

Professor Kim Lyman  
Social & Decision Analytics Lab (SDAL)  
900 N. Glebe Road  
Arlington, VA 22203

Dear Professor Lyman;

I hope you are doing well. I am contacting you today to apply to the Data Science for Public Good program at SDAL. I am a Dual PhD Student in Statistics and Social Data Analytics at Penn State University. I recently graduated with a Bachelor's in Statistics and a Bachelor's in Economics from Virginia Tech.

As a triplet from a small, one-stoplight town, I learned quickly what it meant to be a global citizen, working for the common good. When I was growing up, I was surrounded by moments of peace-making. I have developed a lifelong commitment to incite safety. Throughout my undergraduate career, I became a national advocate to prevent and respond to sexual violence on college campuses. I have transformed my passions for safety and violence prevention in combination with statistics into a vision for an interdisciplinary career and a growing research field, combining criminology, data science, and public health.

In March, I was invited to the White House to receive an award called Champion of Change for my work on violence prevention on college campuses. In April, I went to the White House to receive the award and met with senior leadership to discuss these new methodologies. In May, I was invited back to the White House as a Nominated Changemaker to the United State of Women where I continued those conversations around policy design. I realized again how vital it is to add thorough statistical analysis to policy design and evaluation. In August, I traveled to San Francisco as a newly nominated Futures Without Violence Campus Leadership Fellow where I brainstormed with others about international policy design and evaluation supplemented with innovative statistical analysis, all with a focus on public good and safety.

I have experience applying statistical tools to social good problems in a research setting. This semester, I will be conducting a research project with faculty at Penn State that will utilize Respondent-Driven Sampling (RDS) to show us how we can better understand epidemiologically important hidden populations. I have detailed most of my technical skills in the survey form of the application. I believe I have the skills necessary, and an eagerness to learn and contribute to meaningful projects that work towards the public good.

The Data Science for Public Good program at SDAL represents the perfect opportunity for me to express my combined passions in data science and the public good. I would appreciate the opportunity to discuss my application further, if you have any questions or concerns. My email is [ckelling@vt.edu](mailto:ckelling@vt.edu) and my phone number is 5136737173. Please, feel free to contact me at your convenience. There is a need to keep pushing for positive change in our communities. The Data Science for Public Good program is such a powerful way to do so.

I look forward to hearing from you. Thank you for considering my application.

Best,  
Claire Kelling  
[ckelling@vt.edu](mailto:ckelling@vt.edu)  
5136737173

# CLAIRE E. KELLING

**Permanent address:**

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Morrow, OH 45152

(513)673-7173

ckelling@vt.edu

**Local address:**

850 Toftrees Avenue, Apt 328C  
State College, PA 16803

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**STATEMENT OF PURPOSE**

Throughout my academic, professional, and extracurricular activities, I have systematically chosen positions and experiences that will allow me to develop the analytical skills, political awareness, and theoretical grounding to inform public policy. My work lies at the intersection of data analytics, criminology, public health, and political science. My goal is to integrate evidence-based practice with anti-violence policies using the power of big data.

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**EDUCATION****PhD Statistics, Dual PhD in Social Data Analytics, May 2021**

In Progress

Pennsylvania State University, State College, PA  
Paul M. Doty Distinguished Graduate Fellowship

**B.S. Statistics, B.A. Economics, May 2016**

Virginia Polytechnic and State University, Blacksburg, VA  
University Honors Program  
Minors: Women's & Gender Studies and Women's Studies Leadership  
**GPA: 3.985/4.0 (Summa Cum Laude, Honors Scholar)**

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**EMPLOYMENT****Research Assistant, Office of Sexual Misconduct Prevention & Response – State College, PA, January 2017-present**

- Determining educational needs based on the Office of Civil Rights and Department of Education guidelines
- Creating recommendations for target areas regarding educational needs over a 3-5 educational cycle period

**Graduate Fellow, Futures Without Violence – State College, PA, June 2016-August 2017**

- Developing graduate-level research and institutional interventions to build more vibrant campuses nationally
- Serving many projects as the sole fellow with a quantitative focus, working with a cohort of students from a diverse range of fields—including medicine, nursing, public health, social work, and international relations

**Teaching Assistant, Introductory Statistics, Virginia Tech -- Blacksburg, VA, August 2015- May 2016 (2 semesters)**

- Taught several full classes for 371 students and demonstrated practical uses of statistics through case studies
- Held weekly office hours and self-initiated review sessions for students
- Proctored exams, created homework solutions sets, and managed all recitation leaders

**Data Analyst, Multi-Institutional Study of Leadership, Virginia Tech -- Blacksburg, VA, January 2015- May 2016**

- Analyzed attributes including "Collective Racial Esteem," "Socio-Cultural Conversations," "Non-discriminatory Climate," "Spirituality," "Sense of Belonging," to identify key leadership factors
- Worked toward publication and presentation of key results that illustrated trends across institutions

