/journal/15524965/homepage/editorialboard.html>

- 2014 - present Editorial Board member of Cell, Stem cells and Regenerative Medicine, Sci Förschen, http://www.sciforschenonline.org/journals/stem_cell/editorial-board.php.
- 2011 - present Editorial Board member of the Journal of Biomaterials and Tissue Engineering, American Scientific Publishers.
http://www.aspbs.com/jbt/editorial_jbt.htm
- 2011 - 2016 Executive Editor of the Biomaterials Forum (news magazine of the Society for Biomaterials).
- 2002 - 2011 Society For Biomaterials Book Reviewer, book reviews published quarterly in the Biomaterials Forum (news magazine of the Society for Biomaterials).

III. JOURNAL REVIEWER

- 2020-present Reviewer for: Journal of Biomedical Materials Research Part A, Journal of Biomedical Materials Research Part B – Applied Biomaterials
- Prior to 2020: Occasional reviewer for Biomaterials, Tissue Engineering, Journal of Biomedical Materials Research Part A, Journal of Biomedical Materials Research Part B – Applied Biomaterials, Biotechnology and Bioengineering, Journal of Cellular Physiology, Stem Cell Research and Therapy, Journal of Biomaterials Applications, PLoS ONE, Stem Cell Reviews and Reports, Advanced Functional Materials, Acta Biomaterialia, Advanced Healthcare Materials, Bone, Advanced Science, Pharmaceutical Research, Journal of Periodontology, Journal of Tissue Engineering and Regenerative Medicine.

PRESENTATIONS (Limited to last 10 years)

I. INVITED LECTURES – INTERNATIONAL

- “Looking ahead to biomaterials research after 2020”, World Biomaterials Congress, IUSBSE Special Fellows Session, December 14, 2020.
- “Effects of anti-aging drugs delivered by bioinspired calcium phosphate on bone cells”, University of Toulouse, CIRIMAT PPB, Toulouse, France, November 21, 2019.
- “Spatiotemporal control of cellular activity within the bone injury microenvironment”, Chinese Biomaterials Congress and International Symposium on Advanced Biomaterials, <http://2019.csbm.org.cn>, Dalian, China, August 24, 2019.
- “Calcium phosphate-based medical devices, International Conference for Research on Phosphates and Derivatives, Mohammed VI Polytechnic University, Benguerir, Morocco, November 13, 2018.

- “Localized delivery of growth factors from a polyelectrolyte-calcium phosphate coating”
MERLN Institute for Technology-Inspired Regenerative Medicine, Maastricht University, Maastricht, Netherlands, June 8, 2017.
- “Reduction of chemotherapy side effects and targeted inhibition of lymph node metastasis”
French Technologies for Health (FR TECSAN), Bordeaux, France, June 22, 2017.
- “Modulating bone healing with growth factor combinations”, LABEX AMADEUS, University of Bordeaux, June 26, 2017.
- “Delivery strategies for increasing endogenous progenitor cells for bone defect ealing” 6th
Annual Musculoskeletal Repair and Regeneration Symposium, Albert Einstein College of Medicine, Bronx, New York, October 19, 2017.
- “Biomimetic calcium phosphate coatings for temporally controlled delivery of anti-inflammatory and osteoinductive molecules”, Centre Inter-universitaire de Recherche et d’Ingénierie des Matériaux - UMR CNRS 5085, CIRIMAT-ENSIACET, INP, University of Toulouse, France, November 10, 2017.
- “Pairing biomaterials with vintage bones – age matters”, TermStem, Guimaraes, Portugal, October 28, 2016.
- “Bone regeneration enabled by growth factors and biomaterial scaffolds-view from the Bench”,
World Biomaterials Congress, Montreal, Canada, May 21, 2016.
- “Practical use of ASTM standards for evaluating biomaterial medical devices”, Istituto Nazionale di Ricerca Metrologica (INRIM), Torino, Italy, August 10, 2016.
- “Multi-layer polyelectrolyte/calcium phosphate coatings on scaffolds for temporal control of multiple growth factor delivery”, Institut Straumann, Basel, Switzerland, August 11, 2016.
- “Cell instructive scaffolds for repair of elderly bone”, University of Bordeaux, Pey Berland Place, Bordeaux, France, October 26, 2016.
- “Practical use of ASTM standards for evaluating biomaterial medical devices” China-US Joint Forum on Innovation and Regulation of Biomaterials. 2015 Chinese Biomaterials Congress, Haikou, China, November 19, 2015.
- “In vivo bone regeneration with mesenchymal-like progenitors from human embryonic stem cells”, Department of Biomedicine, Institute for Surgical Research and Hospital management, University Hospital, Basel, Switzerland, June 13, 2013.
- “New biological tools for determining progenitor cell differentiation to functional osteoblasts”
French National Center for Scientific Research (CNRS) Toulouse, France, March 26, 2013.
- “New biological tools for determining progenitor cell differentiation to functional osteoblasts”
Universite de Bordeaux Segalen, Bordeaux, France, March 25, 2013.

II. INVITED LECTURES – NATIONAL

- “Biomaterials standards: using them, teaching them, and getting involved”, panel speaker at the Society For Biomaterials Annual Meeting, Baltimore, Maryland, April 28, 2022.
- “Bone Tissue Engineering”, Drexel University, guest lecturer in the Biomaterials and Tissue Engineering course taught by Assoc. Prof. Kara Spiller. May 3, 2021.
- “Guiding Bone Repair with Biomaterials”, University of Washington, guest lecturer in the biomaterials course taught by Professor Buddy Ratner. November 11, 2020.

- “Effects of Mechanical Forces on Cells”, University of Maryland Baltimore County, guest lecturer in the biomechanics course taught by Professor Tim Topoleski. April 27, 2020.
- “Osteogenesis”, Spinewave, Shelton, CT, January 11, 2019.
- “Discriminating Bone Formation within Calcium Phosphate-based Medical Implants”, University of Rochester, Rochester, NY, October 23, 2018.
- “ASTM Standardization Strategies to Advance the Biofabrication Industry”, Advanced Regenerative Medicine Institute (ARMI) BioFABUSA Fall Summit, Manchester, New Hampshire, September 19, 2018.
- “Turn to the left, and then turn to the right: Nanostructured drug delivery systems for guiding multiple steps of tissue regeneration”, 2016 Symposium on Biomaterials Science, New Jersey Center for Biomaterials, Iselin, New Jersey, October 24, 2016.
- “ASTM Standards Development Process for Biomaterials and Biologics”, Institutes for Materials Science Industrial Affiliates Program, UCONN Storrs, Connecticut, May 25, 2016.
- “Enabling sequential delivery of growth factors from layer-by-layer films with a nanoCaP barrier layer”, Penn State, Biomedical Engineering department, April 6, 2016.
- “FGF-2 and Tissue Engineering”, Gordon Conference, Ventura, California, March 29, 2018.
- “Nanolayered Temporal control of Growth Factor Delivery”, Academy of Dental Materials meeting: Emerging Materials and Declining Dogmas, Lahaina, Maui, Hawaii, October 10, 2015.
- “Standardizing *In Vitro* Osteoblast Differentiation Assays”, symposium speaker at TERMIS-Americas 2014 Annual Conference and Exposition, Washington, DC, Dec 15, 2014.
- “Standards Development Organizations: The ASTM”, FDA Workshop: Synergizing Efforts in Standards Development for Cellular Therapies for Regenerative Medicine, Silver Spring, MD, March 31, 2014.
- “Collagen Type I Reporter Mice: A Tool For Determining Progenitor Cell Differentiation To Functional Osteoblasts”, symposium speaker at TERMIS-Americas 2013 Annual Conference and Exposition, Atlanta, GA, November 12, 2013.
- “Identifying Osteoinductive Biomaterials with Progenitor Cells from Collagen/GFP Reporter Transgenic Mice”, Biomedical Engineering Department at Worcester Polytechnic Institute, Worcester, MA, Oct 16, 2013.
- “Recapitulation of developmental bone tissue generation by MSCs derived from human embryonic stem cells”, MSC 2013, National Center for Regenerative Medicine, Case Western Reserve University, Cleveland, OH, August 19, 2013.

III. CONFERENCE PRESENTATIONS – ORAL (bold indicates presenter)

Local delivery of ruxolitinib modulates aged macrophage phenotype transitions and promotes aged bone healing, **L Kuhn**, Y Liu, Yu-Chieh Chen, Kara Spiller, Beiyan Zhou. World Biomaterials Congress, Daegu, South Korea, May 27, 2024.

The Anti-SASP Ruxolitinib Modulates Aged Macrophage Phenotype Transitions and Promotes Aged Bone Healing, Y Liu, K Spiller, **L Kuhn**. Society For Biomaterials Annual Meeting, San Diego, CA, April 21, 2023.

