

**Benjamin Levi, MD**

Lee-Hudson Endowed Chair

Division Chief of General Surgery Surgery (Burn, Trauma, Acute and Critical Care Surgery)

Director, Center for Organogenesis & Trauma

Associate Professor With Tenure in Departments of Surgery, Plastic Surgery, Biomedical Engineering, and

Children’s Research Institute and Center for Mineral Metabolism Research

University of Texas Southwestern, Dallas, TX

Adjunct Professor, Uniformed Services University, Bethesda, MD

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**Education and Training**

07/1997–06/2001	<b>Bachelor of Science</b> , Majors in Biology and Spanish, Washington University, St. Louis, MO
06/2001–05/2005	<b>Medical Doctorate</b> , Northwestern University–Feinberg School of Medicine, Chicago, IL
07/2005–06/2006	<b>Internship</b> , University of Michigan, General Surgery, Ann Arbor, MI
07/2006–06/2013	<b>Plastic Surgery Residency</b> , University of Michigan Hospital, Department of Surgery, Division of Plastic and Reconstructive Surgery, Ann Arbor, MI
07/2009–06/2011	<b>Post-Doctoral Fellowship</b> , Stanford University, Hagey Laboratory for Pediatric Regenerative Medicine, Stanford, CA
07/2013–06/2014	<b>Clinical Fellowship</b> , Surgical Critical Care and Burn Surgery, Massachusetts General Hospital and Shriners' Hospital for Children, Boston, MA

**Certifications**

07/ 2005–Present	Advanced Cardiac Life Support
07/2008–Present	Advanced Burn Life Support
07/2009–Present	Advanced Burn Life Support Instructor
07/2014–Present	Surgical Critical Care Boards
07/2015–Present	American Board of Plastic Surgery
10/2018–Present	Faculty, American College of Surgeons (FACS)

**Licensure**

07/2009–07/2011	State of California, Medical License
07/2015–05/2016	State of Massachusetts, Medical License
03/2019–03/2021	State of Michigan, DEA Registration
03/2019–03/2021	State of Michigan, Medical License
02/2021–03/2024	State of Texas, DEA Registration

**Academic, Administrative, Clinical, and Research Appointments**

07/2011–06/2012	House Officer – Plastic Surgery, University of Michigan, Ann Arbor, MI
07/2014–03/2020	Director: Burn/Wound and Regenerative Medicine Laboratory, University of Michigan, Ann Arbor, MI
07/2014–03/2020	Assistant Professor in Surgery, Department of Surgery, University of Michigan, Ann Arbor, MI
07/2016–07/2020	Associate Director, Burn Surgery Service, University of Michigan, Ann Arbor, MI
07/2018–Present	Adjunct Associate Professor, Uniformed Services University, Bethesda, MD
04/2020–Present	Director, Center for Organogenesis & Trauma, University of Texas Southwestern Medical Center, Dallas, TX
04/2020–Present	Division Chief of General Surgery (Burn, Trauma, Acute and Critical Care Surgery), University of Texas Southwestern Medical Center, Dallas, TX
04/2020–Present	Associate Professor in Surgery, Department of Surgery, University of Texas Southwestern Medical Center, Dallas, TX
04/2020–Present	Lee-Hudson Endowed Chair, University of Texas Southwestern Medical Center, Dallas, TX

**Editorial Positions**

2010 – Present	<i>Ad hoc</i> reviewer for Tissue Engineering
2010 – Present	<i>Ad hoc</i> reviewer for Wound Repair and Regeneration
2011 – Present	<i>Ad hoc</i> reviewer for Stem Cells
2012 – 2014	Editor: Michigan Manual of Plastic Surgery
2013 – Present	<i>Ad hoc</i> reviewer for Annals of Surgery
2013 – Present	<i>Ad hoc</i> reviewer for Stem Cells Translational Medicine
2014 – Present	<i>Ad hoc</i> reviewer for Journal of Surgical Research
2014 – Present	<i>Ad hoc</i> reviewer for Science of Translational Medicine
2015 – Present	<i>Ad hoc</i> reviewer for Plastic and Reconstructive Surgery
2014 – Present	<i>Ad hoc</i> reviewer for Science Translational Medicine
2015 – Present	Editor: Journal of Burn Care and Research
2015	Editor: Hand Clinics of North America Edition on Hand Burns
2016 – Present	Burns Open, Editorial Board ( <i>Ad hoc</i> )
2016 – 2017	Associate Editor: Science Translational Medicine
2017 – Present	<i>Ad hoc</i> reviewer for Journal of Clinical Investigation
2022 – Present	Editorial Board, Annals of Surgery

**Study Sections**

**National**

2014 – Present	Plastic Surgery Foundation Study Section
2016	National Institutes of Health - Surgery Anesthesia Trauma Study Section (Ad Hoc)
2016	Poster Judge: 11th International BMP Conference, October 2016, Boston, MA
2017	Associate Scientific Advisor: Science Translation Medicine (Ad Hoc)
2017	NIH Surgery, Anesthesia, Trauma (SAT) Study Section (Ad Hoc)
2018, 2020	NIH Skeletal Biology Development and Disease (SBDD; Ad Hoc)
2020, 2021	NIH Center for Scientific Review, Skeletal Biology Structure and Regeneration (SBSR)
2021	Plastic Surgery Research Council Chair
2022	NIH Center for Scientific Review, Skeletal Biology Structure and Regeneration (SBSR) Permanent member

**Institutional**

2014 – 2020	Research Advisory Committee Grant Selections Team, UM
2021 – Present	Research Advisory Committee, UTSW

**Committee, Organization, and Volunteer Services**

**Institutional**

***University of Texas Southwestern Medical Center***

2020 – Present	Director, Center for Organogenesis & Trauma
2020 – Present	Member, Research Advisory Committee
2020 – Present	Compassion Board, Center for Organogenesis & Trauma
2022 – Present	Grants Governance Committee

***University of Michigan***

2014 – 2020 Plastic Surgery Representative: Research Advisory Committee  
 2014 – 2020 University of Michigan Hope Clinic: Volunteer  
 2017 – 2020 Department of Surgery: Faculty Recruitment Committee  
 2017 – 2020 Cancer Biology Research Program, Core Grant Member  
 2018 – 2020 Animal Care and Use Faculty Advisor Committee: Faculty Member  
 2019 – 2020 MD/PhD Mentor to Wesley Huang; Cell and Molecular Biology

***Uniformed Services, University of the Health Sciences***

2017 Ming Dang, Biomaterials to Promote Bone Regeneration, University of Michigan Dental School, Biologic & Materials Sciences, Committee Member  
 2018 Philip Spreadborough, Extremity Trauma and Heterotopic Ossification, Walter Reed, Surgery, Committee Member

**National**

***Plastic Surgery Research Council***

2014 – 2018 Membership Committee  
 2014 – Present Scientific and Program Committee  
 2014 – Present Grant Review Committee  
 2021 – Present Chair, Grant Review Committee

***American Burn Association***

2017 – Present Boston-Harvard Burn Injury Model System Advisory Board  
 2017 – 2020 Research Committee  
 2019 – Present Chair, Reconstructive Special Interest Group  
 2021 – Present Diversity Equity and Inclusion Representative to CNTR

***Association for Academic Surgery***

2015 – 2017 Publications Committee  
 2017 – Present Subspecialty Committee

***American Society of Plastic Surgeons***

2017 – Present Researcher Education Subcommittee

***National Institutes of Health***

2016 *Ad Hoc*, Surgery Anesthesia Trauma (SAT) Study Section Reviewer  
 2017 *Ad Hoc*, Surgery Anesthesia Trauma (SAT) Study Section Reviewer  
 2018, 2020 *Ad Hoc*, NIH Study Section Ad Hoc Reviewer: Skeletal Biology Development and Disease (SBDD)  
 2019, 2021 Skeletal Biology Structure and Regeneration  
 2022-present Standing member, Skeletal Biology Structure and Regeneration

***Society of University Surgeons***

2021-present                      Research Committee

*American College of Surgeons*

2021-present                      Scholarships Committee

**Research Experience**

1998–2001                      **Summer Research Assistant**, Loyola University Burn and Shock Trauma Institute. Wound healing basic science research.  
Advisors: Richard L. Gamelli, MD, and Luisa A. DiPietro, DDS, PhD

07/2009–06/2011              **Post-Doctoral Fellow**, Stanford University. Stem cell, molecular biology, and tissue engineering. Basic science and translational research.  
Advisor: Michael T. Longaker, MD, MBA

07/2014–03/2020              **Director**, University of Michigan Burn/Wound and Regenerative Medicine Laboratory. Basic science and translational research with focus on mesenchymal stem cells, muscle fibrosis, heterotopic ossification, extremity trauma, and wound healing.

04/2020–Present              **Director**, Center for Organogenesis & Trauma, University of Texas Southwestern Medical Center. Basic science and translational research with focus on mesenchymal stem cells, muscle fibrosis, heterotopic ossification, extremity trauma, and wound healing.

**Clinical Interests**

- Acute Care, Critical Care and Surgery for Pediatric and Adult Burn Patients
- Burn Reconstructive Surgery: Laser and Reconstructive Surgery of Adult and Pediatric Burn Patients
- Surgical Critical Care
- General Reconstructive Surgery

**Research Interests**

- Heterotopic Ossification: Improving Early Detection and Treatment Strategies for Trauma-Induced and Genetic Forms of Heterotopic Ossification
- Fibrodysplasia Ossificans Progressiva
- Identifying Bone Progenitor Cells Responsible for Bone Development and Ectopic Bone
- Bone Development
- Bone Tissue Engineering
- Muscle Fibrosis
- Wound Healing

**Currently Funded Grants (\$18,127,224 total direct+indirect as PI)**

*W81XW-18-1-0653: Diagnostic and therapeutic strategy to prevent trauma induced upper extremity muscle fibrosis and heterotopic ossification (OR170174)*

Dept. of Defense-Army  
Benjamin Levi, PI

09/2018-07/2023. \$750,000

*W81XWH-18-2-0038: Continuous, Portable, Non-Perfusion Based "Short Wave Assessment Tool" (SWAT) Improves Burn Care (MB170041)*

Army-DoD-US

Levi, Benjamin, PI

09/2018-08/2023. \$1,686,744

*1R61 AR078072: Neutrophil Biomarker and Neutrophil Targeted Therapy to Predict and Prevent Heterotopic Ossification (NIH)*

Levi, Benjamin, PI

09/2020-08/2023. \$786,192

*W81XWH-18-1-0608: A Within Scar, Randomized Control Trial Comparing Fractional Ablative Carbon Dioxide Laser to Non-Energy Based, Mechanical Tissue Extraction and No Treatment (MB170043)*

SubK-Army-DoD-US through a consortium with Massachusetts General Hospital

Levi, Benjamin, PI

09/2018-09/2023. \$395,796

*W81XWH2020057: Therapeutic small molecule and timed limb stabilization strategies to prevent complications of extremity trauma and enhance return to duty (OR190048)*

Army-DoD-US

Levi, Benjamin, PI

09/2020-09/2023. \$744,846

*W81XWH2010795: Improving tendon repair via sensory nerve NGF-TrkA signaling for return to duty*  
SubK-Army-DoD-US through a consortium with Johns Hopkins University

Levi, Benjamin, Site PI

09/2020-09/2023. \$350,838

*W81XWH2110492: PR200636P1-Immuno-targeting and Metabolic Therapeutic Strategies to Improve Muscle Recovery After Severe Trauma*

Dept. of Defense-Army

Benjamin Levi, Partnering PI

07/2021-06/2024. \$1,298,537

*R01 AR079171: Impact of peripheral nerves on mesenchymal cell fate in extremity trauma*

National Institutes of Health

Benjamin Levi, PI

07/2021-04/2026. \$2,426,016

(renewal of R01 GM123069)

*W81XWH2110519: Targeting lymphatics to treat trauma-induced heterotopic ossification (Lymph HO)*

Dept. of Defense-Army

Benjamin Levi, Partnering PI

09/2021-08/2025. \$1,312,000

*R01 AR078324-01: Impacts of mechanosensation and matrix architecture on cell fate specification in traumatic heterotopic ossification*

National Institutes of Health  
Benjamin Levi, PI  
7/2021-04/2026. \$2,198,414

*R01 AR079863: Targeting Jmjd3 mitigates heterotopic ossification*

Sub-K from University of Michigan/National Institutes of Health  
Benjamin Levi, Partnering PI  
07/2021-04/2026. \$1,510,290

*MDBR-to detect pre-clinical flares for people living with fibrodysplasia ossificans progressive (FOP)*

University of Pennsylvania  
Benjamin Levi, Site PI  
02/01/2022-09/31/2023. \$19,800

*Blood Purification for the Treatment of Critically Ill Patients with Pathogen Associated Shock: A Multicenter, Randomized Controlled Feasibility Trial*

Trauma Insight, LLC/ Department of Defense  
Benjamin Levi, Co-I  
03/2022-05/2027. Level of funding: per patient enrolled

*Metabolic interventions to mitigate acute and chronic bone disease*

Dept of Defense-Army  
Benjamin Levi, Partnering PI  
TBD. \$1,632,119

*Pivotal and diverse roles for matricellular proteins in musculoskeletal disorders*

University of Michigan/Department of Defense PRMRP  
Benjamin Levi, Co-I  
TBD. \$3,678,402

*Glutamine targeted therapies to prevent traumatic heterotopic ossification*

Dept of Defense-Army  
Benjamin Levi, Partnering PI  
TBD. \$750,000

## **Submitted Grants**

*Mechanoinhibition to Prevent Radiation-Induced Periprosthetic Fibrosis*

Plastic Surgery Foundation  
Benjamin Levi, Collaborator & Mentor  
07/01/2023 – 06/30/2025. \$50,000

*Small molecules combination therapy using polypharmacology approach as a novel treatment paradigm for rare bone disease*

Nostopharma, LLC/NIH NCATS

Benjamin Levi, Co-I  
09/2023 – 08/2024. \$92,000

*Determining the Effect of Inhibiting Acvr1 on Heterotopic Ossification in Hip Joint*  
Regeneron Pharmaceuticals, Inc.  
Benjamin Levi, Site PI  
03/2023 – 02/2024. \$286,000

*Temporospatial modification of peripheral nerves to enhance tendon healing*  
Johns Hopkins University/NIH NIAMS  
Benjamin Levi, Site PI  
09/2023 – 8/2028. \$1,849,920

### **Completed Grants**

*7R01AR071379: Targeting Molecular and Cellular Mediators of Inflammation to Prevent Pathologic Cell Differentiation and Heterotopic Ossification*  
National Institutes of Health  
Levi, Benjamin, PI  
04/2017-03/2023. \$1,503,921

*1 R01 GM123069-01A1: Developing New Diagnostic and Timed, TAK1 Specific Treatment Strategies for Trauma Induced Heterotopic Ossification*  
Levi, Benjamin, PI  
08/2017-06/2021. \$1,248,086

*BR-045: Improving Imaging and Treatment Modalities for Civilian and Military Extremity Trauma*  
American College of Surgeons  
Levi, Benjamin, PI  
07/2016-06/2021. \$225,000

*T32 HD007505 22: Training Program in Organogenesis*  
Primary mentor to T32 Trainee: Nicole Edwards  
National Institutes of Health  
Co-I Without Effort (PI: Deneen Wellik)  
04/2019-04/2021. \$50,004

*Neutrophil based translational therapies for fibrodysplasia ossificans progressiva*  
International FOP Association  
Huber, Amanda; Levi, Benjamin, PI  
12/2019-12/2020. \$65,000

*2-T32-BM008616: Surgical Scientist Training Grant*  
National Institutes of Health  
Other (PI: Steven Buchman; Kevin Chung)  
07/2015-07/2020. \$666,672



*Apyrase: A Portable Treatment to Prevent Burn Progression and Infection (MB150237)*

Army-DoD-US

Co-I With Effort (PI: Wang, Stewart C)

09/2016-05/2020. \$750,000

*T32 HL076123 15: Vascular Surgery: Research Training in Vascular Biology*

Primary mentee to T32 awardee: John Li, MD

National Institutes of Health

Co-I Without Effort (PI: Thomas Wakefield)

11/2017-11/2019. \$50,004 (\$50,004)

*Validation of novel targeted prophylaxis for FOP related heterotopic ossification*

International FOP Association

Mishina, Yuji; Levi, Benjamin, Co-PI

12/2017-10/2019. \$52,208

*W81XWH-16-PRORP-ARA: Targeting Neutrophil Extracellular Traps to Mitigate Post-Traumatic Lower Extremity Soft Tissue Injury*

Levi, Benjamin, PI

09/2017-09/2019. \$500,000 (\$207,055)

*W81XWH-16-2-0051: Novel Therapeutic Small Molecule Strategy Targeting TAK1 Signaling to Prevent Upper Extremity Heterotopic Ossification - OR150139*

