

JEREMY J. BAUER, Ph.D., CFPh, CXLT

Forensic Biomechanist
 Accredited Traffic Accident Reconstructionist
 Certified Forensic Photographer
 Forensic Illustrator and Animator
 and
 Certified Remote Pilot for Small Unmanned Aircraft Systems



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Education

B.S., Physical Education (Biomechanics Emphasis), Boise State University	May 1997
M.S., Human Performance (Biomechanics), Minor in Zoology, Oregon State University Thesis: Kinetics and Kinematics of Prepubertal Children Participating in Osteogenic Physical Activity.	June 2000
Ph.D., Human Performance (Biomechanics), Oregon State University Dissertation Title: Defining Intensity of Skeletal Loading in Children.	June 2006

Experience

Instructor of skiing and snowboarding, Bogus Basin Ski Resort, Boise, ID	1989-1997
Divisional Clinic Leader (DCL), American Association of Snowboard Instructors Northern Intermountain (AASI-NI)	1996-1998
Graduate Teaching Assistant, Oregon State University (PAC 220 – In-line Skating, HHP 231 Lab, HHP 231 Website)	1997-2004
Graduate Research Assistant, Bone Research Laboratory, Oregon State University National Institutes of Health, “Fall Biomechanics and Hip Fracture Risk” National Institutes of Health, “The Effects of Jumping on Growing Bones” International Olympic Committee, Biomechanical Analysis of Long Track Speed Skating Technique with new “Clap” skates	1998-2004
Photographer’s Assistant, Sinclair Studio, Boise, ID	1996-1997
Biomechanist, Reconstructionist, Lab Director, Hayes+Associates, Inc., Corvallis, OR	1999-2017

Professional Affiliations

International Society of Biomechanics (ISB) – Member #3813
 Society of Automotive Engineers (SAE) – Member #6135576500
 American Society for Testing Materials (ASTM) – Member #1871062
 -Committee E30 on Forensic Sciences
 -Committee E58 on Forensic Engineering
 -Committee F13 on Pedestrian/Walkway Safety and Footwear
 -Committee F48 on Exoskeletons and Exosuits (Human Factors and Ergonomics)
 Institute of Transportation Engineers (ITE) – Member #1068868
 Law Enforcement & Emergency Services Video Association International, Inc. (LEVA)
 Washington Association of Technical Accident Investigators (W.A.T.A.I.)
 International Association for Identification (IAI) – Member #35240

Specialized Training

Institute of Police Technology and Management (IPTM), Eugene, OR Advanced Traffic Crash Investigation	Nov 2013
FARO Technologies Laser Scanning Training	Mar 2015
Excel Tribometers CXLT Certification Program (Slip Resistance Training)	Nov 2015

WATAI (Washington Assn. of Technical Accident Investigators) Live Crash Testing	Oct 2018
iINPUT-ACE: Video Evidence Workflow Training	Oct 2018
Institute of Police Technology and Management (IPTM) Bosch© CDR Tool Technician Training	Dec 2018
WATAI (Washington Assn. of Technical Accident Investigators) Fall Conference Occupant Kinematics; Special Uses of Bosch CDR 900	Oct 2019
Institute of Police Technology and Management (IPTM) Event Data Recording Use in Traffic Crash Reconstruction	Nov 2019
Institute of Police Technology and Management (IPTM) Fundamental Techniques of Crash Investigation (Roadway Evidence; Tire Examination; Safety Belt Examinations; Lamp Examinations; Case Preparation)	Oct 2020
WATAI (Washington Assn. of Technical Accident Investigators) Spring Conference GoPro Use in Collision Reconstruction; Freightliner ECM Data; 3D Forensics; Autonomous Vehicles; EDR Downloads and Updates	May 2021
Institute of Transportation Engineers (ITE) Webinar "Pavement Markings - What, Where, Why, When and Liability Concerns"	Oct 2021
WATAI (Washington Assn. of Technical Accident Investigators) Fall Conference Human Factors (Equipment & Tools; Perception Response Time; Nighttime Recognition; Fatigue, Distraction and Impairment; Motorcycle Incidents; Using Photographs/Videos; Object Detection; Stopped or Slow Moving Vehicles on Highway); Lighting (Measuring Light; Headlight Illumination; Retroreflective Materials)	Oct 2021

