

CURRICULUM VITAE

February 6, 2026

David P. Field

PERSONAL DATA

Home Address: 2701 Klemgard Road, Pullman, WA

Home Phone: (509) 338-9624 (land line)

Citizenship: USA

EDUCATION

Ph.D. Mechanical Engineering, Yale University, December, 1991.

M.S. Mechanical Engineering, Brigham Young University, December, 1988.

B.S. Mechanical Engineering, University of Wyoming, August, 1987.

Areas of Research Interest:

Metal deformation and recrystallization, ferrous and non-ferrous metallurgy, structure evolution in ceramics, crystallographic texture, grain boundary structure, thin film and IC interconnect structure/properties relationships, and advanced experimental techniques.

PROFESSIONAL EXPERIENCE

Washington State University (Aug. 2000-present) – Assist. Professor/Assoc. Professor/Professor,
 Director, Institute of Materials Research (July 2022-present)
 Associate Dean for Research and Graduate Studies (June, 2013-June, 2022)
 Interim Director, School of Mechanical and Materials Engineering (Aug. 2012-Aug. 2013)

Joint Center for Deployment and Research in Earth Abundant Materials (JCDREAM) – Interim
 Director, March 2016 - April 2019

TexSEM Laboratories, Inc. (July, 1994-Aug, 2000) – Director of Technology

Brigham Young University (Sept. 1994-Aug. 1997) – Adjunct Assistant Professor and Part time
 Assistant Professor

Alcoa Technical Center (August, 1991 - July, 1994) – Engineer / Sr. Engineer

COURSES TAUGHT

Graduate Level

MSE 511 – Deformation, Fall 2000

MatS 571 – Surfaces (3 week section),
 Spring 2002, 2003, 2005, 2006, 2007,
 2012, 2024, 2025, 2026

MSE 513 – Crystal Plasticity, Fall 2004,

Undergraduate Level

MSE 110 – Intro to Materials Science,
 Fall 2002-03, 2008-13, Few lectures
 2014-2017

MSE 201/301 – Introduction to Matls.
 Sci, 2001, Spring 2007, Fall 2010

MSE 302 – Introduction to Elect. Matls,

Spring 2007	2001
MSE/MatS 516 – Phase Transformations, Spring 2006, 2008	MSE 318 – Materials Design, 2024, 2025S, 2025F
MSE/MatS 521 – Statistics of Microstructures, Spring 2005, 2009, 2011, 2013, 2015, 2026	MSE 321 – Materials Characterization, Spring 2001 – 2006, 2008, 2011, 2012
	MSE 323 – Materials Characterization Lab, Spring 2001 – 2004, 2010, 2016, 2022, 2023
	MSE 401 – Metallic Matls, Fall 2001 – 2003, Fall 2005 – 2009, Spring 2010, 2012, 2013, 2014
	MSE/ME 413 – Solid Mechanics, Fall 2011, 2013, 2022
	MSE 425/426 – Senior Thesis I/II, Fall 2001, Fall 2003, Spring 2004, Fall 2012

PHD RESEARCH SUPERVISED

<u>Student</u>	<u>Thesis Title</u>	<u>Date PhD Awarded</u>
Pankaj Trivedi	Characterization of Dislocation Structures and their Influence on Processing of Al Alloys	MSE, May 2005
Reza Shahbazian Yassar	Characterization and Modeling of Dislocation-Precipitation Interactions in Aluminum Alloys	MSE, Dec 2005
J. Pablo Escobedo	Development and Analysis of Experiments to Measure the High Pressure Constitutive Behavior of Materials	ME, Dec 2007
Alankar Alankar	Analysis of Dislocation Structure Evolution During Fatigue of High Strength Aluminum Alloys	ME, May 2010
Nathaniel Sanchez	Texture evolution during shock deformation of aluminum	ME, Aug 2013
Osama Fakron	SEM-Based Tomography of Turfs Comprised of Lineal Structures	ME, May 2014
Zhe Leng	Texture Informed Crystal Plasticity Finite Element Modeling of Polycrystalline Material Deformation	MSE, Dec 2014
Colin Merriman	Structural Evolution during Explosive Bonding of Dissimilar Metals	ME, May 2015
Graden Hardy	Generating Triple Junction Distributions	ME, May 2015
Yuri Hovanski	Friction stir welding of dissimilar aluminum alloys	ME, Aug 2015

Khaled Adam	Monte Carlo modeling of structure evolution in High-Strength Al alloys	ME, Dec 2015
John Young	The Production of Fine Grained Magnesium Alloys Through Thermomechanical Processing for the Optimization of Microstructural and Mechanical Properties	MSE, Dec 2015
Fan Zhang	Multiscale Investigation of the Relationship Between the Microstructure and Mechanical Properties in Dual Phase Steels	MSE, May 2016
Jingyi Zhang	Characterization of High-Speed Friction Stir Weld Between Dissimilar Aluminum Alloys	ME, Dec 2017
Julie Dewberry (co-advised with Ron Omberg)	Advanced Methodology and Modeling of Nuclear Core Restraint Deformation in a LMFB Environment	ME, Dec 2017
Tarang Mungole	Deformation Mechanisms in Multilayer Materials at Small Length Scales	MSE, Aug 2018
Vineet Joshi	Structure of U-10%Mo alloys	MSE, May 2020
Maryam Jamalian	Development of Gradient Structures in Magnesium Alloys	ME, May 2020
Ben Schuessler	Generalization and Stereological Determination of a Triple Junction Distribution	MSE, May 2021
Sam Karcher (co-advised with John McCloy)	Influence of Rare Earth Doping and Irradiation on the Defects and Microstructure of Uranium Oxide Spent Nuclear Fuel Analogues	MSE, Dec 2021
Catherine (Katy) Gosser	Human-Inspired Wire Arc Additive Manufacturing without Shielding Gas	MSE, Dec 2024
Claire Adams	Residual Stress Investigations in Processed Layered Metallic Materials Through Surface Sensitive Characterization Methods	MSE, May. 2025
Swapnil Sawalker	Solid State Forming in Magnesium Alloys to Obtain Tailored Microstructures	MSE, May 2026 expected
Nathan Brown	Solid State Processing for Gradient Microstructures	MSE, May 2027 expected
Daniel Jones	Modeling of Structure Evolution in Advanced Ceramics	MSE, on leave
Stan Watson Teagho Voufo	Characterization of Advanced Ceramics for Mechanical Properties	MSE, Dec. 2027 expected
Maria Paula Garcia Tovar	Advanced Ceramics	MSE, May 2028 expected

MS RESEARCH SUPERVISED

<u>Student</u>	<u>Thesis/Project Title</u>	<u>Date MS Awarded/expected</u>
Tejodher Muppidi	Microstructure and Texture of Electroplated Copper Films and Damascene Lines	MSE, Aug. 2003
J. Pablo Escobedo	Measurements of the Pressure-Dependent Dislocation Mobility in Oriented Mo Single	MSE, May 2004

	Crystals	
Colin Merriman	Observation of Dislocation Structure Evolution in Aluminum	MSE, Aug 2007
Chia-Jeng Chung	Texture Development in Cu Damascene Lines and Thin Films	MSE, Aug 2007
Sudip Kumar Sinha	Microstructural Dependence of Spall Response in Aluminum under Shock Loading (non-Thesis)	MSE, May 2009
Chang-Kyu Yoon	Monte-Carlo Simulation of Structure Evolution in Cu Lines	MSE, Aug 2009
Zhe Leng	Grain boundary analysis of HT9 steel after creep testing	MSE, Aug. 2010
Jameson Root	Recrystallization of AA 7050 during hot rolling	MSE, Dec. 2010
Hina Malik	Quantification of tangled linear arrays for use in modeling of one dimensional structures	ME, Dec. 2010
Hao Yu	Structure evolution in transformer steels	MSE, Aug 2011
Fan Zhang	Grain boundary damage during creep of Alloy 617	MSE, Dec 2011
Isaac Steele	Quantification of nanotopology in CNT turf structures (non-Thesis)	ME, May 2013
Erin Diedrich	Structure evolution of FSW Al to Steel	MSE, Aug 2013
Linxiao Zhao	Observation of grain boundary structure evolution	MSE, Dec 2013
Alexander Plonczak	Control and Optimization of Prototype Instrument for Electro-Fountain Pen Lithography (non-Thesis)	MSE, Aug 2014
Batholomew Kimani	FSW of dissimilar Al alloys (non-Thesis)	MSE, May 2016
Karun Kalia	Grain size and Texture Analysis in U10Mo	ME, May 2017
Longping (Robin) Zhu	Twin Boundaries in High Entropy Alloys (non-Thesis)	ME, May 2017
German Valderama	Lean Manufacturing of Advanced Components (non-Thesis)	ENG, Dec 2018
Jacqueline Reeve	Investigation of Recrystallization and Second Phase Particles in Lightly Deformed U 10% Mo Nuclear Fuel	MSE, May 2020
Hamed Sadegh Kouhestani	Mechanical properties evaluation of novel ultra-high performance concrete containing high volume fly ash	ENG, May 2020
Md. Mueed Jamal	Modeling of Local Deformation During Linear Corrugated Straightening	ME, Aug 2021
Gunnar Blaschke	Characterization of High Entropy Alloys	MSE, May 2023