Army-DoD-US

Levi, Benjamin, PI

09/2016-09/2019. \$500,000

*Immune Cell Specific Therapy to Prevent Extremity Heterotopic Ossification*

Plastic Surgery Education Foundation

Other (PI: Stepien, David)

07/2018-06/2019. \$50,000

*Tuning the immune response to prevent heterotopic ossification*

Howard Hughes Medical Institute

Benjamin Levi and Charles Hwang, Co-PIs

07/2018-06/2019. \$50,000 (\$50,000)

*Novel Short Wave Infra-Red, Portable, Non-Contact, Imaging Device to Improve Burn Care*

U-M Coulter Translational Research Partnership Program

Benjamin Levi; Omer Berenfeld, Co-PI

11/2016-04/2019. \$170,000

*5 K08 GM109105-04: Novel Pathway and Prevention Strategy for Heterotopic Ossification*

Levi, Benjamin, PI

08/2014-01/2019. \$784,640 (\$196,160)

*Novel Therapeutic Strategy Targeting Bone Morphogenetic Protein Receptor 1 Signaling to Prevent Trauma Induced Heterotopic Ossification*

DoD/Henry M. Jackson Foundation  
Benjamin Levi, Co-PI  
09/2015-01/2019. \$499,783

*Targeting neutrophil extracellular traps to improve extremity trauma outcomes*

Plastic Surgery Education Foundation  
Other (PI: Sorkin, Michael)  
07/2017-06/2018. \$50,000 (\$50,000)

*Neutrophil Extracellular Traps (NETs) and Innate Immune System as Novel Mediators for Mechanotransduction of Acute Inflammation*

Howard Hughes Medical Institute  
Other (PI: Charles Hwang)  
05/2017-05/2018. \$38,000 (\$38,000)

*Pharmacologic Optimization for Heterotopic Ossification Treatment*

Boehringer Ingelheim, Ltd.  
Levi, Benjamin, PI  
10/2016-10/2017. \$390,833 (\$390,833)

*5 F32 AR068902-02: Targeting Heterotopic Ossification Induced Joint Contractures Before They Occur Through Early Detection and Angiogenic Inhibition*

Other (PI: Ranganathan, Kavitha)  
07/2015-07/2017. \$117,928 (\$57,962)

*Targeting Heterotopic Ossification Induced Joint Contractures Before they Occur Through Early Detection and Angiogenic Inhibition*

American Association of Plastic Surgery  
Levi, Benjamin, PI  
07/2015-06/2017. \$60,000 (\$30,000)

*Autologous Adipose Tissue Supplementation, Potentiating Nerve Fiber Regeneration*

Plastic Surgery Education Foundation  
Co-I Without Effort (PI: Kemp, Stephen W)  
07/2016-06/2017. \$10,000 (\$10,000)

*Timing the Treatment of Heterotopic Ossification Regeneration*

Plastic Surgery Education Foundation  
Levi, Benjamin, PI  
07/2016-06/2017. \$10,000

*Validation of novel diagnostic and targeted prophylaxis for FOP related heterotopic ossification*

International FOP Association  
Benjamin Levi, PI  
12/2015-12/2016. \$41,800 (\$41,800)

*Acute mechanical stabilization after injury attenuates heterotopic ossification.*

Howard Hughes Medical Institute  
Other (PI: Mentor to Shawn Loder)  
07/2015-07/2016. \$41,500 (\$41,500)

*Engendering Site-Specific Immunologic Ignorance by Targeting Sentinel Lymph Nodes and Lymphangiogenesis*

Howard Hughes Medical Institute  
Other (PI: Mentor to Shawn Loder)  
07/2015-07/2016. \$42,787

*Targeting Trauma Induced Joint Contractures Before They Occur Through Angiogenic Inhibition of Endothelial Progenitor Cells*

American Association for Academic Surgery  
Levi, Benjamin, PI  
07/2015-06/2016. \$50,000 (\$50,000)

*Isolating progenitor cell responsible for heterotopic ossification*

Coller Society Award  
Shailesh Agarwal, PI  
07/2014-07/2015. \$20,000 (\$20,000)

*57008284: Engendering Site-Specific Immunologic Ignorance by Targeting Sentinel Lymph Nodes and Lymphangiogenesis*

Howard Hughes Medical Institute  
Other (PI: Shawn Loder)  
07/2014-07/2015. \$42,787

*Targeted Mechanism Based Treatment of Heterotopic Ossification*

Plastic Surgery Educ Fdn; 14-PAF03105  
Levi, Benjamin, PI  
07/2014-06/2015. \$50,000 (\$50,000)

*Morphomic analysis of the craniofacial region*

Howard Hughes Medical Institute  
Other (PI: Sara De La Rosa)  
07/2012-07/2013. \$41,000 (\$41,000)

*F32: Enhancement of Bone Regeneration From Human Adipose-Derived Stromal Cells*

National Institutes of Health  
Benjamin Levi, PI  
07/2009-07/2011. \$111,144

*Enhancement of Bone Regeneration From Human Adipose-Derived Stromal Cells*

National Institutes of Health Loan Repayment Award  
Benjamin Levi, PI

07/2009-07/2011. \$100,000 (\$100,000)

*The Monocyte/Macrophage Role in Experimental Deep Vein Thrombosis Resolution and Vein Wall Injury*

Co-I With Effort (PI: Henke, Peter K)

09/2019-08/2024. \$3,584,696

### Honors and Awards

- 1997 – 1999 **Varsity Letterman:** Cross Country, Washington University
- 1997 – 2000 **Varsity Letterman:** Track and Field, Washington University
- 1997 – 2001 **Dean’s List** for academic achievement (Top 10% of students)
- 1998 **Medicine Honor Society** (Alpha Epsilon Delta)
- 1998 – 2001 **Rhoda and Eli Turner Scholarship** for achievements in academics and athletics
- 2001 **Phi Beta Kappa**, Washington University
- 2001 **National Honor Society**, Washington University
- 2001 **Eliot Honors Convocation** for achievements in scholarship and service
- 2001 – 2005 **Top 20%** of Northwestern Feinberg Medical School Class of 2005
- 2002 (Summer) **Northwestern Dean’s Study Abroad Research Fellowship:** Assistant Researcher under mentor Dr. Batlle, MD, Chief of Nephrology fellowship in Valencia and Madrid, Spain
- 2002 – 2004 **Albert Schweitzer Fellowship Award** for community service
- 2003 – 2005 **Johnson and Johnson Service Award** to help fund art therapy program (1 of 5 groups to receive award of 500 applicants)
- 2007 **Resident Delegate:** *Residents as Teachers*, a joint program of the Association for Surgical Education and the Association for Program Directors in Surgery, Washington D.C.
- 04/2010 **Most Outstanding Presentation Award.** Stanford University Plastic Surgery Research Day “Enhancement of Bone Regeneration.”
- 2010 **Plastic Surgery Research Council Clifford C. Snyder, MD - Past Chairman Award.** Presented to the plastic surgery resident or fellow presenting the best paper. “Enhancement of Bone Regeneration Using an Enriched Skeletal Progenitor Cell Population From Human Adipose-Derived Stromal Cells.”
- 06/2011 **Most Outstanding Presentation Award.** Stanford University Plastic Surgery Research Day “Novel Regulation of Human Adipose-Derived Stromal Cell Osteogenesis Through Noggin Knockdown and a BMP-2 Releasing Scaffold.”
- 05/2011 **University of Michigan Moses Gunn Young Investigator Award.** Presented to a Department of Surgery Fellow, Resident, Graduate Student or Medical Student who has demonstrated originality and scientific merit in research.
- 04/2011 **American Association of Plastic Surgeons Resident Research Poster Competition First Place Award.** “Dura Mater Cells Stimulate Human Adipose-Derived Stromal Cells to Undergo Osteogenic Differentiation via Paracrine BMP Signaling in Skeletal Repair.”
- 01/2011 **Society of University Surgeons Traveling Fellowship Award.** “Novel Regulation of Human Adipose-Derived Stromal Cell Osteogenesis.” Awarded at the American Surgical Congress/Society University Surgeons Meeting. Huntington Beach, CA.

- 2012 **Best Paper of the Year.** Journal of Craniofacial Surgery. Deformational plagiocephaly: a look into the future. *J Craniofac Surg.* 2011 Jan;22(1):3-3. PMID: 21239916.
- 12/2012 **Best Research Paper Award.** American Society of Plastic Surgery Senior Resident Conference. Chicago, IL.
- 2012 **American Society of Maxillofacial Surgery Best Paper Award.** Studies in Adipose-Derived Stromal Cells: Migration and Participation in Repair of Cranial Injury after Systemic Injection. *Plast Reconstr Surg.* 2011 Mar;127(3): 1130-40.
- 06/2012 **Plastic Surgery Research Council Clifford C. Snyder, MD – Past Chairman Award.** “In Vivo Directed Differentiation of Induced Pluripotent Stem Cells to Bone Lineage and Repair of a Skeletal Defect.”
- 06/2012 **Basic Science Research Presentation Award.** University of Michigan Plastic Surgery Research Day “Effect of Burn Injury on Mesenchymal Stem Cell Niches: The Mechanism Behind Heterotopic Ossification.” Ann Arbor, MI.
- 2012 **Best Poster Presentation.** University of Michigan Plastic Surgery Research Day “Innovative Analytic Morphometric Assessment and Body Composition Predicts Surgical Site Infection in Ventral Hernia Repair.”
- 2013 **AAPS/EURAPS Award**
- 2013 **Leonard R. Rubin Award.** AAPS Best Paper Award winner
- 2013 **James W. Crudup Award.** Presented to the Surgery Chief Resident who has demonstrated the most outstanding accomplishments in research during residency training at the University of Michigan.
- 2013 **Best Research Presentation Award.** University of Michigan Plastic Surgery Research Day. “Age Matters: Improved Treatment of Heterotopic Ossification Based on Differences in Age-Related Osteogenic Signaling.” Ann Arbor, MI.
- 2013 **Mentor: American Burn Association Student Scholarship.** Roles of BMP Type I Receptors in the Osteogenic Response to Burn Injury”
- 2014 **Mentor: American Burn Association Student Scholarship.** Jonathan Peterson.
- 2015 **American Association for the Surgery of Trauma Research & Education Foundation Scholarship**
- 2015 **American Association of Plastic Surgery Academic Scholarship Award**
- 2015 **Joan L. and Julius H. Jacobson II Promising Investigator Award**
- 2015 **American College of Surgeons George H.A. Clowes Career Development Award**
- 2016 **PSF Bernard G. Sarnat Excellence in Grant Writing Award**
- 2016 **AAS First Inaugural AAS Plastic Surgery Young Investigator Award**
- 2016 **Mentor:** Graduation with Distinction in Research Award. Mentee: Casey Kraft.
- 2016 **Mentor:** University of Michigan Dean's Award for Research Excellence and Graduation with Distinction in Research Honors. Mentee: Jonathan Peterson.
- 2017 **Mentor:** Dean’s Award for Research Excellence and Graduation with Distinction in Research Honors. Mentee: Shawn Loder
- 2017 **AAPS Academic Scholar Award**
- 2018 **American Society for Clinical Investigation (ASCI) Young Investigator Award**
- 2018 **Mentor: Howard Hughes Medical Institute (HHMI) Medical Research Fellows Program.** Mentee: Charles Hwang
- 2018 **Moses Gunn Best Poster Award.** Mentor to Charles Hwang

- 2018 **Mentor: Moses Gunn Crudap Award** for Senior Resident with Highest Research Achievement. Mentee: Shailesh Agarwal
- 2018 **American College of Surgeons Clowes Award**
- 2019 **Mentor: Moses Gunn Best Medical Student Award.** Mentee: Charles Hwang
- 2019 **Core Expert User Award** – Biomedical Research Core Facilities
- 2019 **American Society for Bone and Mineral Research (ASBMR) Fuller Albright Award** in recognition of meritorious scientific accomplishment in the bone and mineral field who has not yet reached his or her 45<sup>th</sup> birthday

**Memberships in Professional Societies**

- 2008 – Present Active Member: Plastic Surgery Research Council
- 2008 – Present Active Member: American Burn Association
- 2011 – Present Active Member: Association for Academic Surgery
- 2012 – Present Active Member: Reed O. Dingman Society
- 2014 – Present Active Member: American Society of Plastic Surgeons
- 2014 – Present Active Member: Association for Academic Surgery
- 2016 – Present Active Member: American College of Surgeons
- 2016 – Present Active Member: American Council of Academic Plastic Surgeons
- 2016 – Present Active Member: American Society of Bone and Mineral Research
- 2018 – Present Faculty, American College of Surgeons
- 2019 – Present Active Member: Society of University Surgeons
- 2021 – Present Active Member: American Society for the Clinical Investigation (ASCI)
- 2021 – Present Active Member: American Association of Plastic Surgeons
- 2021 – Present Active Member: Surgical Biology Club, American College of Surgeons

**Mentoring**

*Advanced Post-Graduate Fellow*

- |                 |                               |                  |
|-----------------|-------------------------------|------------------|
| 1. TA Ramkumar  | PhD in Biomedical Engineering | 07/2014–2019     |
| 2. Keiko Kaneko | PhD                           | 02/2018–02/2019  |
| 3. Amanda Huber | PhD                           | 05/2018–Present  |
| 4. Yuxiao Sun   | PhD                           | 06/2020–Present  |
| 5. Heeseog Kang | PhD                           | 05/2021–Present  |
| 6. Robert Tower | PhD                           | 08/2021–Present  |
| 7. Tao Yue      | PhD                           | 09/2022- Present |

*Clinical Fellow*

- |                           |    |                 |
|---------------------------|----|-----------------|
| 1. Nicole Werner          | MD | 07/2015–07/2016 |
| 2. Christopher Tignanelli | MD | 2016–2017       |
| 3. Kunjan Bhakta          | MD | 2015–2016       |
| 4. Audra Clark            | MD | 2020-2021       |
| 5. Manuel Guerrero        | MD | 2021-2022       |
| 6. Alex Marinica          | MD | 2021-2022       |
| 7. Chris LaChapelle       | MD | 2021-2022       |

*Graduate Student*

- |               |    |           |
|---------------|----|-----------|
| 1. Betsy Haak | MS | 2011–2012 |
|---------------|----|-----------|

2. Joseph Hempel	MD	07/2012–2014
3. Ming Ding	PhD Candidate	05/2016–01/2018
4. Philip Spreadborough	PhD Candidate	01/2018–Present
5. Wesley Huang	MD/PhD Candidate	03/2019–Present

*Medical Student*

1. Michelle Peng	Medical Student	07/2009–07/2010
2. Emily Nelson	Medical Student	07/2009–07/2011
3. Aaron James	Medical Student	07/2009–07/2011
4. Kenneth Brown	Medical Student	01/2010–12/2010
5. Sara DeLaRosa	Medical Student	07/2011–06/2013
6. Jacob Rinkinen	Medical Student	07/2011–06/2013
7. Jeffrey Lisiecki	Medical Student	07/2011–06/2015
8. Jonathan Peterson	Medical Student	07/2012–06/2016
9. Shawn Loder	Medical Student	07/2013–06/2017
10. James Drake	Medical Student	07/2015–07/2016
11. Casey Kraft	Medical Student	01/2015–01/2017
12. Charles Hwang	Medical Student	07/2016–Present
13. Nicole Patel	Medical Student	06/2017–Present
14. Chase Pagani	Medical Student	08/2021- Present
15. Ashish Chowdary	Medical Student	05/2020–Present
17. Conan Juan	Medical Student	07/2022–Present

*Postdoctoral Fellow*

1. John Li	MD	2014–2019
2. Semahat Ucer	PhD	2016–2018
3. Nicole Edwards	PhD	05/2018–2020
4. Cori Booker	PhD	05/202021–2022
5. Neda Vishlaghi	PhD	07/2022-Present

*Resident/House Officer*

1. Shailesh Agarwal	Post-Doctoral Fellow	07/2012–2018
2. Michael Sorkin	Post-Doctoral Fellow	07/2013–Present
3. Jeffrey Lisiecki	Post-Doctoral Fellow	07/2015–Present
4. Amy Strong	Post-Doctoral Fellow	06/2017–Present
5. David Stepien	Post-Doctoral Fellow	01/2018–Present
6. Geoffrey Hespe	Post-Doctoral Fellow	2018–Present
7. Johanna Nunez	Post-Doctoral Fellow	2020-Present

*Undergraduate Student*

1. Cameron Brownley	Undergraduate Student	07/2012–07/2014
2. Lauren Pratt	Undergraduate Student	06/2015–09/2015
3. Kay Shigmore	Undergraduate Student	2015
4. Chase Pagani	Undergraduate Student	05/2017–2021
5. Prasanth Kotha	Undergraduate Student	06/2017–2019
6. Mohamed Garada	Undergraduate Student	12/2017–2019
7. Husain Rasheed	Undergraduate Student	2018–2021
8. Joseph Greenstein	Undergraduate Student	2018–2021

