

# HANNAH YVE LYONS

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## EDUCATION

**Bachelor of Science in Microbiology and Cell Sciences** May 2020

**Bachelor of Arts in History** May 2020

Minor: French and Francophone Studies

University of Florida (UF), Gainesville, FL

UF Honors Program, UF International Scholars Program, GPA: 3.87/4.00

Barry Goldwater Scholar, Phi Beta Kappa Honor Society, Honor Society of Phi Kappa Phi

**Pusan National University- US State Department Critical Language Scholarship** June-August 2019

Busan, South Korea

**St. Edmund's College, Cambridge University- UF Department of History Study Abroad** July-August 2017

Europe during the Age of Revolution, "French Medical Institutions After 1789"

Cité Internationale Universitaire, Paris, France and Cambridge University, Cambridge, England

## WORK EXPERIENCE

**Research Assistant**, Center for Addiction Research and Education, McKnight Brain Institute *Gainesville, FL* January 2017-Present

- Executed experiments using intercranial self-stimulation on rat models to determine the mechanisms of nicotine addiction and drug withdrawal, investigating brain reward pathways and dysphoric states through smoke exposure and self-administration experiments

**Research Assistant**, Florida Space Institute, University of Central Florida *Orlando, FL* May-June 2017

- Assisted scientists in developing proposals and grant applications for studies on in-situ resource utilization, human operations in harsh conditions, and radiation effects on the central nervous system, with an emphasis on ensuring crew safety during extra-vehicular activity (EVA) and surface operations
- Developed new communication platforms for NASA Radiation Effects on Volatile and Exploration of Asteroids and Lunar Surfaces (REVEALS) team

**Intern**, Florida Space Institute, University of Central Florida *Orlando, FL* May-August 2018

- Developed novel investigation efforts around the development of regolith-based polymers that prevent the degradation of broad-spectrum antibiotics and antihistamines exposed to galactic cosmic radiation and solar particle events during long-duration spaceflight
- Coordinated proposal writing efforts for multi-institutional project, editing project descriptions, management approaches, budget justifications, and biosketches for submission to the Translational Research Institute for Space Health (TRISH)
- Collaborated with NASA project scientists and flight surgeons to assemble lunar regolith envelopes for investigations of radiation effects on tomato seeds, specifically investigating the feasibility of food production beyond low-Earth orbit

## LEADERSHIP

**Founder/Director for Development and Internal Affairs**, Positive Feedback *Gainesville, FL* February 2018-Present

- Founded Positive Feedback, a mentorship student organization that wields the expertise and resources held by university students in STEM fields to provide positive science mentorship to mainstream middle-school students in the Gainesville area
- Developed science fair curriculum for sixth grade students to promote problem-solving and civic engagement, enabling Positive Feedback to apply for, and ultimately win, a \$5,000 social entrepreneurship grant from the Bob Graham Center for Public Service
- Mentored and empowered underserved students as they worked to design and complete group science fair projects

**Director**, Salon and Engagement Activities, TEDxUF *Gainesville, FL* May 2018-Present

- Spearheaded the first-ever TED panel-style event at UF, formulating the topics and panelist questions for monthly speaking events designed to introduce community members to innovative ideas in diverse fields
- Designed salon events to promote creativity and innovation in the Gainesville community, creating multidisciplinary and inclusive event themes including the power of art in technology and the need for diversity in our telling of world history

**Ambassador**, UF Honors Ambassadors/Luminaries *Gainesville, FL* January 2017- Present

- Connected potential future Honors students and their families with the Gator Nation through tours and annual Honors Visitation Day event, and promoted inclusivity and achievement within the Honors program by collaborating with a variety of Honors organizations

- Initiated and coordinated volunteer events for Honors Ambassador Organization, ensuring that all 60 members had the opportunity to serve the community they represent through partnership with groups such as the Alachua County Department of Parks and Recreation

**Ambassador**, UF College of Liberal Arts and Sciences *Gainesville, FL*

March 2019-Present

- Advised students on academic scheduling and professional planning as a representative of the largest undergraduate college at UF
- Represented my college and department as a current student at formal university events

**Vice-President of Programs**, UF Student Honors Organization *Gainesville, FL*

August 2017-May 2019

- Promoted professional development and community engagement in the UF Honors Program as the leader of the Diversity and Inclusivity Committee of the Student Honors Organization
- Presided over Honors Organization Student Board and oversaw the development of engaging, inclusive events for Honors students

**Managing Editor**, Gator Premedical Guide *Gainesville, FL*

August 2016- May 2019

- Directed section editors and writers as they prepared weekly articles analyzing recent advances in patient care and medical technology
- Promoted professionalism and excellence within each section of the publication through effective communication and goal-setting

## INVOLVEMENT

**Volunteer**, Samuel Proctor Oral History Program *Gainesville, FL, Natchez, MS*

January 2018-Present

- Contributed to one of the nation's largest public collections of African American history by transcribing oral history interviews; preserving the experiences, perspectives, and narratives of a diverse and largely unheard population
- Preserved and conducted oral history interviews with Freedom Summer Veterans and participated in advocacy initiatives in the Mississippi Delta through annual Mississippi Freedom Project

**University Scholar**, UF University Scholars Program *Gainesville, FL*

March 2018-May 2019

- Honored as a nominee from the UF Department of History, and later selected as one of 200 students university-wide that receive individual research funding and direct faculty mentorship through the University Scholars Program
- Conducted archival research on Parisian public health systems in the late eighteenth century, specifically analyzing the reaction of French hospitals to the fall of the monarchy in 1789