Joshua Oguntoyinbo	Formability of Titanium Alloys	ME, May 2026, expected
Alexis Williams	Heterogeneous Microstructures	ME, May 2027 expected

UNDERGRADUATE RESEARCH SUPERVISED (Bold name indicates published paper)

<u>Student</u>	<u>Project Title</u>	<u>Date BS Awarded/expected</u>
Adam Mortensen	Deformation of a Copper Bicrystal	Dec 2001
Debbie Mahmood	Phase Analysis of Sintered W-V Carbides by EBSD	May 2001
Yasuyuki Kusama	Hillock Formation in Cu Films	Dec 2001
J. Pablo Escobedo (REU)	Superplasticity in Fine-Grained Ti-6Al-4V	May 2002
Mark Walpole	Severe Plastic Deformation of Al and Ti Using a Modified ECAE Approach	May 2002
Nathan Muntz	Analysis of Three Tool Types for Friction Stir Welding 7075-T6 Aluminum	May 2003
Brian Mattson (REU)	Friction Stir Welding of 7075 Al	Dec 2003
Brian True	Twin Boundary Migration in Deformed Cu	Dec 2003
Jason Swaim (REU)	GB Structure of Superplastically Deformed Ti-6Al-4V	Dec 2003
Eva McGowan	Processing of Ta for Sputtering Target Applications	May 2004
Joe Flood	Grain Size Flow Stress Dependence in Friction-Stir Processed Aluminum	Dec 2005
Ryan Eames	Grain Boundary Engineered Cu by Annealing under Shear Stress	May 2005
Daryl Bolejack	Analysis of Radiographic Inspection of Steel by Image Processing - WTC	May 2005
Matthew Foss	Twin Grain Development During Annealing of Heavily Deformed Copper	Dec 2005
Jerrod Miller	Fatigue in Friction Stir Welded Ti	Dec 2006
Jeff Yanke (REU)	Asymmetric Deformation of Ta Plate for Sputtering Target Applications	May 2005
Laura Bradford	Recrystallization of ECAE Cu	May 2006
Ross Johnson (REU)	Structure Evolution in Sputtered and Electroplated Cu Films	May 2006
Aaron Wilkinson	Fatigue in Friction Stir Welded Al 7050	May 2007
Ryuji Imoto	Equal Channel Angular Pressing of Aluminum	Dec 2007
Adam Hein (REU)	Fatigue in FSW 7050 Aluminum	May 2008
Sharla Hopkins (REU)	Fatigue of TRIP Steels	May 2009
Jameson Root	Friction Stir Welded MMCs	May 2008
Casey Stratton	Misorientation Analysis in High Tc Superconducting YBCO	May 2008
Julie Smith	Phase Analysis in Trip Steels	May 2008
Chris Melvin	Deep Drawing Steels	Dec 2008
Greg Santone (REU)	Structure and Texture of LENS processed Ti	May 2009
Cameron DuBois (REU)	Equal channel extrusion for grain refinement of commercial purity aluminum	May 2010
Ashley Tracy	Pb-free solders	Dec 2008
Kale Stephenson	Characterization of CNT turf structures	May 2009

Ashley Braford Teare	GB structure in FSW Aluminum	Dec 2010
David Koch	Zr-C Films and Coatings	Dec 2009
Lisa Behrens (REU)	Structure Evolution in Hot Rolled AA 7050	May 2011
Mark Taylor (REU)	Microstructure in Ti FSW	May 2010
Jon Jackson	Allotropic phase transformation in Ti	May 2010
David McDonald	Surface chemistry of extrusion dies	May 2010
John Bryson	IN 617 creep	Dec. 2010
Erin Diedrich	TWIP steel structure evolution	Dec 2011
Adam George	Texture in LENS Titanium	May 2013
Michael Heiden	ECAE processed Mg	May 2012
John Young	Texture analysis in FSW of A2 tool steels	May 2011
Garrett Kelly	Statistics of linear arrays of structures	Dec 2010
Alyssa Arrigoni	Pressure dependent deformation of Al, Brass and Ti	May 2011
Skylar Hatch	Twin boundary evolution in IN 600	HS and REU May 2016
Cory Parker (REU)	GND Density in AA 7050	May 2012
Jake Bair	Twin boundary evolution in IN 600	Dec 2012
Juan Trevino	Deformation and structure evolution in CNT turfs	May 2013
Karen Nash	Pressure dependent deformation of Al, Brass and Ti	May 2013
Jose Marcial	GBE in alloy 617	Dec 2013
Mengil Deane	Mechanical Testing	Dec 2013
Tyler Claus	GB structure development in Inconel	May 2013
Mary O'Brien	GND Density in Aluminum Plate	May 2013
Christopher Gay	Computational Materials Science	May 2014
Kassiopeia Smith	Strength of CNT Filaments	May 2014
Jonathan Lueck	Carbide Segregation in alloy 617	Dec 2014
Jace Barley	Carbon Nano-structures	May 2016
Denise Blohowiak	Growth of CNT turfs	May 2016
Sam Karcher	Heat Treating of DP Steel	May 2017
Melanie Salmond	Fatigue of dissimilar FSW Al joints	HS
Tyler Chu	Structure of 302L SS Filaments	May 2019
Kyle Hayes	Metallurgical Analysis of Stainless Steel Fibers	Dec 2016
Kyle Andrews	Validating Confidence Index in EBSD	Dec 2016
Quentin Buck	High Pressure Torsion Testing	May 2019
Lucas Norstrom	Friction Stir Processing of Titanium	May 2017
Cory Palmieri	Fatigue of High Speed FSW Structures, CNT Growth and Characterization	May 2020
Ahmed Abdullah Nas Al-Yahyaai	Mechanical and Corrosion Testing of Multi-Layer Films	May 2017
Ammar Albalushi	Mechanical and Corrosion Testing of Multi-Layer Films	Aug 2017
Samir Alraisi	HPT of Pure Al rods with micro-hardness and EBSD analysis	Aug 2017
Logan Winston	Twin boundary development in HEA alloys	May 2019
Jessie Schweitzer	Growth and characterization of CNT turfs, Alpha Uranium formation in U10Mo	May 2021

Ahmed A.S. Aldossary	Friction Stir Welds in Dissimilar Alum Alloys	May 2020
Taylor Ellsworth	Heat Treating of Friction Stir Riveting in AA 7075	May 2020
Ziyad Said Al Mutari	Characterization of WC, VC hard materials	May 2020
Apolinar Orea	High Entropy Alloys	May 2020
Cody Christiansen	Formability Testing	Dec. 2020
Blake Peters	Synthesis of CNTs by CVD	May 2021
Gunnar Blaschke	Linear Corrugated Straightening of AZ31	May 2021
Corey Bisonette	Electropolishing of Titanium Alloys	May 2021
Cameron Eyman	Bonding of UHMWPE and urethane films	May 2021
Connor Toulou	Dictionary-Based EBSD Indexing	May 2022
Jeffrey Washburn	Friction Stir Processing of Ti plate	May 2022
Jordan Taylor	Fracture Toughness Measurements using Nanoindentation Techniques	May 2023
Solon Simpson	Dictionary-Based EBSD Indexing	Dec 2023
Sebastian Walker	Structure Analysis of 5111 Titanium Plate after Friction Stir Processing	May 2024
Rory Schuller	In-Situ Tensile Testing	May 2023
Leif VanAken	Structure of Cu and Co Films	May 2023
Saeed Alnemer	Grain Boundary Corrosion in HSLA Steels	May 2023
Khalfan Al-Musalami	Corrosion in Explosively Bonded Aluminum/Steel Plate	May 2023
Usama Al Hinai	RFSSW in Aluminum AA7075	Dec 2023
Lucas Shockley	Low Voltage EBSD of Metals and Ceramics	Dec 2023
Aditya Bose- Bandyopadhyay	High-Temperature Microstructure Evolution of Additively Manufactured Nickel Using In-Situ Electron Backscatter Diffraction	HS
Alex Brown	Gradient Microstructures	May 2026
Brian Elder	Testing of Advanced Ceramics	May 2025
John Jin	FSSW of Al Alloys, SCC of 316 SS	May 2026
James Schenk	Gradient Microstructures by Electroplating	May 2026
Anabelle Alamangos	Manufacture and characterization of AM Metal/Ceramics	May 2026
Ezra Klinghoffer	Grain Boundaries in Advanced Ceramics	May 2025
Michael Buntain	Uniform Pressing for Fine-Grained Microstructures	May 2026
Tristan Mauermann	Metal/Ceramic Bonding	May 2026
Said Aloraimi	Stress-Corrosion Cracking in Alloy 617	May 2025
Mohammad Al-Washahi	Corrosion in Friction Stir Spot Welded 7050 Aluminum	May 2025
Lucas Nuxoll	Manufacture and characterization of AM Metal/Ceramics	May 2026
Bobby Smith	Electroplating and Topological Semimetals	May 2029
A.J. Brogsia	Thermo-mechanical Fatigue Experiments	May 2029
Lydia Koenig	In-situ Tensile Testing in the SEM	May 2028
Morgan Chapman	Advanced Mechanical Testing	May 2027

