IVA STAVROV

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EDUCATION

Ph.D. in Mathematics, University of Oregon, Eugene, June 2003.
Dissertation, "Spectral geometry of the Riemann curvature tensor."
Advisor, Professor Peter B. Gilkey.

M.S. in Mathematics, University of Oregon, Eugene, June 2001.

B.S. in Mathematics, University of Belgrade, Yugoslavia, September 1998.

ACADEMIC POSITIONS

Assistant Professor of Mathematics, Fall 2005 - present.
Department of Mathematical Sciences, Lewis and Clark College.

Visiting Assistant Professor of Mathematics, Fall 2004 - Summer 2005.
Department of Mathematical Sciences, Lewis and Clark College.

Visiting Assistant Professor of Mathematics, Summer 2004.
Department of Mathematics, University of Oregon.

Assistant Professor of Mathematics, Fall 2003 - Spring 2004.
Department of Mathematics, American University of Beirut.

Graduate Teaching Fellow, Fall 1999 - Spring 2003.
Department of Mathematics, University of Oregon.

Teaching Assistant, Fall 1998 - Summer 1999.
Department of Mathematics, University of Belgrade.

TEACHING EXPERIENCE

The sole instructor of the following classes, except where noted. Responsibilities include all aspects of in-class instruction, preparing homework assignments, quizzes, and exams, supervising undergraduate graders, and assigning course grades.

Topology I; A.U.B, Fall 2003.
Textbook: Stephen Willard, General Topology

Geometry; Lewis and Clark College, Spring 2006.
Textbook: Judith N. Cederberg, A Course in Modern Geometries

TEACHING EXPERIENCE (CONTINUED)

Elementary Analysis: The Theory of Calculus; UO, Summers of 2002 and 2004.
Textbook: Kenneth A. Ross, Elementary Analysis: The Theory of Calculus

Discrete Mathematics; Lewis and Clark College, Fall 2006.
Textbook: John Krussel, Discrete Mathematics (and Other Stuff) (in preparation)

Linear Algebra; Lewis and Clark College, Fall 2005.
Textbook: Steven J. Leon, Linear Algebra With Applications

Elementary Linear Algebra with Applications; A.U.B, Spring 2004.
Textbook: Anton-Rorres, Elementary Linear Algebra

Differential Equations; A.U.B, Spring 2004.
Textbook: Dennis Zill, A First Course in Differential Equations

Calculus and Analytic Geometry III, multivariable calculus; A.U.B, Fall 2003.
Textbook: Finney, Weir, Giordano, Thomas' Calculus

Calculus III, multivariable calculus; Lewis and Clark College, Fall 2004.
Textbook: James Stewart, Multivariable Calculus

Calculus II, integral calculus; UO, Winter 2002 and Lewis and Clark College, Fall semesters of 2004 and 2005.
Textbook: James Stewart, Single Variable Calculus

Calculus I, differentiable calculus; UO, Spring and Fall 2002; Lewis and Clark College, Spring 2005 and Fall 2006.
Textbook: James Stewart, Single Variable Calculus

Elementary Functions, a precalculus course; UO, Spring 2003.
Textbook: Thomas W. Hungerford, Contemporary Precalculus, A Graphing Approach

Elementary Functions, a precalculus course; Lewis and Clark College, Spring 2006.
Textbook: J. D. Faires and J. DeFranza, PreCalculus

College Algebra, a precalculus course; UO, Winter, Spring and Fall 2000 and Winter and Spring 2001.
Textbook: Thomas W. Hungerford, Contemporary Precalculus, A Graphing Approach

Perspectives in Mathematics; Lewis and Clark College, Spring 2005.
This is a course for liberal arts students who do not plan to take any more mathematics classes; "The Shape of Space" by Jeffrey Weeks has been used frequently.

Mathematics for Physical Chemistry Students; teaching assistant from Fall 1998 to Summer 1999 at University of Belgrade. A year long course covering elementary linear algebra, differential and integral calculus, probability.