Teaching Standardization of Bioprinting, **L Kuhn** and S Varma. Society For Biomaterials Annual Meeting, held virtually due to the COVID-19 pandemic, April 21, 2021.

Experimental Models For The Clinical Translation Of Bone Biomaterials: From Small To Large Animals, **L Kuhn** and S Catros. Biomaterials for Medical Devices and Regenerative Medicine Summer School, Bordeaux, France, June 27, 2018.

Tuning Strategies For Sequential Delivery Of Multiple Active Biological Factors, **L Kuhn**, E. Jacobs, M Hurley, G Gronowicz. Society For Biomaterials Annual Meeting, Minneapolis, MN, April 5, 2017.

Enabling Sequential Delivery Of Growth Factors With Biomimetic Barrier Cap Within Layer-By-Layer Film Coatings, **L Kuhn**, E Jacobs, M Hurley, G Gronowicz. Chinese Society for Biomaterials Annual Meeting, Haikou, Hainan, China, November 21, 2015.

IV. CONFERENCE PRESENTATIONS – POSTER

A Method for Creating a Passageable, Induced-Senescent Osteoprogenitor Cell Line, TR Wallace, S. Adak, S. Ridwan, AJ McFarland, Y. Liu, and LT Kuhn, Seventh Annual Northeastern Glenn Symposium on the Biology of Aging, Farmington, CT, October 27, 2023.

Prevention of Bony Bar Formation in Injured Murine Growth Plate Using a Cytokine Loaded Nano-Matrix, H. Sun, S. Ridwan, A Yao, M Landolina, Y. Chen, L Kuhn, 12th annual Musculoskeletal Repair and Regeneration Symposium, New York, New York, October 25, 2023.

A Refined Murine Growth Plate Injury Model Using Tri-lineage Collagen Reporter Technology. S. Root, N. Patel, S Feltz, O Ferrigno, C Lottinger, L Kuhn. 2023 Annual Meeting of the American Society of Bone and Mineral Research, Vancouver, British Columbia, October 15, 2023.

Delayed Delivery of Simvastatin Increases In Vitro Osteogenesis and Modulates Inflammatory Macrophages, J. Alhamdi, T Peng, K Lee, M Hurley, I Al-Naggar, C Rodner, K Spiller, L Kuhn, Society For Biomaterials Annual Meeting, April 10, 2018.

Tuning Sequential Delivery of Multiple Biological Factors from a Drug Delivery System, J Alhamdi, M Hurley, G Gronowicz, L Kuhn, Biomedical Engineering Society (BMES) Annual Meeting, Phoenix, AZ, October 13, 2017.

Cell Mediated Sequential Delivery of Multiple Biological Factors. J Alhamdi, M Hurley, G Gronowicz, L Kuhn, Northeast Regional Discussion Group. Farmington, CT, April 20, 2017.

Cell Type Influences Local Delivery of Biomolecules from a Drug Delivery System. J Alhamdi, E Jacobs, M Hurley, G Gronowicz, L Kuhn. 43rd annual Northeast Bioengineering Conference, New Jersey Institute of Technology, Newark, NJ, March 31, 2017. Outstanding research poster award to J. Alhamdi.

Cell Type Influences Local Delivery of Biomolecules from a Drug Delivery System. J Alhamdi, E Jacobs, M Hurley, G Gronowicz, L Kuhn. Third annual UConn School of Engineering Poster Competition, University of Connecticut, Storrs, March 3, 2017.

Cell Type Influences Local Delivery of Biomolecules from a Drug Delivery System. J Alhamdi, E Jacobs, M Hurley, G Gronowicz, L Kuhn. 2017 Mid-Atlantic Biomaterials Day, City College of New York, New York, February 24, 2017. Best poster award to J. Alhamdi.

Sequential delivery of bioactive factors from nanostructured coatings. T Peng, E Jacobs, M Hurley, G Gronowicz, L Kuhn. 2016 Symposium on Biomaterials Science, New Jersey Center for Biomaterials, Iselin, New Jersey, October 24, 2016.

Calcium Phosphate/Polyelectrolyte Multilayer Coatings for Sequential Delivery of Multiple Growth Factors. E. Jacobs, M. Hurley, G. Gronowicz, L.T. Kuhn World Biomaterials Congress, Montreal, Canada, May 21, 2016.

3-D PEM Coatings to Deliver FGF-2 and Promote *In vitro* and *In vivo* Osteoprogenitor Cell Proliferation. E. Jacobs, L. Zhu, J. Woodman, L. Charles, M. Hurley, G. Gronowicz, L.T. Kuhn, Annual Meeting of the Society For Biomaterials, Denver, CO, April 2014.

Novel Stabilization of Calcium Phosphate Nanoparticles for Drug Delivery. J Woodman, G Prestwich, D Burgess, and L Kuhn, Annual Meeting of the Society For Biomaterials, Denver, CO, April 2014.

Sodium Citrate Stabilized Calcium Phosphate Nanoparticles for the Sustained Delivery of Cisplatin E. Jacobs, J. Woodman, L. Kuhn. Annual Meeting of the Society For Biomaterials, Boston, MA, April 2013.

V. RADIO INTERVIEWS AND TV APPEARANCES

[News 12 CT: November 15, 2022](https://www.youtube.com/watch?v=HxD2LMqFM0Y)-UConn professor develops comfortable breast prosthetics with 3D printer <https://www.youtube.com/watch?v=HxD2LMqFM0Y>

[Hartford Courant: October 25, 2022](https://www.courant.com/2022/10/25/3d-printed-breast-prosthetics-a-ct-professor-is-replacing-heavy-existing-options-with-light-custom-alternatives/)-3D-printed breast prosthetics?
<https://www.courant.com/2022/10/25/3d-printed-breast-prosthetics-a-ct-professor-is-replacing-heavy-existing-options-with-light-custom-alternatives/>

[WFSB: October 17, 2022](https://www.wfsb.com/video/2022/10/17/breast-cancer-awareness-month/)- Great Day Connecticut, Eyewitness News 3, Breast Cancer Awareness Month. <https://www.wfsb.com/video/2022/10/17/breast-cancer-awareness-month/>

[UConn Today: October 13, 2022](https://www.youtube.com/watch?v=JAVlptT-kcU) –aired on NBC Connecticut WVIT, 3D Printing Technology Benefits Breast Cancer Survivors. <https://www.youtube.com/watch?v=JAVlptT-kcU>

PATENT APPLICATIONS

- 2024 Title: Nasogastric Device and Method. Inventors: Christine Finck, Liisa Kuhn, Kelly A. Burke, Todd Jensen. The patent has been published as US 2024-0009085 A1 with application number 18/474,544 on January 11, 2024.
- 2023 Title: Nasogastric Device and Method. Inventors: Christine Finck, Liisa Kuhn, Kelly A. Burke, Todd Jensen. US Patent 11,801,204 issued on October 31, 2023.
- 2023 US Provisional Patent Application No. 63/465,549 (attorney docket number 2023-054-P1) filed May 5, 2023 by the University of Connecticut Health Center. Title: Nasogastric Device and Uses Thereof. Inventors: Christine Finck and Liisa Kuhn.
- 2022 Title: Extrusion-based Three-dimensional Printed Soft Tissue Mimics and the Method Thereof. Inventor: L Kuhn. US Non-Provisional Patent Application No. 17/729,172 (21-055 (UCT0288US)) filed April 26, 2021. Application published Oct 27, 2022. Publication No. US 2022/0343800 A1.
- 2021 Title: Extrusion-based Three-dimensional Printed Soft Tissue Mimics and the Method Thereof. Inventor: L Kuhn. US Provisional Patent Application No. 63/179,884 filed by the University of Connecticut Health Center on April 26, 2021.
- 2018-2020 Title: Nasogastric Device and Method. Inventors: Christine Finck, Liisa Kuhn, Kelly A. Burke, Todd Jensen. The US Patent Application No. 16/979,275 filed on 9/9/2020 by the University of Connecticut Health Center now Pat. No. 11,801,204 filed as PCT application PCT/US2019/021589 on March 11, 2019. The U.S. Provisional Application Serial No. 62/640,796 was filed March 9, 2018 by the University of Connecticut Health Center. Title: Nasogastric Device and Method. Inventors: Christine Finck, Liisa Kuhn, Kelly A. Burke, Todd Jensen. UConn matter number 17-052.
- 2008 US Patent Application 12/059,398 filed March 2008 by the University of Connecticut Health Center. Title: Targeted Active Agent Delivery System Based On Calcium Phosphate Nanoparticles. Inventors: **L Kuhn**, X Cheng.