VISITING SCHOLARS HOSTED

<u>Scholar</u>	<u>Institution</u>	<u>Dates</u>
Prof. No-Jin Park	Kumoh Institute of Technology, South Korea	Aug 2004-May 2005
Prof. Amrita Kundu	Jadavpur University, Calcutta, India	Aug 2015-Dec 2015
Mr. Wen Feng	Nanjing University of Science and Technology (NUST), Nanjing, China	Aug 2015-Jan 2016
Dr. Natalia DeVincentis	Rosario Instituto Tecnológico, Rosario, Argentina (Fulbright Fellow)	Jun 2018-Sept 2018
Mr. Stan Watson Teagho Voufo	Universite de Lorraine	Mar 2022-Aug 2022
Ms. Manon Mathieu	Universite de Lorraine, Nancy Polytech	Apr 2023-July 2023

POST-DOCTORAL SCHOLARS

<u>Scholar</u>	<u>PhD Institution</u>	<u>Dates</u>
Dr. Ioannis Mastorakos	Aristotle University of Thessaloniki	2006 - 2010
Dr. Ravi Kumar	University of Stuttgart	2006
Dr. Khaled Adam	Washington State University	2015 - 2017
Dr. Claire Adams	Washington State University	2025
Dr. Syeda Sumaiya	University of Cincinnati	2025- present

UNIVERSITY SERVICE

WSU – MME Undergraduate Studies Committee, 2006-2012
 WSU – MME Graduate Studies Committee, 2000-2007
 WSU – MME Awards Committee, 2004-2008
 WSU – MME Space Committee, 2009-2012
 WSU – CEA Curriculum Assessment Committee, 2006-2011
 WSU – WSU Admissions sub-committee, 2010-2014
 WSU – MSEP Admissions and Graduate Studies Committee Chair 2011-12
 WSU – Team Mentoring Program Faculty Advisor, 2008-present
 WSU – Research Council (formerly ORAC), 2013-present
 WSU – Grad and Prof Education Committee (GPEC), 2013-present
 WSU – 120 day Research Study, Management and Integration Committee, 2014-15
 WSU – ITSAC subcommittee on HPC, 2014-16
 WSU – Showcase organizing committee, 2014-2018
 WSU – Smart Systems Grand Challenge POC, 2015-2019
 WSU – Strategic Planning Committee, 2019-2020
 WSU – Covid-19, Return to Research (and Implementation) Committees, 2020-21
 WSU – MME Tenure and Promotion Committee (2024-present)
 WSU – MSE Design Committee (2025)
 WSU – VCEA Nuclear Engineering Committee (2025-present)
 WSU – MME Safety Committee (2025-present)
 WSU – Reactor Safeguards Committee (2025-2029)
 WSU – VCEA Dana Hall Visioning Committee (2026)

PROFESSIONAL ACTIVITIES, AWARDS AND HONORS

Visiting Appointments:

- Visiting Professor, Laboratoire d'études de microstructures et de mechaniques des materiaux (LEM3), Universite de Metz/Universite de Lorraine, Paul Verlaine, Metz, France, 2010 (LETAM), 2011, 2012, 2014
- Prof. Brahm Prakash Visiting Chair Professor, Indian Institute of Science, Bangalore, India, 2016-17
- Visiting Professor, Indian Institute of Technology, Kharagpur, India, 2024, 2026

Organized Symposia:

- Texture Symposium, IIT Kharagpur, Jan. 2026.
- JCDREAM Symposium, Earth Abundant Materials Research in Washington State, Everett, WA, Oct. 8, 2018
- JCDREAM Symposium, Earth Abundant Materials Research in Washington State, Everett, WA, Oct. 3-4, 2016
- Predictive Modeling of the Co-Evolution of Microstructure and Properties, USNCCM, San Diego, July 26-30, 2015
- Quantification of Texture and Microstructure Gradients in Polycrystalline Materials, MS&T 2012, Pittsburgh, October 7-11, 2012
- Challenging Applications in EBSD Measurement and Analysis, Microscopy & Microanalysis, Nashville, August 7-11, 2011
- Microstructure Sensitive Design, MS&T 2009, Pittsburgh, October, 25-29, 2009
- DOE Workshop: 4-Dimensional characterization of Materials and Damage – Annapolis, MD, Aug 16-19, 2009. Organized section on 3D EBSD and conventional tomography.
- Metrology in Thin Films, TMS Annual Meeting, Orlando, Feb 25- Mar. 1, 2007
- Three-Dimensional Experimental Measurements and Simulations, Plasticity, Halifax, Nova Scotia, July 2006
- Brent Adams Honorary Symposium on Homogenization Techniques and Microstructure Design and Characterization, Plasticity, Halifax, Nova Scotia, July 2006
- Thermoelectric Materials and Applications, MS&T 06, Cincinnati, Oct. 2006
- Structure-Property Relationships in Functional Materials, MS&T 06, Cincinnati, Oct. 2006
- Refractory Metals in Electronic Applications, TMS, San Francisco, February, 2005
- Texture and Microstructure of Thin Films and Coatings, TMS, San Francisco, February, 2005
- Texture in Electronic and Magnetic Films, MRS, San Francisco, April, 2002
- Friction Stir Welding and Processing, Indianapolis, TMS, Indianapolis, October, 2001
- EBSD of Electronic Materials, Pullman, May, 2001
- Texture Analysis for Quality and Process Control, ASM, St. Louis, October, 2000.
- Applications of Orientation Imaging, Salt Lake City, April, 2000.
- Texture and Properties of Thin Films, TMS, Chicago, October, 1998.

Committees/Conferences/Editorial:

- ASM – Texture and Anisotropy Committee (Chair, 2001-2005)
- ASM – Welding and Joining Committee

- TMS – Thin Films and Interfaces Committee (Vice Chair, 2003-2005, Chair, 2005-2007)
- MRS – Faculty advisor for student MRS chapter in Pullman, (April, 2004-2013)
- Material Advantage – Faculty advisor (Aug. 2012-2016)
- Member of International Committee of ITAP (International Conference on Texture, Anisotropy and Plasticity) – Gottingen, Germany, Sept. 2009
- Member of Scientific Committee of Thermec 2003 (held in Madrid), Thermec 2006 (Vancouver, BC), Thermec 2009 (Berlin, Germany), and Thermec 2011 (Quebec, Canada)
- Member of local organizing committee for the 15th International Conference on Textures of Materials (ICOTOM 15), Pittsburgh, June 2008
- Member of Editorial Board – Advances in Materials Science and Engineering, 2007 – 2012
- Associate Editor – Materials Characterization, 2009 – 2020
- Member of International Advisory Committee – 6th International Conference on Nanomaterials by Severe Plastic Deformation (Nano SPD 6), Metz, France, June 23-28, 2014
- Member of Editorial Board - Advanced Structural and Chemical Imaging, 2013 – 2020
- Member of International Advisory Committee, International Conference on Friction based Processes, Bangalore, India, September 3-5, 2014
- JCDREAM Board of Directors (2015-present)
- Local Organizing Committee, International Conference on Textures of Materials (ICOTOM 18), St. George, UT, 5-10 Nov, 2017
- ASME Journal of Engineering Materials Technology – Associate Editor for Special Issue in honor of Hussein Zbib, 2021
- Metals – Member of Editorial board, 2021 – present
- Materials Characterization – Editor-in-Chief, 2021 – present
- Applied Sciences – Guest Editor, 2024, Alloys: Evolution of Microstructure and Texture, Edited by Dr. Rajib Kalsar, Dr. Vineet V. Joshi and Prof. Dr. David Field
- TMS – Advanced Characterization, Testing and Simulation Committee (Vice Chair, 2020-2022, Chair 2022-2024)
- JCDREAM – Education sub-committee (2024-present)
- WSAS – Canvassing Committee (2025-present)
- TMS – Structural Materials Division Awards committee (2025-2027)

