

VILLANOVA UNIVERSITY  
**HONORS PROGRAM**

**SENIOR  
THESIS  
DEFENSE DAY**

**APRIL 26, 2024  
GAREY HALL**



**Check out the  
Honors Thesis Blog!**

# TUTORS & READERS

Dr. Anil Bamezai  
Dr. Sarah-Vaughan  
Brakman  
Dr. Scott Dietrich  
Dr. Lance Hannon  
Dr. Kevin Hughes  
Dr. Kyle Juretus  
Prof. Lance Kenney  
Dr. Dana Lloyd  
Dr. Daniel Mark  
Dr. Laura Meinzen-Dick  
Dr. Paul Pasles  
Dr. Adrienne Perry  
Dr. Megan Povelones  
Dr. Manuela Priesemuth  
Dr. Megan Quigley  
Dr. Maira Reimao  
Dr. Benjamin Sachs  
Dr. Lauren Shoet  
Dr. Michael Tomko  
Dr. Klaus Volpert  
Dr. Catherine Warrick

# THANK YOU

# ALUMNI MENTORS

Kevin Chupka '03  
Stephanie Doyle '05  
Brian Emmert '15  
Anne Ryan Hanafin '90  
Juliet Mazer-Schmidt  
'05  
Lauren Mazur '01  
Steve Purcell '17  
Katya Sajovec '21

# HONORS STAFF

**Anne Quinn Welsh Director**  
Dr. Anna Bonta Moreland

**Assistant Director**  
Emmie Brown

**Program Assistant**  
Christine Ciocco

**Thesis Faculty Instructor** Dr. Brian Satterfield

**Graduate Assistants** Hannah Simon, Julia Paiano, Jonah Gavino

**Director of Program Operations**  
Catherine Ricketts

**Program Coordinator**  
Jaime Haughton

**Assistant Teaching Professor**  
Terence Sweeney

# **HONORS THESIS**

# **CLASS OF**

# **2024**

**Summer Abdelbarry**  
**Moboluwagbe Adesanmi**  
**Andrew Bogdan**  
**Sarah Cotteta**  
**Matthew Domanico**  
**Gerremy Ferguson**  
**Paisley Hahn**  
**Kathleen Jordan**  
**Abigail Keevins**  
**Colin McGarry**  
**Catherine Messier**  
**Natalie Monti**  
**Gina Ngo**  
**Hannah Phillips**  
**Vassil Tchapravov**  
**Christina Tillinghast**



# SCHEDULE

## 10AM

CATHERINE MESSIER, 101A  
CHRISTINA TILLINGHAST, 114  
ANDREW BOGDAN, 115

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## 11AM

COLIN MCGARRY, 101A  
BOLU ADESANMI, 114  
MATT DOMANICO, 115

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## 12PM

MACKENZIE WEIDEL\*, 101A  
ABIGAIL KEEVINS, 114  
GINA NGO, 115

## 1PM

SUMMER ABDELBARRY,  
101A  
NATALIE MONTI, 115

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## 2PM

HANNAH PHILLIPS, 101A  
KATIE JORDAN, 114  
SARAH COTTETA, 115

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## 3PM

GERREMY FERGUSON, 101A  
PAISLEY HAHN, 114  
VASSIL TCHAPRAZOV, 115

\*SENIOR THESIS I

# SUMMER ABDELBARRY

## The Spiritual Journey of Incarcerated Muslim Women



Major(s): Economics,  
Humanities, Peace & Justice

Tutor: Dr. Kevin Hughes

Alumni Mentor: Juliet Mazer-  
Schmidt ('05)

Summer Abdelbarry is a senior from Manasquan, NJ majoring in Economics, Humanities, and Peace and Justice. She has always been intrigued by the inner workings of the United States prison system and quality of life of incarcerated populations. With a minor in Arab and Islamic Studies, she is also fascinated by the ways in which religion impacts the lives of those within correctional institutions, specifically the religion of Islam. Her thesis examines the transformative impact of incarceration on the religious beliefs and practices of Muslim women, investigating how a prison environment and the unique challenges faced by these women may lead to a reorientation of their faith.

# MOBOLUWAGBE ADESANMI

## Structural Phases as a Platform for Next Generation Transistors

Major(s): Physics

Tutor: Dr. Scott Dietrich

Reader: Dr. Kyle Juretus



Bolu Adesanmi is a Physics major from Lagos, Nigeria. Her thesis explores and aims to demonstrate a field effect transistor using 2D materials for computing hardware security applications. She has been involved in several research projects and loves helping students engage with research, so she has been a student ambassador for Villanova's Center for Research and Fellowships since 2021. After graduation, she plans to pursue a PhD in Physics or Electrical Engineering, continuing to investigate new materials, devices, and technologies for computing applications.


