



Idaho State Police Forensic Services



Celena D. Shrum

Forensic Scientist III
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EDUCATION

2019 Idaho State University- Pocatello, ID
Master of Science- Microbiology

2009 Idaho State University- Pocatello, ID
Bachelor of Science- Microbiology

EXPERIENCE

11/2015-Present Idaho State Police Forensic Services
Toxicology Lead
Duties: all duties of Forensic Scientist (below) as well as research new instruments and methods, design and perform validations, prepare annual toxicology report, and conduct method reviews/revisions

08/2011–11/2015 Idaho State Police Forensic Services
Forensic Scientist- Toxicology Analyst
Duties: conduct blood and urine toxicology analysis, perform technical and administrative review of toxicology data and reports, and provide expert testimony

08/2005–05/2011 Idaho State University Department of Biological Sciences
Research Analyst
Duties: data collection of extreme microbes, DNA isolation, PCR amplification, DNA purification and quantification, DNA sequence sample preparation, editing and alignment

TESTIMONY

I have been qualified as and have testified in Idaho and Oregon courts as an expert witness in the field of toxicology analysis and interpretation of results

<https://isp.idaho.gov/forensics>

EQUAL OPPORTUNITY EMPLOYER

Revised 1/6/2025

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CONTINUING EDUCATION; ASSOCIATION MEETINGS; CONFERENCES

- 2024
- Society of Forensic Toxicologists (SOFT) Meeting (St. Louis, MO)
 - Crime Scene Photography (Tritech Forensics) (Pocatello, ID)
 - LizardQ Training (LizardQ) (Meridian, ID)
 - The Role of Comprehensive Medicolegal Death Investigations as Part of a Public Health Improvement Strategy (Virtual)
 - Foundational Statistics for Forensic Toxicology (Virtual)
- 2023
- Current Trends in Forensic Toxicology Symposium (Virtual)
 - Bloodstain Pattern Recognition (Craig C. Moore- See More Forensics) (Meridian, ID)
 - Crime Scene Investigation Workshop (Tritech Forensics) (Meridian, ID)
- 2022
- Society of Forensic Toxicologists (SOFT) Meeting (Cleveland, OH)
 - The International Association of Forensic Toxicologists (TIAFT) Meeting (Virtual)
 - Current Trends in Forensic Toxicology Symposium (Virtual)
- 2021
- Society of Forensic Toxicologists (SOFT) Meeting (Nashville, TN)
 - Robert F. Borkestein Course on the Effects of Drugs on Human Performance and Behavior (Virtual)
 - California Association of Toxicologists Meeting (Virtual)
 - 2021 Online Symposium: Current Trends in Forensic Toxicology (Virtual)
 - American Academy of Forensic Sciences (AAFS) Meeting (Virtual)
- 2020
- 2020 Online Symposium: Current Trends in Forensic Toxicology

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- Applied Pharmacokinetics
- Society of Forensic Toxicologists (SOFT) Meeting (Virtual)
- 2019
 - Agilent LC-QTOF User Training
 - Society of Forensic Toxicologists (SOFT) Meeting (San Antonio, TX)
- 2018
 - Agilent LC/MS-QQQ User Workshop
 - Society of Forensic Toxicologists (SOFT) Meeting (Minneapolis, MN)
 - Forensic Toxicology Board Certification Preparation Course
 - Drug Recognition Expert School (Audited)
- 2017
 - California Association of Toxicologists Spring Meeting (San Diego, CA)
 - Agilent QQQ LC-MS Workshop
- 2016
 - Forensic Toxicology Instrumentation Techniques and Applications (The Center for Forensic Science Research & Education, online)
- 2015
 - Society of Forensic Toxicologists (SOFT) Meeting (Atlanta, GA)
 - Northwestern Association of Forensic Scientists Meeting (Spokane, WA)
 - Mass Spectral Interpretation Workshop (Spokane, WA)
 - GC/HS Training- MLS Technologies (Redmond, WA)
 - HPLC Training- MLS Technologies (Redmond, WA)
 - LC/MS/MS Instrument Training (Coeur d'Alene, ID)
- 2014
 - GC/MS Instrument Troubleshooting and Maintenance- MLS Technologies (Pocatello, ID)
- 2013
 - Joint Meeting of the California Association of Toxicologists and the Southwestern Association of Toxicologists (Las Vegas, NV)
 - LC/MS/MS Validation of a Cannabinoid and Benzodiazepine Method with Comparison to the Proposed SWGTOX Method Validation Standards (RTI and Virginia DFS, online)

