Curriculum Vitae – Benjamin Fell

Contact Information

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Education

PhD	Civil and Environmental Engineering	University of California, Davis, 2008
MS	Civil and Environmental Engineering	Stanford University, 2004
BS	Civil Engineering	Rensselaer Polytechnic Institute, 2003 (summa cum laude)

Professional Experiences and Responsibilities

Department Chair of Civil Engineering
California State University, Sacramento (CSUS), 2015 – present
Managing 18 full-time and 30 part-time faculty and staff in a department with 900 undergraduate and 100 graduate students, an enrollment that accounts for approximately 25% of the College of Engineering at Sacramento State, one of the most diverse regional universities in the Western United States; Serving on the Dean's administrative council; Leading ABET program accreditation; Developing curriculum and departmental governance policies; Restructuring undergraduate advising structure to improve student success; Serving on College of Engineering leadership program Steering Committee; Collaboratively setting departmental budget priorities; Leading strategic planning for the college and department; Fundraising via private donors and annual department fundraising events; Establishing and growing department endowment funds; Initiating significant curriculum development; Leading faculty recruitment and hiring; Developing and disseminating public and media relations; Strengthening industry relations through two advisory boards.

Assistant Director of Sustainable Technology Outdoor Research Center (STORC)
California State University, Sacramento (CSUS), 2019 – present
Assigned by the Dean (who serves as the Director of STORC) to rejuvenate and expand a multidisciplinary research center at Sacramento State housed within the College of Engineering; Organizing and directing campus facility planning groups; Directing outside consultant on physical infrastructure design; Fundraising efforts; Initiating strategic plan of research center.

Faculty Advisor, Sacramento Area Science Project
California State University, Sacramento (CSUS), 2017 – present
Serving as the faculty advisor for a $1.3 million center focusing on professional development opportunities for Sacramento area science teachers; Strategic planning and budget management in collaboration with center's staff director; Principal Investigator (PI) on annual grant from the California Science Project; Co-PI on $2.0 million NSF Grant *Sacramento Math and Science Teacher Leaders (SacMAST-L)*, Lead engineering faculty on $2.04 million California Department of Education grant *Integrating Science and Engineering Education (iSEE)*

Professor (CSUS), Department of Civil Engineering, 2018 – present
Associate Professor (CSUS), Department of Civil Engineering, 2013 –2018
Assistant Professor (CSUS), Department of Civil Engineering, 2008 –2013

Major Accomplishments

Strategic, Financial, Student Enrollment, and Physical Planning and Improvement

- Generated and executed 2016 strategic plan for civil engineering, approved unanimously by faculty;
- Led the development of the College of Engineering strategic plan vision, mission and values statements as Chair of the College's Academic Council in 2015;
- Established departmental policies in collaboration with faculty to promote collegiality, fairness and transparency, including workload credit policies for graduate student advisory units and large class sizes, travel policies for tenure-track, non-tenure-track faculty and staff, and a reimbursement policy to encourage faculty to engage in professional memberships and licensure;
- Develop and execute $1.65 million annual department budget;
- Expand and manage undergraduate student enrollment – increase of 26% from fall 2014 to fall 2019;
- Initiated effort to increase MS program enrollment by establishing informal agreements with regional universities for graduate exchange programs and industry outreach;
- Develop strategies to reduce "bottleneck" courses and promote student success – BS degrees awarded increased from 93 graduates in 2014-15, to 134 in 2018-19;
- Quadrupled the 4-year graduation rate of undergraduate civil engineering students – from 3.6% for spring 2016 graduates to 16.0% in spring 2018;
- Managed multiple lab renovation projects – financial planning and collaboratively engaging campus project managers, technical support staff, outside equipment vendors, and faculty;
- Leading the development of a concrete durability and multidisciplinary sustainability lab (STORC)