COMMERCIALIZATION ACTIVITIES

- 2023 Selected as a participant in the Accelerator for Biosciences in Connecticut program - an initiative of CTNext. A 6 month program for business skill development to accelerate venture creation and crafting of a strategic plan for Esophadex, Inc., the company co-founded by Dr. C Finck, MD Chief of Pediatric Surgery at the Connecticut Children's Medical Center and Professor L Kuhn, PhD at UConn Health.
- 2022-present Co-Founder/Co-Owner of Esophadex, Inc., Farmington, CT with Dr. Christine Finck, MD.

1998 - 2000 Co-owner/co-founder of NaturApatites Co., Inc., Boston, MA with Dr. Melvin Glimcher, MD. NaturApatites was acquired by ETEX Corporation in 2000.

PUBLICATIONS (published under last name of Kuhn, Kuhn-Spearing and Spearing)

I. PUBLISHED ABSTRACTS AND CONFERENCE PROCEEDINGS

19. A Refined Method of Growth Plate Injury Model Using Tri-lineage Collagen Reporter Technology. S. Root, N. Patel, S Feltz, O Ferrigno, C Lottinger, L Kuhn. Journal of Bone and Mineral Research, Volume 38, Issue S2, 1 November 2023, Pages 1545–2024, <https://doi.org/10.1002/jbmr.4932>
18. E Jacobs, M Hurley, G Gronowicz and Kuhn LT. Calcium phosphate/polyelectrolyte multilayer coatings for sequential delivery of multiple growth factors. Front. Bioeng. Biotechnol. Conference Abstract: 10th World Biomaterials Congress, 2016. doi: 10.3389/conf.FBIOE.2016.01.02222
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14. L Charles, J Woodman, AJ Goldberg, G Gronowicz and **LT Kuhn**. Non-Physiological Mineral Deposition *in Vitro* by hESC-Derived and Primary Human Osteoblasts Under Standard Osteogenic Conditions, Proceedings of the IEEE 36th Northeast Bioengineering Conference, Mar 26-28, 2010.
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12. **L Kuhn**, B Wen, P Piteo. Reduction of chemotherapy side effects and targeted inhibition of lymph node metastasis with a calcium phosphate nanoparticle delivery vehicle, 31st Annual San Antonio Breast Cancer Symposium, San Antonio, TX, Dec 10-14, 2008. Published as a supplement in Cancer Research 69:2, 2009.
11. **L Kuhn**, B Wen, M Obrecht, M Stauber, K Jorgenson, D Shafer, and M Freilich. Quantitative Evaluation of Supracrestal Bone Growth Around Dental Implants. M. Dard, IADR meeting Toronto, Canada. J Dent Res 87 (Spec Iss B): Abstract 108779, 2008.
10. P Piteo, B Wen, **L Kuhn**. Evaluation of Lymphatic Metastasis Using Calcium Phosphate/Cisplatin Nanoconjugates, Proceedings of the IEEE 36th Northeast Bioengineering Conference, Providence, RI. 2008. <http://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=04967692>
9. AD Rosenberg, **LT Kuhn**, L Gilles de Pelichy, J Jolette. Osteoinductive Composites Of Calcium Phosphate Cement And Demineralized Bone Matrix, Poster presentation,

Transactions of the 53rd Annual Meeting of the Orthopaedic Research Society, San Diego, CA, Vol.32, poster 1429, 2007.

8. F Santiago, S Campbell, R Dowsett, and **L Kuhn**. Chemoradiotherapy of ME-180 Tumors with an Intratumoral Cisplatin/Calcium Phosphate Drug Delivery System, Proceedings of the IEEE 32nd Northeast Bioengineering Conference, pp189-190, 2006.
7. MA Freilich, M Wei, S Iddir, **LT Kuhn**, and DM Shafer. "Improvement of Alveolar Bone Height Using Novel Graft Placement", Proceedings of Bioceramics 17 Conference, Key Eng. Mater. 284-286, and 889-892, 2005.
6. D Lee, A Tofighi, **L Kuhn**, C Rey. Calcium Phosphate: Carrier for Therapeutic Agents, in Proceedings of CIMTEC 2002, 3rd Forum on New Materials- Part VI, 6th Int. Conference, "Materials in Clinical Applications", Ed. P. Vincenzini, R. Barbucci, Techna Srl, Faenza, Italy, pp. 123-130, 2003.
5. **L Kuhn-Spearing**, C Rey, H-M Kim and MJ Glimcher, Carbonated Apatite Nanocrystals From Bone in Synthesis and Processing of Nanocrystalline Powder, Ed. D Bourell (The Mineral, Metals and Materials Society, Pennsylvania), p. 57-68, 1996.
4. **L Kuhn Spearing**, S Sarig, DJ Fink and AH Heuer, The Effect of Organic Macromolecules on the Vaterite to Calcite Transformation, in S: Biomolecular Materials by Design, Eds. H. Bayley, D. Kaplan, and M. Navia, (Mat. Res. Soc. Proc., Pittsburgh, PA) Vol.330, pp. 127-132, 1994.
3. DJ Fink, **LT Kuhn**, AI Caplan and AH Heuer, Eggshell Assembly - A Model for Biomimetic Ceramic Production in Quality of Poultry Products, Proceedings of 5th European Symposium on the Quality of Eggs and Egg Products, Tours, France, pp. A1-A6, 1993.
2. **LT Kuhn**, J Xu and RM McMeeking, Constitutive Models for the Deformation of Powder Compacts in Computational and Numerical Techniques in Powder Metallurgy, Symposium Proceedings from the ASM-TMS Materials Week in Chicago, Eds. D. Maden, I. Anderson, W. Fraser, P. Kumar and M. McKimpson, 1992.
1. **LT Kuhn**, RM McMeeking and FF Lange, Modelling Powder Consolidation, in Powders and Grains, Proceedings of the International Conference on Micromechanics of Granular Media (ed. J Biarez and P Gourves), Clermont-Ferrand, France, AA Balkema, pp. 331-338, 1989.

II. BOOK CHAPTERS

10. **LT Kuhn** and Min Tang-Schomer, "Biomaterials", Chapter in Introduction to Biomedical Engineering, 4th edition, Eds. JD Enderle, S Blanchard, and JD Bronzino, Elsevier, under editorial review 2023.
9. C Simon and **LT Kuhn**, "Role of Standards for Testing and Performance Requirements of Biomaterials", Chapter 3.1.8 in Biomaterials Science, An Introduction to Materials in Medicine, 4th edition Eds. W. Wagner, S. Sakiyama-Elbert, and G. Zhang. Academic Press, 2020. ISBN: 9780128161371
8. B Wen, M Freilich, **L Kuhn***, "Dental implant guided bone tissue engineering", Chapter 65 in Stem Cell Biology and Tissue Engineering in Dental Sciences, Eds. A Vishwakarma, P Sharpe, S Shi, M Ramalingam, Academic Press/Elsevier, 2015. ISBN: 9780123971579.

7. **LT Kuhn***, E Jacobs, and AJ Goldberg, “Evaluation of Bio-Inspired Materials for Mineralized Tissue Regeneration Using Type I Collagen Reporter Cells”, Chapter 14 in Bio-Inspired Materials for Biomedical Engineering, Eds. CM Kirschner and AB Brennan, Wiley, Inc., 2014. ISBN: 978111836936-4.
6. **LT Kuhn** and J Goldberg, “Biomaterials” Chapter 5, in Regenerative Engineering, Eds. Y Khan and C. Laurencin, CRC Press/Taylor & Francis Group, 2013. ISBN: 9781439814123.
5. **LT Kuhn**, “Biomaterials”, Chapter 5 in Introduction to Biomedical Engineering, third edition, Eds. JD Enderle, S Blanchard, and JD Bronzino, Elsevier, 2012. ISBN-10: 0123749794.
4. **LT Kuhn**, “Biomaterials”, Chapter 6 in Introduction to Biomedical Engineering, Eds. JD Enderle, S Blanchard, and JD Bronzino, Elsevier, 2005.
3. **LT Kuhn**, “Bone Mineralization”, Chapter 8 in Encyclopedia of Materials: Science and Technology, Eds. KHJ Buschow, RW Cahn, MC Flemings, B Ilschner, EJ Kramer, S. Mahajan, Elsevier Science Ltd., pp. 787-794, 2001.
2. **L Kuhn-Spearing** and AH Heuer, “Biomimetic Processing of Ceramics” in Encyclopedia of Applied Physics, Ed. GL Trigg, VCH Publishers, New York, pp. 27-45, 1999.
1. **LT Kuhn**, DJ Fink and AH Heuer, “Biomimetic Strategies and Materials Processing” in Biomimetic Approaches in Materials Science, Ed. S. Mann, VCH Publishers, New York, p. 41-68, 1995.