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2012	<p>-Robert F. Borckenstein Course on the Effects of Drugs on Human Performance and Behavior (Philadelphia, PA)</p> <p>-Courtroom Presentation of Evidence (Boise, ID)</p> <p>-West Virginia University Online Courses</p> <ul style="list-style-type: none">• Perspectives in Expert Testimony• Forensic Mass Spectrometry• Fundamentals of Forensic Toxicology
2011	<p>-Ethics in Forensic Science (West Virginia University, online)</p>
VALIDATIONS	
2024	<p>-Validation of Method Modification and Alternative Enzyme Hydrolysis of Cannabinoids for AM 26, 27, and 30</p>
2023	<p>-Validation of Screening Suspected Overdose Samples with Radox MultiSTAT Analyzer</p>
2020-2022	<p>-Validation of method modifications and the addition of compounds to the scope of Blood Multi-Drug Screen by LCMS-QQQ, and Multi-Drug Confirmation by LCMS-QQQ methods</p>
2019-2020	<p>-Validation of Blood and Urine THC and Metabolites Screening and Blood and Urine Multi-Drug Screen by Q-TOF methods</p>
2019	<p>-Validation of Urine GHB Screening by LCMS-QQQ method</p>
2018-2019	<p>-Validation of the addition of urine to the scope of Blood Multi-Drug Screen by LCMS-QQQ, THC and Metabolites Screening by LCMS-QQQ, Multi-Drug Confirmation by LCMS-QQQ and THC and Metabolites Confirmation by LCMS-QQQ methods</p>
2018-2019	<p>-Validation of Blood THC and Metabolites Screening by LCMS-QQQ method</p>
2017	<p>-Validation of Blood Multi-Drug Confirmation by LCMS-QQQ and Blood THC and Metabolites Confirmation by LCMS-QQQ methods</p>
2016	<p>-Validation of Blood Multi-Drug Screen by LCMS-QQQ and Blood THC and Metabolites Screen by LCMS-QQQ methods</p>

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2012 -Validation of a derivatization option for an existing method with the goal of increasing sensitivity for several drugs

TEACHING; PRESENTATIONS

2024 -ASCLD Lightning Talk (Virtual)

2023 -ISPFS Director's Series (Virtual)

2014 -Forensic Science (Pocatello High School)

2013 -Forensic Science (Pocatello High School)

2012 -Forensic Science (Marshall Public Library Community Education)
-Forensic Science (Pocatello High School)

2010 -Poster Presentation
-**Shrum, C.**, Cherry, M., Sheridan, P. DeVeaux, L., *Relationship Between Halotolerance and Ionizing Radiation Resistance of Antarctic Bacteria*, American Society for Microbiology 110th General Meeting, San Diego, California.

2008 -Poster Presentation
-**Shrum, C.**, Downey, J., Pierson, B., Hobdey, S., DeVeaux, L., *Genetic Regulation of the Persistent State in Deinococcus radiodurans*, American Society for Microbiology Intermountain Branch Meeting, Logan, UT.

2007 -Poster Presentation
-**Shrum, C.**, Watts, C., Newbold, W., Hansen, S., Kelchner, S., *The D4 Set: Using Intron Structure to Target Rapidly Evolving Chloroplast Loci in Flowering Plants*, Undergraduate Research Symposium, Idaho State University, Pocatello, ID.

CERTIFICATIONS; AWARDS; MEMBERSHIPS

2024 Outstanding Evaluation/Validation Award (ASCLD Forensic Research Committee)

2021 International Alliance of Clinical and Forensic Toxicology Member

2018 Diplomate of the American Board of Forensic Toxicology (ABFT) in Forensic Toxicology

2016 Society of Forensic Toxicologists (SOFT) Member

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- 2015 Fellow of the American Board of Criminalistics (ABC)
- 2014 Forensic Scientist of the Year 2014
Awarded by: Idaho State Police and Pocatello Chamber of Commerce

RESEARCH; PUBLICATIONS

- 2009-2019 Research and Thesis: The Relationship Between Halotolerance and Ionizing Radiation Resistance of Antarctic Bacteria
- 2009 Watts, C. D., Fisher, A. E., **Shrum, C. D.**, Newbold, W. L., Hansen, S., Liu, C. and Kelchner, S. A. (2008), The D4 set: primers that target highly variable intron loops in plant chloroplast genomes. *Molecular Ecology Resources*, 8: 1344–1347.

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