Program of Activities

for the 2017 Spring Meeting of the

Mathematical Association of America

Ohio Section

Spring, 2017

Sinclair Community College

Dayton, Ohio

March 31-April 1, 2017

MAA Ohio Section
Spring 2017 Program

Friday, March 31

12:00-4:00	Registration	Building 4 Lobby
12:00-1:20	Leo Schneider Student Team Competition	Building 7, Room 006
12:00-1:00	Committee Meetings:	
	CONCUR (Curriculum)	Building 1, Room 221
	CONSACT (Section Activities)	Building 2, Room 334
	CONTEAL (Teacher Education & Licensure)	Building 1 Room 346A
1:00-4:00	Vendor & Book Exhibits	Building 4 Lobby
1:30-1:45	Welcome and Announcements	Building 4, Room 011
1:45-2:45	Invited Address: **"Brain Tales"** Marepalli "MB" Rao	Building 4, Room 011
2:45-3:00	Break	Building 4 Lobby
3:00-4:00	Invited Address: **"Solving Problems: MAA American Mathematics Competitions and Evolving Views of Mathematics Education"** J. Michael Pearson	Building 4 Room 011
4:10-5:50	Executive Committee Meeting	Building 2, Room 334
4:15-5:50	Contributed Paper Sessions	Building 4, Rooms 211, 225, 232, 233
5:50-6:30	Social Time	Building 20 Lobby
6:30-7:30	Student Pizza Party	Building 20, Room 121
6:30-7:30	Banquet	Building 20 Second Floor Atrium
7:30-8:30	Invited Address: **"Twin Primes and their Kin"** Lauren "Lola" Thompson	Building 20 Lobby
8:30	Business Meeting and Presentation of Teaching Award	Building 20 Lobby

MAA Ohio Section
Spring 2017 Program

Saturday, April 1

8:00-10:00	Registration	Building 4 Lobby
8:00-10:00	Book Vendors and Exhibits	Building 4 Lobby
8:00-8:50	Coffee and Pastries	Building 4 Lobby
8:15-8:50	Committee On Local Arrangements	Building 4 Room 242
8:15-8:50	Executive Committee Meeting (if needed)	Building 4 Room 233
9:00-9:10	Welcome and Announcements; Student Competition Results	Building 4 Room 011
9:10-10:10	Invited Address: **"Some Entertaining Problems and Puzzles from Probability and Statistics"** Marepalli "MB" Rao	Building 4 Room 011
10:10-10:30	Break	Building 4 Lobby
10:30-11:45	Contributed Paper Session	Building 4, Rooms 211, 225, 232, 233
11:45-12:00	Break	Building 4 Lobby
12:00-1:00	Invited Address: **"Bounded Gaps Between Primes"** Lauren "Lola" Thompson	Building 4 Room 011
1:00-1:10	Closing Remarks	Building 4 Room 011

Abstracts of Invited Addresses

Friday

Brain Tales

Marepalli "MB" Rao
University of Cincinnati

Abstract: We are a very young species. Yet, we are so dominant on this earth. In this presentation, we muse and speculate on this. We present a number of data sets to either buttress an argument or debunk it.

Solving Problems: MAA American Mathematics Competitions and Evolving Views of Mathematics Education

J. Michael Pearson
Executive Director of the MAA
Washington DC

Abstract: Through its years as the American High School Mathematics Examination and now as the AMC, MAA competitions programs illustrate the evolving views of what constitutes effective mathematical problem solving, as well as identifying and cultivating mathematical talent. We'll take a leisurely tour through more than a half-century of the Association's efforts to advance mathematics through competitions.