Curriculum Development and Accreditation

- Finalized a 6-year ABET accreditation in civil engineering in 2016;
- Appointed to ASCE Committee on Accreditation Operations – assigns and evaluates ABET reviewers, and develops training materials, processes and guidelines;
- Authored the annual campus program review assessment report for undergraduate and graduate civil engineering programs
- Initiated and implemented significant curriculum changes to upper-division course offerings in civil engineering – introduced additional technical elective, established a one-year senior project experience, and added a prerequisite course in environmental engineering principles;
- Reorganized General Education requirements for engineering majors to follow CSU Executive Order;
- Directed curriculum committee to renumber all courses to better communicate discipline-specific technical areas at undergraduate and graduate levels in civil engineering.

Community and Industry Engagement

- Strengthened engagement with Sacramento-area industry through two industry advisory boards by developing strategic goals for each board which meets quarterly;
- Manage development and publication of tri-annual department newsletter "CE Connection"
- Initiated service-based learning into senior project class, working with local Loaves & Fishes;
- Piloted *Writing Partners* in freshman seminar class – a pen pal writing program between university and K-6 students at local Title I schools which is now the largest at Sacramento State

Faculty Recruitment, Staff Hiring and Administrative Search Committees

- Increased full-time faculty composition in the department by 43% (5 new hires);
- Increased diversity of faculty with strategic recruitment efforts;
- Established faculty and staff professional development policies in civil engineering;
- Completely revised the civil engineering hiring, tenure and promotion policy to establish consistent and transparent expectations, approved unanimously by faculty;
- Established a new departmental staff position and implemented new office workflow processes and procedures;
- Served on two Provost Search Committees and one Engineering Associate Dean Search Committee.

University Service and Engagement in Faculty Governance

- Faculty Senate Executive Committee (2014-16) – Established priorities and agendas for faculty senate consideration; collaborated with senate/faculty leaders, provost and vice-provost, for senate action.
- University Curriculum Policies Committee, Chair (2014-16), member (2011-16) – Oversaw three subcommittees, including the curriculum subcommittee responsible for reviewing and approving all course or program changes in the university; wrote and revised university curriculum policies by consulting with faculty and the Dean of Undergraduate Studies.
- College of Engineering & Computer Science Academic Council, Chair (2012-15), vice chair (2011-12), member (2011-15) – Reviewed course and program change proposals; engaged the Council in faculty governance projects in the college to re-establish shared governance in curricular and strategic planning; encouraged faculty discourse and engagement in strategic planning and shared governance; organized and led meetings for course and program curricular review; led effort to re-write and uniformly adopt a Student Evaluation of Teaching (SET) form by all departments in the college; led effort to pass strategic plan vision, mission and values; developed draft proposal to re-write college constitution.
- Academic Affairs Budget Advisory Committee (2012-15) – Worked collaboratively with other committee members to recommend budget structure and priorities to Academic Affairs
- Faculty Senator (2008-13) – attended Senate meetings, debated and voted on numerous campus policies and resolutions.
- Civil engineering Retention, Tenure and Promotion (RTP) committee (2014 – current)
- American Society of Civil Engineers (ASCE) student chapter advisor (2008-14)
- Structural Engineers Assoc. of Central CA (SEAOCC) student chapter advisor (2008-17)
- Tau Beta Pi engineering honor society advisor (2009 – current)

