Jonas A. Kersulis

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# Education

## PhD Candidate *Enrolled Fall 2013*

University of Michigan Electrical Engineering: Systems

* Advisor: Dr. Ian Hiskens
* Currently on funding from Department of Energy

Grid Science Initiative via Los Alamos National Lab

## Bachelor of Science in Electrical Engineering *Graduated May 2013*

University of Missouri—St. Louis and Washington University in St. Louis Joint Engineering Program

* GPA: 4.0
* Pierre Laclede Honors College Certificate

# Awards and Honors

## First Place Poster in Power and Energy *2014*

University of Michigan

Engineering Graduate Symposium

## Academic Fellowship *2013-2014*

University of Michigan

## Chancellor’s Scholarship *2009-2013*

University of Missouri-St. Louis

## Boeing Engineering Scholarship *2012-2013*

Boeing Corporation

## Citizens for Engineering Scholarship *2010-2011*

Citizens for Engineering

## Engineering Alumni Scholarship *2010-2011*

Engineering Alumni Association

# Presentations and Publications

## IEEE PowerTech Eindhoven 2015 *6/29/2015*

Temperature-based Instanton Analysis:

Identifying Vulnerability in Transmission Networks

* Format: Conference paper
* Co-authors include Dr. Ian Hiskens of Michigan and Dr. Michael Chertkov of LANL

## Grid Science Winter School *1/12/2015*

Introduction to Julia and IJulia:

Optimization tools and a platform for numerical experiments

* Format: Interactive computing session
* Collaboration with Miles Lubin of MIT and Yury Dvorkin of Univ. of Washington

## Grid Science Winter School Poster Session *1/11-14/2015*

Approximate Current Instanton Analysis:

Detecting Vulnerability in the Power Grid

* Format: Poster presentation

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## University of Michigan Engineering Graduate Symposium *11/14/2014*

Approximate Current Instanton Analysis:

Detecting Vulnerability in the Power Grid

* Format: Poster presentation

## Los Alamos National Lab Grid Science Student Seminar *7/31/2014*

Instanton Analysis with Non-flat Voltage Profiles

and Current Magnitude Constraints

* Format: Talk
* Host: Dr. Michael Chertkov

## UM—St. Louis Undergraduate Research Symposium (URS) *4/29/2011*

New York City Blackout of 1977: Life in the Dark

* Format: Poster presentation
* Advisor: Dr. Robert Wilson

# Skills

Various languages

* MATLAB: general technical computation, visualization
* Julia: language structure, general technical computing, registered package author
* Python: technical computing with NumPy and SciPy, Matplotlib visualization, IPython notebook workflow
* AMPL: formulation of optimization problems, format of output
* Visual Basic for Applications: automated generation of charts, graphical dashboards, interactive checklists
* HTML: basic document structure

Data analysis and presentation

* Analysis, interpretation, and visual and tabular presentation of large datasets
* Focus on data-ink maximization, graphical revision, and viewing architecture techniques

# Volunteer Experience

**Student Advisory Board Member** *2010-2013*

* Met once per semester with Dean Joseph O’Sullivan and Dean Bernard Feldman of the Engineering program, along with Faculty, Program Coordinators, and two fellow students
* Provided communication channel between undergraduate student body and departmental administration
* Appraised effectiveness of the program based on student perspectives

## H.I.S. K.I.D.S. Counselor-In-Training, Counselor, Group Leader *2008-2013*

* Worked at a weeklong summer camp for children with cancer and their siblings
* Trained to be a Counselor in 2008
* As a Counselor, assisted Group Leaders in caring for children in 2009-2011
* As a Group Leader, looked after physical and emotional needs of six children in summer 2012

## Origami Booth Volunteer *2008-2012*

*Missouri Botanical Garden Japanese Festival*

* Taught origami to passersby as part of origami booth team

## Martin Luther King Day of Service Photographer *2011*

* Photographed and participated in the painting of two bathrooms at Logos School in St. Louis

## Relay for Life Participant *2011*

* Walked in American Cancer Society’s Relay for Life hosted by UMSL