External PhD Examinership:

- Cape Town University, South Africa, 2001
- McGill University, Montreal, Canada, 2005
- Andhra University, Vishakapatnam, India, 2006
- Monash University, Australia, 2011
- Univ. British Columbia, Canada, 2012
- University of New South Wales, Australia, 2013
- IISC, Bangalore, India, 2015
- University of New South Wales, Australia, 2016
- IISC, Bangalore, India, 2016
- IIT Kanpur, India, 2017

- IISC, Bangalore, India, 2019
- Univ. Saskatchewan, Canada, 2019
- IIT Madras, India, 2020
- IIT Kanpur, India, 2021
- IIT Kharagpur, India, 2021
- Univ. British Columbia, Canada, 2022
- IIT Kanpur, India, 2024
- IIT Kharagpur, India, 2024
- Indian Institute of Science, Bangalore, India, 2025
- IIT Kanpur, India, 2025
- IIT Kharagpur, India, 2026

Consulting:

- Intel – 1997-2001
- Honeywell – 2003
- Cabot Corporation – 2003-2011
- Oak Ridge National Laboratory – 2004-2006
- EDAX – 2004, 2007, 2014
- LumenIQ – 2004
- Unicep Corp – 2006
- Wagstaff, Inc. – 2007
- Medtronic – 2007-2010
- Ambature – 2010-2011
- Tape Solar – 2011
- Global Advanced Metals – 2011-12
- Ormond, LLC – 2013
- Kaiser Aluminum – 2020
- PNNL – 2023

Awards/Honors

- SPARC Award, Course at IIT Kharagpur, India, 2024-26
- Plenary Lecture, 20th International Conference on Textures of Materials (ICOTOM 20), Metz France, 2024
- TMS SMD Service Award, 2024
- Elected Member of Washington State Academy of Sciences, 2022
- GIAN Award, Course at Jadavpur University, Kolkata, India, Feb 2018
- Brahm Prakash Visiting Chair Professor, IISC, Bangalore, India, 2016-17
- TMP Program, MLK Distinguished Service Award, 2015
- Honorary Member, Golden Key International, 2014
- Fellow, ASM International, 2013
- Best Paper in Physical Sciences, Microscopy and Microanalysis Vol. 17, 2011
- Visiting Professor, Laboratoire d'études de microstructures et de mechaniques des materiaux (LEM3), Universite de Metz/Universite de Lorraine, Metz, France, 2010 (LETAM), 2011, 2012, 2014

- WSU MME Outstanding Research Award – 2006, 2007
- TMS EMPMD Service award – 2007
- GPSA Outstanding Advisor Award (WSU) – 2004
- WSU MSE Excellence in Teaching Award – 2002, 2005, 2006
- TSL/EDAX Outstanding Technical Contribution – 2000
- ASM International Committee Chair – 2000-2005
- AMD Award for Technical Excellence – 1995
- Wyoming Honors Scholarship – 1981-86
- Union Pacific Scholarship – 1981

Reviewership:

Journals/Proceedings:

Acta Crystallographica
Acta Materialia
Advanced Engineering Materials
Advanced Materials
Advances in Manufacturing
American Ceramic Society Proceedings
Applied Physics
Applied Physics A
Applied Physics Letters
Applied Sciences
ASM International Symposia Proceedings
ChemPhysChem
Composite Interfaces
Computational Materials Science
Computers, Materials, and Continua (CMC)
Critical Reviews in Solid State Materials Sciences
Crystal Research and Technology
Crystals
Electronic Devices
High Temperature Materials and Processes
ICOTOM Proceedings
IEEE Transactions
Integrating Materials and Manufacturing Innovation
International Journal of Advanced Manufacturing Technology
International Journal of Cast Metals Research
International Journal of Engineering Science
International Journal of Fatigue
International Journal of Fracture
International Journal of Materials and Product Technology (IJMPT).
International Journal of Mechanical Sciences
International Journal of Plasticity
International Journal of Solids and Structures
International Materials Reviews

Institute of Materials, Minerals and Mining (UK)
IOP Conference Series: Materials Science and Engineering
JOM: Journal of the Minerals, Metals, and Materials Society
Journal of Alloys and Compounds
Journal of the American Ceramic Society
Journal of Applied Crystallography
Journal of Applied Physics
Journal of Electronic Materials
Journal of Engineering Fracture Mechanics
Journal of Engineering Materials and Technology
Journal of Engineering Tribology
Journal of Magnesium and Alloys
Journal of Materials (JOM)
Journal of Materials Engineering and Performance
Journal of Materials and Design
Journal of Materials Processing Technology
Journal of Materials Research
Journal of Materials Research and Technology
Journal of Materials Science
Journal of the Mechanical Behavior of Biomedical Materials
Journal of Mechanical Engineering Science
Journal of Mechanical Sciences
Journal of the Mechanics and Physics of Solids
Journal of Metallurgy
Journal of Microscopy
Journal of Nuclear Materials
Journal of Physics and Chemistry of Solids
Journal of Process Mechanical Engineering
Journal of Testing and Evaluation
Journal of Undergraduate Research
Journal of Vacuum Science and Technology
Journal of Zhejiang University-Science A
Materialia
Materials
Materials and Design
Materials Characterization
Materials Chemistry and Physics
Materials Letters
Materials Research Society Symposia Proceedings
Materials Science and Engineering (A)
Materials Science Forum
Materials Sciences and Applications
Materials Today
Materials Today Communications
Mechanics of Materials
Metallography, Microstructure and Analysis

Metallurgical and Materials Transactions (A)
Metals
Micron
Microscopy and Microanalysis
NanoSPD Proceedings
Nature
Nature Communications
Nature Materials
Nuclear Engineering and Design
Philosophical Magazine
Philosophical Magazine Letters
Philosophical Transactions of the Royal Society
Phys Stat Solidi
Rare Metals
Research Letters in Materials Science
Science
Science Advances
Scripta Materialia
Solid State Technology
Steel Research International
Strojniški vestnik- Journal of Mechanical Engineering
Surface and Coatings Technology
Thin Solid Films
TMS Symposia Proceedings
Ultramicroscopy
Vacuum
Wear

Government Organizations/Foundations/Funding Agencies:

Air Force Office of Scientific Research (US)
Army Corp. Engineering Research and Development Center (US)
Austrian Science Fund (FWF)
Canada Research Chairs Program
Cooperative Research and Development Fund
Dept. of Energy (US), BES
Dept. of Energy (US), NEUP
Dept. of Energy (US), OIT
Engineering and Physical Science Research Council (EPSRC, UK)
French National Research Agency (ANR)
German Research Foundation (DFG)
Israeli Science Foundation
KSEF (Kentucky Science and Education Fund)
Le STUDIUM (Loire valley Institute for Advanced Studies)
M.J. Murdock Charitable Trust (US)
National Science Foundation (US)
Netherlands Science and Technology (STW)

NSERC (Canada)
 Office of Naval Research (US)
 Petroleum Research Fund (ACS)
 Research Foundation-Flanders (Fonds Wetenschappelijk Onderzoek-Vlaanderen (FWO))
 Swiss National Science Foundation (SNSF)