Professional Licensure, Leadership and Service to the Engineering Profession

- Member of Department Heads Coordinating Council (DHCC), ASCE (2016-present) – Encourage and improve communications on educational matters among all civil engineering departments, the profession, and ASCE; plan and organize annual department heads meeting, including leading sessions and open discussions.
- DHCC liaison and member of Committee on Accreditation Operations, ASCE (2018-present) – Organize, evaluate and establish best practices for program evaluators (PEV) assigned to ABET reviews of civil and environmental engineering programs
- Board member (secretary), ASCE Sacramento Section (2015-2019) – Participate in financial decisions and allocation of section budget; plan two awards banquets per year; oversee Golze student scholarship
- Associate Member, American Society of Civil Engineers (ASCE)
- Member, American Institute of Steel Construction (AISC)
- Licensed Professional Engineer, California (no. 73522)
- Peer reviewer for the Journal of Structural Engineering, ASCE publishing
- Peer reviewer for the Journal of Bridge Engineering, ASCE publishing
- Peer reviewer for Materials Transactions A, Elsevier publishing
- Peer reviewer for Engineering Structures, Elsevier publishing
- Peer reviewer for Arabian Journal for Science and Engineering, Springer publishing
- Peer reviewer for Mechanics Research Communications, Elsevier publishing

Honors and Awards

Outstanding University Service Award, College of ECS, Sacramento State, 2016
President's Award for Research and Creative Activity, Sacramento State, 2013
Outstanding Scholarly & Creativity Award, College of ECS, Sacramento State, 2012
Outstanding Teaching Award, College of ECS, Sacramento State, 2011
Jonathan Burdette Brown Education Award, ASCE, 2011
Pedagogy Enhancement Award, Sacramento State, 2010
Excellence in Civil Engineering Education (ExCEEd) Fellowship, ASCE, 2010
STEM Fellow, Sacramento State, 2009

Outstanding Graduate Student Teaching Award, UC Davis, 2008
AISC/Structural Steel Educational Council Fellowship, UC Davis, 2005
Graduate Fellowship, Stanford University, 2003
Rhodes Scholarship Nominee, Rensselaer Polytechnic Institute, 2003

Fund Raising from Private Sources and Corporations

[Total funds raised for CSUS Department of Civil Engineering, 2015-2019, $1.6M]

2019 Secured a **$1.0M** estate gift for environmental engineering, and a **$40,000** annual (recurring) gift until estate gift initiates; Received **$50,000** gift from Odin Construction for STORC research lab; Worked with faculty to secure a **$25,000** gift from APWA Sacramento Section for STORC lab; Raised **$62,000** through annual fundraising program and individual donations.

2018 Raised **$43,500** through annual fundraising program and individual donations.

2017 Secured a **$200,000** gift from Clark Pacific for concrete lab; secured a **$20,000** gift from Wood Rodgers for water resources engineering lab; Worked with faculty to secure a **$21,500** gift from APWA Sacramento Section for environmental engineering lab; Raised **$29,250** through annual fundraising program and individual donations.

2016 Secured a **$25,000** gift from Magnus Pacific for geotechnical engineering lab, with **$25,000** matching from College of Engineering; Raised **$31,250** through annual fundraising program and individual donations.

2015 Raised **$31,500** through annual fundraising program and individual donations.

Grant Awards

[Total grants received, 2009-2019, $6.55M]

2019 **$30,000**, California Science Project Site Allocation Grant to Sacramento Science Project as PI

2018 **$30,000**, California Science Project Site Allocation Grant to Sacramento Science Project as PI

2017 **$6,800**, Industry Grant from *Polargy*, "Static Testing of Hybrid Ceiling Grid Frame" as PI
$30,000, California Science Project Site Allocation Grant to Sacramento Science Project as PI

2016 **$2.04M**, Elk Grove Unified School District/California Department of Education, "Integrating Science and Engineering Education (iSEE)" as lead engineering faculty
$2.0M, NSF, "Sacramento Math and Science Teacher Leaders (SacMAST-L)" as Co-PI

2014 **$9,050**, Industry Grant from *BarrelSafe*, "Seismic Testing of Innovative Wine-barrel Rack System" as PI

2012 **$3,000** campus mini-grant, University Enterprises, Inc., to supplement student support on 2011 NSF award
$1,000 campus mini-grant, University Enterprises, Inc., to supplement equipment support on 2011 NSF award