III. PEER REVIEWED PUBLICATIONS, Not including conference papers, books or abstracts. (Citations = 7161 on 11/09/2023) * = communicating author

Complete List of Published Work:

<https://www.ncbi.nlm.nih.gov/myncbi/collections/mybibliography/>

59. H Sun, N Patel, C Lottinger, S Ridwan, L Chen, D Rowe, **L Kuhn***. Tri-Color Transgenic Murine Model for Studying Growth Plate Injury, Journal of Visualized Experiments (JOVE), Accepted and in press August 2024.
58. M Guérin, A Lebrun, **L Kuhn**, T Azaïs, G Laurent, O Marsan, C Drouet, G Subra. One-Pot Synthesis of Bioinspired Peptide-Decorated Apatite Nanoparticles for Nanomedicine, Small, 2023 Oct 11:2306358.
57. L Zhou, W Zhang, J Lee, **L Kuhn**, Y Chen. Controlled Self-Assembly of DNA-Mimicking Nanotubes to Form a Layer-by-Layer Scaffold for Homeostatic Tissue Constructs. ACS Applied Materials & Interfaces. 2021 Nov 3; 13 (43): 51321-51332. doi:10.1021/acsami.1c13345. Epub 2021 Oct 19.
56. **L Kuhn***, T Peng, G Gronowicz and MM Hurley. Endogenous FGF-2 levels impact FGF-2/BMP-2 growth factor delivery dosing in aged murine calvarial bone defects. J. Biomed. Matls Res. A. 2021 Dec;109(12);2545-2555. doi: 10.1002/jbm.a.37249. Epub 2021 June 26.

55. H Uludag, A Pandit and **L Kuhn**. Editorial: Enabling Biomaterials for New Biomedical Technologies and Clinical Therapies. *Front. Bioeng. Biotechnol.* 2020 Jun;8:559. doi: 10.3389/fbioe.2020.00559
54. L Zhou, A Yau, H Yu, **L Kuhn**, W Guo, Y Chen. Self-assembled biomimetic nano-matrix for stem cell anchorage. *J Biomed Mater Res A.* 2020 Apr;108(4):984-991. doi: 10.1002/jbm.a.36875. Epub 2020 Jan 10.
53. JR Alhamdi, T Peng, IM Al-Naggar, KL Hawley, KL Spiller, **LT Kuhn***. Controlled M1-to-M2 transition of aged macrophages by calcium phosphate coatings. *Biomaterials.* 2019 Mar; 196:90-99. doi: 10.1016/j.biomaterials.2018.07.012. Epub 2018 Jul 17.
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51. G Gronowicz, T Peng, E Jacobs, L Zhu, M Hurley, **LT Kuhn***. Calvarial bone regeneration is enhanced by sequential delivery of FGF-2 and BMP-2 from layer-by-layer coatings with a biomimetic calcium phosphate barrier layer. *Tissue Eng Part A.* 2017 Dec;23(23-24):1490-1501. doi: 10.1089/ten.TEA.2017.0111.
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49. M Haeri, K Sagomonyants, M Mina, **LT Kuhn**, A Jon Goldberg. Enhanced differentiation of dental pulp cells cultured on microtubular polymer scaffolds in vitro. *Regen Eng Transl Med.* 2017 June; 3(2):94-105. doi:10.1007/s40883-017-0033-z
48. E Jacobs, G Gronowicz, M Hurley, **LT Kuhn***. Biomimetic calcium phosphate /polyelectrolyte multilayer coatings for sequential delivery of multiple biological factors. *J Biomed Mater Res A.* 2017 May;105(5):1500-1509. doi: 10.1002/jbm.a.35985.
47. MS Suh, J Shen, **LT Kuhn**, DJ Burgess. Layer-by-layer nanoparticle platform for cancer active targeting. *Int J Pharm.* 2017 Jan 30;517(1-2):58-66. doi: 10.1016/j.ijpharm.2016.12.006.
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45. I Denry and **LT Kuhn**. Design and characterization of calcium phosphate ceramic scaffolds for bone tissue engineering. *Dental Materials,* 2016 32: 43–53.
44. MM Hurley, G Gronowicz, L Zhu, **LT Kuhn**, L Xiao. Age-related changes in fibroblast growth factor-2, fibroblast growth factor receptors and beta-catenin expression in human osteoblasts. *J Cell Biochem.* 2016 Mar;117(3):721-9. doi: 10.1002/jcb.25357.
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- dental implants in the rabbit mandible. *Clin Oral Implants Res.* 2016;27(6):676-85. doi: 10.1111/clr.12645.
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 35. Y Liu, AJ Goldberg, HL Aguila, **LT Kuhn**. Lectin Concanavalin A coatings for rapid attachment of human embryonic stem cells. *Open Journal of Biomedical Engineering*, 2014, 1(1):6-14. DOI: 10.12966/ojbm.01.02.2014.
 34. **L Kuhn***, Y Liu, N Boyd, J Dennis, X Jiang, X Xin, L Charles, L Wang, H Aguila, D Rowe, A Lichtler, AJ Goldberg. Developmental-like bone regeneration using human embryonic stem cell-derived mesenchymal cells. *Tissue Engineering A.* 2014 Jan;20 (1-2):365-77. doi:10.1089/ten.TEA.2013.0321.
 33. A Ferrand, S Eap L Richert, S Lemoine, D Kalaskar, S Demoustier-Champagne, H Atmani, Y Mély, F Fioretti, G Schlatter, **L Kuhn**, G Ladam, and N Benkirane-Jessel. Osteogenetic properties of electrospun nanofibrous PCL scaffolds equipped with chitosan-based nanoreservoirs of growth factors. *Macromolecular Bioscience*, 2014 Jan; 14(1); 45-55. DOI: 10.1002/mabi.201300283.

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31. **L Kuhn***, G Ou, L Charles, M Hurley, C Rodner and G Gronowicz, Fibroblast growth factor-2 and bone morphogenetic protein-2 have a synergistic stimulatory effect on bone formation in cell cultures from aging mouse and human bone, *Journal of Gerontology A Biol Sci Med Sci*. Oct;68(10):1170-80 (2013). doi: 10.1093/gerona/glt018.
30. S Catros, B Wen, P Schleier, D Shafer, M Dard, M Obrecht, M Freilich, **L Kuhn***, Use of a perforated scaffold retaining abutment to achieve vertical bone regeneration around dental implants in the minipig. *Int J Oral Maxillofac Implants*, Mar-Apr;28(2):432-43 (2013). doi: 10.11607/jomi.2782.
29. Y Liu, LF Charles, TI Zarembinski, KI Johnson, SK Atzet, RL Wesselschmidt, ME Wight, **LT Kuhn***. Modified hyaluronan hydrogels support the maintenance of mouse embryonic stem cells and human induced pluripotent stem cells. *Macromol Biosci*, Aug;12(8):1034-42 (2012). doi: 10.1002/mabi.201200043.
28. M Freilich, B Wen, D Shafer, P Schleier, M Dard, D Pendrys, D Ortiz, **L Kuhn**. Implant guided vertical bone growth in the mini-pig, *Clinical Oral Implants Research*, 2012 Jun;23(6):751-7. doi: 10.1111/j.1600-0501.2011.02199.x.
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26. NC Biswal, C Pavlik, MB Smith, A Aquirre, **LT Kuhn**, KP Claffey, and Q Zhu. Imaging tumor hypoxia markers by near infrared fluorescence tomography, *Journal of Biomedical Optics*, 16(6) 066009 (2011). doi: 10.1117/1.3589348
25. M Karl, MA Freilich, B Wen, M Wei, D Shafer, **LT Kuhn**. A comparison of roughened and alkaline treated titanium implants used to guide a new layer of bone growth on the rabbit mandible, *Zeitschrift fur Zahnarztliche Implantologie (Journal of Dental Implantology)*, 27 (2) (2011). doi: 10.3238/ZZI.2011.0145
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23. C Pavlik, N Biswal, FC Gaenzler, MD Morton, **LT Kuhn**, KP Claffey, Q Zhu, M Smith. Synthesis and Fluorescent Characteristics of Imidazole-Indocyanine Green Conjugates, *Dyes and Pigments*, 89; 9-15 (2011). doi: 10.1016/j.dyepig.2010.08.008.
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20. CJ Wang, I-P Chen, B Koczon-Jaremko, AL Boskey, Y Ueki, **LT Kuhn**, EJ Reichenberger. Pro416Arg cherubism mutation in Sh3bp2 knock-in mice affects osteoblasts and alters bone mineral and matrix properties. *Bone*, 46:1306-1315 (2010).
19. AJ Goldberg, MC Advincula, Y Liu, G Gronowicz, P Habibovic, and **LT Kuhn***. Fabrication and characterization of hydroxyapatite-coated polystyrene disks for use in osteoprogenitor cell culture. *Journal of Biomaterials Science – Polymer Edition*, 21(10):1371-1387, (2010).
18. M Freilich, D Shafer, M Wei, R Kompalli, D Adams, **L Kuhn**. Implant system for guiding a new layer of bone: Computed microtomography and histomorphometric analysis in the rabbit mandible, *Clinical Oral Implants Research*, 20(2):201-207 (2009). PMID: 19191797
17. **LT Kuhn***, MD Grynepas, C Rey Y Wu, JL Ackerman, MJ Glimcher. A Comparison of the Physical and Chemical Differences Between Cancellous and Cortical Bovine Bone Mineral at Two Ages. *Calcified Tissue International*, 83:146-54 (2008).
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10. C-K Loong, C Rey, **LT Kuhn**, C Combes, Y Wu, S-H Chen and MJ Glimcher. Evidence of Hydroxyl-Ion Deficiency in Bone Apatites: An Inelastic Neutron Scattering Study, *Bone*, 26(6): 599-602 (2000).

