

# SARAH STRATTON

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## EDUCATION

Master of Professional Studies in Forensic Science- Chemistry. May 2019.  
The Pennsylvania State University (State College, PA)

Bachelor of Science in Chemistry (Honors) with a Minor in Biochemistry. May 2017.  
The College of William and Mary (Williamsburg, VA)

Honors Thesis: Tuning the  $pK_a$  of Fluorescent Rhodamine pH Probes via Substituent Effects

## Relevant Coursework:

*Undergraduate:* Freshman Honors Chemistry, General Chemistry Lab II, Organic Chemistry I and II with associated labs, Biochemistry, Instrument Analysis, Physical and Analytical Chem Lab I and II, Organic Spectroscopy, Advanced Analytical Chemistry

*Graduate:* Drug Chemistry and Toxicology, Chromatography and Electrochemistry, Forensic Chemistry, Courtroom Proceedings and Testimony, Forensic Chemistry II, Criminalistics-Biology

## EXPERIENCE

*Forensic Chemist III*, Vermont Forensic Lab  
Previously: *Forensic Chemist II*

March 2021-Present  
June 2019-March 2021

- Reviews current literature on alcohol and drug pharmacology, physiology, and testing.
- Trained to provide expert testimony regarding alcohol impairment and the results of breath/blood alcohol testing as well as forensic interpretation of that testing (retrograde extrapolation). Trained to provide expert testimony regarding the results of blood drug testing.
- Performs service and maintenance of breath alcohol testing instrumentation (DMT), as well as the preparation and certification of simulator solutions.
- Performs blood alcohol analysis using gas chromatography (PerkinElmer GC-FID).
- Performs toxicological analysis for drugs in whole blood using immunoassay (Randox Evidence Investigator) and liquid chromatography-mass spectrometry (Waters Acquity UPLC H-class- MS/MS).

*Teaching Assistant*, Penn State, Forensic Science Program  
Class: Introduction to Forensic Science (FRNSC 100)

August 2018-May 2019

- Assisted professor in grading and developing assignments as well as answering student questions pertaining to the course material.

**PUBLICATIONS**

Stratton SG, Taumoefolau GH, Purnell GE, Rasooly M, Czaplowski WL, Habron EJ. Tuning the  $pK_a$  of Fluorescent Rhodamine pH Probes via Substituent Effects. *Chemistry: A European Journal*, 2017 Oct 09; 23(56): 14064-14072.

**PRESENTATIONS**

*Cannabis and Alcohol, IACT Workshop* Charleston, April 2023  
Presentation  
Title: Innovative Sample Preparation, Screening, and Confirmation for Cannabinoids

*Vermont DRE School* Online, December 2020  
Recorded Presentation/Live Q&A  
Title:  $\Delta 8$ - and  $\Delta 9$ -THC Presentation

*Pittcon Conference and Expo NIJ Poster Presentation* Philadelphia, March 2019  
Poster Presentation  
Project: Validation of a Lateral Flow Immunoassay Test Strip for the Detection of Fentanyl Class Opioids Dissolved in Water

*NC Photochem Conference* North Carolina, September 2016  
Poster Presentation  
Project: Tuning the  $pK_a$  of Fluorescent Rhodamine pH Probes via Substituent Effects

**RESEARCH EXPERIENCE**

*Graduate Student*, Pennsylvania State University, Forensic Science Department  
State College, PA, May 2018-May 2019

- Validated lateral flow fentanyl urine test strip for use with fentanyl class powders dissolved in water.

*Research Assistant*, College of William and Mary, Chemistry Department  
Williamsburg, VA, September 2013-May 2017

- Synthesized rhodamine derivatives, purified molecules, and studied effects of steric interactions on pH-dependent fluorescence of the rhodamine-based derivatives.
- Utilized thin-layer chromatography and column chromatography.

**PROFESSIONAL DEVELOPMENT**

Pineapples, Ghosts, and Pralines: The Charleston Version of Breath Alcohol Standardization  
*Workshop- IACT* April 20, 2022  
International Association of Chemical Testing 2023  
*Charleston, SC* April 16-21, 2022  
An Introduction to Drug Categories in Drug DUI Cases: Cannabis, Part 2- The Toxicologist  
*TSRP Webinars* April 5, 2023  
An Introduction to Drug Categories in Drug DUI Cases: Narcotic Analgesics, Part 2- The Toxicologist  
*TSRP Webinars* March 8, 2023

