

# Gregory J. Clark

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## Academic Employment

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### University of Oxford

2019 – Present

Research Fellow in Marketing and Reputation

*Future of Marketing Initiative & Centre for Corporate Reputation*

## Industry Employment

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### Augmented Intelligence Labs

2020 – Present

Co-founder, Director, and Inventor

## Education

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### Ph.D. Mathematics

May 2019

University of South Carolina, Columbia, SC.

*Dissertation Title:* On the Characteristic Polynomial of a Hypergraph

*Advisor:* Professor Joshua N. Cooper.

### B.S. Mathematics

May 2014

Westminster College, New Wilmington, PA

### Budapest Semesters in Mathematics

Spring 2013

Budapest, Hungary

### French Language and Culture Immersion Program

Summer 2012

Paris, France

## Research Interests

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### Mathematics

Spectral Hypergraph Theory

Graph Statistics

Computational Algebra

Pseudorandomness

$k$ -planar Crossing Numbers

Additive Combinatorics

### Interdisciplinary

Social Networks

Trend Forecasting

Multi-Touch Attribution

Social Evaluations

Digital Migration

Echo Chambers

## Awards and Honors

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### SSRN Top Ten Downloaded Papers

August-September 2021

*Artificial Intelligence - Law, Policy, & Ethics*

*Cybersecurity, Data Privacy & eDiscovery*

### Preparing Future Faculty Certificate With Distinction in Teaching

Spring 2019

### Outstanding Graduate Teaching Award

Spring 2018

### Graduate Peer Excellence Award

Spring 2015

## Research Publications

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9. Gregory J. Clark and Joshua N. Cooper. Applications of the Harary-Sachs Theorem for Hypergraphs. <https://arxiv.org/abs/2107.10781>. *Submitted*
8. Gregory J. Clark and Joshua N. Cooper. A Harary-Sachs Theorem for Hypergraphs. *Journal of Combinatorial Theory, Series B*, 149:1–15, 2021.
7. Gregory J. Clark and Joshua N. Cooper. Adjacency Spectral Theory for Uniform Hypergraphs, *IMAGE (Bull Lin. Alg. Soc.)*, **62** (2019), pp. 7-19.
6. Gregory J. Clark and Joshua N. Cooper. Stably computing the multiplicity of known roots given leading coefficients. *Numer Linear Algebra Appl.* 2020; 27:e2275.
5. John Asplund, Éva Czabarka, Gregory J. Clark, et al. Using block designs in crossing number bounds. *J Combin Des.* 2019; 27: 586-597.
4. Gregory J. Clark and Joshua N. Cooper. On the Adjacency Spectra of Hypertrees, *Elec. J. Comb.*, **25** (2018), no. 2, pp. 2-48.
3. Gregory J. Clark and Gwen Spencer. New Bounds on the Biplanar Crossing Number of Low-dimensional Hypercubes. *Bulletin of the Institute of Combinatorics and its Applications (BICA)* 83(2018), 52-60.
2. Amanda Bright, Gregory J. Clark, Charles Dunn, et al. Tiling Annular Regions with Skew and T-tetrominoes, *Involve, a Journal of Mathematics* 10-3 (2017), 505–521.
1. Gregory J. Clark. Optimal Numbers and Solutions in the Euclidean Algorithm, *The Pentagon, A Mathematics Magazine for Students*, 73-01 (2013), 23-35.

## Externally Commissioned Reports

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2. **Mars Campaign to Advance Action on Gender Equality** 2021  
Title: Here to be Heard  
Summary: Global study to shape a more inclusive society for all women.  
*Contributed to modeling of data and data analysis*  
Available at: <https://www.mars.com/heretobeheard>
1. **International Chamber of Commerce Research Foundation** 2021  
Title: Ethics for AI in Business  
Summary: Managerial framework for ethical adoption of AI in business.  
*Gathered and processed data, contributed to analysis and interpretation*  
Available on SSRN: <https://ssrn.com/abstract=3871867>

