

# PAUL VANKOUGHNETT

## PERSONAL DATA

---

ADDRESS: Department of Mathematics, Purdue University  
150 N. University St.  
West Lafayette, IN 47907  
PHONE: (617) 999-7209  
EMAIL: [pvankoug@purdue.edu](mailto:pvankoug@purdue.edu)  
WEBSITE: <http://www.math.purdue.edu/~pvankoug/>

## EMPLOYMENT

---

2018– Golomb Visiting Assistant Professor, Purdue University

## RESEARCH INTERESTS

---

Transchromatic stable homotopy theory  
Moduli of formal groups and  $p$ -divisible groups, and applications to homotopy theory  
Obstruction theory for highly structured ring spectra

## EDUCATION

---

JUNE 2018 Ph.D. in Mathematics, Northwestern University  
Thesis title: ‘Localizations of  $E$ -theory and transchromatic phenomena  
in stable homotopy theory’  
Advisor: Paul Goerss  
MAY 2012 B.A. with honors in Mathematics, Harvard University

## FELLOWSHIPS

---

Spring 2019 MSRI Postdoctoral Fellowship,  
semester program in Derived Algebraic Geometry  
2012–2018 Northwestern University Graduate Fellowship

## PUBLICATIONS

---

VanKoughnett, P. ‘Localizations of  $E$ -theory and transchromatic phenomena  
in stable homotopy theory.’  
PhD thesis, available online at <https://www.math.purdue.edu/~pvankoug/thesis.pdf>.  
Culver, D., and P. VanKoughnett. ‘On the  $K(1)$ -local homotopy of  $tmf \wedge tmf$ .’  
In preparation.  
Pstrągowski, P., and P. VanKoughnett. ‘Abstract Goerss-Hopkins obstruction theory.’  
In preparation.

## TALKS

---

OCTOBER 2018	‘A chromatic approach to $tmf$ cooperations’, IU-Purdue-IUPUI Joint Topology Seminar
OCTOBER 2018	‘A chromatic approach to $tmf$ cooperations’, University of Minnesota Topology Seminar
MARCH 2018	‘Localizations of $E$ -theory’, Homotopy Theory Special Session, AMS Sectional Meeting, Ohio State
FEBRUARY 2018	‘Notes on the margins of $E$ -theory’, University of Kentucky Topology Seminar
FEBRUARY 2018	‘Notes on the margins of $E$ -theory’, Notre Dame Topology Seminar
NOVEMBER 2017	‘Notes on the margins of $E$ -theory’, UIUC Topology Seminar
OCTOBER 2017	‘Notes on the margins of $E$ -theory’, University of Chicago Topology Seminar
OCTOBER 2017	‘Notes on the margins of $E$ -theory’, Rochester Topology Seminar
OCTOBER 2017	‘Notes on the margins of $E$ -theory’, Johns Hopkins Topology Seminar
JUNE 2017	‘Dieudonné theory and transchromatic homotopy theory’, Transatlantic Transchromatic Homotopy Theory Conference, Universität Regensburg
MAY 2017	‘Goerss-Hopkins obstruction theory’, MIT Talbot Workshop
AUGUST 2016	‘The Gross-Hopkins period map’, West Coast Algebraic Topology Summer School, University of Oregon
SEPTEMBER 2014	‘ $TMF$ for number theorists,’ Number Theory Day, Northwestern University
MARCH 2014	‘Étale classifying spaces and representability of algebraic $K$ -theory,’ MIT Talbot Workshop
SEPTEMBER 2013	‘What is a stable model category? What is a spectral category? The Eilenberg-Watts Theorem,’ West Coast Algebraic Topology Summer School, University of Oregon

## SELECTED CONFERENCES ATTENDED

---

JULY 2017	Homotopy Theory: Tools & Applications, University of Illinois at Urbana-Champaign
JUNE 2017	Transatlantic Transchromatic Homotopy Theory Conference, Universität Regensburg
MAY 2017	MIT Talbot Workshop on Obstruction Theory for Structured Ring Spectra
APRIL 2017	Conference on Invertible Objects and Duality in Derived Algebraic Geometry, Universität Regensburg
MARCH 2017	Arizona Winter School on Perfectoid Spaces, University of Arizona
AUGUST 2016	Alpine Algebraic & Applied Topology Conference
AUGUST 2016	West Coast Algebraic Topology Summer School, University of Oregon
MAY 2016	Workshop on Operations in Highly Structured Homology Theories, Banff International Research Station
MARCH 2016	Mid-Atlantic Topology Conference, Johns Hopkins University
MAY–AUGUST 2015	Trimester program on Homotopy Theory, Manifolds, and Field Theories, HIM, Bonn
APRIL 2015	Mid-Atlantic Topology Conference, University of Virginia
MARCH 2014	MIT Talbot Workshop on Motivic Homotopy Theory
SEPTEMBER 2013	West Coast Algebraic Topology Summer School, University of Oregon
APRIL 2013	MIT Talbot Workshop on Chromatic Homotopy Theory
MARCH 2013	Workshop on Equivariant, Chromatic, and Motivic Homotopy Theory, Northwestern University

## TEACHING EXPERIENCE

---

<i>Current</i>	<i>Golomb Visiting Assistant Professor, Purdue University</i>
SEPTEMBER–DECEMBER 2018	Math 266, Ordinary Differential Equations Math 490, independent study on Simplicial Homotopy Theory
2012–2017	<i>Teaching Assistant, Northwestern University</i>
AUGUST 2017	Northwestern Bridge Program
MARCH–JUNE 2017	Math 336, Introduction to the Theory of Numbers Math 368, Introduction to Optimization
MARCH–JUNE 2016	Math 290, MENU Linear Algebra and Multivariable Calculus Math 300, Foundations of Higher Mathematics
DECEMBER–MARCH 2016	Math 230, Differential Calculus of Multivariable Functions
SEPTEMBER–DECEMBER 2015	Math 290, MENU Linear Algebra and Multivariable Calculus
DECEMBER–MARCH 2015	Math 281, ISP Differential Equations Math 202, Finite Mathematics
SEPTEMBER–DECEMBER 2014	Math 281, ISP Multivariable Calculus
MARCH–JUNE 2014	Math 224, Integral Calculus of One Variable
SEPTEMBER–DECEMBER 2014	Math 290, MENU Linear Algebra and Multivariable Calculus
<i>Spring 2011–Spring 2012</i>	<i>Teaching Assistant, Harvard University</i>
JANUARY–MAY 2012	Math 132, Topology II: Smooth Manifolds
AUGUST–DECEMBER 2011	Math 131, Topology I
JANUARY–MAY 2011	Math 132, Topology II: Smooth Manifolds

## ORGANIZATION

---

MARCH 2018	Co-organizer, Midwest Topology Seminar
FEBRUARY 2016	Co-organizer, Midwest Topology Seminar