9. Reagan Nelson	Undergraduate Student	2019–2020
10. Annie Mae	Undergraduate Student	2019–2020
11. Alec Bancroft	Undergraduate Student	11/2020-Present
13. Ji Hae Choi	Undergraduate Student	09/2022- Present

**Academic Activities, Teaching Activities, and Leadership**

07/1999–06/2001	<b>Teacher’s Assistant and Tutor:</b> Organic Chemistry and Human Physiology courses, Washington University
07/1999–06/2001	<b>Volunteer:</b> Medical Assistant, Student Health Services, Washington University
07/1999–06/2001	<b>Founder and Leader:</b> Campus Companion Program for mentally and physically challenged students, Washington University
2001–2005	<b>President:</b> Northwestern University Feinberg School of Medicine Class of 2005 (yearly elections)
07/2001–06/2002	<b>Inclusion Companion:</b> North Shore Special Education Dept. for mentally challenged campers. 1997, 2001–2002
08/2001–03/2016	<b>Instructor:</b> ABLS
2002–2004	<b>Fund-Raising Chair and Participant:</b> NU AID medical mission to Nicaragua, Northwestern University Feinberg School of Medicine
2002–2004	<b>Founder:</b> Arts Connect: Art Therapy program for Spanish speaking pediatric patients at Community Health Clinic, Northwestern University Feinberg School of Medicine
2003–2004	<b>President:</b> Northwestern University Feinberg School of Medicine Student Body
2005	<b>Student Delegate:</b> The Resident, the Student and the Competencies Project, a joint program of the Association for Surgical Education and the Association for Program Directors in Surgery, New York, NY
07/2005–06/2006	<b>Volunteer:</b> English tutor as a second language for Spanish speaking elementary students
2008	<b>Resident Representative:</b> University of Michigan General Medical Education Internal Review Committee
2009-2014	<b>Assistant:</b> Mass Casualty planning for the state of Michigan. Section on mass burn injuries with Stewart Wang, MD, PhD
03/2009	<b>Instructor:</b> American Burn Life Support, American Burn Association. Instructor Course, San Antonio, TX
05/2010	<b>Instructor:</b> American Burn Life Support Course, Santa Clara Valley Medical Center. Santa Clara, CA
01/2012	<b>Instructor:</b> American Burn Life Support Course, University of Michigan Hospital. Ann Arbor, MI
03/2012	Phoenix Society Burn Survivor Scar Education
05/2013	<b>Instructor:</b> Burn Survivor Support and Education Resource Workshop. University of Michigan, Ann Arbor, MI.
07/2014–Present	Burn and Scar Rehabilitation: Talk given monthly to burn and critical care residents and fellows
2014–2018	<b>Faculty:</b> Plastic Surgery Foundation Faculty: Research Fundamentals and Career Development Workshop.
05/2015–Present	Plastic Surgery Research Council Grant Writing Course. <i>Given annually</i>



01/2016–Present	Wound Healing T32 research talk. <i>Given annually</i>
03/2016–Present	ADT Seminar Series Lecture. "Paper Abstract, Paper & chapter Writing". <i>Given annually</i>
04/2016	Examiner: Plastic Surgery Resident Oral Examination Practice
10/2016	American Society for Bone Mineral Research Course on Heterotopic Ossification "Meet the Professor"
10/2016	<b>Instructor:</b> American Society for Bone Mineral Research, Course on Heterotopic Ossification
10/2016	Heterotopic Ossification: From Models to Medical Intervention. University of Michigan Orthopaedic Surgery Grand Rounds, Oral Presentation
10/2016–Present	Pediatric Burn Care: Advances from Resuscitation to Scars. University of Michigan PCCM Annual Didactic Lecture
01/2017	Musculoskeletal Research Group, University of Michigan Research in Progress
02/2017	Association for Academic Surgery Grant Writing Course
03/2018	Organogenesis: CDB: 582/583
05/2018–Present	<b>Instructor:</b> Orthopedic Research Society Webinar on Animal Models of Extremity Trauma
02/2019	<b>Instructor:</b> Orthopaedic Research Society Conference. Cell Plasticity. Austin, TX. <i>Attendance totaling 180 people</i>
03/2019	<b>Instructor:</b> Hand Therapy Conference: Surgical Intervention and Management of Burn Injuries Physical Medicine & Rehabilitation, Occupational Therapy Division-Hand Therapy Department. "Surgical Intervention and Management of Burn Injuries"
2020-Present	Division Chief of General Surgery (Burn, Trauma, Acute and Critical Care Surgery, University of Texas Southwestern)
2020-Present	Director, Center for Organogenesis & Trauma, University of Texas Southwestern
2021-Present	Plastic Surgery Foundation Study Section Chair, Basic Science

### Extramural Invited Talks and Visiting Professorships

05/2013	<b>Invited Lecturer:</b> Obtaining Funding for Young Investigators, Plastic Surgery Foundation. Santa Monica Beach, CA
10/2013	<b>Visiting Professor:</b> Tulane Stem Cell Institute, Tulane University. New Orleans, LA
10/2014	<b>Invited Lecturer:</b> International Fibrodysplasia Ossificans Progressiva Association Conference
03/2014	<b>Invited Lecturer:</b> Obtaining Funding for Young Investigators, Plastic Surgery Foundation. New York, NY
05/2015	<b>Invited Lecturer:</b> Obtaining Funding for Young Investigators, Plastic Surgery Foundation. Seattle, WA
07/2015	<b>Visiting Professor:</b> Walter Reed Medical Center. Bethesda, MD
12/2015	<b>Visiting Professor:</b> University of Texas Galveston and Galveston Shriners's Hospital. Galveston, TX

- 01/2016 **Visiting Professor:** Boston Veterans Affairs Hospital. Boston, MA
- 01/2016 **Visiting Professor:** Stanford University/Santa Clara Hospital. Palo Alto, CA
- 05/2016 **Invited Lecturer:** San Antonio Military Medical Center, San Antonio, TX
- 09/2016 **Invited Lecturer:** ASBMR Conference. Meet the Professor on Heterotopic Ossification. Atlanta, GA
- 09/2016 **Invited Lecturer:** *Negotiating your first career position as an academic surgeon.* ASPS. Los Angeles, CA
- 04/2017 **Invited Lecturer:** *Targeting post-injury inflammation*, Harvard Spaulding Center for Rehabilitation. Boston, MA
- 04/2017 **Invited Lecturer:** *Heterotopic Ossification Primer for Plastic Surgeons*, Harvard Department of Surgery, Division of Plastic Surgery. Boston, MA
- 12/2017 **Visiting Professor:** *Heterotopic inflamm-ossification*, University of California, San Francisco. San Francisco, CA
- 04/2018 **Visiting Professor:** *Bone Tissue Engineering and Anti-engineering: Heterotopic Ossification and Lessons from the Boston Bombing*, Wayne State University Eugene Applebaum College of Pharmacy and Health Science Detroit, MI
- 06/2018 **Visiting Professor:** *How trauma turns us to bone: heterotopic ossification and lessons from the Boston Bombing*, University of Cincinnati. Cincinnati, OH
- 11/2018 **Visiting Professor:** *Sticks and stones turn extremity tissues to bones: why trauma transforms progenitor cells to bone*, University of Illinois at Chicago College of Dentistry. Chicago, IL
- 12/2018 **Visiting Professor:** Junior Faculty Exchange Program *Improving surgery and trauma-induced scars from skin to bone*, Stanford University. Stanford, CA
- 08/2019 **Visiting Professor:** *Extremity trauma provides the ingredients for aberrant cell fate*, Children's Medical Center Research Institute at UT Southwestern. Dallas, TX
- 10/2019 **Invited Lecturer:** HSDM Science Speaker Series. Harvard School of Medicine. Boston, MA
- 02/2019 **Invited Lecturer:** Orthopedic Research Society: Stem cell plasticity. Montreal, Canada
- 11/2019 **Invited Lecturer:** *Lessons from combat casualties and domestic mass casualty events to understand and prevent aberrant cell fate*, Biological Sciences BioFrontiers Seminar Series. University of North Texas (UNT). Denton, TX
- 10/2021 **Invited Lecturer:** *Clowes Career Development Awardees*, American College of Surgeons. Virtual, Chicago, IL
- 1/2022 **Invited Lecturer:** Center for Engineering in Medicine and Surgery Seminar Series, Massachusetts General Hospital, Harvard University. Predicting your fate or misfortune: Using single cell genomics to understand aberrant cell fate. Virtual, Boston, MA
- 2/2022 **Invited Lecturer:** *What the cell? Using single cell to examine aberrant cell fate*, Takara Bio USA, Inc. Virtual, San Jose, CA

- 2/2022 **Invited Lecturer:** *Single cell transcriptomics approaches to analyze musculoskeletal tissues*, ORS 2022 Workshop Speaker. Tampa, FL
- 3/2022 **Invited Lecturer:** *Improving Musculoskeletal and Mental Fitness Through Single Cell and Single Individual Support*, UNC Surgical Grand rounds. Chapel Hill, NC
- 5/2022 **Invited Lecturer:** *The Power of One: Investing in One Cell and One Lab Member at a Time*. Washington University Musculoskeletal Research Day. St. Louis, MO
- 7/2022 **Invited Lecture:** *How to Build a Mental Fitness Program Based on Positive Intelligence*, Michigan Association of Plastic Surgery, Mackinac Island, Michigan
- 09/2022 **Invited Lecture:** *The Nervous Niche of Musculoskeletal Tissue in Repair and Disrepair*, Gordon Research Conference 2022, Ventura, CA
- 10/2022 **Invited Lecture:** *Going Somewhere New: Pitfalls of Negotiating a Surgeon-Scientist Contract*, Association for Academic Surgery /Fundamentals of Scientific Research Course 2022, San Diego, CA
- 11/2022 **Invited Lecture:** *Lawrence Family Bone Disease Program of Texas 2022-2023 seminar series*, Houston, TX
- 12/2022 **Invited Lecture:** *Wilson Surgical Society- Annual Research Talk -Virtual-Memphis*, TN

**Bibliography (Chronological Order of >150 publications)**

*Peer-Reviewed Publications*

1. Dipietro LA, Reintjes MG, Low QE, **Levi B**, and Gamelli RL. Modulation of macrophage recruitment into wounds by monocyte chemoattractant protein-1. *Wound Repair Regen.* 2001 Jan-Feb;9(1):28-33. PMID: 11350637.
2. **Levi B**, Fine NA, Rademaker AW, and Mustoe TA. Comparison of Breast Implant Deflation for Mentor Anterior and Posterior Valve Designs in Aesthetic and Reconstructive Patients. *Plast Reconstr Surg.* 2008 Sept;122(3): 685-692. PMID: 18766029.
3. **Levi B**, Clevenger L, Williams B, and Kasten SJ. Residents' views of plastic surgery in the geriatric population: an objective needs assessment for graduate plastic surgery education. *Ann Plast Surg.* 2009 Mar;63(2):314-7. PMID: 19602947.
4. **Levi B**, Kasten SJ, and Buchman SR. Utilization of The Buccal Fat Pad Flap for Congenital Cleft Palate Repair. *Plast Reconstr Surg.* 2009 Mar;123(3):1018-21. PMID: 19319069.
5. Kasten SJ, **Levi B**, Eng D, and Schenarts KA. Toward Outcomes-Based Plastic Surgery Training: A Needs Assessment of Recent Graduates. *Plast Reconstr Surg.* 2009 Nov;124(5): 1703-10. PMID: 20009859.
6. **Levi B**, Brown DL, and Cederna PS. A Comparative Analysis of Tissue Expander Reconstruction of Burned and Unburned Breasts Using Endoscopic and Open Techniques. *Plast Reconstr Surg.* 2010 Feb;125(2): 547-56. PMID: 19910841.
7. **Levi B**, Kasten SJ, and Buchman SR. The Use of Cross Bone Strut Stabilization for Barrel Stave Osteotomies in Calvarial Reconstruction. *J Craniofac Surg.* 2010 Mar;21(2):491-4. PMID: 20216448.
8. James AW, **Levi B**, Xu Y, Carre AL, and Longaker MT. Retinoic Acid Enhances Osteogenesis in Cranial Suture-Derived Mesenchymal Cells: Potential Mechanisms of Retinoid Induced Craniosynostosis. *Plast Reconstr Surg.* 2010 May;125(5):1352-61. PMID: 20134361.
9. **Levi B**, James AW, Nelson ER, Vistnes D, Wu B, Lee M, Gupta A, and Longaker MT. Human

- Adipose-Derived Stromal Cells Heal Critical Size Mouse Calvarial Defects. *Plos One*. 2010 Jun 17;5(6): e11177. PMID: 20567510.
10. Rustad KC, Sorkin M, **Levi B**, Longaker MT, Gurtner GC. Strategies for Organ Level Tissue Engineering. *Organogenesis*. 2010 Jul-Sep;6(3):151-7. PMID: 21197216.
  11. Lee J, Gupta DG, Panetta NJ, **Levi B**, James AW, Wan D, and Longaker MT. Elucidating Mechanisms of Osteogenesis in Human Adipose-Derived Stromal Cells via Microarray Analysis. *J Craniofac Surg*. 2010 July;21(4):1136-41. PMID: 20613589.
  12. **Levi B**, James AW, Glotzbach JG, Wan DC, and Longaker MT. Regulation of Human Adipose-Derived Stromal Cell Osteogenic Differentiation by Insulin-like Growth Factor-1 and Platelet-Derived Growth Factor-Alpha. *Plast Reconstr Surg*. 2010 July;126(1):41-52. PMID: 20220555.
  13. **Levi B**, James AW, Xu Y, Commons GW, and Longaker MT. Divergent Modulation of Adipose-Derived Stromal Cell Differentiation by TGF- $\beta$ 1 Based on Species of Derivation. *Plast Reconstr Surg*. 2010 Aug;126(2):412-25. PMID: 20679827.
  14. James AW, Leucht P, **Levi B**, Carre AL, Xu Y, Helms JA, and Longaker MT. Sonic Hedgehog Influences the Balance of Osteogenesis and Adipogenesis in Mouse Adipose-Derived Stromal Cells. *Tissue Eng Part A*. 2010 Aug;16(8):2605-16. PMID: 20367246.
  15. James AW, **Levi B**, Commons GW, Glotzbach J, Longaker MT. Paracrine Interaction between Adipose-Derived Stromal Cells and Cranial Suture-Derived Mesenchymal Cells. *Plast Reconstr Surg*. 2010 Sept;126(3):806-21. PMID: 20811214.
  16. **Levi B**, James AW, Commons GW, Glotzbach J, Longaker MT. Depot Specific Variation the Osteogenic and Adipogenic Potential of Human Adipose-Derived Stromal Cells. *Plast Reconstr Surg*. 2010 Sept;126(3):822-34. PMID: 20811215.
  17. **Levi B**, Brugmann S, Longaker M. Hes1 is Required for the Development of Craniofacial Structures Derived from Ectomesenchymal Neural Crest Cells. *J Craniofac Surg*. 2010 Sept;21(5):14501451. PMID: 20818250.
  18. **Levi B**, James AW, Nelson ER, Li S, Peng M, Commons GW, Lee M, Wu B, Longaker MT. Human Adipose-Derived Stromal Cells Stimulate Autogenous Skeletal Repair via Paracrine Hedgehog Signaling with Calvarial Osteoblasts. *Stem Cells Dev*. 2011 Feb;20(2):243-57. PMID: 20698749.
  19. Wan DC, Gabbay J, **Levi B**, Boyd JB, Granzow JW. Quality of Innervation in Sensate Medial Plantar Flaps for Heel Reconstruction. *Plast Reconstr Surg*. 2011 Feb;127(2): 723-30. PMID: 20966816.
  20. **Levi B**, James AW, Nelson ER, Hu S, Sun N, Peng M, Wu J, Longaker MT. Adipose-Derived Stromal Cells: Migration and Participation in Repair of Cranial Injury after Systemic Injection. *Plast Reconstr Surg*. 2011 Mar;127(3): 1130-40. PMID: 21364416.
  21. **Levi B**, James AW, Nelson ER, Brugmann SA, Sorkin M, Manu A, Longaker MT. Role of Indian Hedgehog Signaling in Palatal Osteogenesis. *Plast Reconstr Surg*. 2011 Mar;127(3):1182-90. PMID: 21364421.
  22. **Levi B**, James AW, Nelson E, Peng M, Wan DC, Commons GW, Lee M, Wu B, Longaker MT. Acute skeletal injury is necessary for human adipose-derived stromal cell-mediated calvarial regeneration. *Plast Reconstr Surg*. 2011 Mar;127(3): 1118-29. PMID: 21364415.
  23. James AW, **Levi B**, Nelson ER, Peng M, Commons GW, Lee M, Wu B, Longaker MT. Deleterious Effects of Freezing on Osteogenic Differentiation of Human Adipose-Derived Stromal Cells In Vitro and In Vivo. *Stem Cells Dev*. 2011 Mar;20(3):427-39. PMID: 20536327.
  24. **Levi B**, Nelson ER, Brown K, James AW, Xu D, Dunlevie R, Wu JC, Lee M, Wu B, Commons GW, Vistnes D, Longaker MT. Differences in Osteogenic Differentiation of Adipose-Derived Stromal Cells from Murine, Canine and Human Sources in vitro and in vivo. *Plast Reconstr Surg*. 2011 Aug;128(2):373-86. PMID: 21788829.