Certification/Accreditation

Remote Pilot for Small Unmanned Aircraft Systems (sUAS). Federal Aviation Administration (FAA #3970672)
 Certified Forensic Photographer (CFPh). International Association for Identification (IAI #FP10112)
 Accident Reconstructionist. Accreditation Commission for Traffic Accident Reconstruction (ACTAR #2763)
 CXLT Certification, Excel Tribometers (Certificate #1511572)
 FARO Focus 3D Scanner Certification Program
 National Institutes of Health Human Participant Protections Education for Research Teams
 American Association of Snowboard Instructors (AASI) Level III/Examiner/Clinician (Non-Active)
 Professional Ski Instructors of America (PSIA) Level II Certified (Non-Active)
 Technical Diving International (TDI) Nitrox Certification
 Professional Association of Dive Instructors (PADI) Rescue Diver Certification
 Professional Association of Dive Instructors (PADI) Advanced Open Water Certification
 Professional Association of Dive Instructors (PADI) Medic First Aid

Testimony History

Webb v. Manorcare Health Services, Inc., *et al.*, County Court at Law #2, Dallas County (TX), Case No. CC-00-03458-B. July 24, 2002. (Deposition).
 Smith v. Baxano & Zhuge, Superior Court of Washington for Snohomish County (WA), Case No. 13-2-02714-1, September 4, 2014. (Deposition).
 Zaltsman v. New Flyer Industries, Inc. and Southeastern Pennsylvania Transport Authority, Court of Common Pleas, Philadelphia County (PA), Case No. 130704088, November 13, 2015. (Trial).
 Chin v. New Flyer Industries, Inc. and Southeastern Pennsylvania Transport Authority, Court of Common Pleas, Philadelphia County (PA), Case No. 130900933, December 10, 2015. (Trial).
 Schueller v. Cordrey, Superior Court of the State of Delaware, Newcastle County, Case No. N14C-10-201 EMD, February 22, 2017. (Trial).
 Wilson v. Frates, United States District Court for the District of Oregon, Case No. 3:16-cv-01690-BR, April 12, 2018. (Deposition).
 Teichmann v. Bell-Bernard *et al.*, Superior Court of the State of California for the County of Santa Cruz, Case No. CV182291, April 30, 2018. (Deposition).
 Wilson v. Frates, United States District Court for the District of Oregon, Case No. 3:16-cv-01690-BR, August 1, 2018. (Trial).
 Burnside v. Peterson, Seventh Judicial District, Jefferson County, Idaho, Case No. CV-2016-493, January 10, 2019 (Trial)

Checchio v. Reuben *et al.*, Superior Court of the State of California for the County of Santa Barbara, Case No. 18CV02779, July 31, 2019 (Deposition)

Checchio v. Reuben *et al.*, Superior Court of the State of California for the County of Santa Barbara, Case No. 18CV02779, August 13, 2019 (Trial)

Cottrell v. Stepp *et al.*, United States District Court Southern District of West Virginia at Charleston, Civil Action No. 2:18-cv-01281, August 20, 2019. (Deposition).

White *et al.* v. City of Topeka *et al.*, United States District Court for the District of Kansas, Case No. 18-CV-4050-DDC-JPO, October 9, 2019. (Deposition).

Knoernschild *et al.* v. Stevens Pass Mountain Resort, Superior Court of Washington for King County, Case No. 18-2-06519-4 SEA, October 16, 2019. (Deposition).

Kollin *et al.* v. McCombs *et al.*, United States District Court Eastern District of California, Case No. 1:18-cv-00617 LJO JLT, December 9, 2019. (Deposition).

McGowan *et al.* v. Stutesman *et al.*, United States District Court for the District of Oregon, Eugene Division, Case No. 6:17-cv-00424-MC, February 24, 2020. (Trial).

Morgan. v. City of Los Angeles *et al.*, United States District Court Central District of California, Case No. 2:17-CV-06693-VAP-JEMx, March 12, 2020. (Deposition).

Beltran-Serrano v. City of Tacoma, Superior Court for the State of Washington Pierce County, Case No. 15-2-11618-1, April 22, 2020. (Deposition)

Estate of Marco Gomez v. Village of Forest Park et al., United States District Court for the Northern District of Illinois Eastern Division, Case No. 18-CV-910, July 17, 2020. (Deposition)

Jeanette Hotes-Aprato v. ACI Northwest Inc., United States District Court for the Western District of Washington at Spokane, Case No. 2:19-cv-200-RMP, August 5, 2020. (Deposition)

Bygum v. City of Montgomery *et al.*, United States District Court for the Southern District of West Virginia Charleston Division, Civil Action No. 2:19-cv-00456, August 19, 2020. (Deposition).

