
KYLE CALTRIDER

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CURRICULUM VITAE

Profile: Astute, highly motivated and meticulous professional, with over 5 years of analytical and forensic chemistry experience in dynamic, fast-paced laboratory environments. Comprehensive understanding of the skills needed to conduct complex metabolic, toxicological and biologic fluid data analyses, oversee departmental operations, and train and mentor personnel. Demonstrated ability to hypothesize, plan, and execute experimental protocols, while documenting, analyzing, and critically interpreting results with real world applicability. Advanced familiarity with numerous laboratory instruments and their operating, troubleshooting, and calibration procedures, as well as several data analysis suites. 5 years of experience in a CLIA certified lab, utilizing GLP and good QA/QC practices. Up-to-date with current scientific literature, new technologies, and bio-safety/contamination protocols, with a willingness to explore new areas of research when needed. Fast-learner, acknowledged for the ability to quickly master new methods, tasks, technologies and responsibilities. Specialized knowledge of management techniques.

Regarded for excellent communication, and dynamic interpersonal skills, which have been used to develop and maintain strong relationships with laboratory staff and management. Skilled in the ability to provide prompt and informative guidance in an operational setting, utilizing a wide array of reporting tools. Proficient in the understanding and use of various software programs and applications. Adaptable and reliable in difficult conditions, prioritizing as needed. Collaborative interaction to execute interdepartmental research and development projects, and maintain internal and regulatory standards, and functionality. Self-managed, and outcome-driven professional, who consistently strives to positively contribute to development and the achievement of objectives through the completion of interdependent tasks. Recognized for the effective management of a method development department.

LABORATORY TECHNIQUES

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| ▪ Gas & Liquid Chromatography | ▪ Immunoassays | ▪ Spectrophotometry |
| ▪ Mass Spectrometry | ▪ Aseptic Techniques | ▪ Medium Preparation |
| ▪ Eukaryotic Cell Culture/Manipulation | ▪ Gel Electrophoresis | ▪ Cell Staining |
| ▪ Prokaryotic Cell Culture/Manipulation | ▪ Microscopy | ▪ PCR |
| ▪ Adult Murine & Embryo Dissection | ▪ Column Chromatography & TLC | ▪ SOP Writing |
| ▪ Method Development Dept. Oversight | ▪ Data Analysis | ▪ Personnel Training |
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RESEARCH PUBLICATIONS

- **Sperm attachment and penetration competence in the human oocyte: A possible aetiology of fertilization failure involving the organization of oolemal lipid raft microdomains influenced by the $\Delta\Psi_m$ of subplasmalemmal mitochondria.** *Reproductive BioMedicine Online*. Van Blerkom, J., Caltrider, K. 23, December 2013. doi: 10.1016/j.rbmo.2013.09.011
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EDUCATION

University of Colorado Boulder
Boulder, Colorado

Bachelor of Arts Degree in Molecular, Cellular and Developmental Biology
Graduated in May, 2013

- Relevant Courses in Genetics, Cellular and Molecular Biology, Cancer Biology, Mammalian Development, and Biomechanical Movements and Tissue Engineering (graduate level), with Capstone in Immunology. Classes focused on the operation and organization of living systems at the cellular and molecular level.
 - Two years of independent study/honors research in an embryonic development lab. Studied human embryological development, primarily focusing on contributing factors to oocyte fertilization and normal development under Professor Johnathan Van Blerkom. Research culminated in published research paper (see above).
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HONORS

Awarded Sigma Xi Undergraduate Research Award-2013

EXPERIENCE

Chematox Laboratory, Inc., Boulder Colorado

(2011-2013)

Forensic and Analytical Chemist

Led toxicological analysis of biological fluids, utilizing immunological and spectrophotometric techniques. Used a broad spectrum of immunoassays for both clinical and forensic toxicology purposes. Oversee maintenance and script programming on various Tecan autopipetter units and plate washers for the optimization and performance of large ELISA runs. Function as staff subject-matter expert for set-up/implementation of any new immunoassays, procedures, or equipment. Troubleshoot any clinical or forensic ELISA/toxicological screening issues, as they arise. Specialized research and experiments:

- Performed spectrophotometric and ELISA analysis of postmortem samples for toxic gaseous or illicit compounds.
- Conducted liquid-to-liquid and solid phase column chromatography extractions of pharmaceuticals, illicit drugs, and respective metabolic analytes.