25. **Levi B**, Nelson ER, Li S, James AW, Hyun JS, Montoro DT, Lee M, Commons GW, Longaker MT. Dura Mater is Required for Human Adipose-Derived Stromal Cell Mediated Healing of Mouse Calvarial Defects. *Stem Cells*. 2011 Aug;29(8):1241-55. PMID: 21656608.
26. Lee AS, Xu D, Plews JR, Nguyen PK, Nag D, Lyons JK, Han L, Hu S, Lan F, Liu J, Huang M, Narsinh KH, Long CT, de Almeida PE, **Levi B**, Kooreman N, Bangs C, Pacharinsak C, Ikeno F, Yeung AC, Gambhir SS, Robbins RC, Longaker MT, Wu JC. Preclinical derivation and imaging of autologously transplanted canine induced pluripotent stem cells. *J Biol Chem*. 2011 Sep 16; 286(37):32697-704. PMID: 21719696.
27. Nelson ER, **Levi B**, Longaker MT. Commentary on Role of Apoptosis in Retinoic Acid- Induced Cleft Palate. *J Craniofac Surg*. 2011 Sep;22(5):1572-3. PMID: 21959389.
28. Tsao CK, Wan DC, Chen WF, Kao DS, **Levi B**. The commissure-based triangular flap for lip revision following reconstruction of a through-and-through defect. *J Plast Reconstr Aesthet Surg*. 2011 Sep 24. 2012 Feb;65(2):271-3. Epub 2011 Sep 25. PMID: 21945062.
29. Nelson ER, **Levi B**, Sorkin M, James AW, Liu KJ, Quarto N, and Longaker MT. Role of GSK-3 $\beta$  in the Osteogenic Differentiation of Palatal Mesenchyme. *Plos One*. 2011; 6(10): e25847. Epub 2011 Oct 14. PMID: 22022457.
30. Scott MA, Nguyen VT, **Levi B**, James AW. Current Methods of Adipogenic Differentiation of Mesenchymal Stem Cells. *Stem Cells Dev*. 2011 Oct;20(10):1793-804. PMID: 21526925.
31. **Levi B**, Wan DC, Glotzbach JP, Hyun J, Januszyk M, Montoro D, Sorkin M, James AW, Nelson ER, Li S, Quarto N, Lee M, Gurtner GC, Longaker MT. CD105 depletion enhances human adipose-derived stromal cell osteogenesis through reduction of TGF-B1 signaling. *J Biol Chem*. 2011 Nov 11;286(45):39497-509. PMID: 21949130.
32. **Levi B**, Nelson ER, James AW, Li S, Brown K, Lee M, Wu B, and Longaker MT. Non- Integrating Knockdown and Customized Scaffold Design Enhances Human Adipose-Derived Stem Cells in Skeletal Repair. *Stem Cells*. 2011 Dec;29(12):2018-29. PMID: 21997852.
33. **Levi B**, Nelson ER, Hyun JS, Glotzbach JP, Li S, Montoro DT, Wan DC, Lee M, Gurtner GC, and Longaker MT. Enhancement of human adipose-derived stromal cell angiogenesis through knockdown of a BMP-2 inhibitor. *Plast Reconstr Surg*. 2012 Jan;129(1):53-66. PMID: 21915082.
34. Wan DC, **Levi B**, Amaral CR, Kawamoto H, Bradley JP. Correction of Hypertelorbitism: Evaluation of Relapse on Long-Term Follow-Up. *J Craniofac Surg*. 2012 Jan;23(1):113-7. PMID: 22337385.
35. Donneys A, Weiss DM, Deshpande SS, Ahsan S, Tchanque-Fossuo CN, Sarhaddi D, **Levi B**, Goldstein SA, Buchman SR. Localized Deferoxamine Injection Augments Vascularity and Improves Bony Union in Pathologic Fracture Healing after Radiotherapy. *Bone*. 2012 Oct 18. pii: S8756-3282(12)01322-1. PMID: 23085084.
36. Chung MT, **Levi B**, Hyun JS, Lo DD, Montoro DT, Lisiecki J, Bradley JP, Buchman SR, Longaker MT, and Wan DC. Three-Dimensional Morphometric Analysis of the Hypoplastic Mandible. *J Craniofac Surg*. 2012 Nov;23. PMID: 23154353.
37. **Levi B**, Hyun J, Montoro D, Lo D, Hu S, Sun N, Nag D, Lee M, Grova M, Nelson ER, Lee A, Connolly AJ, Wu JC, Gurtner GC, Wan DC, and Longaker MT. In Vivo Directed Differentiation of Pluripotent Stem Cells for Skeletal Regeneration. *Proc Natl Acad Sci U S A*. 2012 Dec 11; 109(50):20379-84. PMID: 23169671.
38. **Levi B**, Sugg K, Lien S, Kasten SJ, Muraszko K, Maher CO, and Buchman SR. Outcomes of Tethered Cord Repair with a Layered Soft Tissue Closure. *Ann Plast Surg*. 2013 Jan; 70(1):74- 8. PMID: 21921789.
39. Rinkinen J, Zhang P, Wang L, Enchakalody B, Holcomb S, Wang SC, Buchman SR, **Levi B**. Novel Temporalis Muscle and Fat Pad Morphomic Analyses Aids Pre-operative risk evaluation and Outcome Assessment in Nonsyndromic Craniosynostosis Patients. *J Craniofac Surg*. 2013

- Jan;24(1):250-5. PMID: 23348295.
40. Lisiecki J, Wan DC, Wang L, Zhang P, Enchakalody B, Zhang X, Kasten SJ, Wang SC, Buchman SR, **Levi B**. Preliminary Study: Novel Application of Human Morphomics to Quantify Temporal Soft Tissues in Pierre Robin and Treacher Collins Patients. *J Craniofac Surg*. 2013 Jan;24(1):158-62. PMID: 23348276.
  41. Chung MT, Hyun JS, Lo DD, Montoro DT, Hasegawa M, **Levi B**, Januszyk M, Longaker MT, Wan DC. Micro-CT Evaluation of Human Fat Grafts in Nude Mice. *Tissue Eng Part C Methods*. 2013 Mar;19(3):227-32. PMID: 22916732.
  42. Donneys A, Deshpande SS, Tchanque-Fossuo CN, Johnson KL, Blough JT, Perosky JE, Kozloff KM, Felice PA, Nelson NS, Farberg AS, **Levi B**, and Buchman SR. Deferoxamine expedites consolidation during mandibular distraction osteogenesis. *Bone*. 2013 Apr 15;55(2):384-390. PMID: 23598047.
  43. Peterson JR, Okagbare P, De La Rosa S, Cilwa KE, Perosky JE, Oluwatobi EN, Donneys A, Su GL, Buchman SR, Cederna PS, Wang SC, Kozloff KM, Morris MD, and **Levi B**. Early Detection of Burn-Induced Heterotopic Ossification using Transcutaneous Raman Spectroscopy. *Bone*. 2013 May;54(1):28-34. PMID: 23314070.
  44. Donneys A, Ahsan S, Perosky JE, Deshpande SS, Tchanque-Fossuo CN, **Levi B**, Kozloff KM, Buchman SR. Deferoxamine restores callus size, mineralization, and mechanical strength in fracture healing after radiotherapy. *Plast Reconstr Surg*. 2013 May;131(5): 711e-9e. PMID: 23629110.
  45. Rinkinen J, Terjimanian M, Benedict M, Hiltzik D, Seyi A, Lisiecki J, Wang SC, Buchman SR, **Levi B**. Temporal Morphomics as a Model for Determining Preoperative Risk of Blood Transfusion in Nonsyndromic Craniosynostosis Patients. *Plast Reconstr Surg*. 2013 Sep;132(3):403e-12e. PMID: 23985652.
  46. **Levi B**, Glotzbach JP, Sorkin M, Hyun J, Januszyk M, Wan DC, Li S, Nelson ER, Longaker MT, Gurtner GC. Molecular Analysis and Differentiation Capacity of Adipose-Derived Stem Cells from Lymphedema Tissue. *Plast Reconstr Surg*. 2013 Sep;132(3):580-9. PMID: 23985633.
  47. Deshpande SS, James AW, Blough JHT, Donneys A, Peterson J, Wang SC, Cederna PS, Buchman SR, and **Levi B**. Reconciling The Effects of Inflammatory Cytokines on Mesenchymal Cell Osteogenic Differentiation. *J Surg Res*. 2013 Nov;185(1):278-85. PMID: 23972621.
  48. Lisiecki J, Zhang P, Wang L, Rinkinen J, De La Rosa S, Enchakalody B, Brownley RC, Wang SC, Buchman SR, and **Levi B**. Morphomic Measurement of the Temporalis Muscle and Zygomatic Bone as Novel Predictors of Hospital-Based Clinical Outcomes in Mandible Fracture Patients. *J Craniofac Surg*. 2013 Sep;24(5):1577-81. PMID: 24036730.
  49. Oppenheimer AJ, Ranganathan K, **Levi B**, Strahle JM, Kapurch J, Muraszko KM, and Buchman SR. Minimizing Transfusions in Primary Cranial Vault Remodeling the Role of Aminocaproic Acid. *J Craniofac Surg*. 2014 Jan;25(1):82-6. PMID: 24240766.
  50. Ranganathan K, Terjimanian M, Lisiecki J, Rinkinen J, Mukkamala A, Brownley C, Wang SC, and **Levi B**. Temporalis Muscle Morphomics: The Psoas of the Craniofacial Skeleton. *J Surg Res*. 2014 Jan;186(1):246-52. PMID: 24079810.
  51. Chang JB, Kung TA, **Levi B**, Irwin T, Kadakia A, Cederna PS. Surgical management of burn flexion and extension contractures of the toes. *J Burn Care Res*. 2014 Jan-Feb; 35(1):93-101. PMID: 24390110.
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*Peer-Reviewed Reviews*

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8. **Review: Levi B**, Longaker MT. Adipose-Derived Stromal Cells for Skeletal Regenerative Medicine. *Stem Cells.* 2011 Apr;29(4):576-82. PMID:21305671.
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15. **Review:** Naghshineh N, Brown S, Cederna PS, **Levi B**, Lisiecki J, D'Amico R, Hume K, Seward W, Rubin PJ. Demystifying the FDA: Understanding Regulatory Pathways. *Plast Reconstr Surg.* 2014 Sep;134(3):559-69. PMID: 25158712.
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38. **Review:** Cholok D, Chung MT, Ranganathan K, Ucer S, Day D, Davis TA, Mishina Y, **Levi B**. Heterotopic ossification and the elucidation of pathologic differentiation. *Bone*. 2018 Apr; 109:12-21. PMID: 28987285.
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  40. **Review:** Lanfranca M, Thompson JK, Bednar F, Halbrook C, Lyssiotis C, **Levi B**, Frankel TL. Metabolism and epigenetics of pancreatic cancer stem cells. *Semin Cancer Biol*. 2019 Aug; 57:19-26. PMID: 30273655. Participated in review writing/editing.
  41. **Review:** Nunez, JH, Strong, AL, Comish, P, Hespe, GE, Harvey, J, Sorkin, M, **Levi, B**. A Review of Laser Therapies for the Treatment of Scarring and Vascular Anomalies. *Adv Wound Care (New Rochelle)*. 2022; .: PMID:35951024 .

#### *Non-Peer-Reviewed Book Chapters Published*

1. **Chapter:** Donneys A, Nelson N, Ahsan S, Peterson JR, Morris MD, Esmonde-White F, Buchman SR, Wang SC, **Levi B**. Advancements in Cortical Bone Imaging. In: *Trabecular and Cortical Bone: Morphology, Biomechanics and Clinical Implications*. Ed Varsha Subramaniam and Manish Bhatnagar. New York: Nova Biomedical, 2014. 137-162.
2. **Chapter:** Ranganathan K, Wang S, **Levi B**. Management of Acute Thermal Injury. In: *Evidence-Based Critical Care: A Case Study Approach*. Robert C. Hyzy. Springer, Cham. 2017. 701-706.
3. **Chapter:** **Levi B**, Lisiecki J and Klein G. Importance of mineral and bone metabolism after burn. In: *Total Burn Care*. Ed. David Herndon. Elsevier. 2018. 268-275.
4. **Chapter:** Peterson J, **Levi B**, Lisiecki J. Face Burn Reconstruction (Cheek, Nose, Lip). In: *Global Reconstructive Surgery*. James Chang. Elsevier. 2019. 248-254. Participated extensively in the writing/editing of the chapter.
5. **Chapter:** **Levi B**, Wang S. Burns. In: *Fitzpatrick's Dermatology Ed. 9 Vol. 2*. Sewon Kang. McGraw and Hill. 2019. Chapter 99
6. **Chapter:** **Levi B**, Hemmila M, Wang SC. Burn Surgery. In: *Greenfield's Surgery Ed 8*.
7. **Chapter:** Singh N, **Levi B**, Wang SC. Burn Surgery. In: *Greenfield's Surgery Ed 9*.
8. **Chapter:** **Levi B**, Wong VC, Sheridan R. Burn Surgery and Critical Care. In: *Massachusetts General Hospital Critical Care Handbook, Ed. 2*. In Press.
9. **Chapter:** Vercruysse G, **Levi B**. Burns. IN: *Trauma Ed. 9*. McGraw and Hill. 2020.
10. **Chapter:** *Critical Care Handbook of the Massachusetts General Hospital, Seventh Edition*.

#### **Invited Presentations and Moderated Sessions (>170)**

1. **Levi B**, Clevenger L, Williams B, and Kasten SJ. *Resident's Views of Plastic Surgery in the Geriatric Population: An Objective Needs Assessment for Curriculum Development Using the Concept Coding Technique*. Oral Presentation, Plastic Surgery Research Council, Springfield IL, May 2008.
2. **Levi B**, Fine NA, Rademaker AW, and Mustoe TA. *Comparison of Breast Implant Deflation for Mentor Anterior and Posterior Valve Designs in Aesthetic and Reconstructive Patients*. Oral Presentation, Plastic Surgery Research Council, Springfield IL, May 2008.
3. **Levi B**, Clevenger L, Williams B, and Kasten SJ. *Resident's Views of Plastic Surgery in the Geriatric Population: An Objective Needs Assessment for Curriculum Development Using the Concept Coding*