Invited Lectures/Seminars

- DP Field, “Texture Evolution during Wire Arc Additive Manufacturing of Steels.” Keynote Lecture at Frontiers of Surface Engineering and Additive Manufacturing (FSEAM) held at Kharagpur, India, January 21-23, 2026.
- DP Field, “Heterogeneous Microstructures by Solid Phase Processing,” TMS Annual Meeting, March 23-27, 2025.
- DP Field, “Quantification of Heterogeneous Microstructures,” Purdue Univ, March 10, 2025.
- DP Field, “Solid Processing for Designed Heterogeneous Microstructures,” Baylor Univ, Nov. 11, 2024.
- DP Field, “Processing of Designed Microstructures,” ICOTOM 20, Metz, France, June 30-July 5, 2024.
- DP Field, “Solid Phase Processing for the Development of Heterogeneous Structures,” Solid Phase Processing Workshop, PNNL, August, 2023.
- DP Field, et al, “Development and Analysis of Heterogeneous Structures,” NanoSPD 8, Bangalore, India, Feb. 27-Mar. 3, 2023.
- DP Field, Clarkson University departmental seminar, April, 2022.
- DP Field, “Heterogeneous Structures from Linear Corrugated Straightening,” International Conference on Strength of Metals and Alloys (ICSMA), Metz, France, June 28, 2022.
- DP Field, “Microstructural Evolution during Deformation of Polycrystals with Gradient Microstructures,” AMPMT, Tirupati, India Feb. 1-2, 2021 (virtual).
- DP Field, “EBSD Advanced Topics,” IFIR – conicet, Rosario, Argentina, Oct. 10-11, 2019.
- DP Field, JP Young, and M Jamalian, “Characterization of Heterogeneous Structures,” CIASEM 15 (15° Congreso Interamericano de Microscopia), Buenos Aires, Argentina, Oct. 3, 2019.
- DP Field, K Kalia, VV Joshi, “Observation of Grain Growth in U 10Mo Alloys,” RexGG (7th International Conference on Recrystallization and Grain Growth), Ghent, Belgium, August 8, 2019.
- DP Field, “Analysis of Defect Structures in Deformed Metals Using EBSD,” MS&T’18, Columbus, OH, Oct. 17, 2018.
- DP Field, “Using EBSD characterization of geometrically necessary dislocations to validate and improve crystal plasticity models,” Microstructure and Property Relationship of Polycrystalline Materials: Characterization and Modelling, Carlos Tome Retirement Symposium, Santa Fe, NM, Sept. 20-21, 2018.
- DP Field, “Excess Dislocation Density near Boundaries as a Function of GB Texture,” ICOTOM 18, St. George UT, November 2017
- DP Field, T Mungole, “Mechanical and Physical Characterization of Ti/TiN Nano-laminate Structures,” MS&T 17, Pittsburgh, PA, October, 2017.
- DP Field, Z. Leng, F. Wagner, and N. Allain –Bonasso, “Heterogeneous dislocation density modeling of interstitial free steel,” Materials 4.0 Summer School, Dresden, Germany. September, 2017.
- DP Field, “EBSD: History, Applications and Perspectives,” Keynote lecture at 26° Congresso Brasileiro de Microscopia, Buzios, RJ, Brazil. June, 2017.
- DP Field, Z. Leng, F. Wagner, and N. Allain–Bonasso, “Using EBSD Characterization of GNDs to Validate and Improve Crystal Plasticity Models,” 26° Congresso Brasileiro de Microscopia, Buzios, RJ, Brazil. June, 2017.
- DP Field, “Early Development and Establishment of EBSD as a Standard Analysis Tool,” Centro Brasileiro de Pesquisas Fisicas, Rio de Janeiro, Brazil, June, 2017.
- DP Field, “EBSD Observation of Deformation at Grain Boundaries,” TMS Annual Meeting, San Diego, CA, Feb. 26 – March 3, 2017
- DP Field, “Forensic Analysis of Plastic Strain for Complex Deformation Processes,” Conference on Deformation and Texture of Materials, Jadavpur University, Kolkata, India, Feb. 16, 2017
- DP Field, “Microstructure Development during Indirect Extrusion,” International Conference on Texture, Micro-Texture, and Mechanical Behavior, 2017, Bangalore, India, Feb. 13-15, 2017

- DP Field, V Joshi, JP Young, C Lavendar, et al, “Microstructure Development During Shear Assisted Indirect Extrusion,” Intl. Materials Research Congress XXV, Cancun, Mexico, August 15-19, 2016
- DP Field, SI Wright, “Introduction to Modern EBSD Practice,” Workshop given at IMRC, Cancun, MX, August 14, 2016
- DP Field, “New Developments in EBSD,” Workshop given at IISC, Bangalore, India, July 28, Aug. 2, 5, 8, 2016
- DP Field, “Modeling and Experiments in Polycrystalline Deformation,” Purdue, University, Nov. 16, 2015
- DP Field, “Using EBSD to estimate defect content in polycrystalline materials,” Advanced Structural and Chemical Imaging, 2015, Pullman, WA May 20-22, 2015
- DP Field, “EBSD Observation of annealing twin boundaries in FCC metals,” Oregon State Univ, Corvallis, OR, April 16, 2015
- DP Field, “Measurement and Modeling of defects in deformed metals,” TMS Annual Meeting, Orlando, March 13-17, 2015
- DP Field, Characterization and Mechanical Properties of Carbon Nanotube Turf Structures, Portland St. Univ, Nov. 2014
- DP Field, “Industry Partnerships in R&D for Manufacturing and Aerospace at WSU,” Aerospace Futures Alliance Meeting, Everett, WA, Sept. 26, 2014
- DP Field, Y Hovanski, H Yu, and EE Patterson, Friction Stir Joining Using Scribe Tool Technology, International Conference on Friction based Processes, Bangalore, India, September, 2014
- DP Field, Ultrafine Grained Materials using the Triaxial Test Apparatus, NanoSPD6, Metz, France, June, 2014
- DP Field, TMS, San Diego, Feb. 16-19, 2014
- DP Field, Crystal Plasticity Modeling and Experiments to Measure the Spatial Distribution of GND Dislocations in IF Steel, Plasticity, Freeport, The Bahamas, Jan 3-8, 2014
- DP Field and K Adam, “Recrystallization of 7xxx series Al alloys” Rex &GG, Sydney, Australia, May 5-10, 2013
- DP Field, “Analysis of deformation structures using EBSD,” Symposium in honor of Oscar Ruano, U. Politecnica de Valencia, Valencia, Spain, Sept. 23-25, 2012.
- DP Field, “Microstructure Optimization of Laser-Engineered Net-Shape (LENS) Formed Ti,” EBSD 2012, Pittsburgh, PA, June 20, 2012
- DP Field, “Observations of dislocation structure in AA 7050 by EBSD,” International Conference on Textures of Materials 16 (ICOTOM 16) Bombay, India, December 12-17, 2011.
- DP Field, “Pressure dependent shear strength in Ta and Mo,” LEM3, Metz, France, June 11, 2011.
- DP Field, “Deformation heterogeneity and excess dislocation density measurements,” Plasticity 2011, Puerto Vallarta, Mexico Jan. 2011.
- DP Field, “Analyzing Deformation Structures using EBSD,” Metz University, France, June, 2010.
- DP Field, “Comparison of Strain Measurement by X-ray Microdiffraction and EBSD,” International Conference on Texture and Anisotropy of Polycrystals, ITAP3, Gottingen, Germany, Sept. 22-25, 2009.
- DP Field, “Current State of Three-dimensional EBSD: Operation, Application and Challenges,” DOE Workshop on 4D Characterization of Materials and Damage, Annapolis, MD, Aug. 16-19, 2009.
- DP Field, JP Escobedo, DH Lassila, M. Leblanc, J Florando, “Pressure Dependent Shear Strength in Ta Foils,” Keynote (invited) presentation at Plasticity '09, St. Thomas, USVI, Jan 2-9, 2009
- DP Field, “Structure Evolution in Thin Metal Films,” Japan OIM Academy, Tokyo, Japan, Nov. 20, 2008
- DP Field, “Advanced Applications of EBSD,” Tohoku University Departmental Seminar, Sendai, Japan, Nov 21, 2008
- DP Field, “Texture Evolution in Friction Stir Processed Aluminum,” Eighth International Welding Symposium, Kyoto, Japan, Nov. 18, Kyoto, Japan
- DP Field, “Electron Backscatter Diffraction: Operation and Applications,” Tutorial Lecture given in conjunction with Microscopy and Microanalysis '08, Albuquerque, NM, Aug. 2008
- SI Wright and DP Field, “EBSD: Physics, techniques and applications,” Workshop given as part of International Conference on Textures of Materials 15, (ICOTOM 15), Pittsburgh, PA, June, 2008
- DP Field, “EBSD Step size dependence of dislocation density,” Microscopy and Microanalysis, Miami, FL, Aug. 2007

