

# LÓRIEN MACENULTY

COMPUTATIONAL  
PHYSICIST

SCIENCE  
JOURNALIST

Pronounced like the car  
from *Back to the Future*;  
derived from the forest  
in *The Lord of the  
Rings*.

Bow-tie  
enthusiast

## CONTACT



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[macenulty.com](http://macenulty.com)



*herbly the maderick*

P

Postgraduate

U

Undergraduate

V

Volunteer

L

Leadership Position



Ph.D.  
Student

## RESEARCH

### Computational Condensed Matter Theory | P

Development of theory, methodologies and software designed to correct for static correlation and self-interaction errors correction in density functional theory.

Supported by TCD Provost's Ph.D. Project Award.

*Advisor: Dr. David O'Regan | Trinity College Dublin, IE | Present*

### Computational Magnetostatics in DFT | U

Investigation into the electron spin-induced magnetostatic energy, a relativistic correction to the Kohn-Sham Hamiltonian of density functional theory, and its contribution to the total energy of atomic systems.

Funded by Science Foundation Ireland.

**Publications:** L. MacEnulty, D. O'Regan, *JURP* 29(1) 22-25 (2020). [link](#)

*Advisor: Dr. David O'Regan | Trinity College Dublin, IE | Summer 2019*

### Computational Particle Physics | MISSFIT | U V L

Comprised multidisciplinary conceptual investigations into the aspects of a functional ionized radiation shield to accompany manned missions in interplanetary space. Included development of code to numerically approximate magnetic fields and experimental determination of gamma ray attenuation properties of certain materials.

Funded by the Iowa Space Grant Consortium (branch of NASA).

**Conferences:** Drake University Conference for Undergraduate Research in the Sciences (**DUCURS**), 2018, Des Moines, IA, Poster Presentation

**DUCURS**, 2019, Des Moines, IA, Poster Presentation

**APS Division of Nuclear Physics Annual Meeting**, 2019, Washington D.C., Poster Presentation

**APS April Meeting**, 2019, Denver, CO, Poster Presentation

**APS April Meeting**, 2020, Online, Oral Presentation

*Advisor: Dr. Athanasios Petridis | Drake University | Nov. 2016 - May 2020*

### Computational Elementary Particle Physics | U

State-of-the-art Monte Carlo computational modelling of the DANSS short baseline antineutrino oscillation experiment, ultimately in seeking statistical evidence for existence of a fourth, sterile neutrino.

Research Experience for Undergraduates funded by the National Science Foundation (NSF).

**Conferences:** **APS April Meeting**, 2019, Denver, CO, Oral Presentation. [link](#)

*Advisor: Dr. David Ernst | Vanderbilt University | Summer 2018*

# RESEARCH *(cont.)*

## Theoretical Atomic Physics |

Computational analysis of effect of ionization potential, derived from intense, few-cycle infrared laser radiation, on the probability electrons in an Argon atom will undergo frustrated tunnel ionization.

**Conferences:** APS Division of Laser Sciences Annual Meeting, 2018, Washington D.C., Poster Presentation

*Advisor: Dr. Klaus Bartschat | Drake University | Dec. 2017 - Sept. 2018*

## Physics and Philosophy: The Structure of Spacetime |

Investigation into the historical progression of conceptual interpretations of spacetime, and the derivation of the consequences that Einstein's theory of general relativity foster on perceptions of measurement.

**Conferences:** DUCURS, 2019, Des Moines, IA, Oral Presentation

*Advisor: Dr. Karen Zwier | Drake University | March 2018 - April 2018*

# WORK EXPERIENCE

## Freelance Journalist |

**The Des Moines Register** | *"Drake University's preparations to offer two-year degrees draw praise, 'raise some eyebrows'"* | Oct. 2020 | [link](#)

**Mental Floss** | *"Some Can Control When They Get Goosebumps, And Scientists Are Stumped"* | April 2020 | [link](#)

**Urban Plains** | *"Barrels: The Souls of Spirits"* | Oct. 2019 | [link](#)

**Drake Political Review** | *"Socialism: More Than a Cow Analogy"* | April 2019 | [link](#)

**The Annual** | *"Distilling Clarity Among Whiskeys"* | April 2018 | [link](#)

*USA and Ireland | 2017 - present*

## Editor-in-Chief | *The Times Delphic* |

Led a team of 15+ student journalists to publish the weekly campus newspaper. I hired and trained new staff, managed public relations with audience constituency, including administration, printers and readers. I pioneered the newspaper's emphasis on digital delivery and established a data-based system to reliably quantify readership.