Abstracts of Invited Addresses

Friday

Twin Primes and their Kin

Lauren "Lola" Thompson
Oberlin College

Abstract: The question of whether there are infinitely many pairs of twin primes has puzzled mathematicians for hundreds (if not thousands) of years. Until recently, it was not even known whether there are infinitely many pairs of primes that differ by a finite number. In 2013, Yitang Zhang stunned the mathematics community by proving that there are infinitely many pairs of primes that differ by at most 70,000,000. While 70,000,000 is still quite far from 2, Zhang's work has inspired a flurry of activity on this problem, giving reason to hope that a resolution to the Twin Primes Conjecture is within reach. In this talk, I will discuss the current state-of-affairs of the Twin Primes Conjecture, and I will mention some of my own work on related problems. This talk will be accessible to undergraduate students.

Abstracts of Invited Addresses

Saturday

Some Entertaining Problems and Puzzles from Probability and Statistics

Marepalli "MB" Rao
University of Cincinnati

Abstract: During my long career in academia, I have collected and devised a number of entertaining problems from Probability and Statistics. I want to share some of these with you.

Abstracts of Invited Addresses

Saturday

Bounded Gaps Between Primes

Lauren "Lola" Thompson
Oberlin College

Abstract: We will give a broad explanation of the proofs that there are bounded gaps between primes, highlighting the differences in the approaches taken by Yitang Zhang versus James Maynard and Terence Tao. We will discuss how Maynard and Tao's approach, in particular, can be adapted to answer some questions about sequences of consecutive primes that were of interest to Paul Erdős. This talk is based on joint work with Paul Pollack.

Brief Biographies of Invited Speakers

Marepalli "MB" Rao, University of Cincinnati

M B Rao is a Professor and Program Director at the University of Cincinnati. He works in the Division of Biostatistics and Bioinformatics in the College of Medicine, and the Department of Biomedical Engineering in the College of Engineering. He received his Ph.D. in Statistics at the Indian Statistical Institute in 1973. He was an Assistant Professor at the University of Sheffield in the United Kingdom starting in 1972, a Visiting Professor at the University of Pittsburgh starting in 1983, a Professor at North Dakota State University starting in 1987, and has been at the University of Cincinnati since 2004. M B is a Fellow of the Institute of Mathematical Statistics, the American Statistical Association, the American Association for the Advancement of Science, and the International Statistical Institute. He was also President of the MAA North Central Section for one year.

M B has published approximately 300 papers in a range of areas including measure theory, topology, matrix algebra, functional analysis, probability, limit theorems, multivariate analysis, time series, linear models, survival analysis, and big data. He is also the joint author of two books: "Theory of Charges (Finitely Additive Measures)" from 1983, and "Matrix Algebra and Its Applications" from 1999, as well as the joint editor of "Computational Statistics with R" from 2015. He has guided approximately 30 Ph.D. students and 40 M.S. students.

J. Michael Pearson, MAA Executive Director, Washington DC

Michael Pearson received a bachelor's degree from the University of Mississippi in 1980, a master's degree from Mississippi State University in 1982 and a Ph.D. (Harmonic Analysis) from The University of Texas at Austin in 1989. Prior to joining the MAA (in 2002), he served on the faculty at Florida International University (1989-1992) and Mississippi State University (1992-2002).

As Executive Director, Michael provides leadership to further the mission of the MAA to advance the mathematical sciences. As a long-time member of the MAA, he is delighted to have the opportunity to work closely with colleagues who share the sense of community and common purpose that he sees as the fundamental strength of the Association.

Lauren "Lola" Thompson, Oberlin College

Lola Thompson is an Assistant Professor of Mathematics at Oberlin College. She received a B.S. in mathematics and a B.A. in economics from the University of Chicago in 2007. Lola went on to earn her Ph.D. from Dartmouth College in 2012 under the direction of Carl Pomerance. She subsequently spent one year as a VIGRE postdoctoral fellow at the University of Georgia. Lola is a national Project NExT fellow (Brown '13 dot) and has participated in the Ohio Section NExT workshops. She is spending the 2016-2017 academic year as a visiting researcher at the Max Planck Institute for Mathematics in Bonn and at the Mathematical Sciences Research Institute in Berkeley.