RESEARCH INTERESTS

Differential geometry, general relativity and algebraic topology. Most of the research performed in the spectral geometry of the Riemann curvature tensor.

RESEARCH AWARDS

Harrison Research Award, University of Oregon, June 2000; departmental award granted for outstanding graduate research.

ARTICLES

[1] **Vector Bundles over Grasmannians and the Skew-Symmetric Curvature Operator;** Differential Geometry and its Applications, **23** (2005), pages 128-148

[2] **Jordan Szabó algebraic covariant derivative curvature tensors,** joint with Peter B. Gilkey and Raina Ivanova; Contemporary Mathematics, **337** (2003), pages 65-75

[3] **Curvature Tensors Whose Jacobi Or Szabó Operator is Nilpotent On Null Vectors,** joint with Peter B. Gilkey; Bulletin of London Mathematical Society, **34** (2002), pages 650-658

[4] **Locally Isotropic Pseudo-Riemannian Manifolds;** preprint available on Mathematics Archive: http://xxx.lanl.gov/abs/math.DG/0409189

[5] **Vector Bundles over Grasmannians and the Spectral Geometry of the Riemann Tensor;** submitted.

[6] **(Semi)-Riemannian geometry of (para)-octonionic projective planes;** joint work with Brian Van Koten and Rowena Held (in preparation).

CONFERENCES

Einstein Constraint Equations, Isaac Newton Institute for Mathematical Sciences, Cambridge, UK, December 2005

AMS Session on Geometry, Joint Mathematics Meetings, Atlanta, January 2005
"Locally Isotropic Pseudo-Riemannian Manifolds."

AMS Special Session on Recent Advances in Riemannian and Lorentzian Geometries, Joint Mathematics Meetings, Baltimore, January 2003
"Geometric and Algebraic Properties of the Skew-Symmetric Curvature Operator, the Higher Order Jacobi Operator and the Szabó Operator."

AMS Session on Geometry and Differential Geometry, Joint Mathematics Meetings, San Diego, January 2002
"Higher Order Osserman Algebraic Curvature Tensors."

Colloquium On Differential Geometry, Debrecen, Hungary, July 2000
"A Note on Generalized Osserman Manifolds in the Lorentzian Setting."

OTHER TALKS AND PRESENTATIONS

Seminar Series in Mathematics and Computer Science, University of Puget Sound
"Riemannian Geometry of the Octonionic Projective Plane," October 2006

The Maseeh Mathematics and Statistics Colloquium Series, Portland State University
"On Osserman Problems in Semi-Riemannian Geometry," May 2006

Mathematics Colloquium, Pacific University
"Metrics, Curvature, and General Relativity," November 2005

OTHER TALKS AND PRESENTATIONS (CONTINUED)

Seminar at the Center for Advanced Mathematical Sciences, A. U. B, Beirut
"Applications of Algebraic Topology to the Spectral Geometry of the Riemann Curvature Tensor," November 2003

Topology-Geometry Seminar, University of Oregon,
"Curvature Tensors Whose Jacobi Or Szabó Operator is Nilpotent On Null Vectors," November 2001

Homotopy Theory Seminar, University of Oregon,
"Minkowski Geometry / Special Relativity, " October 2000
"Robertson-Walker Cosmology, " May and June 2001
"Everything You Ever Wanted to Know About Grassmannains, But Were Afraid to Ask," November 2001

Albany Week Committee, Lewis and Clark College 2006/2007.

SERVICE

Member of the committee for the proposal of Ph.D. program in mathematics, Department of Mathematics, A.U.B. 2003/2004.

Chair of the AMS Session on Geometry and Differential Geometry, Joint Mathematics Meetings, San Diego, January 9th, 2002.

Co-organizer of the Putnam Problem Solving Seminar, Lewis and Clark College, Fall 2006.

OTHER

John S. Rogers Science Research Program (participant), Lewis and Clark College, Summer 2006.

Member of the Yugoslavian Team for the International Mathematical Olympiad, Spring and Summer 1993.