## Selected Work-in-Progress

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5. Gregory J. Clark and Felipe Thomaz. Reputation as a Function of Message Speed.
4. Gregory J. Clark, Felipe Thomaz, and Alexander Wiedemann. Designed to Go Dark: An Examination of Incentives for Digital Black Markets to Self-Terminate.
3. Felipe Thomaz, Gregory J. Clark, and Andrew Stephen. A report on the linkage between brand purpose and financial return. *In partnership with Reckitt-Benckiser.*
2. Gregory J. Clark and Felipe Thomaz. Determining the Efficiency of Viral Marketing Campaigns.
1. Gregory J. Clark, Felipe Thomaz, and Andrew Stephen. On the Effect of Dimensionality on Eigenvector Centrality.

## Grants

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### SPARC Grant Recipient

*Summer 2017*

“A Mathematical Model of Dark Net Markets.” Collaboration with the Darla Moore School of Business (\$5,000). Graduate Research Grant is a merit-based award designed to ignite research and creative excellence across all disciplines.

University of South Carolina

## Teaching Experience

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### Teaching Assistant

Saïd Business School, University of Oxford.

- MBA Marketing Core *Michaelmas 2021, 2019*  
*Segmentation, targeting, positioning, and customer value*

### Invited Lecturer

Saïd Business School, University of Oxford.

- Oxford Executive Diploma in Artificial Intelligence for Business *Hilary, Michaelmas 2021*  
*Descriptive, predictive, and prescriptive analytics*

### Panel Discussion Co-Chair

Saïd Business School, University of Oxford.

- Oxford Executive Diploma in Artificial Intelligence for Business *Michaelmas 2021*  
*Managed and directed discussion*

### Instructor of Record

*July 2015 – Spring 2019*

Department of Mathematics, University of South Carolina.

- Math 115: Precalculus *Fall 2015*
- Math 122: Business Calculus *Fall 2018, Spring 2018, Fall 2017*
- Math 170: Finite Mathematics *Fall 2015, Spring 2016, Summer 2015*

### Graduate Student Mentor

*Fall 2016 – Spring 2017*

**NSF EAGER Grant for Innovative Research award ID #1725295**

Department of Mathematics, University of South Carolina.

### Graduate Teaching Assistant

*Fall 2014 – Spring 2015*

Department of Mathematics, University of South Carolina.

- Math 141: Calculus 1 *Fall 2014, Spring 2015*

## Undergraduate Research Advisement

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Upon completion, each advisee composed a poster and presented their work at local conferences

### A Summary of Splitting Numbers for Integer Tiles

*Summer 2016*

J. Folks, S. Lee, S. Miyasaki, C. Simmons, C. Stewart  
*Support for Minority Advancement in Research Training*  
*University of South Carolina Program for Research Interns*  
University of South Carolina

### Generalized Dinitz Conjecture

*Fall 2015-Summer 2016*

E. Miller  
*Magellan Scholars Program*  
University of South Carolina

## Workshops Attended

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(Travel support denoted by asterisk.)

3. **Teradata Vantage Workshop for Data Scientists** *Fall 2019*  
*Learned how to use Vantage platform for data science*  
London, UK
2. **NSF-CBMS Workshop on Additive Combinatorics\*** *Summer 2018*  
University of South Carolina, Columbia, SC
1. **Mathematical Research Communities\*** *Summer 2017*  
*Beyond Planarity: Crossing Numbers of Graphs*  
Snowbird Resort, Snowbird, UT

## Invited Talks

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(Travel support denoted by asterisk.)