**Notable Photography:** *"Drake paints it black"* | Nov. 13, 2018 | [print](#) or [online](#)

*"Presidential hopeful is subject of town hall"* | Jan. 31, 2019 | [link](#)

*Des Moines, IA | May 2018 - February 2019*

# EDUCATION



2020 - present

*Seeking  
Ph.D. in Physics  
Provost Ph.D.  
Project Award*



2016-2020

*B.S Physics  
B.S Mathematics  
B.A.J Journalism  
Full-ride Scholar  
Summa Cum Laude*



2008-2015

*Middle Years &  
Diploma Program  
Palmer High School  
37 pts, 4.93 GPA*

## WORK EXPERIENCE (cont.)

### Editor-in-Chief | *Physics Department Newsletter* |

Organized, designed, wrote for and edited the biannual newsletter of the Drake Department of Physics and Astronomy. The publication is sent to all students, faculty and alumni of the department and is occasionally published on the Drake University Website.

**Publications:** “*The Island of MISSFIT Toys*” | April 2017 | [link](#)

“*Triple the Uncertainty Principle*” | Dec. 2017 | [link](#)

“*The Incidental Quest for the Holy Grail*” | Dec. 2017 | [link](#)

“*Up, Up, And Away*” | Dec. 2017 | [link](#)

“*Neutrinos, The Prankish Faeries of Physics*” | Dec. 2017 | [link](#)

“*MISSFIT Gains National Attention*” | April 2018 | [link](#)

“*The Quantum Kilogram*” | April 2018 | [read](#) or [listen](#)

ALL NEWSLETTERS

See my photos and layout style, or read the whole publication, [here](#).

*Des Moines, IA* | Jan. 2017 - May 2020

### Features Editor | *The Times-Delphic* |

As section editor for the campus newspaper, I assembled and dispatched writers to cover news-worthy human-related stories around the Drake neighborhood. I was furthermore responsible for the design composition of three tabloid pages per week.

**Notable Publications:** “*Milk Thistles, Drones and Livestock: A peek into Iowa’s bioscience industry*” | April 4, 2018 | [online](#) or [print](#)

“*High-curious’ marijuana users may no longer risk jobs, scholarships*” | April 27, 2018 | [online](#) or [print](#)

*Des Moines, IA* | Aug. 2017 - May 2018

### Staff Journalist | *The Times-Delphic* |

The News section editor, Katherine Bauer, dispatched me to write two to three hard news articles a week, accompanied by photos and published primarily in print. I covered a broad variety of community-based topics.

**Notable Publications:** “*A glimpse into the prescription drug abuse epidemic*” | Oct. 26, 2016 | [link](#)

“*The Electoral College: What it is, how it works*” | Nov. 2, 2016 | [link](#)

“*Half million-dollar machine enables research on atomic level*” | March 29, 2017 | [link](#)

“*O’Malley talks voting rights, denounces proposed voter ID law*” | March 8, 2017 | [link](#)

*Des Moines, IA* | Aug. 2016 - May 2017

## NON-ACADEMIC WORK

### Bartender, Server, Host | *Jack Quinn’s Irish Pub*
































*Colorado Springs, CO* | June 2015 – May 2016, June 2017, June 2018

### Barista | *Starbucks Coffee Corporation*

*Colorado Springs, CO* | June 2015 – May 2016

See page 5 for a list of all publications.