Lola's research interests lie in number theory, particularly in problems with an elementary, analytic, or combinatorial flavor. She first fell in love with number theory (and the state of Ohio) when she was a student in the Ross Mathematics Program at The Ohio State University.

Contributed Paper Sessions

*denotes undergraduate student
**denotes graduate student

Friday, March 31
4:15—5:50

Time	Session A	Session B
	4-211	4-225
	Session Chair: William Fuller	Session Chair: Adam E. Parker
4:15–4:30	***Penney's Game from Multiple Perspectives*** Abstract 1 Aaron M. Montgomery Baldwin Wallace University	***Three Dimensional Surface Reconstruction*** Abstract 2 Anup R. Lamichhane Ohio Northern University
4:35–4:50	***A Countable Markov Chain with a Nontrivial but Elegant Stationary Distribution*** Abstract 5 Harrison D. Potter Marietta College	***On Sentiment Analysis*** Abstract 6 Michael Woode * Ashland University
4:55–5:10	***A Direct Construction of Non-Transitive Dice*** Abstract 9 Matt Davis Muskingum University	***Statistics of Happiness*** Abstract 10 Naira Chovelidze ** Cleveland State University
5:15–5:30	***A Mathematical Model for the Epidemiology of Yellow Fever*** Abstract 13 Mary Moesta * Xavier University	***Major League Bayes-Ball*** Abstract 14 Alan Jankowski * Baldwin Wallace University
5:35–5:50	***The Black-Scholes Formula for Option Pricing*** Abstract 17 Jingyuan Chen * The University of Findlay	***Modeling March Madness*** Abstract 18 Matt Menzel Marietta College

Contributed Paper Sessions

*denotes undergraduate student
**denotes graduate student

Friday, March 31
4:15—5:50

Time	Session C 4-232 Session Chair: Alfred Akinsete	Session D 4-233 Session Chair: Eric P. Kraus
4:15– 4:30	***Teaching Inquiry-Oriented Abstract Algebra*** Abstract 3 Leah H. Gold Cleveland State University	***Understanding the Variation in Student Enrollment*** Abstract 4 Laural Ivary * Cleveland State University
4:35– 4:50	***Are Remedial Students Fairing as Well as Non-Remedial Students?*** Abstract 7 Brad Stricklen * Cleveland State University	***Political Opinion and Social Media: A Mathematical Model*** Abstract 8 Kaitlin Bruegge * Xavier University
4:55– 5:10	***My Design Philosophy*** Abstract 11 Kelly Bubp Ohio University - Athens	***The Navier-Stokes and Atmospheric Turbulence*** Abstract 12 Michael S. Bowen * Marietta College
5:15– 5:30	***Use of Technology in Teaching Introductory Statistics*** Abstract 15 Mitra Lal Devkota Shawnee State University	***Using Gröbner Bases to Solve Shidoku Puzzles*** Abstract 16 Galina Lozitsky * Cleveland State University
5:35– 5:50	***Project-Based Liberal Arts Mathematics Course*** Abstract 19 James FitzSimmons Wilmington College	

Contributed Paper Sessions

*denotes undergraduate student
**denotes graduate student

Saturday, April 1
10:30—11:45

Time	Session A 4-211 Session Chair: Janet Thompson	Session B 4-225 Session Chair: Carol Schumacher
10:30–10:45	***Let Your Computer Do the Shopping: Machine Learning Through Bayesian Reasoning*** Abstract 20 Matina Matic * The University of Findlay	***Exploiting Symmetry in Developing Patterns for Illusion Knitting*** Abstract 21 David W. Hahn Malone University
10:50–11:05	***A Collective-Individual Time Inequality for Completing a Job*** Abstract 23 Aurel I. Stan Ohio State University – Marion	***Three-Colorable Graphs and Groebner Bases*** Abstract 24 Anthony M Sulak * Cleveland State University
11:10–11:25	***Random Walk on a Triangular Lattice*** Abstract 26 Barbara Margolius Cleveland State University	***What Does a Common Year Look Like?*** Abstract 27 Doug Titchenal Ohio State University-Columbus
11:30–11:45	***The Cutest and Fuzziest Computer Program, Or: How I Learned to Stop Worrying and Love Lambda Calculus*** Abstract 28 Alexander Grabanski * Case Western Reserve University	***The Dishonest Salesperson Problem*** Abstract 29 Grace Ann McCourt * Ashland University