9. **LT Kuhn**, Y Wu, C Rey, L Gerstenfeld, M Grynepas, J Ackerman, H-M Kim, and MJ Glimcher. Structure, Composition and Maturation of Newly Deposited Calcium-Phosphate Crystals in Chicken Osteoblast Cell Cultures, *Journal of Bone and Mineral Research*, 15(7):1301-1309 (2000).
8. J-Y Rho, **L Kuhn-Spearing** and P Zioupos, Mechanical properties and the hierarchical structure of bone, *Medical Engineering and Physics*, 20: 92-102 (1998).
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4. NA Fleck, **LT Kuhn** and RM McMeeking. Yielding of Metal Powder Bonded by Isolated Contacts, *Journal of Mechanics and Physics of Solids*, 40 [5]:1139-1162 (1992).
3. **LT Kuhn** and RM McMeeking. Power Law Creep of Metal Powder Bonded By Isolated Contacts, *International Journal of Mechanical Sciences*, 34: 563-573 (1991).
2. RM McMeeking and **LT Kuhn**. A Diffusional Creep Law for Powder Compacts, *Acta Metallurgica et Materialia*, 40 [5]: 961-969 (1991).
1. **LT Kuhn**, RM McMeeking and FF Lange. A Model for Powder Consolidation, *Journal of the American Ceramic Society*, 74 [3]: 682-685 (1991).

TEACHING ACTIVITIES

Course topic areas: biomaterials, tissue engineering, stem cells, bioprinting, critical thinking, entrepreneurship

I. UCONN SCHOOL OF DENTAL MEDICINE

- | | |
|-----------------------|---|
| 2022-present | Course Director. D9375 Dental Materials. Taught annually. Required core course for all third-year dental students (~ 50 students). |
| 2021, 2022 | Lecturer. DENT 9165 Restorative Dentistry. Title: Principles of Dental Materials: Dental Amalgam, Resin Composite & Glass Ionomers. |
| 2021 | Course Director. D9375 Dental Materials. |
| 2019, 2020 | Co-course Director with Prof. J Robert Kelly. D9375 Dental Materials. Required core course for all third year dental students offered annually. |
| 2009-2012, 2014, 2015 | Faculty facilitator. D400-720 Critical Thinking in Dentistry. |
| 2009 | Lecturer. DENT 5440. Integrating Bioscience with Clinical Dentistry. |
| 2005 - 2008 | Faculty judge of Business Plans by dental residents in Biodontics summer course. |

- 2005, 2007 Lecturer. DENT 440. Biodontics.
2004 Lecturer. DENT 433. Connective Tissue Biology.
2003 Lecturer. DENT 440, Integrating Biotechnology with Clinical Dentistry.

II. UCONN Health (Biomedical Sciences) and UCONN –Storrs (Biomedical Engineering)

- 2023-2024 BME Senior Design Mentor. BME 4910W. Topic: Standardized vs Customized 3D Printed Breast Prosthetics. Team won 2nd place at Senior Design Day.
2022-2023 BME Senior Design Mentor. BME 4910W. Topic: Improved fit of customized 3D printed breast prosthetics.
2021-2022 BME Senior Design Mentor. BME 4910W. Topic: Customized Gel Extrusion Breast Prosthetics. Team won 1st place at Senior Design Day.
2020-2021 BME Senior Design Mentor. BME-4910W. Topic: Bioprinting of Soft Tissue Mimics.
2021 Lecturer. MEDS 6445: Skeletal Biology. Topic: Stimulating Bone Regeneration.
2020 Co-course Director with Prof. Sanya Varma from Rutgers University. Standardization of Bioprinting. BME 4985-008. Remote learning with students from both UCONN and Rutgers.
2018 Course Director. 3-D Printing and Bioreactors. UCONN-Storrs: undergraduate class BME 4985-008.
2014, 2015 Course Director. Controlling Stem Cells with Biomaterials. Biomedical Engineering course. Combined graduate and undergraduate. UCONN-Storrs: BME 4985-003/BME 6086-004.
2009, 2011,
2013, 2014,
2016, 2017 Lecturer. Critical Topics in Skeletal, Craniofacial and Oral Biology. Two-part UCONN Biomedical Sciences graduate course: MEDS 5415, 6445.
2009-2011,
2013, 2014, 2017 Lecturer. Stem Cells and Regenerative Biology. MEDS 5418.
2004 & 2005,
2007 – 2012 Course Director, Biomaterials For Tissue Engineering. BME 4710/5700, cross-listed as MEDS5313, combined undergraduate and undergraduate course.

RESEARCH FUNDING

I. Current Research Support

02/01/21 – 1/31/26 L Kuhn (PI)
National Institutes of Health, NIDCR, 2 R01 DE021103-06A1
Title: Modulated release of anti-senescence drugs to stimulate aged bone repair
Direct Costs: \$1,736,746, Total Costs: \$2,569,267
The goal of this research is to demonstrate that bone healing in the elderly can be rejuvenated by local delivery of molecules that eliminate or dampen senescence cell proinflammatory cytokines.

11/15/23 – 11/14/25 L Kuhn (PI)
Beekley Family Foundation

Title: Biosymmetrix Project

Direct Costs: \$237,000

This gift continues to support Dr. Kuhn's Biosymmetrix project which produces soft tissue mimics by 3D bioprinting to restore symmetry and self-confidence to patients with disfiguring soft tissue surgery.

01/19/21 – 11/30/23 L Kuhn (PI)

Beekley Family Foundation

Title: Biosymmetrix Project

Direct Costs: \$237,000

This gift supports Dr. Kuhn's Biosymmetrix project which produces soft tissue mimics by 3D bioprinting to restore symmetry and self-confidence to patients with disfiguring soft tissue surgery.

04/01/22-03/31/24 with no cost extension to 05/31/2025 Yupeng Chen (PI) and L Kuhn (co-investigator)

National Institutes of Health, NIAMS, 1R21AR079153 - 01A1

Title: Layer-by-Layer Nano Matrix for Growth Plate Regeneration

Total costs (including indirects): \$446,349

Our central hypothesis is that a layer-by-layer nano-matrix (LbL-NM) will accomplish spatially and temporally controlled SDF1 and TGF- β delivery for murine growth plate regeneration. Dr. Kuhn's lab is responsible for the in vivo testing component of the grant and will use her novel transgenic mouse model for the research.

II. Pending Research Support

None at this time.

III. Completed Research Support

08/01/20 – 05/31/22 Multi PI L Kuhn and Y Chen (UCONN Storrs)

Research Excellence Program, Office of the Vice President of Research, University of Connecticut

Title: Layer-by-Layer Janus Base Nano-Matrix for Growth Plate Regeneration

Total Direct Costs: \$75,000

This funding supported pilot studies in young mice to evaluate effectiveness of an injectable therapeutic that would prevent premature growth plate fusion after fracture.

09/15/20 – 12/31/21 L Kuhn (PI)

Connecticut Breast Health Initiative grant

Title: Personalized 3D Printed Breast Forms

Total Direct Costs: \$50,000

This funding supported the production of 3D printed breast forms for breast cancer survivors that underwent mastectomy without reconstruction.

05/01/19 – 11/30/21 L Kuhn (PI)

START Award, Office of the Vice President of Research, University of Connecticut

Title: Esophageal Regeneration Device

Total Direct Costs: \$10,000

This funding supported prototype development and testing of a novel 4 in 1 medical device of our own invention in rabbit models of esophageal injury.