## AWARDS & HONORS

- 2<sup>nd</sup> Place Feature Writing | 2020    
*Hearst Journalism Awards, "Barrels: The Souls of Spirits"*
- 1<sup>st</sup> Place Magazine Feature | 2020    
*AEJMC Student Magazine Contest, "Barrels: The Souls of Spirits"*
- Honorable Mention Best Reporting | 2020    
*AEJMC Student Magazine Contest, "Ingrained"*
- Patricia Prijatel Storytelling Award | 2020    
*Student best at finding, reporting, writing and publishing informative and inspiring stories*
- Drake SJMC Top Scholar | 2020    
*Graduating Senior with highest GPA*
- National Alumni Scholar | 2016 - 2020   
*Full-ride scholarship to attend Drake University*
- Robert D. Woodward Scholar | 2017-2020    
*Public Affairs Reporting*
- Rhodes Scholarship Finalist | 2019 
- Mitchell Scholarship Finalist | 2019 
- Barry Goldwater Scholar | 2019    
*Promising researcher in the natural sciences*
- 3<sup>rd</sup> Place Breaking News Story | 2019    
*Iowa College Media Awards, "High-Curious" Marijuana Users No Longer Risk Jobs, Scholarships"*
- Michael Meyers Award | 2019    
*Promising researcher in Drake Physics Department*
- Harrison Harding Scholar | 2018-2019    
*Editor-in-Chief of the Times-Delphic*
- 1<sup>st</sup> Place Breaking News Photography | 2018    
*Society of Professional Journalists, 'White Silence'*
- Iowa Space Grant Consortium Fellow | 2018    
*MISSFIT research grant from branch of NASA*
- Vanderbilt REU Symposium Award | 2018    
*Best Oral Presentation of research*
- Woodward Award for Reporting | 2018    
*Excellence in public affairs reporting*

Continued >>

Type of Award |  Institutional  State  National  Physics  Journalism

## MISCELLANEOUS ACTIVITIES

### The CARBON Project

Artists and scientists pair up to represent research visually and interactively. I merged skills with a graphic designer to investigate the weirdness of quantum mechanics. [link](#)

Fall 2019

### The SOAR Lab

Contributed to literature review and maintained website of Drake's Stereotyping and Objectification Action Research Lab, a constructive, research-based outlet for social justice.

Fall 2019

### Radio DJ

#### Drake Broadcasting System

On Friday nights at 8:00 p.m., I DJed for Drake's radio station, 94.1 The Dog. This included sequencing and verbally introducing songs, development of an on-air persona, and providing a weekly science news update.

Aug. 2016 – May 2017

### Tennis

I've been playing tennis semi-competitively since 2013 on various teams and clubs.

Since 2013

### Elvish Linguistics

In my free time, I study various sublanguages of Tolkien Elvish. My expertise is in Quenya and in the script system, Tengwar. See [blog posts](#) for more info.

Since 2012

## AWARDS & HONORS (CONT.)

- William J. Palmer HS Alumni Scholar | 2015 ●
- IB Assn. of the Rocky Mountains Scholar | 2015 ●  
*Promising International Baccalaureate Student*
- The Gazette's Best and Brightest | 2015 ●  
*Promising Student*
- 2<sup>nd</sup> Place Photo/Graphic Illustration | 2014 ● ●  
*Colorado High School Press Association, The Lever*