2011 **$1.2M**, NSF, Project NEESR-CR, "Development and simulation of seismically isolated unibody residential buildings for enhanced life-cycle performance" with Stanford University as PI and Sacramento State Co-PI; amount to CSUS $139,052

2009 **$1.2M**, NSF, Project NEESR-CR, "Collapse simulation of multi-story buildings through hybrid testing" (Senior Personnel); amount to CSUS $100,014
$2,450 Young researcher travel grant, NSF, to attend NEESWood shake-table test in Japan

Peer-Reviewed Publications

Journal and Professional Publications

Hopkins, A., **Fell, B. V.**, Deierlein, G.G. and Miranda, E.M. (in preparation). "Large-scale tests of seismically enhanced planar walls for residential construction." *Journal of Structural Engineering, ASCE*.

Jampole, E.A., Deierlein, G.G., Miranda, E.M. **Fell, B.V**. Swensen, S.D., Acevedo, C. (2016). "Full-Scale Dynamic Testing of a Sliding Seismically Isolated Unibody House," Earthquake Spectra, 32 (4), 2245-2270.

Fell, B.V. and O'Rourke, M.J. (2014). "Loss of the pressure boundary through buckling induced fracture in the Ciudad Nezahualcoyot pipeline." *Journal of Pipeline Systems Engineering and Practice, ASCE*.

Shaw, S.M., Kanvinde, A.M. and **Fell, B.V.** (2010). "Earthquake-induced net section fracture in brace connections - experiments and simulations." *Journal of Constructional Steel Research, Elsevier*, 66(12), 1492-1501.

Fell, B.V. and Kanvinde, A.M. (2010). "Tensile forces for seismic design of braced frame connections - experimental results*." Journal of Constructional Steel Research, Elsevier*, 66(4), 496-503.

Fell, B.V. and Kanvinde, A.M. (2009). "Steel braced frames: Enhancing seismic response." *The Structural Engineer, Institution of Structural Engineers*, 87(21), 22-26.

Myers, A.T., Kanvinde, A.M., Deierlein, G.G. and **Fell, B.V.** (2009). "Effect of weld details on the ductility of steel column baseplate connections." Journal *of Constructional Steel Research, Elsevier*, 65(6), 1366-1373.

Fell, B.V. and Kanvinde, A.M. (2009). "Recent fracture and fatigue research in steel structures." *Structure Magazine*, February 2009, 14-17.

Kanvinde, A.M., Gomez, I.R., Roberts, M., **Fell, B.V.** and Grondin, G.Y. (2009). "Strength and ductility of fillet welds with transverse root notch." *Journal of Constructional Steel Research, Elsevier*, 65(4), 948-958.

Fell, B.V., Kanvinde, A.M., Deierlein, G.G. and Myers, A.T. (2009). "Experimental investigation of inelastic cyclic buckling and fracture of steel braces." *Journal of Structural Engineering, ASCE*, 135(1), 19-32.

Kanvinde, A.M., **Fell, B.V.**, Gomez, I.R. and Roberts, M. (2008). "Predicting fracture in structural fillet welds using traditional and micromechanics-based models." *Engineering Structures, Elsevier*, 30(11), 3325-3335.

Conference Publications

Canney, N.E., Fogarty, J.E., and **Fell, B.V.** (accepted - in progress). "Effect of Letter Exchange Program on Student Development, Persistence and Interest in Civil Engineering," ASEE Annual Conference & Exposition, 2020, Montreal, Canada, June 2020.

Miranda, E.M., Medina, R., Mosqueda, G., Lignos, D., **Fell, B.V.**, Eads, L., Hashemi, J., Zargar, S., Negrete, M. (2014). "Collapse assessment of multi-story buildings through hybrid testing," 10th National Conference in Earthquake Engineering, 2014, Anchorage, Alaska, July 2014.