Contributed Paper Sessions

*denotes undergraduate student
**denotes graduate student

Saturday, April 1
10:30—11:45

Time	Session C 4-233 Session Chair: Barbara D'Ambrosia
10:30–10:45	***Computation with Roman Numerals*** Abstract 22 Bethany Hruschak ** Cleveland State University
10:50–11:05	***Lebesgue's Measure of Magnitudes*** Abstract 25 Phil Blau Shawnee State University
11:10–11:25	
11:30–11:45	

Abstracts of Contributed Papers

Friday 4:15-4:30

Penney's Game from Multiple Perspectives

Aaron M. Montgomery
Baldwin Wallace University

Abstract 1: Penney's Game is an example of a non-transitive game popularized by Martin Gardner in a Scientific American column. We will look at the probability that Player II defeats Player I and will show three different ways to compute it. We will then discuss some variations on these and related problems and how we have solved them. This talk is intended to be accessible to undergraduates. (Joint work with Robert Vallin, Lamar University.)

Three Dimensional Surface Reconstruction

Anup R. Lamichhane
Ohio Northern University

Abstract 2: Method of fundamental solutions (MFS) is a popular meshless method. In this talk, we show several results on the surface reconstruction from a data set of scattered points taken on a three dimensional surface. These surfaces are reconstructed by using MFS.

Abstracts of Contributed Papers

Friday 4:15-4:30

Teaching Inquiry-Oriented Abstract Algebra

Leah H. Gold
Cleveland State University

Abstract 3: In Fall 2016 I taught an inquiry-oriented abstract algebra class using materials from the TIMES Project. I will discuss my experience, focusing on what succeeded, what I would change, and what I learned that is applicable to other types of instruction.

Understanding the Variation in Student Enrollment

Laural Ivary
Cleveland State University

Abstract 4: We will focus the analysis on a broad understanding of enrollment for the fall 2014 semester at Cleveland State University. Is the data normal? If not, how do we combat this? Is there a difference among female and male enrollment? Is there a difference among different age groups? We will examine the variation among the total number of male versus female students enrolled throughout the university. Also, we will explore the variation across specified age groups for both male and female enrollment.

Abstracts of Contributed Papers

Friday 4:35-4:50

A Countable Markov Chain with a Nontrivial but Elegant Stationary Distribution

Harrison D. Potter
Marietta College

Abstract 5: A direct calculation involving recursion relations is a means of determining over what parameter range a countable Markov chain is positive recurrent. Many classroom examples reduce down to a single homogeneous solution. A more challenging classroom example for which 2 distinct homogeneous solutions must be retained in the general solution in order to calculate the stationary probability distribution is presented. An elegant explicit solution is obtained.

On Sentiment Analysis

Michael Woode
Ashland University

Abstract 6: Sentiment analysis is a way of computationally determining emotion in a text. Most sentiment analysis programs are limited to determining whether a text is positive, negative, or neutral. In this talk, we will discuss how our program goes beyond this by generating the psychological profile of the entered text. We also discuss the methods we used to develop our program, and how we validated our methods statistically. Finally, we will discuss some uses and applications for our program, including its uses to analyze information from Twitter.

Abstracts of Contributed Papers

Friday 4:35-4:50

Are Remedial Students Fairing as Well as Non-Remedial Students?