## Journalistic Publications

*Orange font = Award Winning Piece | Blue font = Portfolio Piece*

- "Taste of Des Moines means big return for area restaurants"* | Times-Delphic | Sept. 21, 2016 | [link](#)
- "'Lay-in' starts conversation about sexual assault"* | Times-Delphic | Sept. 28, 2016 | [link](#)
- "Mid-October best time for flu shots, according to health center"* | Times-Delphic | Oct. 5, 2016 | [link](#)
- "Drake Students Officially have a new way to get around campus"* | Times-Delphic | Oct. 12, 2016 | [link](#)
- "Tradition, romance live on at Kissing Rock event"* | Times-Delphic | Oct. 12, 2016 | [link](#)
- "A glimpse into the prescription drug abuse epidemic"* | Times-Delphic | Oct. 26, 2016 | [link](#)
- "Learning the lessons of locked doors"* | Times-Delphic | Oct. 26, 2016 | [link](#)
- "The Electoral College: What it is, how it works"* | Times-Delphic | Nov. 2, 2016 | [link](#)
- "Campus helps students vote early"* | Times-Delphic | Nov. 2, 2016 | [link](#)
- "Closeted Issues Week introduces students to prison concerns"* | Times-Delphic | Nov. 9, 2016 | [link](#)
- "Focus group suggests renovations to Cowles Library"* | Times-Delphic | Nov. 9, 2016 | [link](#)
- "Drake goes from blue to green for the environment"* | Times-Delphic | Nov. 16, 2016 | [link](#)
- "Transgender speaker addresses election results"* | Times-Delphic | Nov. 16, 2016 | [link](#)
- "Crews prepare STEM buildings for winter work"* | Times-Delphic | Dec. 7, 2016 | [link](#)
- "Plus/minus: minus for students"* | Times-Delphic | Feb. 1, 2017 | [link](#)
- "Students weigh in on inauguration atmosphere, Trump's first days"* | Times-Delphic | Feb. 2, 2017 | [link](#)
- "President's travel ban prompts university response"* | Times-Delphic | Feb. 8, 2017 | [link](#)
- "Holiday spending causes slump for area restaurants, servers"* | Times-Delphic | Feb. 8, 2017 | [link](#)
- "Students discuss the importance of Black History Month"* | Times-Delphic | Feb. 15, 2017 | [link](#)
- "Bystander Prevention Week helps students respond to hate crimes"* | Times-Delphic | Feb. 15, 2017 | [link](#)
- "Opinion: MISSFIT research group aids Mars mission"* | Times-Delphic | Feb. 15, 2017 | [link](#)
- "Fraternity, sorority life discuss transgender policy"* | Times-Delphic | Feb. 22, 2017 | [link](#)
- "O'Malley talks voting rights, denounces proposed voter ID law"* | Times-Delphic | March 8, 2017 | [link](#)
- "Chinese night gives insight"* | Times-Delphic | March 8, 2017 | [link](#)
- "Renowned poets deliver 38<sup>th</sup> Bucksbaum Lecture"* | Times-Delphic | March 29, 2017 | [link](#)
- "Half million-dollar machine enables research on atomic level"* | Times-Delphic | March 29, 2017 | [link](#)
- "The Island of MISSFIT Toys"* | Physics Department Newsletter | April 2017 | [link](#)
- "CNN commentators debate morality of civil disobedience"* | Times-Delphic | May 4, 2017 | [link](#)
- "Opinion: Communication is just as fluid as it is fascinating"* | Times-Delphic | Sept. 9, 2017 | [link](#)
- "Triple the Uncertainty Principle"* | Physics Department Newsletter | Dec. 2017 | [link](#)
- "The Incidental Quest for the Holy Grail"* | Physics Department Newsletter | Dec. 2017 | [link](#)