**Fellow**, Bob Graham Center for Public Service *Gainesville, FL*

January 2018-Present

- Organized community and speaker events to inspire civic engagement and representation in local, national, and global politics
- Empowered students and community members by participating in voter registration drives and voter education projects

**Team Member**, UF Women's Club Lacrosse Team *Gainesville, FL*

August 2016-Present

- Integrated personal and team goals to find success representing UF as a dedicated member of travel lacrosse team
- Developed leadership skills by encouraging teammates throughout conditioning sessions and practices

**Volunteer**, Transplant & Orthopedics Wing, PICU, UF Health Shands Hospital *Gainesville, FL*

January 2018-Present

- Managed labs, answered call lights, and interacted directly with nurses, technicians, patients, family members, and doctors to ensure that communication between different health care professionals occurred efficiently and effectively

**Finalist**, Emory Global Health Case Competition *Atlanta, GA*

December 2017-April 2018

- Awarded honorable mention at the Emory Global Health Case Competition, an international competition centered around developing realistic solutions to modern health care crises
- Collaborated with multidisciplinary graduate/undergraduate UF team to address complex, realistic cases, such as the HIV/AIDs epidemic in South Africa and a hypothetical coronavirus outbreak at the 2022 World Cup in Qatar

**Volunteer**, Global Medical Training *Lima, Peru*

August 2018

- Assisted doctors and medical professionals in rural primary care clinics, collecting patient histories and prescription medications
- Engaged in multinational global health initiatives, working to address the logistical and economic challenges of providing care to rural, impoverished populations

**Mentor**, Gainesville Area Community Tennis Association "Aces in Motion" *Gainesville, FL*

January 2018- May 2018

- Mentored underprivileged elementary school students through weekly youth program that uses tennis to promote character development, academic achievement, and a healthy lifestyle

**Volunteer**, Florida Museum of Natural History *Gainesville, FL*

January-May 2018

- Initiated the fossil processing procedure within the Department of Paleontology lab, carefully washing fossils after their arrival from the dig site to remove sand and clay and organizing them by collector, location, and date
- Contributed to fossil collection efforts at active dig site, carefully uncovering and excavating fossils that are over 5 million years old

## PUBLICATIONS AND PRESENTATIONS

S. Tan, S. Xue, A. Behnood-Rod, R. Wilson, P. Knight, S. Panunzio, **H. Lyons**, M. Febo, A. Bruijnzeel. "Sex Differences in the Reward Deficit and Somatic Signs Associated with Precipitated Nicotine Withdrawal in Rats." *Neuropharmacology*, vol. 160, 2 Sept. 2019.

**H. Lyons**, E. Beltran, T. Orlando, Z. Seibers, V. La Saponara, J. Reynolds. "Radiation Safety Systems Integration for EVA and Surface Operations in Human Space Exploration." 2019 NASA Exploration Science Forum. NASA Solar System Exploration Research Virtual Institute. NASA Ames Research Center, Moffett Field, California. 23 July 2019. Poster Presentation.

**H. Lyons**, A. Friefeld, S. Kroen. "Scientific and Social Implications of UNRRA Public Health Policy in Post-war Europe." UF Undergraduate Research Symposium. CUF Center for Undergraduate Research. University of Florida, Gainesville, Florida. 4 Apr. 2019. Poster Presentation.

R. Kumar Chellian, A. Behnood Rod, R. Wilson, M. Polmann, **H. Lyons**, A. Bruijnzeel. "Sex difference in the behavioral economics of food reinforcement in rats." UF College of Medicine Research Poster Session. Stephen O'Connell Center, Gainesville, Florida. 19 Feb. 2019. Poster Presentation.

E. Beltran, T. Orlando, Z. Seibers J. Reynolds, V. La Saponara, D. Britt, **H. Lyons**. "Radiation Safety Systems Integration for EVA and Surface Operations." Investigators' Workshop. NASA Human Research Program. Galveston Island Convention Center, Galveston, Texas. 24 Jan. 2019. Poster Presentation.

**H. Lyons**, J. Baltz. "The Art of Honors: Promoting Creativity and Fine Arts in Honors Coursework." National Collegiate Honors Council Annual Conference. Sheraton Boston, Boston, Massachusetts. 9 Nov. 2018. Poster Presentation.

E. Beltran, **H. Lyons**. "Radiation Protection for Human Space Exploration and its Applications on Earth." Adventist University of Health Sciences Research Colloquium. Orlando, Florida. 21 June 2017.

## AWARDS

University of Florida Hall of Fame, 2020 ▪ University of Florida Outstanding Scholar, 2020 ▪ Barry Goldwater Scholar, 2019 ▪ NASA College Scholarship Award, 2016-2020 ▪ UF Presidential Scholarship, 2016-2020 ▪ University Space Research Association Frederick A. Tarantino Scholarship, 2018 ▪ University Women's Club Sue Young Scholarship, 2019 ▪ Anderson Scholar, High Distinction, 2018 ▪ Pamela Frank Scholarship, 2017 ▪ Wentworth Travel Scholarship, 2017 ▪ Florida High School Athletic Association Academic All-State Female Scholar Athlete of the Year, 2016 ▪ International Baccalaureate Programme Diploma, 2016