02/15/2018 – 04/06/2018 C Finck, T. Jensen, L Kuhn (co-PIs)

Accelerate UCONN program, Connecticut Center for Entrepreneurship and Innovation, School of Business, University of Connecticut.

Title: Multi-tubular Esophageal Device

Total Direct Costs: \$3,000

This funding supported a commercialization analysis and funding for prototype development.

06/01/17 – 09/15/20 L Kuhn (PI)

UCONN HEALTH CENTER RESEARCH ADVISORY COUNCIL (HCRAC) E-grant, University of Connecticut

Title: Modulating senescence associated inflammation in aging bone

Total Direct Costs: \$120,000

This project studied modulation of macrophage phenotypes and effects of ablating senescent cells to enhance bone healing in old mice.

06/01/17 – 09/30/2018 PI: L Kuhn, Co-investigator: P Maye 0.6 calendar months
Research Excellence Program, Office of the Vice President of Research, University of Connecticut

Title: Engineering embryonic-like bone matrix for bone regeneration

Direct costs: \$50,000

Investigation of the osteogenicity of matrix produced by human embryonic stem cells when cultured under sclerotome differentiation conditions.

07/01/2016 – 10/31/2017

CICATS Pilot Study, PI: LT Kuhn, Co-investigator: Christine Finck
Internal funding, University of Connecticut Health Center.

Title: Inhibition of aberrant vascularity in a murine model of juvenile growth plate injury

Direct costs: \$15,000.

Developed a new mouse model for creating and imaging juvenile growth plate injuries in mice. Tested therapies for prevention of growth plate disruption after injury via local delivery of vascularity inhibitors in a juvenile mouse growth plate injury model.

06/01/2012-11/31/2017

1 R01 DE021103-01, PI: LT Kuhn 3 calendar months

NIH, National Institute of Dental and Craniofacial Research

Title: Modulated release of growth factors for stimulating progenitors in aging bone

Direct Costs: \$1,250,000.

This proposal studied the effects of timed release of multiple growth factors from composite ceramic -polyelectrolyte multi-layer (PEM) coated scaffolds on bone repair in young and old mice.

11/01/2013 – 01/31/2015 PI: LT Kuhn 0.60 calendar months

UCONN - Storrs/Connecticut Department of Public Health

Title: Targeting Probes for Breast Tumor Hypoxia Imaging

Total Direct Costs: \$39,009

This research investigated the preclinical safety of a novel hypoxia dye to identify chemotherapy resistant regions of tumors.

06/01/2012 – 05/31/2014 Co-PIs: D Burgess, LT Kuhn, B. Huey 0.6 calendar months
Internal UCONN Incentive Grant (UCIG) program.
Title: Overcoming nano-molecular interactions to achieve anti-cancer efficacy from nanoparticle delivery systems.
Direct Costs: \$100,000
Role: Co-PI
The project developed targeted nanoparticles for better efficacy against cancer stem cells.

09/1/2010 – 10/31/2012 PI: Quing Zhu, Subcontract PI: L Kuhn 0.6 calendar months
Connecticut Department of Public Health
Title: Mapping Breast Tumor Hypoxia using a Novel Dye-Imidazole Hypoxia Probe: Preclinical Investigation
Subcontract Direct Costs: \$89,044.
Role: PI of subcontract to UCHC
This research aimed at proving the imaging capability and initial safety of a novel hypoxia dye to identify chemotherapy resistant regions of tumors.

09/1/2011 – 08/31/2012 PI: Gronowicz 0.6 calendar months
Trivedi Foundation
Title: The Effect of the Human Biofield on Breast Tumor Development and Metastasis in Mice
Total Direct Cost: \$102,406
Role: Co-investigator
This proposal studied the effect of the human biofield on breast cancer and immune function in a mouse model of breast cancer.

09/01/2010 – 08/31/2012 PI: LT Kuhn 1.2 calendar months
Wallace H. Coulter Foundation #WCF0112TN
Title: Nano-calcium phosphate/cisplatin for improving the outcome of head and neck cancer patients while maintaining quality of life
Total Direct Cost: \$150,000
Scale up and preclinical testing of nanoparticulate calcium phosphate as a local delivery of chemotherapy in head and neck cancer in mouse xenograft model.

03/18/2011 – 07/01/2012 PI: D Rowe 1.2 calendar months
DOD USAMRAA W81XWH-11-1-0262
Title: Developing Animal Models for Optimizing the Musculoskeletal Repair Potential of Emerging Human Progenitor Cell Therapies
Total Costs: \$2,796,000.
Role: Co-investigator
Generation of osteoprogenitors from human pluripotent stem cells.

04/1/2009 – 02/29/2012 PI: T. Zarembinski 1.2 calendar months
NIH NIGMS/GLYCOSAN 1 R43 GM087765-01
Title: Protein-Modified Hydrogels for Expansion of Human Embryonic Stem Cells
Total Subcontract Direct Cost: \$22,500
Role: Subcontract PI
Evaluation of protein modified hydrogels for stem cell expansion.

04/01/2008 – 12/31/2010 PI: LT Kuhn 1.8 calendar months

ITI FOUNDATION 541-2007

Title: Increasing Success of Alveolar Bone Augmentation / Implant Placement in the Elderly through controlled sequential release of osteoinductive agents

Total Direct Cost: \$166,373

06/07/2010 – 10/18/2010

PI: LT Kuhn

0.6 calendar months

Aruna Biomedical, Inc.

Title: Demonstration of Osteogenic Healing Capability of hMPro Cells in a Mouse Calvarial Defect

Total grant award: \$3,331

This project evaluated the bone repair capability of osteoprogenitors derived from human pluripotent stem cells.

08/01/2007 – 07/01/2010

PI: D. Rowe

1.2 calendar months

Funding agency/Grant #: US Army Medical Research and Material Command/ DAMD W81XWH07-2-0085

Title: Improving Soldier Recovery From Catastrophic Bone Injuries

Total grant award: \$1,583,800. Not sub-budgeted.

Role: Co-investigator

The goal of Dr. Kuhn/Dr. Goldberg's sub-project was to evaluate biomaterial scaffolds for bone repair via *in vitro* and *in vivo* studies with osteoprogenitors from GFP reporter mice.

07/01/2006 – 06/30/2010

PI: M. Freilich

1.2 calendar months

Corporate Program Project. Funded by corporate sponsor that contractually cannot be disclosed.

Title: Implant Guided Bone Growth Medicated by Local Delivery of Osteogenic Agents.

Total grant award: \$1,056,476.

Role: Co-investigator

This grant supported research of new dental implant systems and growth factor delivering scaffolds to regenerate alveolar bone growth.

02/01/2009 – 06/30/2010

PIs: AJ Goldberg, R Weiss

0.6 calendar months

Internal UCONN Incentive Grant (UCIG) program.

Title: Phase Transformations to Control Morphology and Cell Behavior in Polymer Scaffolds for Tissue Engineering

Total costs: \$100,000

Role: Co-investigator

The project evaluated the effect of nanostructures within polylactic acid films on *in vitro* osteogenesis.

04/05/2007 – 04/04/2010

PI: D. Rowe Co- I: LT Kuhn

1.2 calendar months

Connecticut Innovations, State of Connecticut

Title: Directing hES Derived Progenitor Cells into Musculoskeletal Lineages.

Connecticut Stem Cell Research Group Project Grant

Total Grant Award: \$3,520,000. Kuhn Proj 4: \$168,750.

Role: L. Kuhn was PI of Project 4: Biomimetic Surfaces for Efficient and Stable Stem Cell Differentiation.

The major goal achieved of the sub-project was to select biomaterials that enhanced and supported stem cell differentiation into musculoskeletal cells.

02/01/2008 – 09/30/2009

PI: LT Kuhn

0.6 calendar months

Head/Neck Oral Oncology Pilot Grant

Funding agency: Neag Comprehensive Cancer Center, University of Connecticut Health Center
Title: Immunotherapy of head and neck cancer utilizing biomimetic crystalline adjuvants and intratumoral chemotherapy.

Preclinical testing in mouse xenograft models of head and neck cancer demonstrated localized efficacy with reduced side effects.

Total grant award: \$9,000.

05/01/2005 – 10/10/2008 PI: LT Kuhn, 2.4 calendar months
Susan G. Komen Breast Cancer Foundation, Basic, Clinical and Translational Breast Cancer Research Grant.

Title: A lymph node targeted anti-cancer drug delivery system for breast cancer metastases. In this grant nanoparticles of calcium phosphate formed the basis of the delivery system which achieved lymph node targeted cisplatin delivery.

Total grant award: \$250,000

07/01/2004 – 06/30/2008 PI: M Freilich 0.6 calendar months
ITI Foundation, Switzerland, Grant number 348/2004

Title: Bioactive Implant Guided Supracrestal Bone Formation

Total grant award: \$118,457. CHF 149,375.