- Technique*. Poster presentation: Association of Plastic and Reconstructive Surgery (ASPS), Plastic Surgery 2008. Chicago, IL, October 2008.
4. **Levi B**, Kasten SJ, and Buchman SR. *Utilization of The Buccal Fat Pad Flap for Congenital Cleft Palate Repair*. Oral presentation, Association of Plastic and Reconstructive Surgery (ASPS), Plastic Surgery 2008. Chicago, IL, October 2008.
  5. **Levi B**, Brown DL, and Cederna PS. *Outcomes Comparison Between Endoscopic and Open Tissue Expander Reconstruction of the Burned Breast*. Oral Presentation, American Burn Association 41<sup>st</sup> Annual Meeting, San Antonio, TX, March 2009.
  6. **Levi B**, Brown DL, and Cederna PS. *Outcomes Comparison Between Endoscopic and Open Tissue Expander Reconstruction of the Burned Breast*. Oral Presentation, Plastic Surgery Research Council, Pittsburgh, PA, May 2009.
  7. **Levi B**, Glotzbach JG, James AW, and Longaker MT. *Enhancement of Bone Regeneration using an Enriched Skeletal Progenitor Cell Population from Human Adipose-Derived Stromal Cells*. Oral Presentation, Stanford University Stem Cell Symposium, Stanford, CA, Dec 2009.
  8. **Levi B**, James AW, Carre A, Longaker MT, and Lorenz HP. *Insights into scar formation via culture of embryonic and postnatal fibroblasts*. Oral Presentation, American Burn Association, Boston, MA, March 2010.
  9. **Levi B**, Gamelli R, and Greenhalgh D. *Invited Moderator, Future of Burn Surgery Education*. American Burn Association, Boston, MA, March 2010.
  10. **Levi B**, Wan DC, Glotzbach JP, Quarto N, James AW, Behr B, Wu B, Gurtner GC and Longaker MT. *Enhancement of Bone Regeneration using an Enriched Skeletal Progenitor Cell Population from Human Adipose-Derived Stromal Cells*. Oral Presentation, Plastic Surgery Research Council, San Francisco, CA, May, 2010.
  11. Larson BJ, Carre AL, **Levi B**, James AW, and Longaker MT. *Insights into Scar Formation Via Culture of Embryonic and Postnatal Fibroblasts*. Oral Presentation, Plastic Surgery Research Council, San Francisco, CA, May 2010.
  12. Glotzbach J, **Levi B**, Wong V, Rustad K, Longaker MT, and Gurtner GC. *Single Cell Transcriptional Analysis Defines Multiple Heterogeneous Subpopulations within Human Adipose-Derived Stromal Cells*. Oral Presentation, Plastic Surgery Research Council, San Francisco, CA, May 2010.
  13. **Levi B**, James AW, Wan DC, Nauta AC, Commons GW, and Longaker MT. *Depot Specific Variation the Osteogenic and Adipogenic Potential of Human Adipose-Derived Stromal Cells*. Oral Presentation, Plastic Surgery Research Council, San Francisco, CA, May 2010.
  14. **Levi B**, Glotzbach JP, Quarto N, James AW, Wan DC, Behr B, Gurtner GC, and Longaker MT. *Enhancement of Bone Regeneration using an Enriched Skeletal Progenitor Cell Population from Human Adipose-Derived Stromal Cells*. Oral Presentation, Plastic Surgery Research Council, San Francisco, CA, May 2010.
  15. **Levi B**, Sugg K, Lien S, Kasten SJ, Muraszko K, Maher CO, and Buchman SR. *Outcomes of Tethered Cord Repair with a Layered Soft Tissue Closure at a High Volume University Hospital*. Oral Presentation, American Association of Plastic Surgery, Toronto, Canada, October 2010.
  16. Nelson ER, **Levi B**, James AW, Commons GW, Wu B, Longaker MT. *Human Adipose-Derived Stromal Cells Stimulate Autogenous Skeletal Healing via Paracrine Interaction with Calvarial Osteoblasts*. Oral Presentation, American College of Surgeons Washington, DC. October 2010.
  17. James AW, **Levi B**, Glotzbach J, Peng M, Longaker MT. *Migration of systemically injected adipose-derived stromal cells to sites of cranial and appendicular skeletal injury*. Oral Presentation, American College of Surgeons. Washington DC, October 2010.
  18. **Levi B**, Glotzbach JP, Nelson ER, James AW, Li S, Gurtner GC, Lee M, Quarto N, and Longaker

- MT. *Enhancement of Bone Regeneration Using an Enriched Skeletal Progenitor Cell Population from Human Adipose-Derived Stromal Cells*. Oral Presentation, Academic Surgical Congress. Huntington Beach, CA, February 2011.
19. **Levi B**, Nelson ER, James AW, Li S, Brown K, Lee M, Wu B, and Longaker MT. *Novel regulation of human adipose-derived stromal cell osteogenesis through Noggin knockdown and a BMP-2 slow releasing scaffold*. Oral Presentation, Academic Surgical Congress. Huntington Beach, CA, February 2011.
  20. **Levi B**, Nelson ER, James AW, Li S, Brown K, Lee M, Wu B, and Longaker MT. *Novel regulation of human adipose-derived stromal cell osteogenesis through Noggin knockdown and a BMP-2 slow releasing scaffold*. Oral Presentation, Plastic Surgery Research Council, May 2011. Boca Raton, FL, April 2011.
  21. **Levi B**, Nelson ER, Hyun J, Li S, Montoro DM, Lee M, Commons G, and Longaker MT. *Dura Mater Cells Stimulate Human Adipose-Derived Stromal Cells to Undergo Osteogenic Differentiation via Paracrine BMP Signaling in Skeletal Repair*. American Association of Plastic Surgeons. Poster Presentation, Boca Raton, FL, April 2011.
  22. Nelson ER, **Levi B**, Sorkin M, James AW, Brugmann SA, and Longaker MT. *Role of GSK Signaling in Palatal Osteogenesis: In vitro and in vivo studies*. Oral Presentation, Plastic Surgery Research Council. Louisville, KY, May 2011.
  23. Glotzbach JP, **Levi B**, Januszyk M, Wong VW, Sorkin M, Chen J, Suga H, Longaker MT, and Gurtner GC. *Gene Expression Patterns of Human Adipose-Derived Stromal Cells Correlate with FACS Sorting Parameters for Prospective Isolation of Subpopulations*. Oral Presentation, Plastic Surgery Research Council. Louisville, KY, May 2011.
  24. **Levi B**. *Research Funding for Residents: Laying the groundwork for a career in academic plastic surgery*. Plastic Surgery Research Council. Invited Moderator: Louisville, KY, May 2011.
  25. **Levi B**, Nelson ER, Li S, Hyun J, Glotzbach J, Brown K, Lee M, and Longaker MT. *Novel regulation of human adipose-derived stromal cell osteogenesis through Noggin knockdown and a BMP-2 slow releasing scaffold*. Oral Presentation, Plastic Surgery Research Council. Louisville, KY, May 2011.
  26. Nelson ER, **Levi B**, Sorkin M, Brugmann SA, Hyun JS, James AW, Quarto N, Peng M, and Longaker MT. *Role of GSK3B Signaling in Palatal Osteogenesis: In vitro and in vivo studies*. Oral Presentation, American College of Surgeons, Scientific Forum. San Francisco, CA, October 2011.
  27. Glotzbach JP, **Levi B**, Januszyk M, Sorkin M, Wong VW, ER Nelson, Suga H, Chen JS, Longaker MT, and Gurtner GC. *Enrichment of Human Adipose-Derived Stromal Cells for Cardiovascular Tissue Engineering*. Oral Presentation, American College of Surgeons, Scientific Forum. San Francisco, CA, October 2011.
  28. **Levi B**, Nelson ER, Hyun J, Li S, Montoro DM, Lee M, Commons G, and Longaker MT. *Dura Mater Cells Stimulate Human Adipose-Derived Stromal Cells to Undergo Osteogenic Differentiation via Paracrine BMP Signaling in Skeletal Repair*. Oral Presentation, American College of Surgeons, Scientific Forum. San Francisco, CA, October 2011.
  29. **Levi B**, Nelson ER, Hyun JS, Glotzbach JP, Li S, Montoro DT, Wan DC, Lee M, Gurtner GC, and Longaker MT. *Human Adipose-Derived Stromal Cells Create a Vasculogenic Microenvironment*. Oral Presentation, American College of Surgeons, Scientific Forum. San Francisco, CA, October 2011.
  30. Hyun J, **Levi B**, Montoro D, and Longaker MT. *In Vivo Directed Differentiation of Induced Pluripotent Stem Cells to Bone Lineage and Repair of a Skeletal Defect*. Frederick A. Collier Surgical Society Meeting. Napa Valley, CA, October 2011.
  31. **Levi B** and LeBlanc A. *Cell Isolation, Culture and Storage*. International Federation for Adipose

- Therapeutics and Science*. Miami Beach, FL, October 2011.
32. **Levi B**, Glotzbach JP, Quarto N, James AW, Wan DC, Behr B, Gurtner GC, and Longaker MT. *Enhancement of Bone Regeneration using an Enriched Skeletal Progenitor Cell Population from Human Adipose-Derived Stromal Cells*. Oral Presentation, International Federation for Adipose Therapeutics and Science. Miami Beach, FL, October 2011.
  33. **Levi B**, Nelson ER, James AW, Li S, Brown K, Lee M, Wu B, and Longaker MT. *Novel regulation of human adipose-derived stromal cell osteogenesis through Noggin knockdown and a BMP-2 slow releasing scaffold*. Society of Academic and Research Surgery. Award-Winning Invited Presentation, Nottingham, England, January 2012.
  34. Hyun JS, **Levi B**, Montoro D, Hu S, Sun N, Wan D, Lee M, Nag D, Nelson ER, Connolly A, Wu J, Gurtner JC, and Longaker MT. *In Vivo Directed Differentiation of Pluripotent Stem Cells to Bone Lineage and Repair of a Skeletal Defect*. Oral Presentation, Academic Surgical Congress. Las Vegas, NV, February 2012.
  35. **Levi B**, Glotzbach JP, Sorkin M, Hyun J, Januszyk M, Wan DC, Longaker MT, and Gurtner GC. *Molecular Analysis of Adipose-Derived Stem Cells from Lymphedema Tissue*. Oral Presentation, Academic Surgical Congress. Las Vegas, NV, February 2012.
  36. Lisiecki J, Zhang P, Wang L, Enchakalody B, Holcombe S, Rinkinen J, Wang SC, Buchman SR, and **Levi B**. *Morphomic Measurement of the Temporalis Muscle as a Novel Predictor of Injury Severity and Clinical Outcomes in Mandible Fracture Patients*. Oral Presentation, American College of Surgeons, Surgical Forum. Chicago, IL, October 2012.
  37. Rinkinen J, Wang L, Zhang P, Enchakalody B, Holcombe A, Dombrowski A, Lisiecki J, Wang SC, Buchman SR, and **Levi B**. *Novel Development of Craniofacial Morphomic Indices to Characterize Variation among Craniosynostosis Subtypes*. Oral Presentation, American College of Surgeons, Surgical Forum. Chicago, IL, October 2012.
  38. **Levi B**, Deshpande S, Haak B, Bayliss J, Hemmila M, Xi C, Su G, Buchman SR, Cederna PS, and Wang SC. *Effect of Burn Injury on Mesenchymal Stem Cell Niches: The Mechanism Behind Heterotopic Ossification*. TERMIS World Congress Vienna, Austria, September 2012.
  39. **Levi B**, Lisiecki J, Rinkinen J, Terjimanian MN, Holcombe SA, Kozlow JH, Wang, SC, and Kuzon WM. *Innovative Analytic Morphometric Assessment and Body Composition Predicts Surgical Site Infection in Patients Undergoing Component Separation Ventral Hernia Repair*. Oral Presentation: American Surgical Congress, New Orleans, LA, February 2013.
  40. **Levi B**, Deshpande S, Haak B, Bayliss J, Hemmila M, Xi C, Su G, Buchman SR, Cederna PS, and Wang SC. *Effect of Burn Injury on Mesenchymal Stem Cell Niches: The Mechanism Behind Heterotopic Ossification*. Oral Presentation, American Surgical Congress, New Orleans, LA, February 2013.
  41. Peterson J, DeLaRosa S, Sun H, Oluwatobi E, Deshpande S, Donneys A, Buchman SR, Krebsbach P, Wang SC, and **Levi B**. *Burn Injury Enhances Ectopic Bone Formation Capacity of Implanted Adipose-Derived Stromal Cells*. American Burn Association, Palm Springs, CA April 2013.
  42. **Levi B**, Kozlow JH, Lisiecki J, Rinkinen J, Terjimanian MN, Zhang P, Brownley C, Holcombe SA, Wang SC, and Kuzon WM. *Vasculogenesis and the Incidence of Surgical Site Infection in Patients Undergoing Ventral Hernia Repair by Components Separation*. American Association of Plastic Surgery, New Orleans, LA, April 2013.
  43. J Peterson, SR Buchman, PS Cederna, GL Su, SC Wang, MD, **B Levi**. *Effect of Aging on Burn-Induced Heterotopic Ossification*. American College of Surgeons, Scientific Forum, Washington DC, October 2013.
  44. Cilwa K, Peterson J, Wang SC, **Levi B**, and Morris MD. *Heterotopic Ossification and Raman Spectroscopy*. *International Conference on the Chemistry and Biology of Mineralized Tissues*. Lake

- Geneva, WI, October 2013.
45. Agarwal S, Loder S, Wood S, Bishop D, Cederna PS, Wang SC, and **Levi B**. *Engendering Hindlimb Immunologic Ignorance in Mouse Model of Allogeneic Skin Transplantation to the Distal Hindlimb*. Quick Shot Presentation. American Surgical Congress. San Diego, CA, February 2014.
  46. **Levi B**, Peterson J, De La Rosa S, Agarwal S, Oluwatobi E; Brownley R, Buchman SR, Cederna PS, and Wang SC. *Use of BMP type I Alk-3 knockout mice to develop novel treatment strategies for trauma-induced heterotopic ossification*. American Surgical Congress. San Diego, CA, February 2014.
  47. S. Agarwal, S. Loder, S. Wood, P. Cederna, D.K. Bishop, S. Wang, **B. Levi**, MD. *Engendering Temporary Hindlimb Immunologic Ignorance in a Mouse Model of Allogeneic Skin Transplantation to the Distal Hindlimb*. American Burn Association, Boston, MA, March 2014.
  48. JR Peterson, S Loder, ON Eboda, S Agarwal, BS; RC Brownley, S De La Rosa, PS Cederna, SC Wang, **B Levi**. *Fat Grafting with or Without Enrichment of Mesenchymal Stem Cells Improves Deep Partial Thickness Burn Wound Healing*. American Burn Association, Boston, MA, March 2014. *Award for Best Student Abstract*.
  49. Donneys A, Deshpande SS, **B Levi**, Buchman SR. *Real-time Investigation of the Angiogenic Effect of Deferoxamine on Endothelial Cells Exposed to Radiotherapy*. Accepted for presentation at Plastic Surgery Research Council 58<sup>th</sup> Annual Meeting, Santa Monica, CA, May 2014.
  50. Lisiecki J, **Levi B**, Rinkinen J, Terjimanian MN, Holcombe SA, Kozlow JH, Wang SC, and Kuzon WM. *Innovative Analytic Morphometric Assessment and Body Composition Predicts Surgical Site Infection in Patients Undergoing Component Separation Ventral Hernia Repair*. Oral Presentation, Plastic Surgery Research Council 58<sup>th</sup> Annual Meeting, Santa Monica, CA, May 2014.
  51. Kozlow JH, Lisiecki J, Zhang P, Rinkinen J, Terjimanian MN, Brownley CR, Holcombe SA, Wang SC, Kuzon WM, and **Levi B**. *Effects on Abdominal Wall Dynamics after Ventral Hernia Repair by Component Separation*. Oral Presentation, Plastic Surgery Research Council 58<sup>th</sup> Annual Meeting, Santa Monica, CA, May 2014.
  52. De La Rosa S, Peterson J, Oluwatobi E, Lisiecki J, Rinkinen J, Bayliss J, Xi C, Su GL, Cederna PS, Wang SC, and **Levi B**. *ATP hydrolysis reduces neutrophil infiltration and necrosis in partial-thickness scald burns in mice*. Oral Presentation, Plastic Surgery Research Council 58<sup>th</sup> Annual Meeting, Santa Monica, CA, May 2014.
  53. **Levi B**, Peterson JR, De La Rosa S, Okagbare P, Cilwa K, Oluwatobi E, Morris M, Kozloff K, Cederna PS, Buchman SR, and Wang SC. *Novel Point of Care Imaging Methodology to Detect Heterotopic Ossification*. Oral Presentation, Plastic Surgery Research Council 58<sup>th</sup> Annual Meeting, Santa Monica, CA, May 2014.
  54. Massachusetts General Hospital Trauma/Critical Care Grand Rounds. *Preventing One of the complications associated with the Boston Marathon Bombing*. Boston, MA. June 2014.
  55. European Association of Plastic Surgery: AAPS Award Presentation. Ischia, Italy. June 2014.
  56. International Fibrodysplasia Ossificans Progressiva Association Drug Development Symposium. *How trauma-induced heterotopic ossification can improve our understanding of FOP: Lessons from the Boston Bombings*. Invited speaker. Boston, MA, November 2014.
  57. Agarwal S, Lloyd B, Nigwekar S, Loder S, Ranganathan K, Cederna P, Fagan S, Goverman J, Morris M, **Levi B**. *Raman spectroscopy provides a rapid, non-invasive method for identifying calciphylaxis*. American Surgical Congress. Oral Presentation. Las Vegas, NV, February 2015.
  58. Agarwal S, Peterson S, Loder S, Eboda O, Brownley C, Ranganathan, Fine D, Stettinichs K, Moheda A, Yu P, Wang S, Buchman S, Cederna P, **Levi B**. *Inhibition of heterotopic ossification by Cox-2 inhibitors is independent of BMP receptor signaling*. American Surgical Congress. Oral Presentation. Las Vegas, NV, February 2015.