Chematox Laboratory, Inc., Boulder Colorado

(2013-2015)

Contracted Boulder Diagnostics/Oxford Immunotec Researcher

Performed complex contract work for Boulder Diagnostics and Oxford Immunotec, in conjunction with the Anschutz Medical Campus Infectious Diseases Department for the research and development of novel diagnostic biological-based assays. Specialized research experiments:

- Researched and Developed an immunological cell-based assay for the diagnosis of Lyme Disease, including cell purification, culture, handling, and manipulation of prokaryotic and eukaryotic cells.
- Influential in the method development of this assay, performing background literature research, designing and maintaining SOPs, and training individuals in laboratory techniques. Research performed at both Boulder Diagnostics/Oxford Immunotec's Boulder lab overseen by Wolfgang Pieken, Ph.D and the lab of Dr. Charles Dinarello in the Infectious Diseases Department of Anschutz Medical Campus. Performed and optimized multiple immunoassay procedures for the measurement of cytokine profiles.
- Maintain and troubleshoot lab equipment, including automated cell counters, microscopes, CO2 incubators, BCL-2 biological safety cabinets, a Dynex® ELISA processing unit, a Luminex MAGPIX® system (multi-plex capable fluorescent ELISAs), a Millipore Muse flow cytometer-based cell analyzer, and all lab computers. Conducted SDS-PAGE and western blot analysis of bacterial strains and their isolated components.
- Engaged in bacterial cell culturing, included cloning and strain expansion. Extracted bacterial lipid components and performed preliminary analysis via thin layer chromatography and focused staining techniques; ran detailed UPLC/MS-MS analysis.

Chematox Laboratory, Inc., Boulder Colorado

(2015-2016)

Method Development Department Manager

Ran the Forensic/Clinical Method Development Department for Chematox Lab, Inc. Specialized duties involved brainstorming and development of toxicological assays for abuse drugs. Coordinated R&D interdepartmental collaboration for validations and production phases. Utilized critical thinking and problem solving abilities to manipulate various chemical extraction techniques and detection systems (mainly UPLC-MS/MS).

University of Colorado Boulder, MCDB Dept., Van Blerkom Lab, Boulder, Colorado

(2011-2013)

Undergraduate Researcher

Performed a broad spectrum of research techniques to elucidate mechanisms and functions of proteins in early human gamete fusion and early embryonic stability. Conducted human and murine cell culturing of oocytes and embryos, including isolation, micromanipulation, incubation, and thawing/cryopreservation of cells. Utilized various vital, chemical, and antibody-based fluorescent stains in the analysis of oocytes and embryos. Employed microscopic techniques, with an emphasis on fluorometric detection, and assays such as FRET using laser scanning confocal microscopy (Zeiss LSM 510). Research culminated in paper published in Reproductive Biomedicine Online, Dec. 2013.

Tulaka Tutoring Service LLC, Highlands Ranch, Colorado

(2017-Present)

Owner/Tutor

Launched a small tutoring business focused on STEM and career-based learning that serves the local area. <https://www.tulakatutoring.com> for more information

AFFILIATIONS

Sigma Xi Scientific Research Society, University of Colorado Chapter-Associate Member

American Association for The Advancement of Science-Member

TECHNICAL PROFICIENCIES & SKILLS

Systems/Software: OSx; Windows; Linux; Laboratory Information Management Systems; Tecan, Dynex, Waters; Microsoft Office; KNIME; ImageJ; Photoshop; MassHunter; TargetLynx; Fusion 360 (CAD);

Full Stack Web Development: HTML, CSS, JavaScript, NodeJS, React, Python, Docker

Full Stack Certification: <https://www.freecodecamp.org/certification/kylecaltrider/full-stack>

Projects Repository: <https://github.com/kylecaltrider>

Other Certifications: Responsive Web Design, JavaScript Algorithms and Data Structures, Front End Libraries, Data Visualization, APIs and Microservices, Information Security and Quality Assurance -
(<https://www.freecodecamp.org/kylecaltrider>)

REFERENCES

Sarah Urfer, MS, - Supervisor
Chematox Lab, Inc. - Lab Director & Owner
303.601.0100 | sarah@chematox.com

Dede Willis, B.Sc., MBA
Former VP of Boulder Diagnostics
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Jonathan Van Blerkom, Ph.D
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