**Teaching Assistant, Statistics Department, Virginia Tech -- Blacksburg, VA, January 2015- May 2016**

- Statistical Methods: Graded using original keys and hosted self-initiated office hours on R and class material
- Theoretical Statistics: Graded and provided performance insight for most challenging undergraduate course

**Research Assistant, Food and Agricultural Education Information System Project -- December 2013-February 2016**

- Maintained a complex database system consisting of hundreds of schools, majors, and variables
- As senior analyst, managed a team of six to implement data quality improvement and efficient data entry
- Conducted analysis of enrollment trends using statistical techniques for monthly newsletters

**Finance Intern, Family Care, Procter & Gamble -- Cincinnati, OH, Summer 2015**

- Completed projects focused on bringing business analytics and statistical analyses to Finance & Accounting
- Analyzed key business drivers for volume, including pricing and distribution, for a billion-dollar brand
- Created break-through regression and time series models, used by leadership to drive productivity savings

### **Research Assistant, REU for Industrial Mathematics and Statistics, Worcester Polytechnic Institute -- Summer 2014**

- Provided extensions and modifications for a model predicting liquidity, compared to other existing methods
- Developed an innovative model for liquidity that is now being implemented by State Street Global Advisors

### **Research Assistant, The Laboratory for Interdisciplinary Statistical Analysis (LISA) -- December 2014- June 2015**

- LISA 2<sup>nd</sup> Order Impact Project documented and collected stories of LISA's impact on the community
- Substantiated the claim that LISA's contributions often lead to publications and innovations

### **Research Assistant, Human Development Department, Virginia Tech -- January 2013- May 2013**

- Gained insights into benefits of Inter-generational programs by creating activities for children and the elderly

## **CODING AND SOFTWARE EXPERIENCE**

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**Basic:** Stata, Matlab, C++

**Intermediate:** SAS

**Advanced:** R, R Studio, JMP, Minitab, Microsoft Excel, Latex

## **CONFERENCES**

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### **Pending Presentations:**

Kelling, C. (2017, September). *Evaluation of Respondent-Driven Sampling Recruitment Protocols through Field-Testing in Climate Surveys*. National Conference on Health and Domestic Violence, San Francisco, CA.

### **National Presentations:**

Kelling, C., group facilitated (2016, December). *Social Progress and Equality*. Champion of Change Reunion (Hosted by The White House), Washington DC.

Lingley, C. & Kelling, C. (2016, July). *Collegiate Leadership Development: Analysis of the Multi-Institutional Study of Leadership*. Society for Industrial and Applied Mathematics Annual Conference, Boston, MA.

Kelling, C. et al. (2016, May). *It's On Us*. United State of Women (Hosted by The White House), Washington DC.

Kelling, C. (2016, February). *Bridging Conscious Partiality and Intersectionality through Action Research*. International Women's Issues Conference, Orlando, FL. – **Published (ISBN 978-1-5323-0118-6)**

Kelling, C. (2015, March). *Building a Movement at Your University: Strengthening Established Groups*. National Women's Leadership Conference, Washington DC.

Kelling, C., Li, H., Witz, E., & Crowell, R. (2015, January). *Estimating Liquidity Risk Using Exchange Traded Funds*. Joint Mathematics Meetings, San Antonio, TX.

### **Regional Presentations:**

Kelling, C. (2016, April). *Actions for Change: How to Take Back the Night*. Virginia Collegiate Honors Council Conference, Lynchburg, VA.

Kelling, C. (2016, February & 2015, February). *Activism to Raise Awareness of Gender-Based Violence*. Commission on Student Affairs, Blacksburg, VA.

Kelling, C. (2015, October) *Shattering the Glass Ceiling in Higher Education*. Women's Leadership Series Guest Speaker, Blacksburg, VA.

Kelling, C. (2015, April). *Grassroots Organizing 101 and Power Structures*. Gender-Based Violence Summit, Blacksburg, VA.

Kelling, C. (2015, April). *Community Organizing on College Campuses*. Virginia Collegiate Honors Council Conference, Richmond, VA. - **Awarded Best Presentation**

Kelling, C. (2015, April). *Data Analytics- Risk Management through Statistical Techniques*. Undergraduate Research and Creative Scholarship Conference, Blacksburg, VA.

Kelling, C. (2015, April). *Bridging Conscious Partiality and Intersectionality through Action Research*. Women's and Gender Studies Conference, Blacksburg, VA.

Kelling, C. (2015, February) *A Campus Climate Check-In*. Cultivating Peace: A Student Symposium on Violence Prevention, Blacksburg, VA.

Kelling, C., Li, H., Witz, E., & Crowell, R. (2014, July). *Estimating Liquidity Risk Using Exchange Traded Funds*. Applied and Industrial Mathematics Institute for Secondary Teachers (MIST), Worcester, MA.

### **Organizing Committee:**

(2017, February). State of [Penn] State, State College, PA.