59. Agarwal S, Brownley C, Cederna PS, Fine D, Loder S, Martyn J, Peterson J, Woo S, **Levi B**. *Novel Nfatc1-Cre/caALK2 Enhancer Mice Produce Heterotopic Ossification Localized to Joints through Cartilage Intermediary*. Oral Presentation. Orthopaedic Research Society. Las Vegas, NV, March 2015.
60. Agarwal S, Brownley C, Cederna PS, Fine D, Loder S, Martyn J, Peterson J, Woo S, **Levi B**. *Pulsed dosing of small molecule BMP receptor inhibitors decreases heterotopic ossification in a trauma-induced mouse model*. Oral Presentation. American Burn Association. Chicago, IL, April 2015.
61. Agarwal S, Brownley C, Cederna PS, Fine D, Loder S, Martyn J, Peterson J, Woo S, and **Levi B**. *Role of hind limb immobilization on burn-induced heterotopic ossification*. Oral Presentation. American Burn Association. Chicago, IL, April 2015.
62. Ranganathan K, Li S, Loder S, Brownley C, Agarwal S, Kraft C, Eboda O, BS; Peterson J, BS; Cederna P, Buchman S, MD; **Levi B**. *The Impact of the Adaptive Immune System On Ectopic Bone Formation*. Plastic Surgery Research Council, Seattle, WA, May 2015.
63. Li J, Agarwal S, Loder S, Brownley C, Peterson J, Ranganathan K, Cederna P, Oluwatobi E, Mohedas A, Yu P, **Levi B**. *Optimizing Timing and Targeting of Bone Morphogenetic Protein Receptor One to Treat Heterotopic Ossification with Novel Kinase Inhibitors and Ligand Traps*. Plastic Surgery Research Council, Seattle, WA, May 2015.
64. Loder S, Agarwal S, Brownley C, Li J, Sorkin M, Li S, Peterson J, Mishina Y, **Levi B**. *Using a Novel Transgenic Mouse to Identify Endochondral Ossification Precursor Cells and to Induce Bone Growth*. Plastic Surgery Research Council, Seattle, WA, May 2015.
65. Sorkin M, Agarwal S, Loder S, Brownley C, Ranganathan K, Li J; Li S, Cederna P, **Levi B**. *Hair Follicle Specific ALK2/ACVR1 Critically Regulates Stem Cell Maintenance and Skin Development*. Plastic Surgery Research Council, Seattle, WA, May 2015.
66. Giladi A, Jayakumar P, Kazis L, Mathews K, Kowalske K, Amtmann D, PhD, Schneider J, Cederna P, Ryan C, MD, **Levi B**. *Characterization of Factors Leading to Heterotopic Ossification in Adult Burn Injury Using a Large Multi-Institutional Burn Database*. Plastic Surgery Research Council, Seattle, WA, May 2015.
67. **Levi B**, Ibrahim A, Mathews K, Wojcik B, Gomez J, Fagan S, MD, Austen WG; Goverman J. *The Use of Co2 Fractional Photothermolysis for the Treatment of Burn Scars*. Plastic Surgery Research Council, Seattle, WA, May 2015.
68. Agarwal S, Loder S, Brownley C, Peterson J, Oluwatobi E, Tompkins R, Herndon D, Sung H, Zeng W, Jumlongras D, Olsen B, Cederna P, Buchman S, **Levi B**. *Defining the Role of the Vasculogenic Niche in Trauma-induced Heterotopic Ossification using Novel Imaging and Lineage-tracing Mice*. Plastic Surgery Research Council, Seattle, WA, May 2015.
69. Reushe R, Costa N, **Levi B**, Waljee J. *Health-related quality of life following burn injuries: a comparison of Patient-reported Outcomes Measures*. Oral Presentation. American Burn Association. Las Vegas, NV, May 2015.
70. Kraft C, Agarwal S, Millet J, Ranganathan K, Brown RK, **Levi B**. *Bone Scans in the Evaluation of Heterotopic Ossification prior to Excision*. American Burn Association. Las Vegas, NV, May 2015.
71. Peterson JM, Agarwal S, Loder SJ, Wang SC, and **Levi B**. *Circulating Cells Are Precursors of Mesenchymal Tissue in Heterotopic Ossification*. American Burn Association. Las Vegas, NV, May 2015.
72. **Levi B**, Shapiro GD, Jeng J, Lee A, Acton A, Merino M, Jette A, Schneider JC, Kazis LE, and Ryan CM. *The impact of Gender on Long-term Community Reintegration Following Burn Injury: A Life Impact Burn Recovery Evaluation (LIBRE) Study*. Radiological Society of North America. Chicago, IL, November 2015.
73. Millet J, **Levi B**, Brown RKJ, Jacobson J, Wong KK, Gross M, Kraft C. *Frostbite: The spectrum of*

- Imaging Findings and How They Impact Management*. Oral Presentation. Radiological Society of North America. Chicago, IL, November 2015.
74. Kraft C, Agarwal S, Millet JD, Ranganathan K, Brown RK, Wang SC, **Levi B**. *Bone Scans in the Evaluation of Heterotopic Ossification Prior to Excision*. Poster. American Burn Association. Las Vegas, NV, May 2016.
  75. Peterson JM, Agarwal S, Loder SL, Li J, Cholok D, Ranganathan K, Wang SC, **Levi B**. *Circulating Cells Are Precursors of Heterotopic Ossification*. American Burn Association. Las Vegas, NV, May 2016.
  76. Schneider JC, Chernack B, Shie VL, Goldstein R, **Levi B**, Jayakumar P, Kowalske K, Gibran NS, Herndon D, Ryan CM. *Development of a Heterotopic Ossification Scoring System: A Burn Model System National Database Study*. Poster. American Burn Association. Las Vegas, NV, May 2016.
  77. Reusche R, Costa N, **Levi B**, Waljee J. *Health-Related Quality of Life Following Burn Injuries: A Comparison of Patient-Reported Outcomes Measures*. American Burn Association. Las Vegas, NV, May 2016.
  78. **Levi B**, Shapiro G, Jeng J, Lee AF, Chang P, Acton A, Merino ME, Jette A, Schneider JC, Kazis LE, Ryan CM. *The Impact of Gender on Long-Term Community Reintegration Following Burn Injury; A Life Impact Burn Recovery Evaluation (LIBRE) Study*. American Burn Association. Las Vegas, NV, May 2016.
  79. Ricci JA, **Levi B**, Donelan MB. *Vermillion Reconstruction with Anal Verge Transitional Epithelium: Turning Things Upside Down*. Poster. American Burn Association. Las Vegas, NV, May 2016.
  80. **Session Moderator: Developmental Biology/Ischemia Reperfusion**. Plastic Surgery Research Council. New York, NY, May 2016.
  81. Shailesh A, Loder S, Darak J, Breuler C, Li J, Cholok D, Li S, **Levi B**. *Targeting The Signaling Pathway of a Multi-Potent Connective Tissue Stem Cell to Treat Heterotopic Ossification and Muscle Fibrosis*. Plastic Surgery Research Council Annual Meeting. New York, NY, May 2016.
  82. Sung H, Agarwal S, Loder S, Drake J, Cholok D, Li J, Ranganathan K, Li S, Mishina Y, **Levi B**. *Non-canonical BMP Signaling Regulates Endochondral Bone Development and Trauma-induced Heterotopic Ossification*. Plastic Surgery Research Council Annual Meeting. New York, NY, May 2016.
  83. Loder S, Agarwal S, Peterson J, Li J, Cholok D, Drake J, Breuler C, Wang S, **Levi B**. *Identification of Bone-chondro-stromal Progenitor Cell Populations Within Trauma-induced Heterotopic Ossification*. Plastic Surgery Research Council Annual Meeting. New York, NY, May 2016.
  84. Ranganathan K, Sorkin M, Merceron C, Yao A, Mangiavini L, Giaccia A, Agarwal S, **Levi B**, Schipani E. *HIF-2 $\alpha$  Critically Regulates Metabolism and Homeostasis in Long Bones*. Plastic Surgery Research Council Annual Meeting. New York, NY, May 2016.
  85. Loder S, Agarwal S, Cholok D, Ranganathan K, Sung H, Li J, Li S, **Levi B**. *Macrophage-mediated Production of BMP Ligand Induces Tendon Degeneration and Heterotopic Ossification*. Plastic Surgery Research Council Annual Meeting. New York, NY, May 2016.
  86. Loder S, Agarwal S, Cholok D, Breuler C, Drake J, Wang S, **Levi B**. *Validation of a Novel Model of Recurrent Heterotopic Ossification*. Plastic Surgery Research Council Annual Meeting. New York, NY, May 2016.
  87. Ranganathan K, Cholok D, Sung H, Li S, Yao A, Agarwal S, Li J, Loder S, Breuler C, Drake J, Schipani E, Buchman S, **Levi B**. *Defining a New Cell Lineage in The Sagittal Suture and Its Key Pathway*. Plastic Surgery Research Council Annual Meeting. New York, NY, May 2016.
  88. Rinkinen J, Agarwal S, Hwang C, Peterson J, Loder S, Li J, Li S, Wang S, Cederna P, **Levi B**. *Small Molecule Inhibitor of Bone Morphogenetic Protein Signaling (Idn- 193189) Leads to Diminished Bone and Muscle Volume Following Burn Plus Tenotomy*. Plastic Surgery Research Council Annual

- Meeting. New York, NY, May 2016.
89. Agarwal S, Sorkin M, Loder S, Cholok D, Peterson J, Cederna P, Schipani E, **Levi B.** *Hair Bulge Stem Cells Share a Tendon Stem Cell Lineage.* Plastic Surgery Research Council Annual Meeting. New York, NY, May 2016.
  90. **Levi B**, Shapiro GD, Jeng J, Lee AF, Chang P, Acton A, Merino MD, Jette A, Schneider JC, Kazis LE, Ryan CM. *The Impact of Gender on Long-Term Community Reintegration Following Burn Injury: A Life Impact Burn Recovery Evaluation (LIBRE) Study.* American Burn Association Annual Meeting. Las Vegas, NV, May 2016.
  91. Peterson JM, Agarwal S, Loder S, Li J, Cholok D, Ranganathan K, Wang SC, **Levi B.** *Circulating Cells Are Precursors of Heterotopic Ossification.* American Burn Association Annual Meeting. Las Vegas, NV, May 2016.
  92. Reusche R, Costa N, **Levi B**, Waljee J. *Health-Related Quality of Life Following Burn Injuries: A Comparison of Patient-Reported Outcomes Measures.* American Burn Association Annual Meeting. Las Vegas, NV, May 2016.
  93. Schneider JC, Chernack B, Shie VL, Goldstein R, **Levi B**, Jayakumar P, Kowalske K, Gibran NS, Herndon D, Ryan CM. *Development of a Heterotopic Ossification Scoring System: A Burn Model System National Database Study.* American Burn Association Annual Meeting. Las Vegas, NV. May 2016.
  94. Kraft C, Agarwal S, Millet J, Ranganathan K, Brown R, Wang S, MD, **Levi B.** *Bone Scans in the Evaluation of Heterotopic Ossification Prior to Excision.* American Burn Association Annual Meeting. Las Vegas, NV. May 2016.
  95. **Session Moderator: Critical Care III.** American Burn Association Annual Meeting. Las Vegas, NV, May 2016.
  96. Annamalai RT, Agarwal S, **Levi B**, Stegemann J. *Injectable, Cell-Seeded, Modular Microtissues for Bone Regeneration in Critical Size Defects.* BMES Annual Meeting. Minneapolis, MN.
  97. Ranganathan R, Merceron C, Yao A, Mangiavini L, Giaccia A, **Levi B**, and Schipani E. *Hypoxia Inducible Factor 2a is a negative regulator of osteoblast genesis.* ASBMR Annual Meeting 2016. Young Investigator Award, Atlanta, GA.
  98. Agarwal S, Loder S, Li J, Breuler C, Drake J, Brownley C, Peterson J, Ranganathan K, Oluwatobi E, Sung H, Li S, Kamiya N, Mishina Y, and **Levi B.** *Targeting Developmental Phases of Heterotopic Ossification with BMP Receptor Inhibitors Allows for Delayed, Short-term Treatment.* ASBMR Annual Meeting 2016, Atlanta, GA.
  99. Agarwal S, Cholok D, Loder S, Drake J, Li J, Hwang C, Ranganathan K, Sung H, Breuler C, Eboda O, Priest C, Peterson J, Li S, Schipani E, Mishina Y, **Levi B.** *Inhibition of mTOR signaling reduces Bmp-induced inflammation while preserving regenerative Smad signaling.* ASBMR Annual Meeting 2016, Atlanta, GA.
  100. Agarwal S, Loder S, Cholok D, Breuler C, Chung M, Brownley C, Peterson J, Li J, Hsung H, Ranganathan K, Priest C, Li S, Mishina Y, **Levi B.** *A Translational Strategy Targeting Type I BMP Receptors to Prevent Heterotopic Ossification.* Plastic Surgery Research Council Annual Meeting 2017, Durham, NC.
  101. Loder S, Agarwal S, Hsung H, Cholok D, Chung M, Li J, Breuler C, Priest C, Ranganathan K, Habbouche J, Kaura A, Butts J, Li S, Mishina Y, **Levi B.** *Loss of TGF- beta Activated Kinase (TAK1) Activity Induces Cellular Proliferation and Diminishes Differentiation During Bone Healing.* Plastic Surgery Research Council Annual Meeting 2017, Durham, NC.
  102. Loder S, Agarwal S, Fireman D, Cholok D, Chung M, Breuler C, Li J, Habbouche J, Kaura A, Butts J, Ranganathan K, Hsung H, Li S, Levi B. *Characterizing The Contribution of Circulating Mesenchymal Cells to Pathologic Wound Healing and Heterotopic Ossification.* Plastic Surgery



- Research Council Annual Meeting, Durham, NC.
103. Cholok D, Chung M, Agarwal S, Loder S, Breuler C, Priest C, Habbouche J, Kaura A, Butts J, Reimer J, Li J, Hsung H, Ranganathan K, Fireman D, Li S, Mishina Y, **Levi B**. *Inhibition of mTOR Signaling Reduces Mesenchymal Cell Migration to Sites of Injury and Eliminates Heterotopic Ossification in A Mouse Model*. Plastic Surgery Research Council Annual Meeting 2017, Durham, NC.
  104. Cholok D, Agarwal S, Loder S, Chung M, Annamalai R, Habbouche J, Priest C, Carson B, Breuler C, Ranganathan K, Li J, Butts J, Kaura A, Hsung H, Li S, Mishina Y, **Levi B**. *Macrophage-specific TGF- $\beta$  is a Targetable Cytokine to Prevent Heterotopic Ossification*. Plastic Surgery Research Council Annual Meeting 2017, Durham, NC.
  105. Habbouche J, Ranganathan K, Cholok D, Dang M, Kaura A, Chung M, Butts J, Li J, Brueler C, Priest C, Hsieh H, Ma P, Li S, Ucer S, Buchman S, **Levi B**. *Use of a Novel MicroRNA-519c Construct for Targeted Downregulation of Hypoxia Inducible Factor 1 (Hif-1 $\alpha$ ): A New Therapeutic Strategy Against Heterotopic Ossification*. Plastic Surgery Research Council Annual Meeting, Durham, NC.
  106. Cholok D, Ranganathan, Habbouche J, Kaura A, Butts J, Sung H, Priest C, Chung M, Breuler C, Li J, Li S, Ucer S, Buchman S, **Levi B**. *Hypoxia Signaling in Macrophages Orchestrates Endochondral Ossification in Fractures*. Plastic Surgery Research Council Annual Meeting, Durham, NC.
  107. Ranganathan K, Hong A, Cholok D, Habbouche J, Kaura A, Hsieh H, Li J, Chung M, Butts J, Deng C, Stegemann J, Buchman S, **Levi B**. *Spectroscopic Ultrasound Visualizes Early Heterotopic Ossification: A Paradigm Shift Towards Earlier Diagnosis and Treatment*. Plastic Surgery Research Council Annual Meeting 2017, Durham, NC.
  108. Kaura A, Chung M, Cholok D, Loder S, Breuler C, Butts J, Habbouche J, Li J, Li S, Agarwal S, **Levi B**. *Inhibition of Scleraxis Signaling Provides a Target to Reduce Mesenchymal Cell Inflammation During Wound Healing*. Plastic Surgery Research Council Annual Meeting 2017, Durham, NC.
  109. Ranganathan K, Luby A, Nelson N, Snider A, Donneys A, Ettinger R, Rodriguez J, Buchman L, **Levi B**, Buchman S. *Stem Cells Harvested from Bone Marrow and Adipose Tissue Demonstrate Equivalent Healing but Through Different Mechanisms in a Murine Model of Irradiated Mandibular Fracture Healing*. Plastic Surgery Research Council Annual Meeting 2017, Durham, NC.
  110. Agarwal S, Shawn Loder, **Cholok D**, Breuler C, Chung M, Brownley C, Peterson J, Li J, Hsung H, Ranganathan K, Habbouche J, Kaura A, Priest C, Li S, Mishina Y, Levi B. *A Translational Strategy Targeting Type I BMP Receptors to Prevent Heterotopic Ossification*. Plastic Surgery Research Council Annual Meeting 2017, Durham, NC.
  111. **Session Moderator: Fat Grafting/Stem Cells**. PSRC Annual Meeting 2017. Durham, NC.
  112. **Levi B**, Greene A. **Research Fundamentals and Career Development Workshop: Challenges of Starting Your Research Career – Being Productive and Maximizing Impact in the Beginning and Later Stages of an Academic Career**. Plastic Surgery Research Council Annual Meeting, Durham, NC.
  113. Hsia H, **Levi B**. **Research Fundamentals and Career Development Workshop: NIH Funding – Nuts and Bolts – K Award, R Awards, etc.: What you Need to Know**. Plastic Surgery Research Council Annual Meeting, Durham, NC.
  114. Annamalai RT, Schott N, Hong A, Tiruchinapally G, **Levi B**, Stegemann J. *Multiphase Osteogenic and Vasculogenic Microtissues Support Endothelial Cell Network Formation and enhance the Mineralization Potential of Mesenchymal Stem Cells*. Biomedical Engineering Society 2017 Annual Meeting. Phoenix, AZ.
  115. Hwang C, Sorkin M, Ucer S, Kader S, Vaishampayan A, Chung M, Breuler C, Priest C, Patel N, Li

