

CURRICULUM VITAE

PALANIVEL MANOHARAN

Residency Status: Citizen of U.S.A.

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Education

Ph.D. 1990, The Ohio State University, **Advisor:** Dan Burghelea

Dissertation title: "A Study of Fréchet Manifolds"

M.S. 1988, The Ohio State University

Subjects studied: Global Analysis, Mathematical Physics, Algebraic and Differential Topology, Differential Geometry, Real and Complex Analysis, and Abstract Algebra

Degrees in India

M.Phil. 1980, Panjab University, India

Subjects studied: Real and Complex Analysis, Algebraic Number Theory, Topology, Geometry of Numbers and Matrices over Z

M.Sc. 1976, University of Madras, India

Subjects studied: Real and Complex Analysis, Modern Algebra, Mechanics and Statistics

B.Sc. 1974, University of Madras, India

Major: Mathematics

Minors: Physics and Chemistry

Professional Experience

2017 - current **Visiting Assistant Professor, Dept. of Mathematics, Virginia Tech.**

2010 – 2017 **Teaching Faculty, Dept. of Mathematics, Indiana University.** **Duties:** Taught large size freshmen mathematics classes (280 students per section). Served as course coordinator for Math D116, D117 and M118 (with enrollment approximately 3000 students per semester).

2008 – 2010 **Dean, Division of Science and Mathematics, Lorain County Community College, Elyria, OH.** **Duties:** Overseen Biology, Chemistry, Computer Science, Geology, Fire Science, Mathematics, and Physics departments, Implemented STEM initiatives through University Partnership, Post Secondary Enrollment Option and Early College programs. Assisted in offering undergraduate and graduate programs in science areas at LCCC through University Partnership programs with Ohio four-years state and private universities

2003 – 2007 **Coordinator of First Year Math courses**, 2007 – 2008, **Coordinator of Second Year Math courses**, Department of Mathematics, Pennsylvania State University. **Duties:** Coordinated First Year Mathematics courses (over 125 sections and 50 instructors during a semester); Wrote common examinations; Maintained course web sites; Evaluated transcripts for transfer credit; Dealt with students' concerns; and taught mathematics courses

1998 - 2003 **Undergraduate Director**, Mathematics/Statistics, University of Maryland Global Campus (formerly UMUC) **Duties:** Overseen the undergraduate mathematics curricula and course development; Taught mathematics courses; Staffed and scheduled courses; Recruited and evaluated adjunct faculty; Supervised tutorial center and placement tests, Coordinated with overseas division to offer lower level math courses at overseas centers; and evaluated articulation forms for transfer students

1997-98 **Visiting Faculty**, Mathematics, Florida Gulf Coast University (On leave from Kent State University). One of two full-time mathematics faculty members during the inaugural year at Florida Gulf Coast University. **Duties:** Taught three undergraduate courses per semester, course development for new math department, and scholarly activities

1992-97 **Assistant Professor**, Mathematics, Kent State University **Duties:** Taught twelve credit hours per semester at East Liverpool Campus, Served as a faculty mentor for students on academic probation. Organized and developed math curriculum as the Coordinator of mathematics. Research activities, volunteered service on math tutorial center and served on various committees

1990-92 **Lecturer**, Mathematics, Ohio State University **Duties:** Taught two courses per quarter. Taught calculus courses with the aid of Maple software and algebra courses with TI-81 calculator. Conducted Maple microcomputer lab for students. Research and scholarly activities

1986-90 **Math tutor/counselor**, Department of University College, Ohio State University. **Duties:** Tutored and counseled students with math anxiety on an individual basis, assisting them develop their problem-solving skills

1979-82 **Teacher Fellow**, Department of Mathematics, Panjab University, India. **Duties:** Participated in problem solving sessions and attended M.Phil. classes

1976-79 **Lecturer**, Mathematics, K. K. College, India. **Duties:** Taught four courses per semester in a liberal arts college and service activities