Role: Co-investigator

This grant investigated the use of a novel dental implant device to increase vertical bone growth.

04/01/2005 – 12/30/2005 PI: LT Kuhn 2.4 calendar months
Internal Pilot Studies in Women's Health, Center for Interdisciplinary Research for Women's Health, University of Connecticut.

Title: Development of a Nanoparticulate Calcium Phosphate Drug Delivery System for Targeted Delivery of Anti-Cancer Drugs to the Primary Tumor and the Lymphatics.

This grant studied the effect of localized delivery of cisplatin in combination with radiation against a mouse cancer model for ovarian cancer.

Total grant award \$15,000.

01/01/1999 – 09/14/1999 PI: LT Kuhn 6 calendar months
National Institutes of Health, National Cancer Institute (NCI)

Phase I, Small Business Initiative Research (SBIR) grant 1 R43 CA80437-01

Title: Apatite as a Local Delivery System for Anti-Cancer Drugs.

Total grant award: \$99,998.

This grant studied the efficacy of local delivery of chemotherapy via a calcium phosphate delivery system in preclinical mouse osteosarcoma studies.

05/1/1998 – 04/30/1999 PI: L Kuhn Spearing 6 calendar months
NIH, National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)
Phase I, Small Business Initiative Research (SBIR) grant 7 R43 AR44609-02

Title: Bioresorbable Scaffolds Made of Bone Apatite Nanocrystals.

Total grant award: \$100,000.

Preclinical studies in mice were completed to assess repair capabilities of a porous bone graft made of bone crystals.

RESEARCH TRAINEES and MENTORING/OUTREACH ACTIVITIES

I. Postdoctoral Trainees

- 1994 John Kennedy, MD. Children's Hospital Orthopaedic Surgery Resident. Co-supervised with Dr. M Glimcher.
- 2005- 2006 Xingguo Cheng, PhD. UCHC Postdoctoral researcher. Main advisor. Won travel award while in Dr. Kuhn's lab. Now a research program director at Southwest Research Institute, San Antonio, TX.
- 2005 –2006 Stanislav Moline, DDS. MS Committee member. School of Dental Medicine, University of Connecticut Health Center. Now in dental practice.
- 2005 Jahanzeb Chaudrey, DDS. MS Committee Member. School of Dental Medicine, University of Connecticut Health Center. Now in dental practice.
- 2006 – 2009 Bo Wen, PhD. UCHC Postdoctoral Researcher. Co-advised with Dr. M. Freilich. Now a researcher/clinician.
- 2007 – 2008 Tina Advincula, UCHC postdoctoral research. Co-advised with Dr. A Jon Goldberg. Post-doc advisor.
- 2007 Lal Kapadia, MD. Cancer Center Oncology Fellow. Research Mentor Spring Semester.
- 2008 Jennifer Grady, MD. Ear Nose and Throat Resident. Spring 2008. Research Rotation Mentor.
- 2008 – 2009 Guomin Ou, PhD. UCHC postdoctoral researcher. Main advisor. Now a clinician/researcher.
- 2008 – 2010 Yongxing Liu, PhD. UCHC postdoctoral researcher. Co-advised with Dr. AJ Goldberg. Now in a junior faculty position at Notre Dame.
- 2009 Qin Amy Wang, PhD. UCHC postdoctoral researcher. Main advisor. Now in dental school.
- 2009-2010 Daisuke Ueno. DMD. Visiting ITI Scholar/postdoctoral researcher from Japan. Co-advised with Dr. D. Shafer. Now in Japan completing his PhD.
- 2011 Sylvain Catros. DMD. Visiting ITI Scholar/postdoctoral researcher from France. Co-advised with Dr. M. Freilich. Now a faculty member at the University of Bordeaux, France.
- 2012 Sounderya Nagarajan, PhD. UCHC postdoctoral research.
- 2011-2013 Cheryl Gomillion, PhD. UCHC postdoctoral researcher. Co-advising with Dr. J Goldberg. Now a faculty member at the University of Georgia.
- 2015-2017 Ksenia Gaftaniuk, DMD. UConn Health Dental Resident in Periodontology Dept.
- 2021- 2022 Antwine McFarland, PhD. UConn Health postdoctoral researcher in the Biomedical Engineering Dept.
- 2021-2022 Yamin Liu, PhD. UConn Health postdoctoral researcher in the Biomedical Engineering Dept.
- 2022-present Sharif Ridwan, MD. UConn Health postdoctoral researcher in the Biomedical Engineering Dept.

II. Predoctoral Trainees (MS, PhD and Dental School students)

- 1993 Emmanuel Chateau: Master's Student project supervisor. Case Western Reserve University.
- 2002-2005 Ashley Deliso (MS received 2005). Major Advisor. Biomedical Engineering, University of Connecticut-Storrs. Now a high school biology teacher and community college instructor.

- 2003-2005 Thelma Valdez (PhD received 2005), Committee Member. Biomedical Engineering, University of Connecticut-Storrs. Now a postdoc at Univ of WA, Seattle, WA.
- 2003-2005 Rebecca Jarvis (PhD received 2005), Committee Member. Biomedical Engineering, University of Connecticut-Storrs. Now in industrial research.
- 2004-2005 Laura Cimino Turner (MS received 2005). Major Advisor. Biomedical Engineering, University of Connecticut-Storrs. In industry.
- 2005-2006 Felix Santiago (MS received 2006). Major advisor. Biomedical Engineering, University of Connecticut-Storrs. Works in industry.
- 2005 – 2006 Haibo Qu (PhD received 2006). Committee member. Materials Science Dept., University of Connecticut-Storrs.
- 2007 – 2010 Peggy Piteo (MS received 2010). Major Advisor. Biomedical Engineering. UCONN-Storrs. Works in industry.
- 2007-2009 I-Ping Cheng (PhD received 2009). Thesis committee member. Biomedical Sciences, University of Connecticut Health Center. Now a faculty member at UCHC.
- 2007 Julia Landry. Summer 2007. University of Connecticut Dental School Fellowship student. Co-advised with Prof. A. J Goldberg.
- 2007 Karen Sagomonyants. Spring Semester 2007. PhD graduate student. Biomedical Sciences Rotation program. Co-advisor with Prof. A. J Goldberg. University of Connecticut Health Center.
- 2007 Faith Gaenzler. PhD graduate Student. Outside Reviewer. Chemistry Dept. UCONN-Storrs. PhD awarded Dec 2007. Works in industry.
- 2008 Vic Compe (MS received 2008) Biomedical Engineering. UCONN-Storrs. Member MS Thesis committee.
- 2008 Christopher DeSesa. Summer dental school student. 2nd Year Dental Student from Forsyth Dental School, Boston, MA.
- 2009 Roberta Kelm. Dental School student. University of Connecticut Dental School summer research program. Main advisor. Awarded the Dean's award for best student poster. Now a prosthodontics resident at UCHC.
- 2009 Ronald LaComb, PhD graduate student. PhD awarded 2009. Biomedical Engineer, UCONN. Thesis Committee Member.
- 2009-2013 Lyndon Charles. PhD graduate student. Main advisor. Biomedical Sciences Graduate program. University of Connecticut Health Center. Degree awarded 2013. Postdoctoral training at MIT.
- 2009-2014 Jessica Woodman. PhD graduate student. Main advisor. Chemical, Materials & Biomolecular Engineering, University of Connecticut-Storrs. PhD awarded 2015. Now working at Bristol Meyers Squib.
- 2010 -2012 Hassam Sultan. MS graduate student. Main advisor. School of Dental Medicine '12 and Biomedical Engineering. University of Connecticut.
- 2010-2011 Emily Jacobs, MS graduate student. Main advisor. Biomedical Engineering. University of Connecticut-Storrs. Degree awarded May 2011.
- 2010-2011 Anthony Costa, MS graduate student. Main advisor. Biomedical Engineering. University of Connecticut-Storrs. Main advisor. Degree awarded 2011.
- 2011 Colleen Chambers, Dental School Student. Main advisor. University of Connecticut Dental School summer research program.