Brad Stricklen
Cleveland State University

Abstract 7: Remedial courses have been a matter of debate for a long time. The effectiveness of such courses are constantly called into question when looking at the scores for post-remedial courses. In my study, I analyzed the grade trends of students who entered Cleveland State under non-STEM majors from fall 2008 to spring 2016. The grades of students who took remedial courses were compared to students who were placed into 100-level courses. Three sequences of courses were analyzed, and there were significant differences in the pass rates of students from remedial, and non-remedial backgrounds, in two of the three sequences. The differences persisted throughout the sequences.

Political Opinion and Social Media: A Mathematical Model

Kaitlin Bruegge
Xavier University

Abstract 8: The coexistence of radically differing political ideologies is a hallmark of American democracy dating all the way back to the battles of Jefferson versus Hamilton. Nevertheless, the recent past, and the past year and a half especially, has seen the political climate become more and more contentious. How did we get here, to a place where a government becomes ineffectual because the participants refuse to compromise? And has the rise of social media played a role in this change? These are the questions I wanted to explore, from a mathematical perspective, with this project. Using a system of ODEs to represent a spectrum of ideologies, I examine how the political leanings of a population can change over time, as people are exposed to opinions that both affirm and oppose their own.

Abstracts of Contributed Papers

Friday 4:55-5:10

A Direct Construction of Non-Transitive Dice

Matt Davis
Muskingum University

Abstract 9: Given a set of dice labeled in a nonstandard way, we say that X > Y if the probability that X rolls a higher number than Y is greater than 1/2. It is entirely possible for this relation to be non-transitive. In this work (part of an undergraduate research project from the summer of 2016) we give a construction that lets us construct a set of dice that match an arbitrary relation. This construction is based on a well-known solution to the problem of scheduling a round-robin tournament. It also has the advantage of being a direct construction rather than inductive, and seems to be more efficient than other algorithms.

Statistics of Happiness

Naira Chovelidze
Cleveland State University

Abstract 10: In this study, we create a different view on the Global Happiness Survey Data. We create a new metric by looking at actual national statistics for about 150 countries and analyze factors that also could affect the happiness and misery rates. We outline the statistical difference between rating systems. Through this research, new factors and a predictable model that are reliable are suggested.

Abstracts of Contributed Papers

Friday 4:55-5:10

My Design Philosophy

Kelly Bubp
Ohio University - Athens

Abstract 11: I have been teaching college level mathematics courses for 15 years and studying mathematics education for 7 years. The way I teach today is drastically different from how I taught early in my career. I will discuss the fundamental ideas from mathematics education that now guide my course design: student engagement in rich mathematical tasks and collaboration – core principles of inquiry-based learning – and student engagement in exploration and justification – core principles of mathematics.

The Navier-Stokes and Atmospheric Turbulence

Michael S. Bowen
Marietta College

Abstract 12: To develop a Data-Driven Atmospheric Turbulence Model, I derive a governing differential equation of vorticity, which is founded on the Navier-Stokes equations of momentum and mass. I will incorporate the Coriolis force and use implications of incompressibility to manipulate the momentum equation for efficiency in computational solutions.

Abstracts of Contributed Papers

Friday 5:15-5:30

A Mathematical Model for the Epidemiology of Yellow Fever

Mary Moesta
Xavier University

Abstract 13: While yellow fever poses a small threat to the United States, it still takes the lives of tens of thousands in several African countries. We investigated the path of yellow fever as it moves from human to mosquito and back again using a differential equations-based SIR model. This presentation breaks down the working parts of the model and dives into both simulations and implications of the model. Conclusions based on the findings are discussed and how they apply to the current state of the yellow fever vaccine and to the vaccination rates themselves.