(2016, April). (In)Visible Futures- Gender, Bodies & Technology Conference, Roanoke, VA.

(2015, April). Gender-Based Violence Summit, Blacksburg, VA.

## **ACADEMIC AWARDS AND HONORS**

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Fall 2016 Rhodes Scholarship, Finalist  
Spring 2016 National Phi Kappa Phi Fellowship  
2015-2016 University Honors Merit Scholarship  
2015-2016 Kathryn Kane Memorial Scholarship  
2014-2015 John H. Kroehling Scholarship  
Fall 2015 Honors Scholar of the Year Nominee  
2012-2014 Honors Scholar, University Honors  
2013-2014 John Robert Lawson Scholarship

Fall 2015, 2016 Marshall Scholarship, Virginia Tech Nominee  
Fall 2015 Rhodes Scholarship, Virginia Tech Nominee  
Spring 2016 Outstanding Senior Award, College of Science  
Spring 2016 Local Phi Kappa Phi Fellowship, Virginia Tech  
2015-2016 Rising Senior Scholar Award, College of Science  
2014-2016 American Statistical Association Elected Member  
2014-2015 Rising Junior Scholar Award, College of Science  
2012-2016 Dean's List (every semester)

## **SERVICE & LEADERSHIP AWARDS AND HONORS**

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Spring 2017 It's On Us Pennsylvania Grant Recipient,  
Role: Data Analyst, Amount: \$30,000  
Spring 2016 Champion of Change, White House  
Spring 2016 Aspire Award for Courageous Leadership  
Spring 2016 New River Valley Leading Light Nominee  
2014-2016 Clyde Kramer Scholarship  
2014-2016 Jean B. Duerr Memorial Scholarship- P.E.O.  
2012-2013 Norrine Bailey Spencer Strong Start Award

Spring 2017 Dean's Climate and Diversity Award Nominee  
Spring 2016 Ut Prosim (Service) Award, Virginia Tech  
Spring 2016 Keystone Fellow, Inaugural Class  
Spring 2016 Individual Outstanding Achievement, Nominee  
Spring 2016 Outstanding Service to the Campus, Nominee  
2015-2016 Rising Senior Leadership Award, German Club  
2014-2015 Rising Junior Leadership Award, German Club

## **LEADERSHIP ACTIVITIES**

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2016-2017 Title IX Office Student Liaison- PSU  
2016-2017 Stand for State Student Ambassador  
2016-2017 State of State Community Engagement  
2015-2016 Head Coach, Kipps Volleyball (Undefeated)  
2015-2016 Coordinator of Nicole Lovell's Vigil  
2014-2016 Take Back the Night M.C. and Host  
2013-2016 Take Back the Night Lead Coordinator  
2014-2016 President of Womanspace+ at VT  
2013-2016 Special Olympics Volleyball Coach  
2014-2016 President of The Student Power Network

2017 Sexual Violence Awareness & Prevention Roundtable  
2016-2017 Stand for State Student Engagement Committee  
2016-2017 Presidential Commission for Women (CFW)  
2016-2017 Personal Safety Committee (CFW), Penn State  
2016-2017 Assessment Committee (CFW), Penn State  
2016-2017 It's On Us Graduate Advisory Committee Leader  
2014-2015 Apartment Fellow, Honors Residential College  
2014-2016 Sexual Violence Prevention Council Member  
2013-2014 Take Back the Night Event Coordinator  
March, 2013- National Women's Leadership Conference

## **EXTRACURRICULAR ACTIVITIES**

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Spring 2016 Editor: What I Can Carry  
By Laurie Lambert, ISBN 978-1944899738  
2016-2017 Volleyball Referee, State College PA  
2015-2017 NASA Datonaut, Growing Data Scientists  
2012-2017 Association for Women in Mathematics  
2016-2017 Statistics Club, Penn State  
2012-2016 Blacksburg Community League Volleyball  
2015-2016 Tutor for Statistics, Virginia Tech  
2014-2016 AWARE (Middle School Student Teacher)

2016-2017 PHREE- Peer Education Violence Prevention  
2016-2017 Statistics Graduate Student Association Member  
Spring 2015 Mentors in Violence Prevention Training  
2014-2016 College Council Member and Hall Council  
2015-2016 Women's Studies Conference Planner  
2014-2016 Member of Grad-Undergrad Mentor Program  
2012-2016 Women's Choir Member  
2013-2015 Civility Coalition  
2015-2016 Member of a regional Barbershop Quartet

## **HONOR & PROFESSIONAL SOCIETIES**

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Phi Beta Kappa  
The Honor Society of Phi Kappa Phi  
Gamma Beta Phi Honor Society  
Golden Key Honor Society  
American Statistical Association

Mu Sigma Rho- The National Statistics Honor Society  
Omicron Delta Epsilon- The International Honor Society  
in Economics  
Omicron Delta Kappa- National Leadership Honor Society