



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 Discipline 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–Present Idaho State Police Forensic Services
Forensic Scientist- Toxicology Analyst
Duties: conduct blood and urine toxicology analysis, provide peer review of toxicology 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

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

EQUAL OPPORTUNITY EMPLOYER

Revised 12/14/22

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CONTINUING EDUCATION; ASSOCIATION MEETINGS; CONFERENCES

- 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. Borckenstein 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
 - 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

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- 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)
- 2012 -Robert F. Borkestein Course on the Effects of Drugs on Human Performance and Behavior (Philadelphia, PA)
- Courtroom Presentation of Evidence (Boise, ID)
- West Virginia University Online Courses
- Perspectives in Expert Testimony
 - Forensic Mass Spectrometry
 - Fundamentals of Forensic Toxicology
- 2011 -Ethics in Forensic Science (West Virginia University, online)

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VALIDATIONS

- 2020-2022 -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 (in conjunction with Tamara Salazar, Sarah Pickle, Anne Nord, and Britany Wylie)
- 2019-2020 -Validation of Blood and Urine THC and Metabolites Screening and Blood and Urine Multi-Drug Screen by Q-TOF methods (in conjunction with Tamara Salazar, Sarah Pickle, Anne Nord, and Britany Wylie)
- 2019 -Validation of Urine GHB Screening by LCMS-QQQ method (in conjunction with Tamara Salazar, Sarah Pickle, Anne Nord, and Britany Wylie)
- 2018-2019 -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 (in conjunction with Tamara Salazar, Sarah Pickle, Anne Nord, and Britany Wylie)
- 2018-2019 -Validation of Blood THC and Metabolites Screening by LCMS-QQQ method (in conjunction with Tamara Salazar, Sarah Pickle, Anne Nord, and Britany Wylie)
- 2017 -Validation of Blood Multi-Drug Confirmation by LCMS-QQQ and Blood THC and Metabolites Confirmation by LCMS-QQQ methods (in conjunction with PinPoint Testing, Tamara Salazar, and Sarah Pickle)
- 2016 -Validation of Blood Multi-Drug Screen by LCMS-QQQ and Blood THC and Metabolites Screen by LCMS-QQQ methods (evaluator; in conjunction with PinPoint Testing, Anne Nord, and Britany Wylie)
- 2012 -Validation of a derivitization option for an existing method with the goal of increasing sensitivity for several drugs (primary validator; data analysis in conjunction with Toxicology Discipline Leader, Anne Nord)

TEACHING; PRESENTATIONS

- 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)

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- 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

- 2021 International Alliance of Clinical and Forensic Toxicology Member
- 2018 Diplomate of the American Board of Forensic Toxicology
- 2016 Society of Forensic Toxicologists Member
- 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

- 2009-2011 Research: 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.