- J, Vasquez K, Pan H, Economides A, Agarwal S, Mishina Y, **Levi B.** *Changing The Paradigm For A Rare Genetic Disease That Is Currently Contraindicated For Surgery and Lacks Alternative Treatments.* PSRC Annual Meeting 2017. Galveston, TX.
116. **Moderator:** Concurrent session 10: Basic/Translation Science. PSRC Annual Meeting. Birmingham, AL, May 2018.
  117. Hwang C, Ucer S, Sorkin M, Loder S, Chung M, Pagani C, Li J, Priest C, Breuler C, Vasquez K, Li S, Xu J, James A, Agarwal S, **Levi B.** *Identifying The Role of and Treatment Targeting Bone Progenitor Cell VEGF Secretion On The Niche Supporting Traumatic Heterotopic Ossification.* PSRC Meeting. Birmingham, AL, May 2018.
  118. Sorkin M, Hwang C, Ucer S, Li J, Cholok D, Chung M, Agarwal S, Loder S, Pagani C, Vasquez K, Li S, James A, Mishina Y, **Levi B.** *Tuning The Immune Response To Improve Musculoskeletal Extremity Trauma Wound Healing Through Macrophage Directed Tgfb1 Modification.* PSRC Annual Meeting. Birmingham, AL, May 2018.
  119. Patel N, Sorkin M, Hwang C, Li J, Ucer S, Kader S, Vasquez K, Li S, Kumar R, Mishina Y, **Levi B.** *Systemic Inhibition of Tgfb Signaling Attenuates Trauma-induced Heterotopic Ossification.* PSRC Annual Meeting. Birmingham, AL, May 2018.
  120. Sorkin M, Hwang C, Li J, Patel N, Li S, Vasquez K, Agarwal S, **Levi B.** *Musculoskeletal Polytrauma In The Setting of Ischemia/reperfusion Results In Increased Intramuscular Inflammation and Recruitment of Circulatory Macrophages.* PSRC Annual Meeting. Birmingham, AL, May 2018.
  121. Mishina Y, Hsieh H, Agarwal S, Pan H, and **Levi B.** *Coordinating Tissue Regeneration Through TGF-beta Activated Kinase 1 (TAK1) Inactivation and Reactivation.* Gordon Research Conference, Galveston, TX. 2018.
  122. Sorkin M, Hwang C, Li J, Cholok D, Chung M, Agarwal S, Loder S, Ucer S, Pagani C, Li S, Mishina Y, **Levi B.** *Recruited monocyte/macrophage populations promote early inflammation and propagate ectopic bone formation through macrophage secreted TGF-B1.* Gordon Research Conference, Galveston, TX, 2018.
  123. Hwang C, Sorkin M, Ucer S, Loder S, Chung M, Pagani C, Li J, Priest C, Breuler C, Li S, Xu J, James A, Agarwal S, **Levi B.** *VEGF from mesenchymal progenitors is a major cue for endochondral ossification in traumatic heterotopic bone formation.* Gordon Research Conference, Galveston, TX, 2018.
  124. Ramkumar TA, Hong X, Schott N, **Levi B,** and Jan P. Stegemann. *Modular microtissues for the regeneration of functional bone in large defects.* 2018.
  125. **Invited Moderator:** SF223 - Plastic and Maxillofacial Surgery II. ACS Clinical Congress. Boston, MA, October 2018.
  126. **Invited Panel Session Speaker.** PS322 Session Fat Grafting to Treat Scars. ACS Clinical Congress. Boston, MA, October 2018.
  127. **Invited Presentation:** *Immune Directed Therapy to Prevent Heterotopic Ossification.* 8<sup>th</sup> Department of Defense Blast Injury State-of-the-Science Meeting. Arlington, VA. October 2018.
  128. **Invited Speaker:** New Member Poster Session. Society of University Surgeons. Feb 2019.
  129. **Invited Speaker:** G-006 Reconstructive Sig. American Burn Association 51<sup>st</sup> Annual Meeting. Last Vegas, NV. April 2019.
  130. **Invited Moderator:** Poster Session 1-Wounds: Translational II. American Burn Association 51<sup>st</sup> Annual Meeting. Las Vegas, NV. April 2019.
  131. **Invited Moderator:** Concurrent Session 5: Basic/Translational Science. 64<sup>th</sup> Annual Meeting of the Plastic Surgery Research Council. Baltimore, MD. May 2019.
  132. **Invited Moderator:** Concurrent Orals: Mechanobiology and Muscle Interactions. ASBMR 2019 Annual Meeting. Orlando, FL. September 2019.

133. **Invited Moderator:** SF209: Plastic and Maxillofacial Surgery I. ACS Clinical Congress. San Francisco, CA. October 2019.
134. **Invited Moderator:** Clinical Concepts for Trial Advancement. 2019 FOP Drug Development Forum. Orlando, FL. November 2019.
135. **Invited Moderator:** New Directions for FOP. 2019 FOP Drug Development Forum. Orlando, FL. November 2019.
136. **Co-Chairs:** Wound/Tissue Engineering, PSRC Virtual Meeting, June 7-11, 2021.
137. Lee S, Qin Q, Pagani CA, Hwang C, Marini S, Negri S, Clemens TL, **Levi B**, James AW. Neurovascular coupling during the genesis of trauma-induced heterotopic bone, ORS 2021, Virtual Meeting. (Podium).
138. Negri S, Wang Y, Lee S, Qin Q, Xu J, Hsu CY, Presson B, **Levi B**, Levin A, James AW. A novel mouse model for periarticular heterotopic ossification of the hip. ORS 2021. (Poster).
139. Chase A. Pagani, BA<sup>1</sup>, Amy L. Strong, MD/PhD<sup>2</sup>, Nicholas Livingston, BA<sup>1</sup>, Yuxiao Sun, PhD<sup>1</sup>, Geoffrey E. Hespe, MD<sup>2</sup>, Johanna Nunez, MD<sup>1</sup>, Nicole Patel, BS<sup>2</sup>, Amanda K. Huber, PhD<sup>2</sup>, Chunxi Ge, PhD<sup>2</sup>, Renny Franceschi, PhD<sup>2</sup>, **Benjamin Levi, MD<sup>1</sup>**. Genetic- and Mobilization-Based Alterations in Matrix Alignment to Mitigate Aberrant Cell Fate Determination, PSRC, Virtual June 7-11, 2021
140. Amy L. Strong, M.D., Ph.D.<sup>1</sup>, **Benjamin Levi, M.D.<sup>2</sup>**, John Mares, B.S.<sup>3</sup>, Thomas A. Davis, Ph.D.<sup>3</sup>, Philip J. Spreadborough, M.D., Ph.D.<sup>3</sup>. Prolonged Tourniquet use following blast related lower extremity injuries increase Heterotopic Ossification in a pre-clinical model. PSRC, Virtual June 7-11, 2021
141. Chase A. Pagani, BA<sup>1</sup>, Nicole Patel, BS<sup>2</sup>, Nicole J. Edwards, PhD<sup>2</sup>, Geoffrey Hespe, MD<sup>2</sup>, Nicholas Livingston, BA<sup>1</sup>, Johanna Nunez, MD<sup>1</sup>, Amy L. Strong, MD/PhD<sup>2</sup>, Amanda K. Huber, PhD<sup>2</sup>, **Benjamin Levi, MD<sup>1</sup>**. Digit Tip Regeneration Following Amputation Is Not True Regeneration, PSRC, Virtual June 7-11, 2021
142. **Benjamin Levi, MD**. ACS 2017 Clowes Memorial Research Career Development Award Recipient Presentation, American College of Surgeons, Virtual October 10-12,2021
143. **Benjamin Levi, MD**. AAS Fundamentals of Surgical Research Course, Going Somewhere New - Pitfalls of Negotiating a Surgeon-Scientist Contract, Association for Academic Surgery, October 2,2021
144. **Benjamin Levi, MD**. IFATS- Plenary Session,Regenerative Therapies for Othopedics &soprts Medicine panel, International Federation for Adipose Therapeutics and Science, November 19,2021
145. Masnsen Cherief, Jiajia Xu, Zhao Li, Stefano Negri, Mario Gomez-Salazar, Cammy Tang, **Levi B**, Aaron W. James. Skeletal Nerves Modulate Tendon Repair. ORS 2022 Annual Meeting, Podium Presentation
146. Masnsen Cherief, Stefano Negri, Chase A. Pagani, Seungyong Lee, Qizhi Qin, Amy Lu, **Levi B**, Aaron James. Activation Of Trka<sup>+</sup> Nerves Incites Heterotopic Ossification After Trauma. ORS 2022 Annual Meeting, Poster.
147. A. R. Chowdary<sup>1</sup>, R. J. Tower<sup>1</sup>, D. Henn<sup>2</sup>, J. A. Larouche<sup>3</sup>, C. Aguilar<sup>3</sup>, **B. Levi<sup>1</sup>** Macrophage PDGF Signaling to Mesenchymal Progenitors Drives Musculoskeletal Regeneration 17th Annual Academic Surgical Congress, Academic Surgical Congress, Abstract Presentation
148. J. H. Nunez<sup>1</sup>, N. J. Edwards<sup>2</sup>, C. A. Pagani<sup>1</sup>, G. E. Hespe<sup>2</sup>, A. Huber<sup>2</sup>, A. Chowdary<sup>1</sup>, C. J. Rowe<sup>3</sup>, T. A. Davis<sup>3</sup>, **B. Levi<sup>1</sup>** High Frequency Spectral Ultrasound Imaging Detects Early Post Traumatic Muscle Fibrosis in Rodents. 17th Annual Academic Surgical Congress, Academic Surgical Congress, Abstract Presentation

149. J. H. Nunez<sup>1</sup>, C. A. Pagani<sup>1</sup>, G. E. Hespe<sup>2</sup>, N. J. Edwards<sup>2</sup>, A. Huber<sup>2</sup>, A. Bancroft<sup>1</sup>, J. Medrano<sup>1</sup>, A. Strong<sup>2</sup>, **B. Levi**<sup>1</sup> Targeting myeloid-mechanotransductive signaling to reduce muscle fibrosis. 17th Annual Academic Surgical Congress, Academic Surgical Congress, Abstract Presentation
150. Johanna Nunez, Caroline Park, Audra Clark, Chiaka Akarichi, Brett Arnoldo, Rodney Chan, Sergey Mironov, Samuel Mandell, Jeremy Goverman, Deborah Carlson, Ryan Huebinger, **Benjamin Levi**, Omer Berenfeld. Human Case Characterizations of Skin Burn Using Novel Multi-Spectral SWIR Imaging. 2022 ABA Annual Meeting, American Burn Association, Abstract Presentation
151. Pagani, C.A., Strong, A.L., Livingston, N., Sun, Y., Hespe, G.E., Nunez, J., Patel, N., Huber, A.K., Ge, C., Franceschi, R., **Levi, B.** Novel upstream regulator of mechanotransductive signaling and extracellular matrix remodeling which drives progenitor fate determination in aberrant musculoskeletal repair. Plastic Surgery Research Council Annual Meeting. 2021. Abstract Presentation.
152. Johanna H. Nunez, Nicole J. Edwards, Chase A. Pagani, Cassie J. Rowe, Geoffrey Hespe, Amanda Huber, Ashish Chowdary, Cassie J. Rowe, Thomas A. Davis, **Benjamin Levi** High Frequency Spectral Ultrasound Imaging Detects Early Post Traumatic Muscle Fibrosis In Rodents Plastic Surgery Research Council Annual Meeting. 2021. Abstract Presentation.
153. **Benjamin Levi, MD:** Leading Special Interest Groups on Reconstruction. 2022 ABA Annual Meeting, American Burn Association
154. **Benjamin Levi, MD:** Leading Sunrise Symposium- Barriers to Burn Reconstruction. 2022 ABA Annual Meeting, American Burn Association
155. **Benjamin Levi, MD:** Breakfast Breakout Session. PSRC. 2022 AAPS 100<sup>th</sup> Annual Meeting, San Deigo, CA
156. **Benjamin Levi, MD:** Breakout Session: How do I Identify a Research Mentor? AAS/SUS Virtual Surgical Investigators Course.
157. Robert J Tower<sup>1,\*</sup>, Spencer Barnes<sup>1,2</sup>, Alec C Bancroft<sup>1</sup>, Ashish R Chowdary<sup>1</sup>, Nicole J Edwards<sup>3</sup>, Chase A Pagani<sup>1</sup>, Lindsay A Dawson<sup>4</sup>, **Benjamin Levi**<sup>1</sup> Single cell mapping of regenerative and fibrotic healing responses following musculoskeletal injury. The 44th Annual Meeting of ASBMR, Austin, TX (2022) Abstract Presentation
158. Heeseog Kang, Amy L. Strong, Alec C. Bancroft, Lei Guo, Jonathan Y. Hong, Conan Juan, Lin Xu, **Benjamin Levi**, HIF1 $\alpha$  promotes heterotopic ossification via metabolic reprogramming and collagen extracellular matrix organization. The 44th Annual Meeting of ASBMR, Austin, TX (2022) Abstract Presentation
159. Heeseog Kang, Amy L. Strong, Alec C. Bancroft, Lei Guo, Jonathan Y. Hong, Conan Juan, Lin Xu, **Benjamin Levi**, HIF1 $\alpha$  promotes heterotopic ossification via HIF1-YAP-LOX axis. Gordon Research Conference, Ventura, CA
160. *Johanna H Nunez*<sup>1</sup>, Conan Juan<sup>1</sup>, Yuxiao Sun<sup>1</sup>, Jonathan Hong<sup>1</sup>, Alec C Bancroft<sup>1</sup>, Jessica Marie R Medrano<sup>1</sup>, Amanda Huber<sup>2</sup>, Robert J Tower<sup>1</sup>, **Benjamin Levi**<sup>1</sup> Neutrophil and NETosis modulation in traumatic heterotopic ossification. ORS- 2023 Annual Meeting, Dallas, TX.
161. Johanna Nunez, Sergey Mironov, Ryan Huebinger, Deborah Carlson, Bingchun Wan, Jonathan Hong, Audra Clark, Chiaka Akarichi, Brett Arnoldo, Rodney Chan, Samuel Mandell, Jeremy Goverman, Omer Berenfeld, **Benjamin Levi**. Multi-Spectral SWIR imaging in Humans Reveals Correlations with Distinct Skin Burn Tissues. The American Burn Association-2023 Annual Meeting, Dallas, TX.
162. **Benjamin Levi, MD:** Breakfast Breakout Session Moderator. American Society of plastic Surgery, Mecial Students Day 2022, Virtual
163. **Benjamin Levi, MD:** Breakfast Breakout Session., Association for Academic Surgery/ Fundamentals of Scientific Research Course, San Deigo, CA

164. **Benjamin Levi, MD:** Moderator, Surgical Biology Club II, San Deigo, CA
165. **Benjamin Levi, MD:** Moderator, Trauma and HO Symposium 2022- Unifying FOP and Traumatic Heterotopic Ossification. Science + Families = A Cure” . Dallas, TX
166. **Benjamin Levi, MD: Speaker,** Trauma and HO Symposium 2022, DDR2 to the Rescue! Understanding matrix/progenitor cell interactions. Dallas, TX
167. **Benjamin Levi, MD:** The Breakout panel Discussion: Basic and Translational Research- 17th Annual Academic Surgical Congress (ASC)
168. **Benjamin Levi, MD:** Panelist,Mock NIH Studt Session (Health Services Research or Basic Science).
169. Chase A. Pagani, Alec C. Bancroft, Robert J. Tower, Nicholas Livingston, Yuxiao Sun, Jonathan Y. Hong, Benjamin A. Nanes, Robert N. Kent III, Kevin Dean, Brendon M. Baker, Renny T. Franceschi, Stephen J. Weiss, **Benjamin Levi.** Mesenchymal Lineage Discoidin Domain Receptor 2 Affects Heterotopic Ossification Formation And Extracellular Matrix Organization. Plastic Surgery Research Council Annual Meeting. 2023. Podium Presentation.
170. **Benjamin Levi, MD:** Moderator, General Session II: Top Scoring Abstracts. Plastic Surgery Research Council Annual Meeting. 2023.
171. **Benjamin Levi, MD:** Paneelist, PSF Research Fundamentals Panel. Plastic Surgery Research Council Annual Meeting. 2023.
172. Neda Vishlaghi, Lei Guo, Danielle Griswold-Wheeler, Yuxiao Sun, Cori Booker, Janna L Crossley, Alec C. Bancroft, Sowmya Ramesh, Lin Xu, Aaron W. James, Robert J. Tower, Michael Dellinger, **Benjamin Levi** Mesenchymal cell derived VEGFC promotes lymphangiogenesis and aberrant repair following musculoskeletal injury. Abstarct to Lymphatic forum 2023.