## Journalistic Publications (cont.)

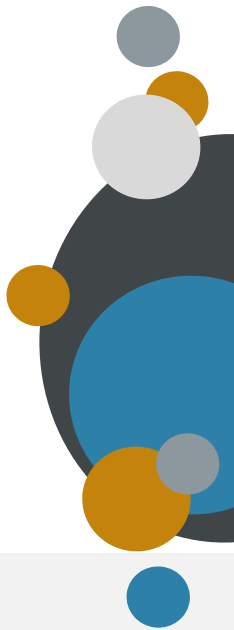
- "Up, Up, And Away: Farewell to the graduating seniors"* | Physics Department Newsletter | Dec. 2017 | [link](#)
- "Neutrinos, The Prankish Faeries of Physics"* | Physics Department Newsletter | Dec. 2017 | [link](#)
- "Comedian Ironically Markets Drake to Prospective Students"* | Times-Delphic | Feb. 27, 2018 | [link](#)
- "Milk Thistles, Drones and Livestock: A peek into Iowa's bioscience industry"* | April 4, 2018 | [online](#) or [print](#)
- "Define Griff: why Drake's beloved mascot is such a marketing success"* | Times-Delphic | April 23, 2018 | [link](#)
- "Opinion: How my identity manifests in the fabric I choose"* | Times-Delphic | April 23, 2018 | [link](#)
- "Drake Public Safety and the student body"* | Times-Delphic | April 24, 2018 | [link](#)
- "High-curious' marijuana users may no longer risk jobs, scholarships"* | April 27, 2018 | [online](#) or [print](#)
- "MISSFIT Gains National Attention"* | Physics Department Newsletter | April 2018 | [link](#)
- "The Quantum Kilogram"* | Physics Department Newsletter | April 2018 | [read](#) or [listen](#)
- "Distilling Clarity Among Whiskeys"* | The Annual | April 2018 | [link](#)
- "Opinion: The time-relevant dolphin on etymology related to newspapers"* | Times-Delphic | Aug. 29, 2018 | [link](#)
- "Double-take on the dorms; or single, triple..."* | Times-Delphic | Aug. 29, 2018 | [link](#)
- "No natural gas detected in Parent's Hall, authorities said"* | Times-Delphic | Sept. 5, 2018 | [link](#)
- "Ambulance sent to Cowles Library in wake of medical emergency"* | Times-Delphic | Oct. 9, 2018 | [link](#)
- "Socialism: More Than a Cow Analogy"* | Drake Political Review | April 2019 | [link](#)
- "Barrels: The Souls of Spirits"* | Urban Plains | Oct. 26, 2019 | [link](#)
- "Ingrained"* | Urban Plains | Nov. 8, 2019 | [link](#)
- "Corn Harvest: A Photo Essay"* | Urban Plains | Nov. 15, 2019 | [link](#)
- "A Century Farm"* | Urban Plains | Nov. 15, 2019 | [link](#)
- "Sacred Corn is Born"* | Urban Plains | Dec. 6, 2019 | [link](#)
- "The Cornbelt Expands Northwest"* | Urban Plains | Dec. 6, 2019 | [link](#)
- "Some Can Control When They Get Goosebumps, And Scientists Are Stumped"* | Mental Floss | April 6, 2020 | [link](#)
- Drake University's preparations to offer two-year degrees draw praise, 'raise some eyebrows'"* | The Des Moines Register | Oct. 24, 2020 | [link](#)

## Film/Video

- "Drake Club Tennis"* | JMC 063 | Feb. 26, 2019 | [link](#)
- "Drake University's NMR Spectrometer"* | JMC 063 | March 6, 2019 | [link](#)
- "Chemistry to Cross Country: Roger That"* | Drake Broadcasting System | April 11, 2019 | [link](#)
- "The Harvey-Ingham Bombing"* | JMC 063 | May 6, 2019 | [link](#)
- "Corn Harvest: A Photo Essay"* | Urban Plains | Nov. 15, 2019 | [link](#)
- "A Century Farm"* | Urban Plains | Nov. 15, 2019 | [link](#)
- "Roots to STEM: Black Women in Scientific Fields"* | Self-published | Jan. 25, 2020 | [link](#)

## In the Media

- "Magneto-Ionization Spacecraft Shield for Interplanetary Travel"* | Iowa Space Grant Consortium | Feb. 6, 2019 | [link](#)
- "College Students Hatch Nuclear-Powered Magnetic Plan to Protect Marsonauts from Solar Radiation"* | The Gazette | April 16, 2019 | [link](#)
- "Student journalism work advances to national SPJ contest"* | Drake Newsroom | April 16, 2019 | [link](#)
- "Drake students receive prestigious Goldwater Foundation Scholarship"* | Drake Newsroom | May 7, 2019 | [link](#)
- "Drake SJMC honors top scholars, award and scholarship winners"* | Drake Newsroom | April 17, 2020 | [link](#)
- "Drake work recognized in national student magazine contest"* | Drake Newsroom | Sept. 4, 2020 | [link](#)