- DP Field, "Analysis of phase fractions in complex steels: EBSD vs. X-Ray" Hyundai Steel Corp, Incheon, Korea, June, 2007
- DP Field, "Structural analysis of thin conductor lines as related to electromigration and stress voiding," Samsung Corporation, Suwon, Korea, June, 2007
- DP Field, "Advanced structural analysis by EBSD," as part of EBSD workshop held at Suncheon University, June, 2007
- DP Field, "Dislocation Density Measurement by EBSD," Meeting of the Royal Microscopy Society, Glasgow, Scotland, March, 2007
- DP Field, "Analysis of grain boundary structure by EBSD," MSU, Starkville, MS, July, 2006
- DP Field, "Evolution of twin boundaries during annealing of low SFE materials," Gordon Conference, Holderness, NH, July, 2006
- DP Field, "Stereology of Triple Lines in Polycrystalline Materials," Brent Adams Honorary Symposium, Plasticity, Halifax, Nova Scotia, July, 2006
- DP Field, "Twin Boundary Development in Heavily Deformed Cu," Indo-US Forum, Vishakapatnam, India, December, 2005.
- DP Field, "Superplastic Behavior of Ultrafine Grained Ti," Workshop on Mechanical Behavior of Ultrafine Grained Materials, Univ. British Columbia, Vancouver, CA, Nov. 2005.
- DP Field, "Improving the Spatial Resolution of EBSD," MSA meeting, Honolulu, Hawaii, August, 2005.
- DP Field, "Texture Evolution in Thin Cu Films and Lines," 14th International Conference on Textures of Materials, Leuven, Belgium, July, 2005.
- DP Field and N. Li, "Microstructure in Friction Stir Welds of Magnesium," TMS symposium, Feb. 2005, San Francisco.
- DP Field, "Electron Backscatter Diffraction in Materials Science," Venezuelan Electron Microscopy Congress, October, 2004 – Caracas, Venezuela.
- DP Field, Workshop on Electron Backscatter Diffraction, Instituto Universitario de Tecnologia, October, 2004 – Caracas, Venezuela
- DP Field, JP Escobedo, D. Lassila, M. LeBlanc, and B. Bonner, "High Pressure Testing of Mo Single Crystals," Workshop on Multi-scale Modeling of Material Behavior, Jan. 2004 – Berkeley, CA
- D.P. Field, P. Trivedi, S.I. Wright, and M. Kumar, "Analysis of Local Orientation Gradients in Deformed Single Crystals," Frontiers of Electron Microscopy in Materials Science, Oct. 2003 – Berkeley, CA
- D.P. Field, "Analysis of Grain Fragmentation in Deformed Materials," Microscopy and Microanalysis, Aug. 2003 – San Antonio, TX
- D.P. Field, S.I. Wright, and P. Trivedi, "Microtextural Analysis of Grain Fragmentation in Aluminum," Thermec, July, 2003 – Madrid
- D.P. Field, "Characterization of Thin Cu Films and Lines for Interconnect Applications," Scanning, San Diego, CA, May 2003
- D.P. Field, Investigation of Cu Films and Structures for IC Interconnects, Univ. British Columbia Departmental Seminar, Vancouver, BC, Oct. 2002
- D.P. Field, Quantifying the Grain Boundary Character Distribution for Improved Material Performance, Gordon Research Conference on Physical Metallurgy, Holderness, NH, July 2002
- D.P. Field, Applications of EBSD to Investigations of Electronic Materials, Hitachi Electron Microscopy Meeting, June 2002, Pleasanton, CA.
- Field, D.P. "Electron Backscatter Diffraction Applications to Electronic Films," FMS/AVS Florida Chapter Annual Meeting, Orlando, FL, March 11-14, 2002.
- Field, DP, Mortensen, AW, Nowell, MM, and Campbell, GH, "Deformation at Crystallite Interfaces," Plasticity 2002, Aruba, Jan. 3-9, 2002.
- Field, DP and Wright, SI, "Introduction to Orientation Imaging Microscopy (OIM) and Recent Applications in Materials Science," Hitachi EM Users Meeting, Daejeon, Korea, November 29-30, 2001.
- Field, D.P. "Investigating the Microstructure-Reliability Relationship of Cu Lines using EBSD," Advanced Micro Devices, Sunnyvale, CA, April 2001
- Field, D.P. "Structure Evolution in Cu Damascene Interconnects," Intel Corporation, Hillsboro, OR, Feb 2001
- Field, D.P. and Weiland, H. "Orientation Imaging of Heavily Deformed Materials," TMS Symposium on Electron Backscatter Diffraction, St. Louis, Oct 9-13, 2000.

- Field, D.P. and Dingley, D.J., V-ICEM, Margarita Island – OIM of Heavily Deformed Materials,” Fifth InterAmerican Congress on Electron Microscopy, Isla de Margarita, Venezuela, October 24-28, 1999.
- Workshop on Texture Analysis and Measurement, McGill University, August, 1999.
- Field, D.P., “Orientation Imaging of Equal Channel Angular Extruded Cu,” Idaho National Engineering Laboratory, January 7, 1999.
- Field, D.P., “An Introduction to OIM: Applications of Texture and Grain Boundary Structure,” ASM Utah Chapter meeting, October 22, 1998.
- Field, D.P. Weiland, H., and Baggethun, P., “Imaging dislocation cell morphology in the SEM,” Symposium in honor of Owen Richmond, Seven Springs, PA, October, 1998.
- Field, D.P., Sanchez, J.E. Jr., and Besser, P.R. “Texture and Grain Boundary Structure Evolution in Al-Cu Interconnect Lines,” International Conference on Textures and Properties, Ekaterinburg, Russia, Sept. 1997.
- Field, D.P., “Orientation Imaging and Interconnect Reliability” Hewlett Packard, Thermal Ink Jet Division, Corvallis, OR, June 25, 1997.
- Field, D.P., “Interconnect Reliability: New Insights Obtained through Analysis by Orientation Imaging,” Sematech Analytical Laboratory Managers Working Group meeting, April 16-17, 1997.
- Field, D.P., “Studies of Interconnect Reliability,” Intel Corp., Hillsboro, OR, April 14, 1997.
- Field, D.P., “Recrystallization of 5xxx Series Aluminum Rolled Products,” Alumax Technical Center, Golden, Colorado, April 11, 1997.
- Field, D.P., “Crystallographic Texture and Grain Boundary Structure: Real World Applications of Orientation Imaging,” Univ. of Utah, Dept. of Metallurgy, April 9, 1997.
- Field, D.P., “Orientation Imaging Microscopy for Materials Research,” Japan Institute of Metals, Symposium on the Texture of Metals, Tokyo, Japan, Aug. 22-23, 1996.
- Field, D.P., “Recent Advances in the Application of Orientation Imaging,” Frontiers of Electron Microscopy, Oak Brook, IL, June, 1996.
- Field, D.P. and Palumbo, G., “Defining Optimal Grain Boundary Character for Engineered Structures,” TMS symposium presentation, Cleveland, OH, October, 1995.
- Field, D.P., “An Overview of Orientation Imaging Microscopy,” University of Toronto, Toronto, Canada, October, 1995.
- Field, D.P., “An Introduction to Orientation Imaging Microscopy,” Kawasaki Steel, Chiba, Japan, Aug, 1995.
- Field, D.P., “Stereological Challenges in Grain Boundary Structure Investigation,” Lawrence Livermore National Laboratory. September 29, 1994.
- Field, D.P., “Grain Boundary Character Effects on Intergranular Integrity,” Knolls Atomic Power Laboratory, Schenectady, New York, June, 1994.
- Field, D.P., “Heterogeneity of Grain Boundary Performance in Creep and Fatigue,” UC-San Diego, May, 3, 1994.
- Field, D.P., “The Significance of Grain Interactions in Polycrystal Deformation,” Univ. California, Berkeley, CA, Apr. 28, 1994.
- Field, D.P., “Investigating the Crystallographic Structure of Grain Boundaries,” FAMU/FSU, Tallahassee, FL, Mar. 14, 1994.

DEVELOPMENT OF RESEARCH FACILITIES

- JEOL F200 TEM with phase contrast imaging and 4D STEM, Government plus-up grant
- Low Voltage EBSD system, ARL Grant
- Helios Nanolab 400, SEM/FIB, Micron Donation
- Uniform Corrugated Pressing Dies
- Apreo, Volume Scope with EBSD and EDS, WSU, VCEA, CAS, and FMIC funded
- Corrugated Pressing Test Apparatus, LANL grant
- SEM in-situ heating stage, NSF Grant
- High pressure torsion dies

- EDAX/TSL Hikari High Speed CCD camera for EBSD
- Cup Drawing Dies for Earing tests
- Equal Channel Angular Extrusion Dies, joint ISP work
- FEI Sirion 200 FESEM – NSF Grant
- Firewire slow-scan CCD, Digiview, to augment the EBSD system.
- High resolution scanner to use with radiographic images (from LumenIQ)
- Scanning Electron Microscope (LaB₆ filament) – JEOL 840a (from Intel)
- Scanning Electron Microscope – CamScan Series IV
- Orientation Imaging System –TexSEM Laboratories, EDAX Donation
- EDS System with Light Element Detector – EDAX Falcon
- Asymmetric Rolling Testing Apparatus for MTS
- Reciprocating Equal Channel Extrusion Apparatus for MTS
- High Pressure Trianvil Testing Apparatus – with LLNL