Terdik v. Ziering, United States District Court, County of Eagle, State of Colorado, Case No. 2018CV30081, October 16, 2020. (Deposition).

Flynn v. Town of Normal, Circuit Court of the Eleventh Judicial Circuit McLean County, Illinois, Case No. 12 L 166, October 22, 2020. (Deposition)

King v. City of Columbus, Ohio et al., United States District Court Southern District of Ohio Eastern Division, Case No. 2:18-cv-1060, January 7, 2021. (Deposition)

Cooper v. City of Columbus, Ohio et al., United States District Court Southern District of Ohio Eastern Division, Case No. 2:19-cv-3105, January 7, 2021. (Deposition).

Kraske & Chung v. UW Medicine, King County Superior Court for the State of Washington, Case No. 20-2-00400-6 SEA, January 14, 2021. (Deposition)

Stevenson & Cokes v. City of Chicago and Ewing, United States District Court for the Northern District of Illinois Eastern Division, Case No. 17 CV 04839, February 3, 2021. (Deposition)

Arrington v. City of Chicago and Ewing, United States District Court for the Northern District of Illinois Eastern Division, Case No. 1:17-cv-05345, February 3, 2021. (Deposition)

Estate of Marco Gomez v. Village of Forest Park et al., United States District Court for the Northern District of Illinois Eastern Division, Case No. 18-CV-910, February 12, 2021. (Deposition)

Merrick et al. v. State of Washington et al., Superior Court for the State of Washington Snohomish County, Case No. 18-2-10085-31, February 25, 2021. (Deposition)

Flynn v. Town of Normal, Circuit Court of the Eleventh Judicial Circuit McLean County, Illinois, Case No. 12 L 166, April 28, 2021. (Deposition)

Dursteler & Dursteler v. Gibbs Farms, LLC and Kelsey, Sixth Judicial District, Caribou County, Idaho, Case#CV-2018-132, June 3, 2021. (Trial).

Chandler & Short v. Rai Express Lines, Ltd., United States District Court for Eastern District of Washington, Case No. 1:20-CV-03016, August 10, 2021. (Deposition)

Hagarman v. Alaska Waterpark Company, Inc. and Prendeville, Superior Court for the State of Alaska, Case No. 3AN-19-1168, October 1, 2021. (Deposition).

MUELLER v. City of Oceanside et al. Superior Court of California, County of San Diego, North County, Case No. 37-2018-00043090-CU-PO-NC, October 6, 2021. (Deposition).

Burback v. American Medical Response and Moss, Superior Court for the State of Washington Cowlitz County, Case No. 16 2 009167, October 20, 2021. (Deposition).

Academic Services

Peer review for manuscripts submitted to the following journals:

Journal of Biomechanics
Journal of Biomechanical Engineering
Medical Engineering & Physics
Medicine and Science in Sports and Exercise
Measurement Science & Technology
Sports Biomechanics

Honors and Awards

Physical Education Department Student of the Year, Boise State University	1997
Northwest American College of Sports Medicine Conference Highlighted Research	2000
Oregon State University Graduate Student Conference “Best Oral Presentation”	2000
Oregon State University Graduate Student Conference “1 st Place Oral Presentation”	2001
Inductee into the Keith Stein Blue Thunder Marching Band Hall of Fame – Boise State University	2007

