

Dr. Athanasios (Thanos) Gentimis

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EDUCATION

PhD in Algebraic Topology

Summer 2011

University of Florida, Mathematics Department

Dissertation: Properties of Groups At Infinity.

M.S in Theoretical Mathematics

Spring 2006

National and Kapodistrian University of Athens, Greece, Mathematics Department

Thesis: Asymptotic Dimension of Finitely Generated Groups.

B.S in Mathematics

Fall 2002

National and Kapodistrian University of Athens, Greece, Mathematics Department

PROFESSIONAL EXPERIENCE:

Assistant Professor

2017-

Louisiana State University, Experimental Statistics

Creating scholarly articles, supervising students, undergraduate and graduate course development, preparing grant proposals and reviews. Joint appointment with LSU Ag. center. Part of the "Big Data in precision agriculture (Digital Agriculture)" initiative

Head of the Big Data and Health Informatics Lab

2015-2016

Florida Polytechnic University

Organizational manager, student advising, outreach, preparing grant proposals, Health Informatics Committee member

Assistant Professor of Mathematics and Analytics

2015-2017

Florida Polytechnic University

Creating scholarly articles, supervising students, undergraduate and graduate course development, preparing grant proposals and reviews.

Post-Doctoral Research Scholar

2012-2014

NC State University, Electrical and Computer Engineering Department

Supervising students, creating scholarly articles, preparing grant proposals and reviews.

Junior Researcher

2012-2014

Lab of Analytical Sciences, NSA-NCSU

Creating scholarly articles, working on the programs Data Readiness Levels and Future State Processing.

Lecturer-Assistant

2013

University of Florida, Mathematics Department

Created online classes for University of Florida online, shot video-lectures, created homework and supporting material for Survey Of Calculus.

Adjunct Lecturer

2011-2012

University of Florida, Mathematics Department

Course creation, teaching classes, preparing homework and exams, preparing online homework for various undergraduate and graduate classes.

Teaching Assistant

2006-2011

University of Florida, Mathematics Department

Supervising labs, teaching classes, grading, tutoring and preparing homework and exams, general course development

Teaching Assistant

2003-2006

National and Kapodistrian University of Athens, Greece, Mathematics Department

Supervising labs, teaching classes, grading, tutoring and preparing homework and exams.

TEACHING EXPERIENCE

Louisiana State University: Statistical Techniques I, Digital Agriculture**Florida Polytechnic:** Calculus I,II, Differential Equations, Statistics I**North Carolina State University:** Lecture series on Discrete Mathematics**University of Florida:** Precalculus and Trigonometry, College Algebra, Business Calculus, Analytic Geometry and Calculus I,II,III., Advanced Calculus**SELECTED PUBLICATIONS**

- Jennifer Kindle, **Thanos Gentimis**. [Florida Poly Primers: Calculus](#), PRIMUS, pg1-18, Summer 2018 2018
- Thanos Gentimis**, AJ Alnaser, Alex Durante, Kyle Cook, Robert Steel, [Predicting Hospital Length of Stay Using Neural Networks on MIMIC III Data](#), IEEE DataCom 2017, November 2017 2017
- Harish Chintakunta, **Thanos Gentimis**. [Influence of topology on Information flow in social networks](#), 50th Asilomar Conference on Signals, Systems and Computers, November 2016 2016
- Hamid Krim, **Thanos Gentimis** and Harish Chintakunta. [Discovering the Whole by the Coarse: A Topological Paradigm for Data Analysis](#), IEEE Signal Processing Magazine 33(2):95-104 2016
- Thanos Gentimis**, Greg Bell. [Directed Persistence](#), under preparation 2015
- Harish Chintakunta, **Thanos Gentimis**, Rocio Gonzalez Diaz, Maria-Jose Jimenez, and Hamid Krim. [An entropy based persistent barcode](#), Special issue Graph based representation (Gbr2013) in Pattern Recognition 2014
- Hamilton Scott Clouse, Xiao Bian, **Thanos Gentimis** and Hamid Krim. [Multi-Level Scene Understanding via Hierarchical Classification](#), IEEE Conference on Image Processing 2014
- Saba Emrani, **Thanos Gentimis** and Hamid Krim. [Persistent Homology Of Delay Embeddings](#), IEEE Signal Processing Letters, Vol.21 (April), No:14 2014

Thanos Gentimis. On Limit Aperiodic Groups preprint available on arxiv	2014
Maria Bampasidou, Thanos Gentimis. Modeling Collaborations with Persistent Homology , preprint available on arxiv	2013
Alexander Dranishnikov and Thanos Gentimis. On Cohomology of the Higson compactification of Hyperbolic Spaces , Journal of Topology and Analysis, Vol 5, No:4, (477-489)	2013
Thanos Gentimis. Asymptotic Dimension of Finitely Presented Groups , Proc. Amer. Math. Soc. 136, no 12, (4103-4410)	2008

PATENTS

Hamilton Scott Clouse, Hamid Krim, Xiao Bian, Thanos Gentimis , Gigapixel image mosaicking algorithm , NCSU	2015
Saba Emrani, Thanos Gentimis , Hamid Krim, Efficient Wheeze Detection , NCSU pending	2015