Swensen, S.D., Acevedo, C., Jampole, E.A., Hopkins, A., **Fell, B.V**., Miranda, E.M., Deierlein, G.G. (2014). "Toward Damage Free Residential Houses Through UniBody Light-Frame Construction with Seismic Isolation," SEAOC Convention 2014, Indian Wells, CA, September 2014.

Swensen, S.D., Deierlein, G.G., Miranda, E.M., **Fell, B.V**., Acevedo, C., Jampole, E.A. (2014). "Finite element analysis of light-frame unibody residential structures," Proceedings of the 10th National Conference in Earthquake Engineering, Earthquake Engineering Research Institute, Anchorage, AK, 2014.

Jampole, E.A., Swensen, S.D., **Fell, B.V**., Miranda, E.M., Deierlein, G.G. (2014). "Dynamic testing of a low-cost sliding isolation system for light-frame residential structures," Proceedings of the 10th National Conference in Earthquake Engineering, Earthquake Engineering Research Institute, Anchorage, AK, 2014.

Deierlein G.., Kanvinde, A.M., Myers, A.T., and **Fell, B.V.** (2011). "Local cyclic void growth criteria for ductile fracture initiation in steel structures with significant yielding," Proceedings, Eurosteel 2011, Budapest, Hungary, August-September 2011.

Fell, B.V. (2011). "Exchange – Multi-day earthquake engineering workshop for middle school students," *2011 Annual Conference and Exposition, ASEE*, Vancouver, BC, Canada, June 2011.

Salveson, M.W. and **Fell, B.V.** (2011). "Effect of abutment shear keys on the seismic response of bridges," *2011 ASCE Structures Congress*, Las Vegas, NV, April 2011.

Fell, B.V., Kanvinde, A.M., and Deierlein, G.G. (2009). "Micromechanics-based parametric simulation of earthquake-induced fracture of steel pipe bracing components," *NSF-CMMI Grantees Meeting 2009 (NEES 7th Annual Meeting)*, Honolulu, HI, June 2009.

Kanvinde, A.M., **Fell, B.V.**, and Deierlein, G.G. (2008). "An examination of the fracture susceptibility of square HSS braces under seismic actions - experiments, simulations and data synthesis," *SEAOC Convention 2008*, Big Island, HI, September 2008.

Fell, B.V., Kanvinde, A.M., and Deierlein, G.G. (2008). "Parametric simulation of the fracture performance of inelastic buckling steel braces using micromechanics- based models," *NEES 6th Annual Meeting, Portland, OR*, June 2008.

Myers, A.T., Kanvinde, A.M., Deierlein, G.G., **Fell, B.V.**, and Fu., X (2007). "Large scale tests and micromechanics-based models to characterize ultra low cycle fatigue in welded structural details," *ASCE Structures Congress 2007*, Long Beach, CA, May 2007.

Fu., X., **Fell, B.V.**, Kanvinde, A.M., Myers, A.T., (2007). "Experimental and analytical investigations of net-section fracture in brace-gusset plate connections," *ASCE Structures Congress 2007*, Long Beach, CA, May 2007.

Fell, B.V., Myers A.T., Deierlein, G.G., and Kanvinde A.M. (2006). "Testing and simulation of ultra low cycle fracture and fatigue in steel braces," *8th National Conference on Earthquake Engineering*, San Francisco, April 2006.

Technical Reports

Hopkins, A., **Fell, B. V.**, Deierlein, G.G. and Miranda, E.M. (2014). "Large-scale tests of seismically enhanced planar walls for residential construction." Blume Earthquake Engineering Center Technical Report #186, Stanford University, Stanford, CA.

Fell, B.V., Kanvinde, A.M. and Deierlein, G.G. (2010). "Large-scale testing and simulation of earthquake induced ultra low cycle fatigue in bracing members subjected to cyclic inelastic buckling." *Blume Earthquake Engineering Center Technical Report #172*, Stanford University, Stanford, CA.