Major League Bayes-Ball

Alan Jankowski
Baldwin Wallace University

Abstract 14: Sports fans frequently wonder whether their favorite athletes are streaky -- that is, whether their playing ability can vary over a period of time. In particular, Major League Baseball fans may wonder whether pitchers can be on hot streaks or in slumps. In this talk, I will discuss a Bayesian statistical model used to analyze whether MLB pitchers can display streaky behavior, and if so, to what extent.

Abstracts of Contributed Papers

Friday 5:15-5:30

Use of Technology in Teaching Introductory Statistics

Mitra Lal Devkota
Shawnee State University

Abstract 15: In this talk, I will discuss the use of technology such as graphing calculators, the open source statistics software package R, and JMP in teaching undergraduate statistics.

Using Gröbner Bases to Solve Shidoku Puzzles

Galina Lozitsky
Cleveland State University

Abstract 16: The modern game of Sudoku is a number-placement puzzle that has been played since 1979 by people of all ages. We will delve into this puzzle, allowing the mathematics associated with the game to be brought to the forefront. To simplify the problem, we will restrict ourselves to Shidoku, a smaller variation of Sudoku. We can express the restrictions of Shidoku with a system of polynomial equations. We will look at these representations of the problem and utilize Gröbner bases to find a solution to any Shidoku puzzle.

Abstracts of Contributed Papers

Friday 5:35-5:50

The Black-Scholes Formula for Option Pricing

Jingyuan Chen
The University of Findlay

Abstract 17: A stock option is an agreement between two parties wherein one party, the holder, purchases from the other party, the writer, the right to buy (or sell) from the writer, a specific stock, at a specific price, at a specific point in time. Options expose the writer to considerable risk, as large movements in the price of the underlying stock may translate into large losses incurred by the writer. In 1973, Fischer Black and Myron Scholes unveiled their now famous Black-Scholes formula which gives the theoretical fair value of a European call option. In this talk we will discuss this formula, the probabilistic model of stock prices from which it is derived, and the various parameters upon which it depends.

Modeling March Madness

Matt Menzel
Marietta College

Abstract 18: Every March, the NCAA Division I Men's Basketball Tournament prompts sports enthusiasts and casual fans alike to try their hand at predicting tournament outcomes. Office pools and internet competitions have existed for decades, and in 2014 Warren Buffet upped the ante with his Billion Dollar Challenge, wherein he offered a prize of $1 billion for anyone who could correctly pick each of the final 63 game winners in the tournament. While the question of how likely one is to pick a perfect bracket may seem simple, determining an "answer" depends upon what assumptions one makes. In this talk, we'll consider an approach that builds a probability table based upon seed matchups and six "reasonable" rules.

Abstracts of Contributed Papers

Friday 5:35-5:50

Project-Based Liberal Arts Mathematics Course

James FitzSimmons
Wilmington College

Abstract 19: I have experimented with changing the classroom methods of our liberal arts mathematics course. Previously, this course was taught in a similar method to most math courses involving lectures, quizzes, exams, and writing assignments. I tried changing this to a project-based course. This talk will describe the new course methods and my reactions and student reactions. I'd also like to hear from others who have tried similar things with their liberal arts type math courses.

Abstracts of Contributed Papers

Saturday 10:30-10:45

Let Your Computer Do the Shopping: Machine Learning Through Bayesian Reasoning

Matina Matic
The University of Findlay

Abstract 20: Using concepts from machine learning and mathematics, a website was designed to collect data and an algorithm was written to learn users' preferences in regards to fashion.

Exploiting Symmetry in Developing Patterns for Illusion Knitting

David W. Hahn
Malone University

Abstract 21: Illusion knitting is the production of knitwear which, when viewed straight on, appears as a series of stripes, but when viewed askew, appears as an image. A knitted scarf is knitwear which can be thought of as a ribbon. This talk will explore how various ribbon patterns may be illusion knit. In particular, we will see how to exploit the symmetry of a given pattern in determining the knitting pattern needed to knit it. Examples of larger illusion knit projects will also be displayed.