RESEARCH GRANTS/CONTRACTS

- DP Field and B Jensen, “Development, characterization, and testing of layered and graded films/multilayers/interfaces,” LANL-TNS \$1.79M, 6/2024-6/2029
- DP Field and Swapnil Sawalkar, “Quantitative Understanding of Microstructure Evolution in Mg Alloys during Shear Assisted Processing and Extrusion (ShAPE),” PNNL, DGRP Award, \$141K, 1/2024-12/2025
- DP Field, “Characterization of Dissimilar Metal Interfaces,” Los Alamos Natl. Laboratory-TNS, \$241K, 5/2023-9/2025
- S Beckman (PI), DP Field, A Gozen, J McCloy, and V. Prakash, “Accelerated Discovery, Design, and Development of Ceramic Materials,” Army Res. Lab, \$42M, 4/2023-9/2027
- DP Field “Tailoring the Properties of Multi-Phase Materials Through the Use of Correlative Microscopy and Machine Learning,” Battelle-INL, 2/2022-9/2023, \$135K
- DP Field, “Effect of Grain Boundary and Triple Junction Character on Phase Transformations in Alloys,” Battelle-PNNL, 6/2021-9/2021, \$25K
- DP Field, BJ Schuessler, “DGRP: SHAPE processing and structural analysis,” Battelle-PNNL, 7/2019-7/2021, \$120K
- D.P. Field, “Investigation of Recrystallization and Grain Growth in Uranium 10 wt% Molybdenum,” Battelle-PNNL, 1/2019-9/2019, \$55K
- M. Knoblauch, D.P. Field, H. Beyenal, “Acquisition of Volume Scope” Murdock Foundation, 8/2018-8/2020, \$450K
- DP Field, “Formability determination of SHAPE processed Mg alloys,” Battelle-PNNL, 4/2018-9/2018, \$15,295
- DP Field, “Strength of CNT filaments after treatment,” Odysseus Technologies, 9/2013-12/2019 \$115K
- H Zbib, DP Field, G Ayoub, B Mansour, “Multiscale modeling and optimization of advanced interface materials for high energy environments,” QNRF 2/2015-6/2018, \$315K
- DP Field, “Microstructural Characterization of FSW in Aluminum Alloys,” Battelle-PNNL, 9/2016-9/2018, \$98K
- DP Field, “Grain Size and Texture Analysis of U 10% Mo specimens by EBSD and ECCI,” DOE-PNNL, 1/2014-9/2018, \$72K
- DP Field, B Fromm, “Microstructure Reconstruction for Phase Field Models”, INL 8/2013-8/2015, \$157K
- H Zbib, A Ruimi, DP Field, “Advanced High Strength Steel,” Qatar National Research Fund, 1/2013-12/2015, \$332K
- DF Bahr, DP Field, “REU: Advanced Materials Characterization,” 2011-2014, \$279K
- H Zbib, G. Kridli, DP Field, “Twin Roll Cast Magnesium, Experiments and Modeling,” Qatar National Research Fund, 11/2010-11/2013, \$348K
- DP Field, “Development of a triple junction distribution function, 3DF,” NSF, 7/2010-6/30/2014, \$328K (\$12K REU supplements in 2012 and 2013)
- S Mesarovic, DP Field, DF Bahr, “NIRT: Mechanics of NanoTurfs: Multiscale Modeling, Experiments and Characterization,” National Science Foundation, 6/1/2009-5/31/2012, \$754,299

- DP Field, "Simulations and Experiments to Measure Structural Evolution IN AA 7050," Kaiser Aluminum, 1/1/2009 to 12/31/2012, \$312033
- DP Field, "Software to Interpret EBSD Data for Parent Grain Identification and Lath Packet Spacing Measurement," BYU, 8/16/2008-8/31/2009, \$28691
- DP Field, DF Bahr, "Development of an Introductory Engineering Course with an Eye towards Education, Retention, and Recruitment," Samuel H. and Patricia W. Smith Teaching and Learning Grant, WSU, 4/1/2008 - 3/30/2009, \$2500
- DP Field (KO Findley), "FEMET Curriculum Development Grant," AIST Foundation, 8/2006-8/2011, \$25K
- C. Richards and D.P. Field, "REU: Introduction to Multi-scale Engineering," NSF, 2008-2011, \$225K
- DP Field, "Experiments to Understand the Effect of Pressure on the Strength of Metals," LLNL, 2008-2009, \$40K
- DP Field, "Characterization of Explosively Bonded Materials," Pacific Aerospace and Electronics, 2007-2008, \$25K
- DF Bahr, DP Field, et al "Development and Implementation of an Intensive Short Course, Seminar, and Mentoring for Introducing Undergraduates to Research in Engineering," NSF 2007-2010, \$149K
- DP Field, "Pressure-Dependent Mechanical Response in Polycrystals," LLNL, 3/2007-4/2008, \$30K.
- DP Field, DF Bahr, MG Norton, T. Dickenson, IMR: Acquisition of a FESEM for Characterization of Advanced Materials and Development of Improved EBSD Tools, NSF 0414294 (1/9/04-31/8/07) - \$252K
- Observation and Prediction of Dislocation Patterns in Three Dimensions, DARPA, Alcoa/Northrup Grumman subcontract (6/04-12/07) – \$237K
- DP Field, "Analysis of Retained Austenite in Trip Steels," PNNL, 2005, \$10K.
- B.Q. Li and D.P. Field - "Development of Integrated Methodology for Thermomechanical Processing of Al Alloys." U.S. DOE Office of Industrial Technology grant extension, 8/2004-8/2005 \$62K
- DP Field, "Pressure-Dependent Mechanical Response in Polycrystals," LLNL, 8/2004-12/2006, \$92K.
- DP Field, Orientation Imaging Analysis of Ta Tensile Specimen, LLNL subcontract, \$25K, April, 2004-May, 2005.
- DP Field, Quantitative Analysis of Radiographic Images for Thickness Measurements and Defect Analysis, Washington Technology Center and LumenIQ - \$48K (2004).
- DP Field, Analysis of Deformation and Annealing Behavior of ECAE Processed Copper, INEEL – BBWI subcontract, 2003 – \$25K.
- DP Field, Analysis of Ta Sputtering Targets and Ta wire, Cabot Corporation, 2003, - \$17,500.
- DP Field, Experiments to Measure Pressure Dependent Dislocation Mobility in Mo, LLNL Subcontract No. B530385 - \$54K (2003).
- DP Field, Analysis of Deformation and Annealing Behavior of ECAE Processed Copper, INEEL - BBWI (subcontract 00006), 2002 – \$25K.
- DP Field, Diffraction and Atomic Force Microscopy Analysis of Ta Sputtering Targets, Cabot Corporation, 2002, - \$5K.
- B.Q. Li and D.P. Field - "Development of Integrated Methodology for Thermomechanical Processing of AL Alloys." U.S. DOE Office of Industrial Technology grant no. DE-FC07-01ID14189, 8/2001-8/2004 \$356K
- DP Field - INEEL - BBWI (subcontract 00000291), "Orientation Imaging of Materials Processed by Equal Channel Angular Extrusion." 2001 - \$8K
- DP Field, Structure evolution in Cu damascene interconnect lines, 2001 - Advanced Micro Devices. \$25K

PUBLICATIONS

Books and Journals Edited

- S. Suwas and DP Field, editors, *Advances in Texture, Microtexture, and Allied Techniques*, Springer Nature, Singapore, 2025.
- A Kundu, DP Field, PC Chakraborti, "Role of Microtexture on Cyclic Deformation of 304 LN Austenitic Stainless Steel," in *Advances in Texture, Microtexture, and Allied Techniques*, Eds. S. Suwas and DP Field