Publications

A. Peer-Reviewed Publications

1. Fuchs, R.K., Bauer, J.J., and Snow, C.M.: Jumping improves hip and lumbar spine bone mass in prepubescent children: a randomized controlled trial. *J. Bone Mineral Res.* 16: 148-56, 2001.
2. Bauer, J.J., Fuchs, R.K., Smith, G.A., and Snow C.M.: Quantifying force magnitude and loading rate from drop landings that induce osteogenesis. *J. Appl. Biomech.*, 17: 142-152, 2001.
3. Kosma, M., Gardner, R.E., Cardinal, B.J., Bauer, J.J., and McCubbin, J.A.: Psychosocial determinants of stages of change and physical activity among adults with physical disabilities. *Adapted P Act Q*, 23 (1): 49-64, 2006.
4. Kosma, M., Ellis Gardner, R., Cardinal, B.J., Bauer, J.J., and McCubbin, J.A.: The mediating role of intention and stages of change in physical activity among adults with physical disabilities: An integrative framework. *Journal of Sport and Exercise Psychology*, 29:20-37, 2007.
5. Bauer, J.J., Pavol, M.J., Snow, C.M., and Hayes, W.C.: MRI-derived body segment parameters of children differ from age-based estimates derived using photogrammetry. *J. Biomech.*, 40(13): 2904-10, 2007.
6. Ellis, R., Kosma, M., Cardinal, B.J., Bauer, J.J., and McCubbin, J.A.: Physical activity beliefs and behavior of adults with physical disabilities. *Disability and Rehabilitation. An International Multidisciplinary Journal*, 29:1221-1227, 2007.
7. Kosma, M., Ellis, R., Cardinal, B.J., Bauer, J.J., and McCubbin, J.A.: Psychosocial predictors of physical activity and health-related quality of life among adults with physical disabilities: An integrative framework. *Disability and Health Journal*, 2:104-109, 2009.
8. Ellis, R., Kosma, M., Cardinal, B.J., Bauer, J.J., and McCubbin, J.A.: A Comparison of Two Measures of Physical Activity Among Adults with Physical Disabilities: The Issue of Scale Correspondence. *J Dev Phys Disabil*, 2009, DOI 10.1007/s10882-009-9150-z.
9. Kosma, M., Ellis, R., and Bauer, J.J.: Longitudinal Changes in Psychosocial Constructs and Physical Activity Among Adults with Physical Disabilities. *Disability and Health Journal*, 5:1-8, 2012.
10. Erickson, M.S., Bauer, J.J. and Hayes, W.C.: The accuracy of photo-based three-dimensional scanning for collision reconstruction using 123D catch. *SAE International*, 2013-01-0784, 2013.

11. Power, E., Bauer, J.J., & Hayes, W.C. Reconstruction of a Shooting Incident to Determine Position of Shooter and Timing of Each Shot Fired. *Ann Forensic Res Anal* 5(1):1050, 1-3, 2018.
12. Ellis, R., Kosma, M., Agnew, S. and Bauer, J.J.: Do Temporal Scores of Motivational Constructs Correspond with Physical Activity Levels? *Disability and Health Journal*, 12:51-57, 2019.
13. Power, E.D., Bauer, J.J., & Hayes, W.C. Impact Forces and Injury Potential from Landing on Large Inflatable Airbags. *J Forensic Biomed* 10(1):142, 2-6, 2019.

B. Peer-Reviewed Abstracts

1. Bauer, J.J., Fuchs, R.K., Smith, G.A., Costello, M., and Snow, C.M.: Kinetic and kinematic characteristics of children participating in osteogenic exercise. *Med. Sci. Sports Exerc.* 32:S268. (Presented on poster March 18, 2000, at NWACSM meeting in Boise, ID, and orally June 1, 2000, at National ACSM meeting in Indianapolis, IN).
2. Bauer, J.J., Fuchs, R.K., and Snow, C.M.: Force characteristics from drop landings are not greater in trained children versus untrained children. *Med. Sci. Sports Exerc.* 33:S43. (Presented on poster March 16, 2001, at NWACSM meeting in Salem, OR, and presented orally May 29, 2001, at National ACSM meeting in Baltimore, MD).
3. Bauer, J.J. and Snow, C.M.: Independent analysis of load magnitude and loading rate: Variables in osteogenesis. (Presented on poster August 10, 2001, at the ASB meeting in San Diego, CA).
4. Owings, T.M., Bauer, J.J., Grabiner, M.D., and Snow, C.M.: Knee joint kinematics of healthy youth during a landing task are not influenced by gender. *Med. Sci. Sports Exerc.* 34:S85. (Presented orally on May 29, 2002, at the National ACSM meeting in St. Louis, MO).
5. Bauer, J.J., Snow, C.M., and Hayes, W.C.: How do ground reaction forces from drop landings compare to those from running? *Med. Sci. Sports Exerc.* 34:S85. (Presented orally on May 29, 2002, at the National ACSM meeting in St. Louis, MO).
6. Bauer, J.J., Hayes, W.C., and Snow, C.M.: Force characteristics from drop landings are asymmetrical between legs in 7-11 year old children. [CD-ROM]. IV World Congress Biomechanics Proceedings CD. (Presented orally on August 7, 2002 at the IV World Congress Biomechanics meeting in Calgary, AB, Canada).
7. Bauer, J.J., Maddalozzo, G.F., and Snow, C.M.: Side-side forces and loading rates in a jumping program for increasing bone mass in postmenopausal women. *Med. Sci. Sports Exerc.* 35:S323. (Presented on poster May 31, 2003, at the National ACSM meeting in San Francisco, CA).
8. Bauer, J.J., Miller, K.R., Hayes, W.C., and Snow, C.M.: Loading rates at the ground are unattenuated to the hip during drop landings. *Med. Sci. Sports Exerc.* 36:S229. (Presented orally on June 2, 2004, at the National ACSM meeting in Indianapolis, IN).
9. Lulay, A.T., Bauer, J.J., Snow, C.M., and Pavol, M.J.: Drop Jump Exercise does not increase maximum jump height in children. 28th Annual Meeting of the American Society of Biomechanics. (Presented on poster September 9-10, 2004, at ASB meeting in Portland, OR).
10. Bauer, J.J., Pavol, M.J., Hayes, W.C. & Snow, C.M.: Coronal knee motion in children performing drop landings is not influenced by gender. 28th Annual Meeting of the American Society of Biomechanics. (Presented on poster September 9-10, 2004, at the ASB meeting in Portland, OR).
11. Bauer, J.J., Pavol, M.J., Edwards, D.C., Snow, C.M., and Hayes, W.C.: Pelvic width predicts hip joint center location in children. *Med. Sci. Sports Exerc.* 37:S409. (Presented orally on June 2, 2005, at the National ACSM meeting in Nashville, TN).

