

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

Forensic Biomechanist
 Fully 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-Non Teaching (Biomechanics), 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., Biomechanics, Minor in Mechanical Engineering, 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
Graphic Designer/Web Master, AMADAN, LLC, Portland, OR	2001-2007
Photographer’s Assistant, Sinclair Studio, Boise, ID	1996-1997
Biomechanist, Illustrator and Animator, Hayes + Associates, Inc., Corvallis, OR	1999-2017

Professional Affiliations

International Society of Biomechanics (ISB)
 Society of Automotive Engineers (SAE)
 American Society for Testing Materials (ASTM)
 -Committee F13 on Pedestrian/Walkway Safety and Footwear

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 CXL	Nov 2015

Certifications

Certified Remote Pilot for Small Unmanned Aircraft Systems (sUAS). Federal Aviation Administration (FAA #3970672)
 Certified Forensic Photographer. International Association for Identification (IAI #FP10112)

Certified Accident Reconstructionist. Accreditation Commission for Traffic Accident Reconstruction (ACTAR # 2763)
 CXLT Certification, Excel Tribometers
 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 # CC-00-03458-B. July 24, 2002. (Deposition).
 Smith v. Baxano & Zhuge, Superior Court of Washington for Snohomish County (WA), Case# 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# 130704088, November 13, 2015. (Trial).
 Chin v. New Flyer Industries, Inc. and Southeastern Pennsylvania Transport Authority, Court of Common Pleas, Philadelphia County (PA), Case# 130900933, December 10, 2015. (Trial).
 Schueller v. Cordrey, Superior Court of the State of Delaware, Newcastle County, Case# N14C-10-201 EMD, February 22, 2017. (Trial).

Academic Services

Provide 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
Inaugural 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.

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 NASPSPA 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.

D. Illustrations/Photography

1. 3D illustration showing physics of in-line skating. Also contributed expert knowledge in physics and inline skating. Kowalski, K.M. Bodies in Motion. Odyssey: Adventures in Science, pp. 23-25, September 1999.
2. "Morning at Odell Lake". In: Sketches of the Eye. ISBN 0-7951-5095-4. 2001.
3. Amadan. Sons of Liberty. CD. Amadan, LLC. Portland, OR, 2001 – Graphic Design / Layout.
4. Amadan. Hell-Bent 4 Victory! CD. Amadan, LLC. Portland, OR, 2004 – Graphic Design / Layout.
5. Coming Up Threes. The EP. CD. Coming Up Threes, Portland, OR, 2014 – Graphic Design/Layout.