Courses taught and/or developed

At Virginia Tech: Multivariable Calculus, Linear Algebra, Introduction to Numerical Analysis, Cryptography I, Cryptograph II, and Quantum Cryptography/Quantum Information

At Indiana University: Finite Mathematics, Applied Calculus, Calculus and Statistics

At Lorain County Community College : Linear Algebra and Differential Equations

At Pennsylvania State University: Calculus I, II and III, Linear Algebra and Differential Equations

At University of Maryland University College: Basic Algebra, Intermediate Algebra, College Algebra, Calculus I, II and III, Introductory Statistics, Algebraic Structures, Real Analysis, Complex Variables, Combinatorics and Graph Theory, Actuarial Science, Operations Research, Mathematics of Communications, Point Set Topology, and web based online algebra and calculus courses for military personnel

At Florida Gulf Coast University: College Algebra, Calculus I (with Maple), Calculus II, Linear Operators and Differential Equations, Differential Equations (with Maple), and Real Analysis

At Kent State University: Developmental Mathematics, Introduction to College Mathematics, College Algebra, Intuitive Calculus, Trigonometry, Probability and Statistics, Analytic Geometry and Calculus,

Reformed Calculus, Basic Mathematics Concepts for Elementary School Teachers, and graduate course in Riemannian Geometry

At Ohio State University: Basic College Algebra, Trigonometry, Calculus, Business Calculus, Calculus with Maple, Accelerated Honors Calculus, Matrix Theory for Business Majors, and Functions of Complex Variables

K.K.College, India: Calculus, Business Mathematics, Differential Equations, and Abstract Algebra

Abstracts of Presentations at Conferences

1. “Equivariant de Rham theorem on free loop spaces”, Abstracts of the American Mathematical Society, Vol. 14, No.1. Jan. 1993, p. 164, Joint Mathematics Annual Meeting, San Antonio, Texas, Jan. 1993
2. “A generalized non-linear version of Swan's theorem”, Abstracts of the American Mathematical Society, Vol. 15, No.1. Jan. 1994, p. 134, Joint Mathematics Annual Meeting, Cincinnati, Ohio, Jan. 1994
3. “Manifold structure on space of sections through function algebra”, Abstracts of the American Mathematical Society, Vol. 17, No.1. Jan. 1996, p. 119, Joint Mathematics Annual Meeting, Orlando, Florida, Jan. 1996

Seminar Presentations

1. Dec. 1994, Center for Advanced Studies in Mathematics, Panjab University, India, **title:** “Spaces of sections”
2. Dec. 1994, Indian Institute of Technology, New Delhi, India, **title:** “Mapping spaces”
3. 1992-96, Kent State University Mathematics Department Seminars: Five presentations in “Topology Seminar” series and three presentations in “Analysis Seminar” series
4. Spring 1996, colloquium talk at Kent Campus Mathematics Department, **title:** “Dirac operator on free loop spaces”
5. Winter 1997, “Topology Seminar” talk at Ohio State University
6. Winter 1998, Eckerd College, St. Petersburg, Florida, Regional MAA Conference, **title:** “Christoffel symbols on loop spaces”
7. Aug. 2 1999, MathFest99, Providence, Rhode Island, MAA Conference, **title:** “Math on web: with classmates far away from east and west”
8. Aug. 1 2002, MathFest02, Burlington, Vermont, MAA Conference, **title:** “Calculus on web”
9. 2003 – 06, three talks on Geometric Functional Analysis seminar, Penn State University
10. 2010-15, Four Topology Seminar talks at Indiana University
11. Oct 17 and 24, 2019, two talks in Geometry and Topology seminar at Virginia Tech, **title:** Geometry of manifolds modeled on Hilbert modules

Grants

- ¥ National Science Foundation Grant, Summer 1995
- ¥ Research Council Summer Research Grant, 1997 and 1993, Kent State University
- ¥ Summer Fellowship, 1985 and 1983, Ohio State University

Memberships in Professional Societies

American Mathematical Society