UNION COLLEGE MATHEMATICS CONFERENCE

———————————————

Plenary Talks (Olin 115)

Saturday 11:00–12:00 Christina Sormani: *Converging spaces and their ADM mass*

Saturday 4:30–5:30 Ravi Ramakrishna: *What is a Galois representation?*

Sunday 11:00–12:00 Vin de Silva: *Persistence, categories and Reeb cosheaves*

———————————————

Saturday Algebraic Topology Program

Session I (Bailey 201)

9:00–9:25 Marco Varisco: *Topological cyclic homology of group algebras of finite groups*

9:30–9:55 Aliaksandra Yarosh: *Twisted Morava K-theory*

10:00–10:25 Juan Villeta-Garcia: *Stabilizing spectral functors of exact categories*

Coffee Break and Plenary Talk (Olin Rotunda)

Session II (Bailey 201)

2:00–2:25 Alyson Bittner: *Spaces with complexity one*

2:30–2:55 Amelia Tebbe: *Computing polynomial approximations of atomic functors*

3:00–3:25 John Harper: *Iterated suspension spaces and an integral analog of Quillen's rational homotopy theorem*

3:30–3:55 David Allen: *Applications of homotopy theory to toric topology*

Coffee Break and Plenary Talk (Olin Rotunda)

Sunday Algebraic Topology Program

Session III (Bailey 201)

8:30–9:25 Angelica Osorno: *2-Segal spaces and the Waldhausen construction*

9:30–9:55 Ben Knudsen: *Betti numbers of configuration spaces of surfaces*

10:00–10:25 Christina Osborne: *The first step towards higher order chain rules for abelian calculus*

Coffee Break and Plenary Talk (Olin Rotunda)

Session IV (Bailey 201)

1:45–2:10 Rick Blute: *Affine structures in tangent categories*

2:15–2:40 Kristine Bauer: *Abelian functor calculus and a higher order chain rule*

2:45–3:10 Keith O'Neill: *Smoothness in codifferential categories*

3:15–3:40 Robin Cockett: *Secant theories*

———————————————

Saturday Category Theory Program

Session I (Bailey 207)

    9:00–9:25 Pieter Hofstra: *Partial lambda calculus revisited*

    9:30–9:55 JS Lemay: *Introduction to tensor integral categories*

    10:00–10:25 Dorette Pronk: *Homs in bicategories of fractions as pseudo colimits*

Coffee Break and Plenary Talk (Olin Rotunda)

Session II (Bailey 207)

    2:00–2:25 Richard Wood: *Totally distributive categories*

    2:30–2:55 Michael Lambert: *Representation embeddings of algebraic theories*

    3:00–3:25 Nelson Martins Ferreira: *Duality between algebra and geometry*

    3:30–3:55 Ernie Manes: *Tight categories*

Coffee Break and Plenary Talk (Olin Rotunda)

Sunday Category Theory Program

Session III (Bailey 207)

    8:30–9:25 Angelica Osorno: *2-Segal spaces and the Waldhausen construction*

    9:30–9:55 Darien Dewolf: *Restriction monads and algebras*

    10:00–10:25 Evangelia Aleiferi: *Cartesian double categories*

Coffee Break and Plenary Talk (Olin Rotunda)

Session IVa (Bailey 207)

    1:45–2:10 Jeffrey Morton: *Transformation structures for 2-group actions*

    2:15–2:40 Lucius Schoenbaum: *A generalization of the Curry-Howard correspondence*

    2:45–3:10 Jonathon Funk: *Commutative objects in a topos*

    3:15–3:40 Jonas Frey: *Realizability toposes as homotopy categorie*

Session IVb (Bailey 201)

    1:45–2:10 Rick Blute: *Affine structures in tangent categories*

    2:15–2:40 Kristine Bauer: *Abelian functor calculus and a higher order chain rule*

    2:45–3:10 Keith O'Neill: *Smoothness in codifferential categories*

    3:15–3:40 Robin Cockett: *Secant theories*

———————————————

Saturday Applied Topology Program

Session I (Bailey 312)

9:00–9:25 Elizabeth Munch: *The interleaving distance for posets*

9:30–9:55 Michael Lesnick: *Universality of the homotopy interleaving distance*

10:00–10:25 Justin Curry: *Realization problems in persistence*

Coffee Break and Plenary Talk (Olin Rotunda)