# ANDREW BOGDAN

## Native American Sovereignty and the Supreme Court in 2023

Major(s): Political Science,  
Humanities

Tutor: Dr. Dana Lloyd

Alumni Mentor: Lauren Mazur ('01)

A portrait of Andrew Bogdan, a young man with long, wavy brown hair, wearing dark aviator sunglasses and a colorful floral-patterned short-sleeved shirt over a white t-shirt. He is looking directly at the camera with a neutral expression.

Andrew Bogdan is a senior Political Science and Humanities major from Annapolis, Maryland. Andrew has an interest in social justice and has always been very service oriented. Since his freshman year, he has developed an interest in Native American Sovereignty, as well as Native American History. Outside of academics, Andrew is very involved at Villanova. Andrew is Vice President of Villanova Refugee Empowerment, where he leads frequent service projects. Andrew is also involved in Phi Sigma Pi, Pre Law Club, and the orchestra, where he plays the cello. Andrew has hopes to go to law school to study human rights law and Native American litigation.



# SARAH COTTETA

## Caring to Care: Examining the Adequacy of Nursing Home Care in the United States

Major(s): Biochemistry, Humanities

Tutor: Dr. Sarah-Vaughan Brakman

Alumni Mentor: Stephanie Doyle ('05)



Sarah Cotteta is a senior from Plymouth Meeting, PA majoring in Biochemistry and Humanities. In college, she became interested in the intersection of healthcare and ethics, and her thesis will act as a culmination of these efforts. She will be combining texts in Care Ethics with patient narratives and academic studies to call for a revision of the care in nursing homes and assisted living facilities on humanistic grounds. Outside of her academic endeavors, Sarah is the captain of Villanova EMS, where she leads the student-run EMS agency on campus. After Villanova, Sarah plans to attend medical school and continue her interests in healthcare and patient advocacy.


# MATTHEW DOMANICO

## Assessing the Differential Impact of Stress and Sex on DNA Methylation

Major(s): Cognitive & Behavioral  
Neuroscience

Tutor: Dr. Benjamin Sachs

Alumni Mentor: Brian Emmert  
MD, ('15)

A portrait of Matt Domanico, a young man with short, curly brown hair, smiling. He is wearing a grey and white striped long-sleeved shirt. The background is white.

Matt Domanico is a Cognitive and Behavioral Neuroscience major with minors in Spanish and Psychology from Doylestown, PA. During his time at Villanova, he has been involved in leadership positions for RUIBAL, the Honors Program, and Special Olympics. Throughout his coursework, Matt has taken an interest in the clinical and biological mechanisms of stress. This focus has culminated in his thesis project, wherein he investigates the effects of chronic stress on mice, including whether there is any difference between sexes. By analyzing DNA methylation levels, the extent to which stress alters gene expression - a phenomenon known as epigenetics - can be revealed. After graduation, Matt plans on working for a healthcare consulting group to continue his passion for scientific writing and medical communications.

# GERREMY FERGUSON

## Can Technology and Industry 4.0 Address Humanity's Global Problems?

Major(s): Computer Science

Tutor: Dr. Michael Tomko



Gerremy Ferguson is a senior Computer Science major with minors in Spanish and Engineering Entrepreneurship from Westchester, New York. At Villanova, Gerremy has involved himself in various academic disciplines and student life experiences. Some of his most formative experiences were as Secretary and President of Blue Key, as an RA, and in University Information Technologies. With his interests and involvement, Gerremy intends to craft his thesis on the current techno-industrial wave, Industry 4.0, and its ability to address global humanitarian issues. He will use different Industry 4.0 sectors to analyze the wave's potential outside of the technological sphere.

# PAISLEY HAHN

## Enhancing Understanding of Juvenile Pedestrian Stops: An Examination of Data from Chicago and Philadelphia

Major(s): Criminology, French  
& Francophone Studies

Tutor: Dr. Lance Hannon

Paisley Hahn is a Criminology and French double major from Gaithersburg, Maryland. Through internships at a Sheriff's Office and Domestic Abuse Project, and as a member of Villanova's Philly Justice Project, Paisley has learned about many facets of the criminal justice system. For her thesis, she is focusing on her two primary interests: policing and juvenile justice. Her thesis uses pedestrian stop data from Chicago and Philadelphia police departments to explore differences between adult and juvenile stops.