7. **PNC Bank Innovations and Technology Division** *Fall 2021*  
*Current Research in Modeling Social Ecosystems*  
Pittsburgh, PA
6. **Reputation Symposium\*** *Fall 2018*  
*Distinguishing Between Reputation and Influence of Users in a Complex System*  
University of Oxford, UK
5. **Research Highlight\*** *Spring 2018*  
*Designed to Fail: Determining Illicit Market Life Spans with Stochastic Calculus*  
University of Oxford, UK
4. **Practice for Coordinators of Large Undergraduate Courses on Campus** *Fall 2017*  
*A Mentorship Model for Graduate Student Instructors in Large Undergraduate Courses*  
University of South Carolina Center for Teaching Excellence, Columbia, SC
3. **Joint Mathematics Meeting\*** *Spring 2017*  
*Graduate Student Instructor Mentorship Model: A professional development that trains experienced graduate students to pedagogically mentor novice mathematics graduate student instructors*  
Hyatt Regency Atlanta and Marriott Atlanta Marquis, Atlanta, GA
2. **AMS Sectional Meeting\*** *Fall 2016*  
*The Splitting Number of an Integer Tile*  
North Carolina State University, Raleigh, NC
1. **Carolina Math Seminar** *Fall 2016*  
*The Splitting Number of an Integer Tile*  
Columbia College, Columbia, SC

## Selected Conferences and Seminars Attended

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(Travel support denoted by asterisk.)

- American Marketing Association Winter Academic Conference** *Spring 2022*  
Las Vegas, NV
- Future of Marketing Initiative Partners' Meeting** *Hilary, 2021*  
*Deep Dive into Multidimensional Trend Forecasting*  
University of Oxford, UK

<b>American Marketing Association Winter Academic Conference</b> <i>Marketing Vice: The Influences and Impacts of Vice Platforms, Products, and Services</i>	<i>Spring 2021</i>
<b>Oxford Strategy, Innovation and Marketing Seminar</b> <i>A Measure for Echo Chambers and its Implications for SIM</i> University of Oxford, UK	<i>Hilary 2021</i>
<b>Future of Marketing Initiative Partners' Meeting</b> <i>Attribution in Higher Dimensions</i> University of Oxford, UK	<i>Michaelmas 2019</i>
<b>The Future of Digital Disruption</b> University of Oxford, UK	<i>Summer 2019</i>
<b>Reputation Symposium</b> University of Oxford, UK	<i>Annual, Fall 2019 – Present</i>
<b>Reputation: Ethics, Trust, and Relationships Seminar Series</b> University of Oxford, UK	<i>Fall 2020</i>
<b>Combinatorics Seminar</b> <i>On the Computation of the Characteristic Polynomial of a Hypergraph</i> University of South Carolina, Columbia	<i>Fall 2018</i>
<b>Discover USC: Three Minute Thesis Competition</b> <i>Modeling Dark Net Markets</i> University of South Carolina, Columbia	<i>Spring 2018</i>
<b>Combinatorics Seminar</b> <i>A Combinatorial Description for the Coefficients of the Characteristic Polynomial of a Hypergraph</i> University of South Carolina, Columbia	<i>Spring 2018</i>
<b>Conference on Research in Undergraduate Mathematics Education*</b> <i>Mentor Professional Development for Mathematics Graduate Student Instructors</i> Kona Kai, San Diego, CA	<i>Spring 2017</i>
<b>Triangle Lecture Series*</b> University of North Carolina, Greensboro, NC.	<i>Spring 2016</i>

## Service Activities

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<b>St Antony's Senior Common Room</b>	<i>Michaelmas 2021 – Present</i>
Oxford Saïd Business School SIM Meetings	<i>Hilary 2021</i>
Data Science and AI Capabilities Study Participant	<i>Michaelmas 2020</i>
Azure in Research Focus Group	<i>Hilary 2021</i>
USC Combinatorics Seminar Organizer	<i>Fall 2016 – Spring 2017</i>
Peer Reviewer for Involve, a Journal in Mathematics	<i>Fall 2017 – Spring 2018</i>
Community Organization Diversity and Inclusion Chair	<i>Spring 2020 – Present</i>
USC Center for Teaching Excellence Symposium Moderator	<i>Spring 2016, 2017</i>
Discover USC Poster Session Judge	<i>Spring 2016, 2017</i>
High School Mathematics Competition Volunteer	<i>Fall 2017</i>
Completed Safe Space Training	<i>Spring 2015</i>