

Brent A. Horn, Ph.D.

Weber State University, Department of Criminal Justice
Ogden, UT 84408
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Education

- 2001 Ph.D. Chemistry, Brigham Young University, Provo, UT 84604
- 1997 M.S. Chemistry, California Institute of Technology, Pasadena, CA 91125
- 1995 B.S. Chemistry, Brigham Young University, Provo, UT 84604

Experience

- 2011-present Associate Professor, Director of Weber State University Forensic Science Programs, Department of Criminal Justice, Weber State University, Ogden, UT 84408 (full time, tenured)
- 2005-2011 Assistant Professor, Coordinator of Weber State University Forensic Science Program, Department of Criminal Justice, Weber State University, Ogden, UT 84408 (full time, tenure track)
- 2005-present Forensic Scientist II, Chemistry Section, Utah State Crime Lab, Salt Lake City, UT (part time, volunteer status)
- 2003-2005 Member of the Technical Staff, Technology Applications Department, Sandia National Laboratories, Livermore, CA 94551
- 2001-2003 Post-Doctoral Associate, Microfluidics Department, Sandia National Laboratories, Livermore, CA 94551

Associations

- American Board of Criminalistics, Fellow—Drug Analysis (2010)
- Member Utah International Association for Identification
- Member American Chemical Society
- Member Sigma Xi

University Teaching, Training and Service

Courses taught

- CJ 1010—Introduction to Criminal Justice
- CJ 1350—Introduction to Forensic Science
- CJ 2350—Laws of Evidence
- CJ 3120—Professional Practice for the Forensic Scientist
- CJ 3340/4060—Crime Scene Photography
- CJ 4110—Physical Methods in Forensic Science
- CJ 4115 Lab—Friction Ridge Analysis
- CJ 4120/4125—Advanced and Research Methods in Forensic Science
- CJ 4830—Directed Readings
- MCJ 6140—Technology and Innovation in Criminal Justice

Master Online Teacher Certification—2014 Cohort

WSU Innovative Teaching Conference—Park City, UT, Oct 2013

Forensic Science Training

Basic 35 mm Crime Scene Photography-40 hour (May 2005)
Basic Fingerprint Pattern Interpretation and Comparison-8 hour (Aug 2005)
Interference in Fire Debris Analysis and Interpretation of Data from Complex Samples-8 hour (Feb 2006)
Forensic Applications of Adobe Photoshop-8 hour (May 2006)
Blood Stain and Bullet Pattern Analysis-24 hour (April 2007)
Sudden Unexplained Infant Death Investigation, Utah Training Team (Aug 2007)
Utah State Bureau of Forensic Services Controlled Substances Analyst Training (May 2008)
Introduction to the Science of Friction Ridge Examination-40 hour (Oct 2008)
Low Light Photographic Techniques-8 hour (Mar 2009)
Elements of Trace Recovery and Analysis-8 hour (Oct 2009)
Forensic Microscopy-40 hour (June 2012)
Faro Laser Scanning Documentation-16 hour (July 2015)

Publications and Patents

1. Horn, B. A. "Surface Reflection Photography for Documentation of Bullet Penetrations in Glass", (manuscript in progress).
2. Bayley, B. K.; Horn, B. A. *J. Behav. Soc. Sci.*, **2014**, *1*, 187.
3. Quast, A. D.; Curtis, A. D.; Horn, B. A.; Goates, S. R.; Patterson, J. E. *Anal. Chem.*, **2012**, *84*, 1862.
4. Baker, L. R.; Stark, M. A.; Orton, A. W.; Horn, B. A.; Goates, S. R. *J. Chrom. A*, **2009**, *1216*, 5588.
5. Baker, L. R.; Orton, A. W.; Goates, S. R.; Horn, B. A. *Appl. Spec.*, **2009**, *63*, 108.
6. Renzi, R. F., et al. "Portable Apparatus for Separating Sample and Detecting Target Analytes", Pat. No. US 7,452,507 B2, 2008.
7. Horn, B. A.; Renzi, R. F. "Modular Optical Detector System", Pat. No. US 6,998,598 B2, 2006.
8. Fruetel, J. A., et al. "Microchip separations of protein biotoxins using an integrated hand-held device", *Electrophoresis*, **2005**, *26*, 1144-1154.
9. Renzi, R. F.; Stamps, J.; Horn, B. A.; Ferko, S.; VanderNoot, V. A.; West, J. A. A.; Crocker, R.; Wiedenman, B.; Yee, D.; Fruetel, J. A. *Anal. Chem.*, **2005**, *77*, 435-441.
10. Horn, B. A.; Herek, J. L.; Zewail, A. H. *J. Am. Chem. Soc.*, **1996**, *118*, 8755.
11. Horn, B. A.; Qui, J.; Owen, N. L.; Feist, W. C. *Appl. Spec.*, **1994**, *48*, 662.

Conference Presentations

1. Horn, B. A. "Improving Ethical Studies in Criminal Justice Through the Use of Quantitative Methods", Western Association of Criminal Justice, Lake Tahoe, NV, Oct 2010.
2. Horn, B. A. "Trace Glass Analysis" Utah Division of the International Association of Identification Fall Conference, Salt Lake City, UT, Nov 2009.
3. Horn, B. A. "Experiential Learning v. The Supreme Court" Western Association of Criminal Justice, Las Vegas, NV, Oct 2009.

4. Horn, B. A., "Low-Light Photography" Utah Division of the International Association of Identification Spring Conference, Harrisville, UT, Jun 2008.

Research Interests

- Fingerprint imaging and enhancement
- Glass fracturing mechanisms
- Presentation of scientific evidence in court
- Preservation and documentation of evidence
- Ethical ideologies of forensic scientists