# KATHLEEN JORDAN

## The State and the Mine: How the ASGM Sector Conditions State Power and Non-State Capacity in the Sahel

Major(s): Political Science, Economics

Tutor: Prof. Lance Kenney

Reader: Dr. Maira Reimao, Dr. Laura Meinzen-Dick



Katie Jordan is a senior from San Diego, CA studying Political Science and Economics. Building on a long-held interest in international relations how informal and even illicit activity interacts with formalized political and economic institutions, her thesis explores the multifaceted role of artisanal small-scale gold mining (ASGM) in conditioning state, sub-state, and transnational relationships and structures in the Sahel. After graduating, she hopes to pursue a master's degree in international relations and a career in the Foreign Service.

# ABIGAIL KEEVINS

## The Effect of Inflammatory Bowel Disease on Stress Susceptibility in Adult Mice

Major(s): Cognitive & Behavioral Neuroscience  
Tutor: Dr. Benjamin Sachs



Abby Keevins is a Cognitive and Behavioral Neuroscience major with a psychology minor from Lincolnshire, Illinois. She is on the Villanova volleyball team and is the President of Every Mind Matters, the mental health advocacy group within Villanova athletics. Because of her involvement in the mental health field, she is interested in the connection between the gut and the brain, specifically how gut health impacts mental health. She conducts research in the Sachs lab studying stress and depression susceptibility in mice after administering DSS, a compound that causes an inflammatory bowel response, and conducting various stress tests. After graduating from Villanova, she plans to continue research in the cognitive science field and later work towards a PhD in Neuroscience.

# COLIN MCGARRY

## Comparisons of Financial Crises

Major(s): Mathematics, Statistics

Tutor: Dr. Klaus Volpert

Reader: Dr. Paul Pasles

Alumni Mentor: Kevin Chupka ('03)



Colin McGarry is a Mathematics and Statistics double major from Northport, NY. Colin took an interest in financial crises and how they impact different countries after taking economic classes at Villanova. Colin's thesis researches economic data from 8 prominent countries in the global economy, and why the financial crises of 2008 and 2020 impact them differently. Some relevant data includes inflation, GDP, unemployment, and life expectancy. These metrics measure not only economic effects, but also the quality of life in a country during times of financial trouble.

# CATHERINE MESSIER


## The Women Behind the Words: Collaborative Authorship in 20th Century Literature

Major(s): English,  
Gender & Women's Studies

Tutor: Dr. Megan Quigley

Reader: Dr. Adrienne Perry,  
Dr. Lauren Shoet

Alumni Mentor: Stephen Purcell ('17)

A portrait of Catherine Messier, a young woman with long, straight brown hair, smiling. She is wearing a bright red top with white floral patterns. The background is white.

Catherine Messier is an English and Gender and Women's Studies double major from Attleboro, MA. In Honors, she was a member of the Interdisciplinary Scholars cohort, and she serves as a peer mentor, ambassador, and office assistant for the program. Her thesis seeks to recover wives' appropriated contributions to their husbands' works of literature in the 20th century. Specifically, Catherine focuses on two authors as literary case studies: T.S. Eliot's wife Vivienne Eliot and F. Scott Fitzgerald's wife Zelda Fitzgerald. She frames this research with historical definitions of authorship, boundaries of collaboration, and the intersection of heterosexual marriage and academia as institutions of patriarchy. Ultimately, Catherine's thesis acts as a feminist recovery project which examines the impact of these women's contributions and thus the importance of giving credit to female authors.



# NATALIE MONTI

## Choosing Violence: Why Terrorism is Chosen as a Political Strategy

Major(s): Political Science

Tutor: Dr. Catherine Warrick

Reader: Prof. Lance Kenney

Alumni Mentor: Kevin Chupka ('03)



Natalie Monti is a Political Science major with a Peace and Justice minor from Cary, NC. Throughout her time at Villanova, she has been a part of various student life experiences, including Blue Key, Orientation, and Greek Life. Natalie had always found interest in social justice issues surrounding areas of political conflict and phenomenon, and has long had an interest in the field of terrorism studies and counterterrorism efforts. Her thesis seeks to better understand the conditions of groups that choose to utilize violence and why that choice was made. She hopes to combine existing theories with analysis of organizational writings and communications to determine the decision-making process that results in the choice of violence as a means to political ends. After graduation, Natalie hopes to move to Washington D.C., to pursue work in the nonprofit or NGO sector.