- 2014-2015 Lawrence Cunningham, PhD graduate student. Committee Member. Biomedical Engineering, University of Connecticut-Storrs. Degree awarded May 2015.
- 2014- 2015 Jennifer Etter, MS graduate Student. Main advisor. Biomedical Engineering, University of Connecticut-Storrs. Degree awarded May 2015. Now in graduate school in VT.
- 2011-2016 Emily Jacobs, PhD graduate student. Main advisor. Biomedical Engineering. University of Connecticut-Storrs. Degree awarded in 2016. Now working for Medtronic in West Haven, CT.
- 2016-2018 Jumana Alhamdi, PhD graduate student. Main advisor. Biomedical Engineering. University of Connecticut-Storrs. Degree awarded May 2018. Working in the medical device industry at Tempo Therapeutics.
- 2018 Zane Cooke, Independent Study Student, Biomedical Engineering. Now in Medical School.
- 2019 Rosalie Bordett, Biomedical Sciences PhD Rotation Student, Spring 2019.
Fatemah Hosseini, Biomedical Sciences PhD Rotation Student, Summer 2019.
- 2019 Albert Chen and Sarah Feltz. Summer dental students from University of Connecticut School of Dental Medicine.
- 2018-2021 Anupama Prabhath, PhD Committee member. Main advisor: Dr. C Laurencin, University of Connecticut-Storrs.
- 2021 Jacob Schlaferman and Sergio Acevedo. Summer dental students from University of Connecticut School of Dental Medicine.
- 2022-2023 Mathilde Guerin. PhD Student Committee member for visiting PhD student trainee from University of Montpellier, France: January – March, 2022. PhD awarded in 2023.
- 2022 Analyse Giordano. PhD Student Committee member. Primary advisor: Dr. Steven Suib, Institute of Materials Science, University of Connecticut-Storrs.
- 2022-present Hui Sun. PhD Student Major Advisor. Biomedical Sciences, University of Connecticut Health Center, started with Dr Kuhn Spring 2022.
- 2023-present Gina Airoidi. MS Student Major Advisor. Biomedical Engineering, University of Connecticut, started with Dr. Kuhn Fall 2023.
- 2023-present Travis Wallace. PhD Student Major Advisor. Biomedical Sciences, University of Connecticut Health Center, started with Dr Kuhn Fall 2023.
- 2023-present Thesis Committee member of Jinhyung Lee, PhD student in the BME program at Storrs. Main advisor is Prof. Yupeng Chen.

III. Undergraduate Trainees

- 1996-97 Marianne Manot, Undergraduate Senior Thesis Supervisor: Visiting student from University of the Technology of Compiegne, France. Supervision occurred at NaturApatites Co., Inc. Boston, MA. Awarded Best Student Project by University of the Technology of Compiegne, France. Working at a company conducting human clinical trials. 1996-2000 Undergraduate Senior Project technical advisor for the Boston University Biomedical Engineering Dept., Boston, MA.
- 2000 Seth Cooper
- 2000 Kathleen Oliver
- 1999 Adam Bulakowski

- 1997 Todd Zive
- 2003-2004 Caitlyn McCann, High School (May 2005). Science Mentor, year long project. Glastonbury High School. Now a pharmacist.
- 2003 Lindsey Ulkus, BS (May 2004), Summer student advisor.
- 2003-2005 Jennifer Bordonaro, BS (May 2005). Major Advisor. University Scholar, Molecular and Cell Biology Dept, University of Connecticut. Became a physicians assistant.
- 2005 Alexei Goshdigian, BS (May 2006). Summer intern advisor. Became a pharmacist.
- 2005-2006 Stacha Campbell (BS 2009), was an undergraduate from Capitol Community College sponsored by an NIH funded BRIDGES program for minority students. PI: Marja Hurley. Research Mentor. Successful transfer to UCONN-Storrs from Capital Community College 2006. Graduated 2009. Now a medical technologist.
- 2006-2007 Rupali Shah, (BS, May 2007) Undergraduate University Scholar Committee Member. Chemistry Dept. UCONN Storrs. Works in industry.
- 2007-2008 Gehendra Kunwar, (BS, May 2008). Undergraduate student intern from the UCONN-Storrs Biomedical engineering program.
- 2009 Dante Paolino (BS, May 2010). Main advisor. Undergraduate summer student volunteer. Continued on to dental school at UCHC. Graduated and is now a dentist.
- 2011 Victor Nguyen (BS, May 2012). UConn-Storrs student. Main advisor. Undergraduate summer student.
- 2011 Kim Ornell (BS, May 2012). Main advisor. Undergraduate summer student from the University of Rochester. Attended graduate school at Worcester Polytechnic Institute.
- 2014 Farah Themistocle (BS, May 2015). Fairfield University student. Main Advisor. Undergraduate summer student. Graduated from UCONN Dental School.
- 2014 Jasmine Hardrick. Main Advisor. High school summer student.
- 2015 Thomas Cotton (BS, May 2017). Main Advisor. Biomedical Engineering, University of Connecticut. Undergraduate summer student. Works in industry. Applying to graduate school in 2021.
- 2015 Thomas Gallerani (BS May 2016). Main Advisor. Biomedical Engineering, University of Connecticut. Undergraduate summer student.
- 2016 Morgan DaSilva, undergraduate (BS May 2018). Main Advisor. Biomedical Engineering, University of Connecticut. Undergraduate Independent Study.
- 2017-2018 Cynthia Frimmet. High School Student. Main Advisor. Summer student 2017 and a year long Advanced Research Mentorship course student from Glastonbury High School, Connecticut. Matriculated at Yale University 2018.
- 2018 List of Summer 2018 Mentees:
- Michael Nicolson, Health Research Program (HRP) recipient, Biomedical Engineering Department, University of Connecticut-Storrs.
 - Maleeha Jabeen, Volunteer, Albany State University, Georgia.
 - Muhammed Musaib, Calhoun Cardiology Summer Program Participant, Albany State University, Georgia.

- Brittany Nelson, Partnerships in Innovation (PIE) program, Materials Science and Engineering Dept., UCONN Storrs
- Isaiah Carrington, Volunteer, Materials Science and Engineering Dept., UCONN Storrs
- Sarah Feltz, Volunteer, Quinnipiac University.
- Jenny Chen, Volunteer, University of California-Berkley
- Angelo Franco, High school student, Health Career Opportunity Program, UConn Health.

- 2017-2019 Natasha Patel (Honors Thesis, graduated UCONN 2019). Advisor. Molecular and Cell Biology Department. Sponsored by the Health Research Program (HRP), University of Connecticut-Storrs. Now attending dental school at UCONN School of Dental Medicine.
- 2019 Summer Mentees: Michael Luu (graduated UCONN 2020 and attending Dental School at UCONN in 2021) and Aliyah Anthony (UConn Health Career Opportunity Program student).
- 2020-2021 Cara Tran. Undergraduate Summer Health Research Program (HRP) student continuing as Honors Thesis Student in Biomedical Engineering during Fall 2020/Spring 2021. Graduated May 2022.
- Simran Sehgal, Undergraduate Honors Thesis Student in Biomedical Engineering. Graduated May 2021.
- 2022 Krishna Dongar. Summer Health Research Program, University of Connecticut-Storrs.

Mentoring and Outreach Lectures (Last 10 years only)

- 2019-2023 “Innovating with Biomaterials”, Annual lecture to high school students participating in the Mini Medical/Dental program, a subset of the Health Career Opportunities spring program organized by Dr. M. Hurley, UCONN Health, annually during the Spring or Summer semester since 2019.
- 2021, 2022 “A Career in Biomaterials”, Lecture to pre-dental and matriculating dental students organized by Dr. M. Hurley, UCONN Health, July 2, 2021.
- 2021 “3D Bioprinting of Soft Tissue Mimics”, Panelist at the Women in Making Forum 2021, a global making panel, March 27, 2021.
- 2005 & 2006 Lecturer. Capital Community College. Discoveries in Modern Medicine at Capital Community College, Hartford, CT. Course Director: M. Mednieks. Bridges to Baccalaureate outreach program to underrepresented minorities in science. Fall semester.
- 2019 “Planting Seeds in STEM”, panelist for the Conard High School Women in STEM club event on May 3, 2019 held in the West Hartford Town Hall and co-sponsored by the Equity and Diversity Council of the West Hartford Public Schools.
- 2018 “Age Specific Bone Grafts”, Lecture at the MidAtlantic Biomaterials Day organized by students of the Society For Biomaterials, Johns Hopkins University, March 3, 2018.

“A Day in the Life of a Biomaterials Scientist”, Lecture to Hall High School Women in STEM group, December 17, 2018.

- 2017 “Tips from a 20 year quest for the perfect calcium phosphate-based drug delivery system” Keynote Address, MidAtlantic Biomaterials Day organized by students of the Society For Biomaterials, The City College of New York, New York City, New York, February 24, 2017.
- 2016 Interviewed for online article: “Networking with Dr. God” by Alaina G Levine, Science Magazine. <http://www.sciencemag.org/careers/2016/09/networking-dr-god> Posted September 6, 2016.
- 2016 “Biomaterials for Controlled Release of Biologically Active Molecules”, guest speaker at the Group on Women in Medicine and Science (GWIMS) Lunch & Learn Seminar at UConn Health. March 2, 2016.