Fell, B.V., Kanvinde, A.M., Deierlein, G.G., Myers, A.T. and Fu, X. (2006). "Buckling and fracture of concentric braces under inelastic cyclic loading." *SteelTIPS, Technical Information and Product Service, Structural Steel Educational Council.*

Talks and Presentations

"Construction Methods to Increase Lateral Stiffness and Strength in Light-Framed Residential Buildings", University of California, Davis, March 2018 and February 2019.

"Micromechanics-Based Simulation of Ultra-Low Cycle Fatigue (ULCF) and Fracture in Steel Structures", University of California, Berkeley, May 2014.

"Construction Methods to Increase Lateral Stiffness and Strength in Light-Framed Shear Wall Construction", SEAOCC Structural and Cold Formed Steel Seminar, Sacramento, CA, November 2015.

"Recent developments and applications of ductile fatigue and fracture models for earthquake loading conditions", Rensselaer Polytechnic Institute Invited Lecture, Troy, NY, November 2014.

"Earthquake resilient housing: light-frame 'uni-body' construction and low-cost seismic isolation", SEAOCC Seismology Committee Meeting, Sacramento, CA, October 2014.

"The Earthquake-Proof Home: Is it in Our Future?", STEM Fall Lecture Series, Sacramento, September 2013.

"Design Implications from Recent Fracture and Fatigue Research on Steel Braced Frames", Buehler and Buehler Structural Engineers, Sacramento, August 2011.

"Exchange – Multi-day earthquake engineering workshop for middle school students", ASEE Conference, Vancouver, June 2011.

"Effect of abutment shear keys on the seismic response of bridges", ASCE-SEI Conference, Las Vegas, April 2011.

"Design Implications from Recent Fracture and Fatigue Research on Steel Braced Frames", SEAONC Seminar, San Francisco, CA, December 2009.

"Earthquakes in California - Are we ready for the big one?" Invited guest lecture in undergraduate seminar class, University of California, Davis, November 2009.

"Design implications from recent fracture and fatigue research on steel structures", Seminar presented at Rutherford and Chekene Structural Engineers, San Francisco, CA, July 2009.

"Micromechanics-based parametric simulation of earthquake-induced fracture of steel pipe bracing components" at the 7th Annual Network for Earthquake Engineering Simulation (NEES) Meeting, Honolulu, HI, June 2009.

"Ductility of SCBF bracing components", Invited guest lecture in graduate steel design class, University of California, Davis, June 2009.

"Parametric Simulation of the Fracture Performance of Inelastic Buckling Steel Braces Using Micromechanics-Based Models" at the 6th Annual Network for Earthquake Engineering Simulation (NEES) Meeting, Portland, OR, June 2008.

"Fracture in Inelastic Buckling Braces – Experiments, Modeling and Design Implications", International Workshop on the Inelastic Seismic Response of Steel Bracing Members, Montreal, Canada, November 2007.

"Abnormal Grain Growth by Dynamic Recrystallization", Seminar presented at the University of California, Davis, to Los Alamos National Lab Researchers, October 2007.

"Experiments and Simulation of Ultra-Low Cycle Fatigue and Fracture in Steel Bracing Members and Connections" at the 8th National Conference on Earthquake Engineering, San Francisco, CA, 2006.

"Performance Observations from an Experimental Study on Steel Braces", Seminar presented at Rutherford and Chekene Structural Engineers, San Francisco, CA, April 2006.

Teaching Experience and Interests

California State University, Sacramento

Mechanics of Materials
Introduction to Structural Analysis
Structural Design in Steel I
Seismic Behavior of Structures
Computer Methods of Structural Analysis I (graduate)
Dynamics and Earthquake Response of Structures (graduate)
Advanced Steel Design (graduate)
Nonlinear Structural Analysis (graduate)

University of California, Davis

Probabilistic Systems Analysis for Civil Engineers (Summer 2008)
Mechanics of Materials (Spring 2007)