ABBREVIATED CURRICULUM VITAE
Thomas M. Fiore

Department of Mathematics and Statistics, University of Michigan-Dearborn
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Education

Ph.D. — Mathematics **August 2005**
UNIVERSITY OF MICHIGAN, Ann Arbor, MI
Advisor: Igor Kriz

M.S. — Applied Statistics **December 2020**
UNIVERSITY OF MICHIGAN, Ann Arbor, MI

B.Phil. — German **August 1999**

B.S. — Mathematics **August 1999**
UNIVERSITY OF PITTSBURGH, Pittsburgh, PA

Employment History/Long-term Fellowships

Full Professor **September 2020 to present**
Associate Professor **September 2013 to August 2020**
Assistant Professor **September 2009 to August 2013**
Department of Mathematics and Statistics
UNIVERSITY OF MICHIGAN-DEARBORN, Dearborn, Michigan

Humboldt Fellow **September 2015 to July 2016**
Fakultät für Mathematik
UNIVERSITÄT REGENSBURG, Regensburg, Germany

Profesor Visitante **September 2007 to August 2008**
Departament de Matemàtiques
UNIVERSITAT AUTÒNOMA DE BARCELONA, Bellaterra, Spain

L.E. Dickson Instructor (NSF Postdoc) **September 2005 to August 2007**
Department of Mathematics **and September 2008 to August 2009**
UNIVERSITY OF CHICAGO, Chicago, IL

Prize

2011 Merten M. Hasse Prize of the Mathematical Association of America for article [8a], jointly awarded to all three authors (The Hasse Prize is awarded only once every two years at the national level.)

Research Interests: Topological Machine Learning, Higher Category Theory, K-Theory, Abstract Homotopy Theory, and Mathematical Music Theory

Teaching Interests: All Mathematics and Statistics Classes

Selected Publications

[20] **Thomas M. Fiore** and Malte Pieper. "Waldhausen Additivity: Classical and Quasicategorical," *Journal of Homotopy and Related Structures,* Volume 14, Issue 1, pages 109–197, 2019. 89 pages.

[18] **Thomas M. Fiore** and Thomas Noll. "Voicing Transformations of Triads," *SIAM Journal on Applied Algebra and Geometry*, Volume 2, Number 2, pages 281–313*,* 2018.
33 pages + 13 pages supplement = 46 total pages.

[16] **Thomas M. Fiore**, Thomas Noll, and Ramon Satyendra. "Morphisms of Generalized Interval Systems and *PR*-groups," *Journal of Mathematics and Music,* Volume 7, Number 1, pages 3–27, 2013. 25 pages.

[11] **Thomas M. Fiore,** Wolfgang Lück, and Roman Sauer. "Finiteness Obstructions and Euler Characteristics of Categories," *Advances in Mathematics*, Volume 226, Number 3, pages 2371–2469, 2011. 98 pages.
[8a] Alissa Crans, **Thomas M. Fiore,** and Ramon Satyendra. "Musical Actions of Dihedral Groups," *American Mathematical Monthly*, Volume 116, Number 6, June–July 2009, pp. 479–495. 17 pages.
[1] **Thomas M. Fiore.** *Pseudo Limits, Biadjoints, and Pseudo Algebras: Categorical Foundations of Conformal Field Theory,* Memoirs of the AMS, 182, No. 860, 2006. 171 pages.

Recent Research Visits

Institute for Mathematical and Statistical Innovation, Chicago, Illinois, March 3 – 15, 2024 for the Workshop "Materials Informatics: Tutorials and Hands-On"
Dioscuri Center for Topological Data Analysis, Warsaw, Poland, January 29 – February 24, 2024

Classes Taught

Topological Machine Learning, Applied Statistics I, Biostatistics I, Introduction to Data Science for All, Mathematical Statistics, Probability, Data Analysis and Modelling, PreCalculus, Calculus I, II, and III, Differential Equations, Differential Equations with Linear Algebra, Linear Algebra, Proof-based Linear Algebra, Mathematical Methods for Physical Sciences II, Abstract Algebra, Topology, Algebraic Topology, Differentiable Manifolds

Selected Undergraduate Research Projects

- Ethan Bonnell, Hayden Pyle, Noe Rodriguez, and Meredith Williams, Balanced Uniform Triadic Transformations, Summer 2022, UM-Dearborn Mathematics REU (in collaboration with Thomas Noll, Moreno Andreatta, and Sonia Cannas)
- Emma Bidwell, Patrick DeBonis, and Siri Mellem, The Voiced *Tonnetz* and the J-Group, with Illustrations in Schubert's B-flat Major Sonata, Summer 2018, UM-Dearborn Mathematics REU

Master's Projects Supervised

- Aaron Kuehn, The Generalized Eigenvalue Approach to Time-lagged Independent Component Analysis with Application to Classification of Random Walks with Euler Characteristic Curves, Fall 2022 - Winter 2023
- Dawson Kinsman, Topological Classification of Random Walks with Time-Lagged Independent Component Analysis and Persistence Landscapes, Fall 2022 - Winter 2023

Selected External Service to the Profession

Member of the Executive Board of the Society for Mathematics and Computation in Music, January 2023 – present
Treasurer, Society for Mathematics and Computation in Music, January 2023 – present
Member of Steering Committee for Conference Mathematics and Computation in Music 2024 in Coimbra, Portugal, August 2023 – June 2024
Chair of Incorporation Committee, Society for Mathematics and Computation in Music, January 2023 – April 2024
Co-Editor-in-Chief, *Journal of Mathematics and Music,* 2013 – 2018 (Major role in the publication of *3 issues every year with approximately 75 pages each, that is 18 issues*)
Editorial Board Member, *Journal of Mathematics and Music,* 2009 – present
Chair of Hasse Prize Selection Committee for the MAA, July 2016 – March 2017
Member of Hasse Prize Selection Committee for the MAA, Sept. 2014 – February 2015
Referee for *Algebraic & Geometric Topology, Advances in Mathematics, Documenta Mathematica, Journal of Homotopy and Related Structures, Journal of the London Mathematical Society, Journal of Topology, Journal of Mathematics and Music, Münster Journal of Mathematics,* and for five conference proceedings volumes on Math & Music