- DP Field, S Suwas, SI Wright, “Basics of SEM-Based Techniques for Electron Backscatter Diffraction,” in Advances in Texture, Microtexture, and Allied Techniques, Eds. S. Suwas and DP Field
- Applied Sciences – Guest Editor, 2024, Alloys: Evolution of Microstructure and Texture, Edited by Rajib Kalsar, Vineet V. Joshi and David Field
- DP Field, H Garmestani, T Khraishi, M Zikry “Special Issue: The Behavior of Crystalline Materials: In Honor of Professor Hussein Zbib,” J. Eng. Matls. Tech, volume 144 (2022).
- Electron Backscatter Diffraction in Materials Science 2, Eds. AJ Schwartz, M Kumar, BL Adams and DP Field, Springer US, 2009.
- LN Brewer, DP Field, and CC Merriman, “Mapping and Measuring Plastic Deformation Using EBSD,” in Electron Backscatter Diffraction in Materials Science 2, Eds. AJ Schwartz, M Kumar, DP Field and BL Adams 2009.
- RA Schwarzer, DP Field, BL Adams, M Kumar, and AJ Schwartz, “Present state of electron backscatter diffraction and prospective developments,” in Electron Backscatter Diffraction in Materials Science 2, Eds. AJ Schwartz, M Kumar, DP Field and BL Adams 2009.
- DP Field and M Kumar “Electron Backscatter Diffraction of Aluminum Alloys,” in DS MacKenzie and GE Totten, Eds, Analytical Characterization of Aluminum, Steel, and Superalloys, Taylor and Francis Group, New York, NY (2006), pp. 519-573 (*invited chapter*).
- DP Field, CA Michaluk, R Ravichandran, and GA Rozak, Journal of Electronic Materials Special Issue, **Vol 34 No. 12** (Dec. 2005)
- D.P. Field, “Textured Structures,” in ASM Handbook Volume 9: Metallography and Microstructures, Ed. G.F. VanderVoort, ASM International, Materials Park, OH, 2004, p. 215-226. (*Invited Chapter*)
- DP Field, MM Nowell and QT Jiang, Journal of Electronic Materials Special Issue, **Vol 31 No. 1** (Jan. 2002).
- PW DeHaven, DP Field, SD Harkness IV, JA Sutliff, JA Szpunar, L Tang, T Thomson, and MD Vaudin, Magnetic and Electronic Films – Microstructure, Texture and Application to Data Storage, Materials Research Society Symposium Proceedings Volume **721**, 2002.
- KV Jata, MW Mahoney, RS Mishra, SL Semiatin, and DP Field, Friction Stir Welding and Processing, The Minerals Metals and Materials Society, Warrendale, PA, 2001.

Journal Articles (Bold name indicates undergraduate researcher)

- Swapnil Sawalkar, Sridhar Niverty, Robert Seffens, Nicole Overman, David P. Field, Vineet V. Joshi, “Strain-Induced Corrosion in Pure Aluminum,” Under Review
- Bernard Gaskey, Sara Ricci, Cody Miller, Claire L. Adams, David P. Field, Saryu Fensin, John Carpenter, “Low-Pressure Diffusion Bonding of Vanadium to Commercial Pure Titanium and Ti-6Al-4V,” Under Review
- Swapnil Sawalkar, Nicole Overman, Benjamin Schuessler, Jens Darsell, Dalong Zhang, Brandon S Taysom, Md Reza-E-Rabby, David P. Field, Vineet V. Joshi, “High-Speed Friction Extrusion of ZK60 Magnesium Alloy: Enhancing Yield Asymmetry and Corrosion Resistance,” Under Review
- **A. Bandyopadhyay-Bose** and DP Field, “High-Temperature Microstructure Evolution of Additively Manufactured Nickel Using In Situ Electron Backscatter Diffraction,” Metall. Mater. Trans A, (2025). <https://doi.org/10.1007/s11661-025-07840-2>
- CL Adams, M Sepsi, SN Kumaran, LS Toth, and DP Field, “Residual Stresses in Multilayered Aluminum Sheets Produced by the Friction Assisted Lateral Extrusion Process,” Matls. Char. 219 (2025) 114653. <https://doi.org/10.1016/j.matchar.2024.114653>
- S. Sawalkar and DP Field, “Constrained groove uniform pressing process for achieving homogeneously improved properties in copper,” Matls. Sci. Eng. A, 899, May (2024), 146417. <https://doi.org/10.1016/j.msea.2024.146417>
- M. Jamal and DP Field, “Development and modeling of gradient microstructures using linear corrugation and straightening,” J. Mater. Sci. 59, pp. 3894-4912, (2024). <https://doi.org/10.1007/s10853-023-09175-y>
- CL Adams and DP Field, “Analysis of FCC Phase in Additively Manufactured Commercially Pure Ti,” Metals, 2023, 13, 2005. <https://doi.org/10.3390/met13122005>

- K. Adam, and DP Field, “Modeling the Heterogeneity Spatial Distribution of Coarse Second Phase Particle on Recrystallization Behavior in 7XXX Al Alloy,” *Materials Science Forum*, 2023, vol. 1103, pp. 13-25. <https://doi.org/10.4028/p-eu4JYI>
- William E. Frazier, Karun Kalia, Chao Wang, Kyoo Sil Choi, David P. Field, Shenyang Hu, Ayoub Soulamy, and Vineet V. Joshi “An Integrated Simulation of Multiple-Pass U-10Mo Alloy Hot Rolling and Static Recrystallization,” *Metall. Mater. Trans. A*, 2023, vol. 54, pp. 3461-3475. <https://doi.org/10.1007/s11661-023-07077-x>
- Amrita Kundu, David P. Field, Pravash Chandra Chakraborti, and Parvej Raut, “Development of Microstructural Heterogeneity in 304 LN Austenitic Stainless Steel: Effect of Temperature and Strain,” *J. Matls. Eng. Perform* (2022). <https://doi.org/10.1007/s11665-022-06946-7>
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- N. Brown and DP Field, TMS 2025, Las Vegas, NV, March 2025
- The Effects of Corrugated Groove Pressing on Heterogenous Microstructure and Mechanical Properties in Copper Plates: Alex Brown1; David Field1; MS&T 24, Pittsburgh, PA, Oct. 2024
- Swapnil Sawalkar, Benjamin Schuessler, Jens Darsell, Dalong Zhang, Brandon Taysom, Md Reza-E-Rabby, Darrell Herling, David Field, Vineet Joshi; “High Speed Extrusion of ZK60 Mg Alloy by Friction Extrusion Process,” MS&T 24, Pittsburgh, PA, Oct. 2024
- CL Adams and DP Field, ICOTOM 20, Metz, France, June 2024

- N Brown and DP Field, ICOTOM 20, Metz, France, June 2024
- S Sawalkar and DP Field, ICOTOM 20, Metz, France, June 2024
- C.L. Adams, DP Field, MS&T 2023, Columbus, OH, Oct. 2023
- A. Bose-Bandyopadhyay, DP Field, MS&T 2023 Columbus, OH, Oct. 2023
- S. Sawalkar, DP Field, MS&T 2023, Columbus, OH, Oct, 2023
- G. Blaschke, DP Field, MS&T 2022, Pittsburgh, PA, October, 2022
- C. Adams, DP Field, MS&T 2022, Pittsburgh, PA, Oct. 2022.
- J. Mueed, **G. Blaschke**, and DP Field, “Designed heterostructures in AZ31 using linear corrugated straightening,” TMS Annual Meeting, Anaheim, CA, March 1, 2022
- Claire Adams, K. Traxel, A. Bandyopadhyay, and DP Field, “Characterization of Stresses as a Function of AM Processing Parameters in Commercially Pure Ti “ MS&T 21, Columbus, OH, October, 2021.
- DP Field, B. Fromm, A Alankar, Z Leng, “Characterization of Defect Content in IF Steels using EBSD,” TMS Annual meeting, Phoenix, AZ, March 2018
- M. Jamalain, V. Joshi, and DP Field, “Microstructure and Texture Evolution of Magnesium alloy after Shear Assisted Processing and Extrusion (ShAPE),” ICOTOM 18, St. George UT, November 2017
- Jingyi Zhang, Cory Palmieri, Piyush Upadhyay, Yuri Hovanski, and David P. Field, “Using EBSD in the characterization of heterogeneous microstructure created in high speed friction stir welded aluminum alloy,” ICOTOM 18, St. George UT, November 2017
- T Mungole, B Mansoor, G Ayoub, and DP Field, “Transmission EBSD on Ti/TiN Multilayer thin films,” ICOTOM 18, St. George UT, November 2017
- Jingyi Zhang, Piyush Upadhyay, Yuri Hovanski, and DP Field “High-speed FSW aluminum alloy 7075 microstructure and corrosion properties,” MS&T 17, Pittsburgh, PA, October 2017
- DP Field, “The Joint Center for Deployment and Research in Earth Abundant Materials (JCDREAM),” Clean Tech Symposium, Seattle WA, June, 2017.
- T Mungole, B. Mansoor, G. Ayoub, and DP Field, “Deformation Mechanisms in Ti/TiN Multi-layered Thin Films,” TMS Annual Meeting, San Diego, CA, Feb. 26 – March 3, 2017
- M Jamalain and DP Field, “Strengthening Mechanism of AZ31 Magnesium with Gradient Structure,” TMS Annual Meeting, San Diego, CA, Feb. 26 – March 3, 2017
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- S Whalen, V Joshi, D Catalini, Curt Lavender, and DP Field, “Scaled-Up Fabrication of Thin-Walled ZK60 Tubing using Shear Assisted Processing and Extrusion (ShAPE),” TMS Annual Meeting, San Diego, CA, Feb. 26 – March 3, 2017
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