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| An Introduction to Drug Categories in Drug DUI Cases: Dissociative Anesthetics, Part 2- The Toxicologist<br><i>TSRP Webinars</i>            | February 22, 2023           |
| An Introduction to Drug Categories in Drug DUI Cases: Stimulants, Part 2- The Toxicologist<br><i>TSRP Webinars</i>                          | February 1, 2023            |
| Marijuana & Driving in 2023: It's Not Just Delta-9-THC Anymore<br><i>TSRP Webinars</i>  | January 17, 2023            |
| An Introduction to ANSI/ASB Standard 036: Standard Practices for Method Validation in Forensic Toxicology<br><i>Webinar- AAFS</i>           | October 21, 2022            |
| Delta-8 THC: Legal Statue, Widespread Interest & Availability Leading to Substantial Safety Concerns<br><i>TSRP Webinars</i>                | August 30, 2022             |
| SFSTs & Drugs: Hit or Miss?<br><i>TSRP Webinars</i>   | July 26, 2022               |
| Know Your Limit: Vermont Impaired Driving Summit<br><i>Killington, VT</i>   | May 11, 2022                |
| Expert Testimony Training: 300 Level<br><i>Workshop- IACT</i>   | April 14, 2022              |
| International Association of Chemical Testing 2022<br><i>Tucson, AZ</i>   | April 10-14, 2022           |
| New England Area Toxicologists Meeting<br><i>Maynard, MA</i>  | April 6, 2022               |
| An Introduction to Drug Categories in Drug DUI Cases: Dissociative Anesthetics<br><i>TSRP Webinars</i>                                      | February 9, 2022            |
| Interpretation of Forensic Toxicology Results Around the Globe and Into the Future<br><i>Webinar- SOFT</i>                                  | December 7, 2021            |
| 2021 Virtual Impaired Driving Conference<br><i>Online Conference- NH Office of Highway Safety</i>   | November 15-17, 2021        |
| Robert F. Borckenstein Course on the Effect of Drugs on Human Performance and Behavior<br><i>Online Course- CFSRE</i>                       | August 30-September 3, 2021 |
| General Pharmacology for the Forensic Toxicologist<br><i>Online Course- CFSRE</i>   | July 13-15, 2021            |
| 2021 Online Symposium: Current Trends in Forensic Toxicology<br><i>Online Conference- CFSRE</i>   | June 4, 2021                |
| Recommended Specimens, Scope, Cutoffs, and Strategies for DUI/D Testing & the Impact of Stop Testing Limits<br><i>Online Workshop- IACT</i> | April 16, 2021              |
| Development and Validation: Plan, Execute, Succeed!<br><i>Online Workshop- IACT</i>   | April 15, 2021              |
| Alcohol Concentration Extrapolation<br><i>Online Workshop- IACT</i>   | April 14, 2021              |
| Quality Assurance and Uncertainty of Measurement: Fundamentals and Implementation<br><i>Online Workshop- IACT</i>                           | April 12, 2021              |
| SOFTember<br><i>Online Conference- SOFT</i>   | September 8-30, 2020        |

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| 2020 Online Symposium: Current Trends in Forensic Toxicology<br><i>Online Conference- CFSRE</i>  | June 8-12, 2020      |
| Maintaining Lab Operations- GC Support Topics<br><i>Webinar- Agilent</i>   | April 30, 2020       |
| Maintaining Lab Operations- LC/QQQ and LC/QToF Support Topics<br><i>Webinar- Agilent</i>   | April 23, 2020       |
| Maintaining Lab Operations- HPLC and LC/MSD Support Topics<br><i>Webinar- Agilent</i>  | April 17, 2020       |
| Introduction to Measurement Uncertainty (EMU 101W)<br><i>Online Course- A2LA</i>   | April 13-14, 2020    |
| Advanced Roadside Impaired Driving Enforcement (A.R.I.D.E.)<br><i>State of Vermont Criminal Justice Training Council, Stowe, VT</i>                | March 12-13, 2020    |
| Value of Oral Fluid Screening for Safer Roads<br><i>Webinar- Abbott, 2020 Toxicology Webinar Series</i>  | February 26, 2020    |
| Marijuana or Hemp: From Farm Bill to Forensic Analysis<br><i>Webinar- RTI International</i>  | January 15, 2020     |
| Robert F. Borkenstein Course on Alcohol & Highway Safety: Testing, Research, and Litigation<br><i>Indiana University, San Diego, CA</i>            | December 8-13, 2019  |
| Driving High, the Emerging DUI<br><i>Webinar- IACP</i>   | November 22, 2019    |
| DMT Operator Course<br><i>Vermont Police Academy, Pittsford, VT</i>  | October 18, 2019     |
| DMT Supervisor Course<br><i>Vermont Police Academy, Pittsford, VT</i>  | August 27, 2019      |
| Contextual Bias- Objectivity, Subjectivity, and Bias in Firearm and Toolmark Identification<br><i>Webinar- Nichols Forensic Science Consulting</i> | August 8, 2019       |
| Pittcon Conference and Expo<br><i>Philadelphia, PA</i>   | March 18-19, 2019    |
| American Academy of Forensic Sciences Annual Meeting<br><i>Baltimore, MD</i>   | February 18-22, 2019 |
| The NC Statewide Medical Examiner System Laboratory Approach<br><i>Webinar- NIJ</i>  | November 21, 2017    |
| North Eastern Association of Forensic Scientists Annual Meeting<br><i>Pocono Manor, PA</i>   | November 8-9, 2017   |

## **CERTIFICATIONS**

ACS (American Chemical Society) certification in chemistry

## **MEMBERSHIP**

IACT (International Association for Chemical Testing) 2021-Present

## **AWARDS**

*Honors Fellowship*, College of William and Mary  
Received funding for summer chemistry research Summer 2016