# GINA NGO

## Examining the Role of Ly-6A in TIL Recruitment and Altering Tumor Microenvironment in B16 Melanoma Mouse Model

Major(s): Biology

Tutor: Dr. Anil Bamezai

Alumni Mentor: Katya Sajovec ('21)



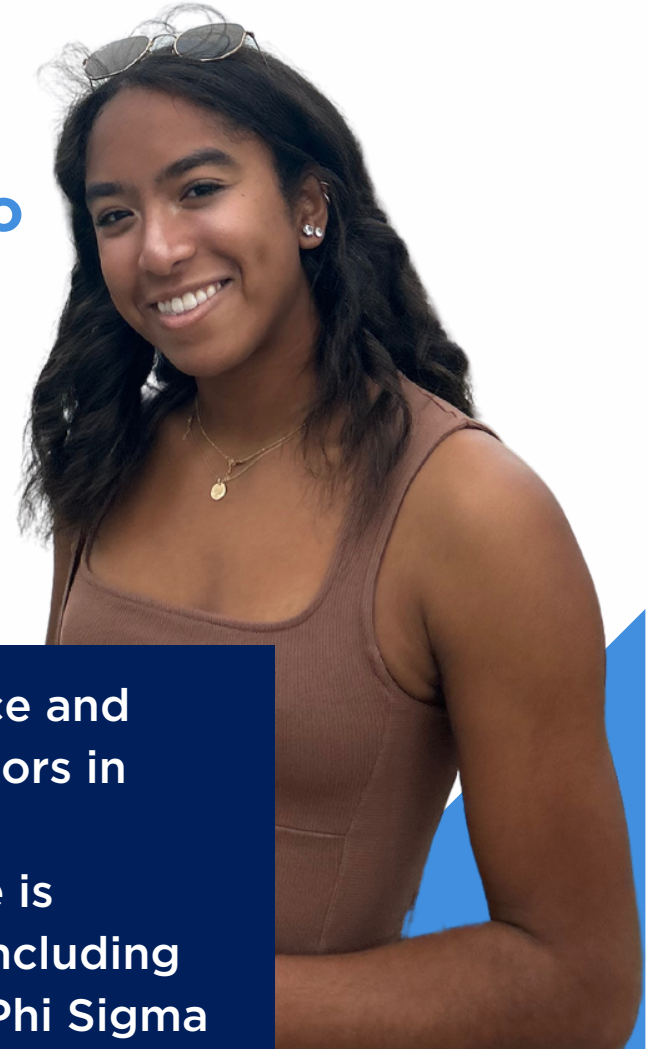
Gina Ngo is a Biology major with minors in Peace and Justice, and Chinese Language and Cultural Studies from Philadelphia, Pennsylvania. She has been conducting cancer immunology research in the Bamezai Lab since her first year at Villanova University. For her thesis, she investigates the mechanisms by which Ly-6A functions as an immune checkpoint and the role that Ly-6A knockout plays in enhancing anti-tumor immune responses in the tumor microenvironment of a B16 melanoma mouse model. She is a leader of Villanova Refugee Empowerment, volunteer at Philadelphia's Nationalities Service Center, mentor for EducationUSA, and violinist in Villanova Chamber Strings. After graduation, she plans to take a gap year before applying to medical school and pursuing a career as an oncologist.

# HANNAH PHILLIPS

## Life, Liberty, and The Right to Bear Arms: The Moral, Legal, and Constitutional Rights to Life in the Context of the Gun Rights Debate

Major(s): Political Science, Humanities

Tutor: Dr. Daniel Mark



Hannah Phillips is a Political Science and Humanities double major, with minors in Communication and Spanish, from Downingtown, PA. On campus, she is involved in several organizations including Special Olympics, Day of Service, Phi Sigma Pi, and Blue Key. Throughout her undergraduate career, she has developed a passion for public policy, and what a well-lived human life entails. Her thesis combines both of these interests, looking at the ethical frameworks that should or have already, shaped gun legislation in the United States. After graduation, she hopes to research public policy in the Czech Republic before attending law school.