## Featured Photography

- "Taste of Des Moines means big return for area restaurants"* | Times-Delphic | Sept. 21, 2016 | [link](#)
- "Lay-in' starts conversation about sexual assault"* | Times-Delphic | Sept. 28, 2016 | [link](#)
- "Mid-October best time for flu shots, according to health center"* | Oct. 5, 2016 | [link](#)
- "Drake Students Officially have a new way to get around campus"* | Oct. 12, 2016 | [link](#)
- "Tradition, romance live on at Kissing Rock event"* | Oct. 12, 2016 | [link](#)
- "A glimpse into the prescription drug abuse epidemic"* | Oct. 26, 2016 | [link](#)
- "Learning the lessons of locked doors"* | Oct. 26, 2016 | [link](#)
- "Closeted Issues Week introduces students to prison concerns"* | Nov. 9, 2016 | [link](#)
- "Focus group suggests renovations to Cowles Library"* | Nov. 9, 2016 | [link](#)
- "Drake goes from blue to green for the environment"* | Nov. 16, 2016 | [link](#)
- "Transgender speaker addresses election results"* | Times-Delphic | Nov. 16, 2016 | [link](#)
- "Crews prepare STEM buildings for winter work"* | Dec. 7, 2016 | [link](#)
- "Holiday spending causes slump for area restaurants, servers"* | Feb. 8, 2017 | [link](#)
- "President's travel ban prompts university response"* | Times-Delphic | Feb. 8, 2017 | [link](#)
- "Bystander Prevention Week helps students respond to hate crimes"* | Feb. 15, 2017 | [link](#)
- "O'Malley talks voting rights, denounces proposed voter ID law"* | March 8, 2017 | [link](#)
- "Chinese night gives insight"* | March 8, 2017 | [link](#)
- "Renowned poets deliver 38<sup>th</sup> Bucksbaum Lecture"* | March 29, 2017 | [link](#)
- "Half million-dollar machine enables research on atomic level"* | March 29, 2017 | [link](#)
- "CNN commentators debate morality of civil disobedience"* | Times-Delphic | May 4, 2017 | [link](#)
- "Drake Community Press launches book celebrating diversity"* | Times-Delphic | Sept. 3, 2017 | [link](#)
- "Opinion: Communication is just as fluid as it is fascinating"* | Times-Delphic | Sept. 9, 2017 | [link](#)
- "Students discuss their lives under Trump Presidency"* | Times-Delphic | Nov. 7, 2017 | [link](#)
- "Bucksbaum Lecture to feature history as main focus"* | Times-Delphic | Nov. 8, 2017 | [link](#)
- "Students conflicted for influenza shot in harsh season"* | Times-Delphic | Feb. 14, 2018 | [link](#)
- "Pantries offer food assistance around Drake university campus"* | Times-Delphic | March 21, 2018 | [link](#)
- "Lecturer to give thought provoking speech"* | Times-Delphic | April 23, 2018 | [link](#)
- "Fire alarms wake GK residents for the second time this week"* | Times-Delphic | Sept. 14, 2018 | [link](#)
- "Early-morning burglary leaves students questioning"* | Times-Delphic | Nov. 7, 2018 | [link](#)
- "Drake paints it black"* | Times-Delphic | Nov. 13, 2018 | [print](#) or [online](#)
- "Why 3,500 rallied behind Drake students and faculty of color"* | Times-Delphic | Nov. 17, 2018 | [link](#)
- "Kamala Harris kicks off her presidential campaign at Drake University"* | Times-Delphic | Jan. 29, 2019 | [link](#)
- "Presidential hopeful is subject of town hall"* | Times-Delphic | Jan. 31, 2019 | [link](#)
- "Opinion: Thoughts of Kamala Harris at Drake"* | Times-Delphic | Feb. 9, 2019 | [link](#)
- "Barrels: The Souls of Spirits"* | Urban Plains | Oct. 26, 2019 | [link](#)
- "Ingrained"* | Urban Plains | Nov. 8, 2019 | [link](#)
- "Corn Harvest: A Photo Essay"* | Urban Plains | Nov. 15, 2019 | [link](#)
- "A Century Farm"* | Urban Plains | Nov. 15, 2019 | [link](#)
- "A Tell-All on Ethanol"* | Urban Plains | Nov. 25, 2019 | [link](#)
- "Sacred Corn is Born"* | Urban Plains | Dec. 6, 2019 | [link](#)
- "The Cornbelt Expands Northwest"* | Urban Plains | Dec. 6, 2019 | [link](#)
- "It's All in the Genes"* | Urban Plains | Dec. 6, 2019 | [link](#)

More photos,  
more writing, at  
my blog

hereby the maverick