Computation with Roman Numerals

Bethany Hruschak
Cleveland State University

Abstract 22: This talk will present research in the history of numeration systems with a focus on Roman numerals and computation with Roman numerals. Multiple methods of computation will be discussed along with the advantages and disadvantages of each method.

Abstracts of Contributed Papers

Saturday 10:50-11:05

A Collective-Individual Time Inequality for Completing a Job

Aurel I. Stan
Ohio State University – Marion

Abstract 23: The inequality between the arithmetic and harmonic means can be interpreted as the fact that the time necessary for n workers, each working at a constant speed, to complete a job working together, is less than or equal to $1/n^2$ of the sum of the individual times needed by each worker laboring alone to complete that job. We extend this result to the case in which we have n workers, becoming tired continuously in time. Finally, we extend this result to the case in which we have n workers, becoming tired continuously in time.

Three-Colorable Graphs and Groebner Bases

Anthony M Sulak
Cleveland State University

Abstract 24: Groebner bases are a computational tool that have been growing in popularity since Buchberger introduced his algorithm to compute Groebner bases. We will use Macaulay2 to compute Groebner bases. We will use those Groebner bases to find out whether a graph is 3-colorable or not and to find out how to color the graph if it is.

Lebesgue's Measure of Magnitudes

Phil Blau
Shawnee State University

Abstract 25: While more well known for his role in the development of the integral, Henri Lebesgue also investigated the abstract concept of magnitudes. He published "La Mesure des Grandeurs" (The Measure of Magnitudes) serially between 1931 and 1935 in the journal L'enseignement des mathématiques (The Teaching of Mathematics). We will provide a brief overview of several chapters of this work.

Abstracts of Contributed Papers

Saturday 11:10-11:25

Random Walk on a Triangular Lattice

Barbara Margolius
Cleveland State University

Abstract 26: This talk is a partial answer to a question posed by Aurel Stan at the Fall Section meeting: What happens when you consider a random walk in the directions of the third roots of unity? In this talk we consider a random walk on a triangular lattice. Transition rates vary as a function of time. We study the behavior of the walk when it is unbounded and when it is bounded in the first quadrant.

What Does a Common Year Look Like?

Doug Titchenal
Ohio State University- Columbus

Abstract 27: The number 365 has several elegant geometric and arithmetic properties. It is the sum of two consecutive numerical squares and the third leg of a Pythagorean triple. In this presentation, the artist will tell the story of the WOW Calendar, from its birth on graph paper to its many interpretations. This mathematically inspired, artistically imagined one year calendar will be displayed in a variety of media, including textiles, digitally interpreted photographs, and Lego blocks.

Abstracts of Contributed Papers

Saturday 11:30-11:45

The Cutest and Fuzziest Computer Program, or: How I Learned to Stop Worrying and Love Lambda Calculus

Alexander Grabanski
Case Western Reserve University

Abstract 28: Cute: Short. Fuzzy: Evaluates several programs at once. Imagine that you were tasked with making an apple pie from scratch. Per Sagan, this means you must first invent the universe. As an underpaid computer programmer, how would you do it? I will present a solution to this problem by incrementally constructing an interpreter for the Turing tar-pit P'' in LC, and extend it to a (short!) universal term which evaluates all P'' programs.

The Dishonest Salesperson Problem

Grace Ann McCourt
Ashland University

Abstract 29: A salesperson's office is located on a vertex v of a connected, unweighted graph G with n vertices, of which n-1 are customers. The salesperson leaves the office, visits each customer exactly once and returns to the office. Because a profit is made on mileage allowance, the salesperson wants to maximize the distance traveled. What is that maximum distance, and how many different such trips are there? I will present the results for the hypercube.

Save these Dates!

MathFest
Chicago, IL
July 26 – 29, 2017

2017 Fall Ohio Section MAA Meeting
Ohio University-Eastern
October 27 – 28, 2017