### **Local Presentations and Moderated Sessions**

1. **Levi B.** *Choosing a Research Laboratory and Mentor.* Plastic Surgery Research Council. Invited Presentation, Ann Arbor, MI. June 2012.
2. Rinkinen J, Enchakalody B, Holcomb S, Dombrowski A, Wang SC, Buchman SR, and **Levi B.** *Novel temporalis muscle and fat pad morphometric analyses aids pre-operative risk evaluation and outcomes in patients with nonsyndromic craniosynostosis.* Oral Presentation, Plastic Surgery Research Council, Ann Arbor, MI. June 2012.
3. **Levi B,** Wan DC, Hyun J, Montoro D, Hu S, Sun N, Nag D, Lee M, Wu JC, and Longaker MT. *In Vivo Directed Differentiation of Induced Pluripotent Stem Cells to Bone Lineage and Repair of a Skeletal Defect.* Plastic Surgery Research Council Plenary Presentation, Ann Arbor, MI. June 2012.
4. Loder S, **Levi B.** *Novel Analysis of Role of Mechanical Versus Nerve-Induced Immobilization on Destructive Ectopic Bone Formation.* Poster. Moses Gunn Annual Research Conference. Ann Arbor, MI. April 2015.
5. Peterson, J. **Levi B.** *Differential Role of ALK2 and ALK3: Novel Therapeutic Strategies for Trauma-Induced Heterotopic Ossification.* Poster. Moses Gunn Annual Research Conference. Ann Arbor, MI. April 2015.
6. Li J, **Levi B.** *Impact of the Adaptive Immune System on Heterotopic Ossification.* Poster. Moses Gunn Annual Research Conference. Ann Arbor, MI. April 2015.
7. Agarwal S, Loder S, Brownley C, Peterson J, Oluwatobi E, Li J, Sung H, Tompkins R, Herndon D, Zeng W, Jumlongras D, Olsen B, Cederna P, Buchman S, **Levi B.** *Defining the Role of the Vasculogenic Niche in Trauma-Induced Heterotopic Ossification.* Oral. Moses Gunn Annual Research Conference. Ann Arbor, MI. April 2015.
8. Ranganathan K, Agarwal S, Loder S, Brownley C, Li J, Oluwatobi E, Peterson J, Mishina Y, Buchman S, Li S, **Levi B.** *Using a Novel Transgenic Mouse to Identify Endochondral Ossification*

- Precursor Cells and to Induce Bone Growth*. Oral. Moses Gunn Annual Research Conference. Ann Arbor, MI. April 2015.
9. Agarwal S, Loder S, Brownley C, Peterson J, Mangiavini L, Oluwatobi E, Tompkins R, Herndon D, Buchman S, Cederna P, Mishina Y, Schipani E, **Levi B**. *The Role of Hypoxia Signaling in Heterotopic Ossification, Elucidated Using Mutant Mice and Drug Treatment*. Reed O. Dingman Research Symposium, Ann Arbor, MI. June 2015.
  10. Sorkin M, Agarwal S, Loder S, Brownley C, Ranganathan K, Li J, Li S, Cederna P, **Levi B**. *Hair Follicle Specific ALK2/ACVR1 Critically Regulates Stem Cell Maintenance and Skin Development*. Reed O. Dingman Research Symposium, Ann Arbor, MI. June 2015.
  11. Ranganathan K, Agarwal S, Loder S, Brownley C, Eboda O, Peterson J, Mishina Y, Buchman S, **Levi B**. *A Novel Model to Evaluate BMP Signaling Mediated by the Constitutively Active Activin Type 1 Receptor (ACVR1)*. Reed O. Dingman Research Symposium, Ann Arbor, MI. June 2015.
  12. Giladi A, Jayakumar P, Kazis L, Mathews K, Kowalske K, Amtmann D, Schneider J, Cederna P, Ryan C, **Levi B**. *Characterization of Factors Leading to Heterotopic Ossification in Adult Burn Injury Using a Large Multi-Institutional Burn Database*. Reed O. Dingman Research Symposium, Ann Arbor, MI. June 2015.
  13. Agarwal S, Cholok D, Loder S, Li J, Breuler C, Hwang C, Peterson J, Sung H, Ranganathan K, Li S, Mishina Y, **Levi B**. *mTOR Inhibition and BMP Signaling Act Synergistically to Reduce Muscle Fibrosis and Improve Muscle Size After Injury*. Reed O. Dingman Research Symposium, Ann Arbor, MI. June 2016.
  14. Ranganathan K, Cholok D, Yao A, Merceron C, Sung H, Li S, Agarwal S, Loder S, Brueler C, Drake J, Li J, Schipani E, Buchman S, **Levi B**. *Defining a New Cell Lineage in the Sagittal Suture and its Key Pathway*. Reed O. Dingman Research Symposium, Ann Arbor, MI. June 2016.
  15. Kaura A, Cholok D, Ranganathan K, Habbouche J, Butts J, Sung H, Priest C, Chung M, Li J, Li S, Breuler C, Ucer S, Buchman S, **Levi B**. *Hypoxia Signaling in Macrophages Orchestrates Fracture Healing*. Moses Gunn 29<sup>th</sup> Annual Research Conference, Ann Arbor, MI. May 2017.
  16. Habbouche J, Ranganathan K, Cholok D, Chung M, Dang M, Kaura A, Butts J, Li J, Breuler C, Priest C, Sung H, Ma P, Li S, Ucer S, Buchman S, **Levi B**. *Use of Novel MicroRNA-519c Construct for Targeted Downregulation of Hypoxia Inducible Factor 1 (Hif-1α): A New Therapeutic Strategy against Heterotopic Ossification*. Moses Gunn 29<sup>th</sup> Annual Research Conference, Ann Arbor, MI. May 2017.
  17. Loder S, Agarwal S, Cholok D, Breuler C, Priest C, Hsieh S, Chung M, Li J, Brownley C, Peterson J, Habbouche J, Kaura A, Butts J, Reimer J, Drake J, Ucer S, Li S, Longaker M, Mishina Y, **Levi B**. *Simultaneous Targeting of Multiple BMP Receptors Prevents Trauma- Induced Heterotopic Ossification*. Moses Gunn 29<sup>th</sup> Annual Research Conference, Ann Arbor, MI. May 2017.
  18. Ranganathan K, Habbouche J, Hong A, Cholok D, Kaura A, Sung H, Li J, Chung M, Butts J, Deng C, Stegemann J, Buchman S, **Levi B**. *Spectroscopic Ultrasound Visualizes Early Heterotopic Ossification: A Paradigm Shift Towards Earlier Diagnosis and Treatment*. Moses Gunn 29<sup>th</sup> Annual Research Conference, Ann Arbor, MI. May 2017.
  19. Ranganathan K, Luby A, Nelson N, Snider A, Donneys A, Ettinger R, Rodriguez J, Buchman L, **Levi B**, Buchman S. *Adipose-Derived Stromal Cells Promote Mandibular Fracture Healing Better than Bone Marrow-derived Stromal Cells after Radiation Injury*. Moses Gunn 29<sup>th</sup> Annual Research Conference, Ann Arbor, MI. May 2017.
  20. Buchman L, Ranganathan K, Luby A, Nelson N, Ettinger R, Snider A, Donneys A, **Levi B**, Buchman S. *Disparities in the Osteogenic and Vasculogenic Potential of Bone Marrow and Adipose-Derived Stromal Cells*. Moses Gunn 29<sup>th</sup> Annual Research Conference, Ann Arbor, MI. May 2017.

21. Sorkin, M, Agarwal S, Cholok D, Loder S, Chung M, Li J, Li S, Butts J, **Levi B**. *The Multi- Potent Capacity of Connective Tissue Stem Cells*. 29<sup>th</sup> Annual Dingman Research Symposium, Ann Arbor, MI. June 2017.
22. Lisiecki J, Agarwal S, Chung M, Cholok D, Habbouche J, Sorkin M, Li J, Niknafs Y, **Levi B**. *Ischemic Preconditioning May Mitigate Effects of Ischemic Muscle Injury via Upregulation of FOS*. 29<sup>th</sup> Annual Reed O. Dingman Research Symposium. Ann Arbor, MI. June 2017.
23. Buchman L, Ranganathan K, Luby A, Nelson N, Ettinger R, Snider A, Donneys A, **Levi B**, Buchman S. *Synergism Between Adipose-Derived Stem Cells and Bone Marrow-Derived Stem Cells Enhances Osteogenic Potential*. 29<sup>th</sup> Annual Reed O. Dingman Research Symposium. Ann Arbor, MI. June 2017.
24. Ranganathan K, Luby A, Nelson N, Snider A, Donneys A, Ettinger R, Buchman L, **Levi B**, Buchman S. *Fate of Stem Cells Harvested from Bone, marrow and Adipose Tissue in a Murine Model of Irradiated Mandibular Fracture Repair*. 29<sup>th</sup> Annual Reed O. Dingman Research Symposium. Ann Arbor, MI. June 2017.
25. Agarwal S, Loder S, Cholok d. Chung M, Kaura A, Li J, Ranganathan K, Breuler C, Habbouche J, Butts, Hsung H, Li S, Ucer S, Reimer J, Mishina Y, **Levi B**. *DNA as a Mediator of Inflammation Caused by Movement After Injury*. 29<sup>th</sup> Annual Reed O. Dingman Research Symposium. Ann Arbor, MI. June 2017.
26. Levi B. *Musculoskeletal Health through the Lifespan*. ORS Great Lakes/Midwest Regional Symposium. Ann Arbor, MI. Aug 2018.
27. Physical Medicine & Rehabilitation, Occupational Therapy Division - Hand Therapy Department *Surgical Intervention and Management of Burn Injuries* Ypsilanti, MI. March 2019.
28. Children's Hospital of Michigan - Pediatric Surgery Department Conference *Improving Burn Diagnosis and Scarring from Skin to Bone* Detroit, MI. March 2019.
29. *Improving Burn Diagnosis and Scarring from Skin to Bone*. Children's Hospital of Michigan - Pediatric Surgery Department Conference. Detroit, MI. March 13, 2019.
30. *Surgical Intervention and Management of Burn Injuries*. Hand Therapy Conference. Ann Arbor, MI. March 8, 2019.
31. *Surgical Intervention and Management of Burn Injuries*. Ann Arbor Chapter of AORN. Ann Arbor, MI. May 14, 2019.
32. Invited Lecturer: University of Michigan PCCM Didactic Lecture Pediatric Burn Care: Advances from Resuscitation to Scars Ann Arbor, MI. October 2016.
33. Stepien D, Hwang C, Visser N, Pagani C, Huber A, Vasquez K, Sorkin M, **Levi B**. *Modulating macrophage phenotype to decrease muscle fibrosis in ischemia reperfusion injury*. Moses Gunn 30<sup>th</sup> Annual Research Conference, Ann Arbor, MI. May 2019.
34. *No Pain, No Gain for Heterotopic Ossification; the Role of the Neuro-Vascular Axis in Aberrant Cell Fate*. MSK Seminar Series. Ann Arbor, MI. December 2019.
35. **Panelist:** Coaching for Mid-Career Leadership Development. Ann Arbor, MI. December 2019.
36. UT Southwestern Medical Center, Department of Surgery Research Forum, *Improving Surgery and Trauma Care From Skin to Bone*, Dallas, TX, June 17, 2020.
37. UT Southwestern Medical Center, Dermatology Grand Rounds, *Sticks and stones (and skin injuries) cause ectopic bone: The intersection of skin, stem cells and bone*, Dallas. TX, July 21, 2020.
38. UT Southwestern Medical Center, Touchstone Presentations, *Tuning the microenvironment to alter cell fate*, Dallas, TX, August 4, 2020.
39. UT Southwestern Medical Center, Department of Plastic Surgery, *Improving burn and trauma care from skin to bone...the plastic surgery way*. Dallas, TX August 6, 2020.
40. UT Southwestern Medical Center, Internal Medicine Grand Rounds – *Scarwars, A new hope for*

- scars from skin to bone*. Dallas, TX November 17, 2021.
41. UT Southwestern Medical Center, *Urology Grand Rounds- spoke on Scar Rehab*, . Dallas, TX October 6, 2021.
  42. UT Southwestern Medical Center, *Surgical Biology Club II Annual Meeting: Musculoskeletal Injury, repair, and regeneration*. Dallas, TX October 6, 2021.
  43. UT Southwestern Medical Center, - *Burn Lecture Series –Cold Induced Injuries*. Dallas, TX November 6, 2021.
  44. UT Southwestern Medical Center, *Critical Care Lecture Series on “Leadership/Culture Building”* Dallas, TX December 2, 2021.
  45. UT Southwestern Medical Center, *MSTP Grand Rounds*. Dallas, TX December 8, 2021.
  46. UT Southwestern Medical Center, *Conducting Research in the Department of Surgery – session speaker*. Dallas, TX. December 13, 2021
  47. UT Southwestern Medical Center, *AAST ACS Fellowship Site Survey* Dallas, TX. January 14, 2022.
  48. UT Southwestern Medical Center, *SCCC Scientific Leadership Council: “Cancer Focus at UTSW” Seminar - “Learning from aberrant post-traumatic repair to inform cancer research”* Dallas, TX. February 14, 2022.
  49. UT Southwestern Medical Center, *Didactics Lecture-Lecture Request: Fundamentals of Plastics Reconstructions*. Dallas, TX. March 8, 2022.
  50. UT Southwestern Medical Center, *Pak Symposium: Fateful Decisions: How Progenitor Cells are Led Astray After Injury*. Dallas, TX. April 22, 2022.
  51. UT Southwestern Medical Center, *Research Think Tank: How to Write an Abstract*, Dallas, TX. September 22, 2022
  52. UT Southwestern Medical Center, *Childrens Research Institute Faculty Works-In-Progress*, Dallas, TX. October 04, 2022
  53. UT Southwestern Medical Center, *Genetics, Development & Disease Works-In-Progress*, Dallas, TX. October 07, 2022
  54. UT Southwestern Medical Center, *Endocrine Grand Rounds - Invited speaker - Endocrinologists and surgeons; an unlikely and necessary partnership to tackle genetic and traumatic bone disease*
  55. UT Southwestern Medical Center, *Biomedical Research Awareness Day (BRAD) Speaker- Invited speaker – The Fallacy of “no pain no gain” in musculoskeletal healing and research* Dallas, TX. April 20, 2022

### **Textbook Editor**

1. **Editor**, Michigan Manual of Plastic Surgery, Second Edition. (Lippincott Williams and Wilkins, New York, in progress).
2. **Section Editor**, Burns. In: Michigan Manual of Plastic Surgery, Second Edition. (Lippincott Williams and Wilkins, New York, in progress).
3. **Section Editor**, Trunk and Lower Extremity Reconstruction. In: Michigan Manual of Plastic Surgery, Second Edition. (Lippincott Williams and Wilkins, New York, in progress).
4. **Section Editor**, Fundamentals and Principles. In: Michigan Manual of Plastic Surgery, Second Edition. (Lippincott Williams and Wilkins, New York, in progress)
5. **Editor**, Hand Clinics of North America Edition on Hand Burns.
6. **Staff Editor**, Essential Med Notes. 31<sup>st</sup> Edition (Toronto Notes for Medical Student, Inc.)



**Patents**

- |         |   |
|---------|---|
| 06/2017 | Method of treating heterotopic ossification: hypoxia targeted treatments.<br>Publication number: Application PCT/US2016/065810.<br>International Number: WO 2017/112431 A1. |
| Pending | Novel bedside of intraoperative assessment of wound and burn depth and readiness for reconstruction. US patent Application No. 15/373,959, submitted on 10/2014             |
| Pending | Method of treating heterotopic ossification with lignad trap.<br>Inventor, Submitted on 03/2018   |

**Personal**

- Language Proficiency: Fluent in Spanish

**Diversity Equity and Inclusion**