12. Ellis Gardner, R., Kosma, M., Cardinal, B.J., Bauer, J.J., and McCubbin, J.A. Physical activity beliefs and behavior of adults with physical disabilities. Poster presentation at the NASPSA conference, Denver, CO, June, 2006.
13. Ellis Gardner, R., Kosma, M., Cardinal, B.J., Bauer, J.J., and McCubbin, J.A.: The mediating role of intention in physical activity among adults with physical disabilities. Paper presentation at the North American Society for the Psychology of Sport and Physical Activity (NASPSA) conference, Denver, CO, June, 2006.
14. Kosma, M., Ellis Gardner, R., Cardinal, B.J., Bauer, J.J., and McCubbin, J.A.: The mediating role of the stages of change in physical activity among adults with physical disabilities. Paper presentation at the 26th International Congress of Applied Psychology, Athens, Greece, July, 2006.
15. Kosma, M., Ellis Gardner, R., Cardinal, B.J., Bauer, J.J., & McCubbin, J.A. Health-related quality of life predictors for adults with physical disabilities. Poster presentation at the American Alliance for Health, Physical Education, Recreation and Dance convention, Baltimore, MD, March, 2007.
16. Kosma, M., Ellis, R., & Bauer, J.J. Longitudinal changes in psychosocial constructs and physical activity among adults with physical disabilities. Paper presentation at the International Conference of the Athens Institute for Education and Research (ATINER), Athens, Greece, June, 2011.
17. Ellis, R., Kosma, M., & Bauer, J.J. Changes in physical activity levels and motivational constructs by disability severity and type. *Annals of Behavioral Medicine*, 49 (Supplement 1), S29, 2015.

C. Invited Talks

1. Bauer, J.J. and Snow, C.M. Developing an exercise prescription for bone: Are we closer? 50th annual meeting of the American College of Sports Medicine, San Francisco, CA, May 2003.
2. Bauer, J.J. and Snow, C.M.: What is the prescription for healthy bones? 33rd International Sun Valley Hard Tissue Workshop, Sun Valley, ID, August, 2003.
3. Bauer, J.J. and Snow, C.M.: What is the prescription for healthy bones? *J. Musculoskeletal Neuron Interact*, 3 (4): 352-355, 2003.
4. Bauer, J.J.: Gunshot Wounds in a Digital Human Clear Police in Wrongful Death. Technology Association of Oregon Ignite TAO! v5, Portland, OR, March 2014.
5. Bauer, J.J.: The Forensic Biomechanist. Lecture to Graduate Students in "Law A 504 Torts" class, University of Washington School of Law, Professor William Bailey, Seattle, WA, October 18, 2018.
6. Bauer, J.J.: The Forensic Biomechanist. Lecture to Graduate Students in "Law B 519 Pre-Trial Practice" class, University of Washington School of Law, Professor William Bailey, Seattle, WA, February 21, 2019.
7. Stroth, A. and Bauer, J.J.: Anatomy of a Section 1983 Police Case. Lecture to Law Students in "Anti-Discrimination Law" class, Northwestern University, Professor Cliff Zimmerman, Video Conference Presentation, October 9, 2020.