# VASSIL TCHAPRAZOV



## Gossip in the New Workplace: Investigating the Link Between Virtual Work Climate and Workplace Gossip

Major(s): Management

Tutor: Dr. Manuela Priesemuth

Vassil Tchaprakov is a Management major with Marketing and Psychology minors from Des Moines, Iowa. His research seeks to identify what variables mediate the relationship between employees' perceptions of a virtual work climate and workplace gossip. The inspiration for his thesis developed after he observed how frequently gossip – in both online and in-person forms – occurred at his internship. On campus, Vassil serves on Club Swim's core executive board, and has previously served as the team's secretary. After graduation, he aspires to pursue a PhD in Organizational Behavior and continue his research in this exciting field!

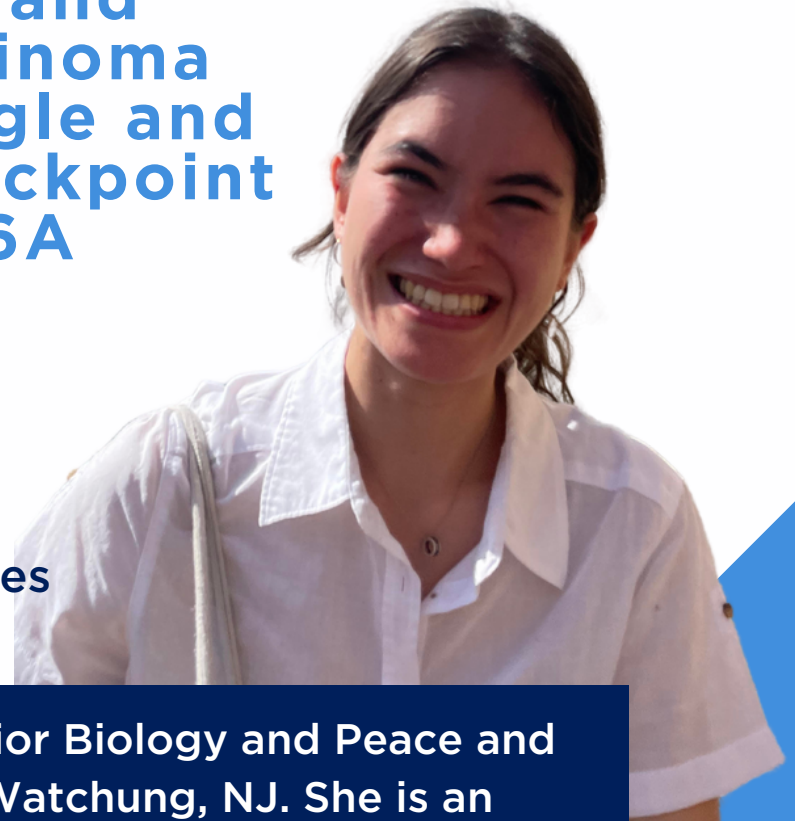
# CHRISTINA TILLINGHAST

## Investigating Anti-tumor Immune Responses in Mouse Melanoma and Colon Adenocarcinoma Models Using Single and Dual Immune Checkpoint Blockades of Ly-6A and PD-1

Major(s): Biology, Peace & Justice

Tutor: Dr. Anil Bamezai

Reader: Dr. Megan Povelones



Christina Tillinghast is a senior Biology and Peace and Justice double major from Watchung, NJ. She is an EMT on the student-run Villanova EMS and serves as a Community Outreach of Villanova (COV) Coordinator. For her thesis, Christina is working in Dr. Bamezai's lab to explore anti-tumor immune responses in mice. Specifically, she studies how expression of two immune checkpoint inhibitors, Ly-6A and PD-1, impact tumor growth rates, survival rates, and T cell infiltration in mouse B16 melanoma and MC38 colon adenocarcinoma models. She seeks to uncover the effectiveness of a dual immune checkpoint blockade, which holds implications for combinatorial therapies within the growing field of cancer immunotherapy

# MACKENZIE WEIDEL

*SENIOR THESIS I*

## Uncovering the Past and Redefining the Future: An Exploration of Transracial International Adoption and the Post-Adoptee Experience

Major(s): Biochemistry

Tutor: Dr. Sarah-Vaughan Brakman



Mackenzie Weidel is a Biochemistry major from Orange County, NY. As an international transracial adoptee, Mackenzie was inspired to pursue this thesis after learning about the professional work completed in adoption ethics. She will be exploring adoptee narratives with the goal of analyzing the unique identity formation and cultural complexities seen in transracial adoptees. She will be studying the work of international adoption clinics scattered throughout the US to find ways for society to support and promote adoption communities. After graduation, Mackenzie hopes to attend medical school and continue her work in adoption clinics.