Session II (Bailey 312)

2:00–2:25 Donald Sheehy: *Persistent nerves revisited*

2:30–2:55 Boris Goldfarb: *Singular persistent homology and its applications*

3:00–3:25 Ann Sizemore: *Closures and cavities in the human connectome*

3:30–3:55 David Damiano: *A topological qnalysis of SPECT images of murine tumors*

Coffee Break and Plenary Talk (Olin Rotunda)

Sunday Applied Topology Program

Session III (Bailey 312)

8:30–8:55 Sara Kalisnik Verovsek: *Tropical coordinates on the space of persistence Barcodes*

9:00–9:25 Rachel Levanger: *A comparison framework for interleaved persistence modules*

9:30–9:55 Anastasios Stefanou *Interleavings on categories with lax $[0, \infty)$-action and the hom tree functor*

10:00–10:25 Mikael Vejdemo-Johansson: *A topos foundation for persistent homology*

Coffee Break and Plenary Talk (Olin Rotunda)

———————————————————

Saturday Number Theory Program

Session I (Bailey 102)

9:00–9:25 Yuan Liu: *Realizability problems with inertia conditions*

9:30–9:55 Patrick M. Lank: *Arithmetic combinatorics & Diophantine equations*

10:00–10:25 Daniel Nichols: *Zeta functions of a family of quaternion extensions of $\mathbb{F}_p(t)$*

Coffee Break and Plenary Talk (Olin Rotunda)

Session II (Bailey 102)

2:00–2:25 Alden Gassert: *Index divisibility in dynamical sequences and cyclic orbits modulo p*

2:30–2:55 Caleb Shor: *Compound sequences, numerical semigroups, and power sums*

3:00–3:25 Michael Chou: *Growth of torsion on elliptic curves from $\mathbb{Q}$ to the maximal abelian extension of $\mathbb{Q}$*

3:30–3:55 Ken McMurdy: *Elliptic curves with non-abelian entanglements*

Coffee Break and Plenary Talk (Olin Rotunda)

Sunday Number Theory Program

Session III (Bailey 102)

    8:30–8:55 Zhenguang Gao: *The central binomial coefficient in $(a+b)^{2^n} \pmod 8$*

    9:00–9:25 Tianyi Mao: *The distribution of integers in a totally real cubic field*

    9:30–9:55 Saikat Biswas: *Capitulation, unit groups, and the cohomology of S_∞-idèle classes*

    10:00–10:25 Dmitry Malinin: *On the arithmetic of integral representations*

Coffee Break and Plenary Talk (Olin Rotunda)

Session IV (Bailey 102)

    1:45–2:10 Haydee Lindo: TBA

    2:15–2:40 Long Tran: TBA

––––––––––––––––––––––––––

Saturday Differential Geometry and Geometric Analysis Program

Session I (Bailey 100)

    9:00–9:25 Corbett Redden: *Differential equivariant cohomology*

    9:30–9:55 Stefan Müller: *Lagrangian and symplectic rigidity*

    10:00–10:25 Ioana Suvaina: *ALE Kähler manifolds*

Coffee Break and Plenary Talk (Olin Rotunda)

Session II (Bailey 100)

    2:00–2:25 Frank Morgan: *Isoperimetry with density*

    2:30–2:55 Sajjad Lakzian: *Characterization of low dimensional $RCD^*(K, N)$ spaces*

    3:00–3:25 Caner Koca: *Einstein-Maxwell metrics on ruled surfaces*

    3:30–3:55 David Calderbank: *The geometry of dispersionless integrable PDEs*

Coffee Break and Plenary Talk (Olin Rotunda)

Sunday Differential Geometry and Geometric Analysis Program

Session III (Bailey 100)

    8:30–8:55 Amir Aazami: *Symplectic 4-manifolds via Lorentzian geometry*

    9:00–9:25 Hubert Bray: *Flatly foliated relativity*

    9:30–9:55 Henri Roesch: *Proof of a null Penrose conjecture using a new quasi-local mass*

    10:00–10:25 Gideon Maschler: *Equivariant index and eta invariant and distinguished metrics*

Coffee Break and Plenary Talk (Olin Rotunda)

––––––––––––––––––––––––––