INVITED TALKS

Predicting Length of Stay using Neural Networks on the MIMIC III Dataset , Biostatistics Colloquium, LSU Health New Orleans, School of public Health	October 2017
Understanding Big Data! Is Agribusiness Ready For It?, ASU, W.P. Carey School of Business, Morrison School of Agribusiness Seminar Series Invited Talk	November 2016
AAEA preconference on Big Data in Applied Economics: Knowledge and Applications , Boston	July 2016
The Power of Data and Algorithms , Florida Polytechnic Google Hangout Series, FL, Lakeland	October 2015
Computational Topology: A New Way of Viewing Data, LSU Computer Science Department Invited Talk	March 2015
Topological Data Analysis; Overview and Applications , Weekly Mathematics Colloquium, UT, Knoxville,	October 2014
Directed Persistence , Applied Topology Seminar, UPenn, Philadelphia	October 2014
Directed Persistence, Theory and Applications, UNC, Greensboro	April 2014
Modeling Collaborations With Persistent Homology (poster) , Workshop on Topological Data Analysis, Institute for Mathematics and its Applications (IMA), Minneapolis	Spring 2014
Wheeze Detection Using Topological Data Analysis , SIAM SEAS 2014, Florida Institute of Technology, Melbourne	Spring 2014
On the Cohomology of the Higson Compactification of Hyperbolic Spaces , AMS Spring Southeastern Section Meeting, University of South Florida	Spring 2012

Higson Compactification of The Hyperbolic Space , Spring Topology and Dynamical Systems Conference 2010, Starkville Mississippi	Spring 2011
On Limit Aperiodic G-sets, Spring Topology and Dynamical Systems Conference 2009-Ulam Centennial Conference, Gainesville Florida	Spring 2009

AFFILIATIONS

IEEE member	2013-present
AMS member	2006-present
Editor for Advances in Data Analysis and Classification	2016-present
Associate editor iCASCADe (ISSN 2474-3399)	2016-present

SHORT BIO

I received my BS and MS in Mathematics from the National and Kapodistrian University of Athens, Greece in 2002 and 2005 respectively. My focus was on Algebra and Analysis with a minor in Mathematics Education. I completed my PhD in Theoretical Mathematics in 2011 at the University of Florida, Gainesville. My field of expertise is Algebraic Topology and specifically Geometric Group Theory. The title of my dissertation is [Properties of Groups at Infinity](#), which I completed under the guidance of Dr. Alexander Dranishnikov.

Since 2009 I have turned my attention to applications of [Topological Data Analysis](#) in Signal Processing, Coverage Networks, Social Networks and Big Data Analysis. I am also interested in purely abstract results related to the new and growing field of Computational Topology. I actively seek to establish clear mathematical formulations that will explain some of the current methods used in Computational Topology and expand the relative mathematical theory.

As part of the [VISSTA](#) group I was involved in projects ranging from image processing and machine learning, to text analytics and data mining, with a focus on exploring new techniques and new mathematical tools, to revisit old problems. I also incorporated my research into my teaching methods, especially when advising and guiding graduate students. Since Summer 2013 I am member of the Lab of Analytical Sciences, a collaboration between NCSU and NSA, working on various Data Analytics project. I am still affiliated with LAS as an external member.

Prior to my position, I was an Assistant Professor of Mathematics and Analytics at Florida Polytechnic University. I was also the head of the newly established [Big Data and Health Informatics Lab](#), which I helped create and I was one of the members of the Health Informatics Program committee whose role is to shape the [Health Informatics Curriculum](#) at Florida Polytechnic and integrate it with the local Health Industry and Practice.

My recent Outreach activities included collaborations with the companies: [Curtiss-Wright](#), [Lexis Nexis](#), [PalletOne](#) and [Rockwell Industries](#). With the Health Informatics team I collaborated also with the [Lakeland Regional Medical Center](#) and [Florida Blue](#) on undergraduate and graduate research problems.

Lately I have been focusing on incorporating technology and innovation to my teaching

practice. Thus, with the help of the graduate student I advise we created an online course called [Florida Poly Primers: Calculus](#), which is a supplementary course for students attending Calculus I without a strong mathematical background. The class is a self paced course, with online videotaped mini lectures, quizzes, homework and helpful links, hosted in the electronic platform Canvas. I have also established a module based teaching hybrid course for Calculus I, which utilizes videotaped lectures, through the Panopto platform, mymathlab from Pearson for online homework, videotaped solutions for online discussions, produced at the universities media lab, and online quizzes through Canvas.

I recently accepted a position as an assistant professor in the department of [Experimental Statistics at LSU](#), in a joint appointment with the [LSU Ag. center](#). In this position I will use my teaching and research skills to support the mission and vision of our department to the best of my ability, while leading the center's initiative on "Big Data in Precision Agriculture".

AWARDS AND HONORS

Chat Yin Ho Scholarship Recipient, University Of Florida Mathematics Department. For demonstrating excellence in pure mathematics.	Spring 2011
Teaching Award: Certificate of Excellence, Department of Mathematics, University of Florida	Spring 2010
Teaching Award: Certificate of Merit, Department of Mathematics, University of Florida	Spring 2009
Outstanding Student Award, Awarded by the University of Florida International Center for excellence in Studies	Spring 2007
European Social Fund and National Resources-EPEAEK II PYTHAGORAS	2004-2006

SKILLS:

Software: Fortran, Python, Matlab, LaTeX, Mathematica, Windows Office, Dreamweaver, Amaya, R, Sketchpad, SAS miner, MySQL, PostgreSQL

Languages: Greek(Native), English (Proficient), French (Conversational),

REFERENCES

Dr. Alexander Dranishnikov,
Distinguished Research Professor, Mathematics,
University Of Florida.
dranish@ufl.edu
352-392-0281 x 292

Dr. James Keiser,
Applied Research Mathematician,
National Security Agency,
former Technical Director of the Laboratory of Analytical Sciences,
North Carolina State University.
keiserjm@gmail.com

Dr. Kathryn Miller,

Vice Provost of Academic Support Services,
Florida Polytechnic University.
kmiller@flpoly.org
863-874-8640

Dr. Randy Avent,
President of Florida Polytechnic University,
Florida Polytechnic University.
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