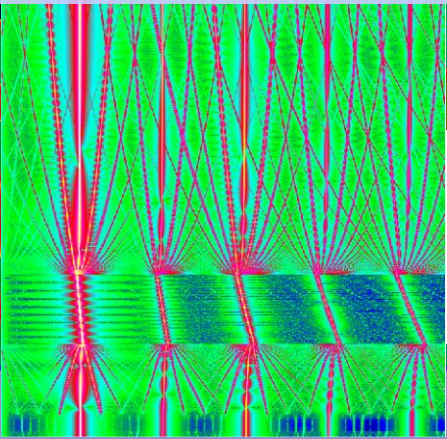
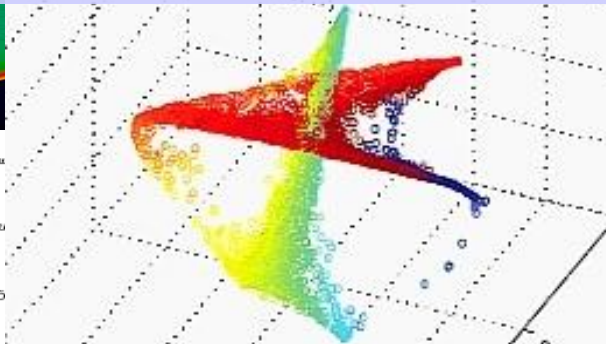


Pure and Applied Mathematics Graduate Study at Duke University



$$\begin{aligned}
 E_1^{p,p} &\cong \bigoplus_{\#\Delta_p^p=p+1} H(n_p^p; E)_{w_p} \otimes I_{p,w} \\
 &\cong \bigoplus_{\#\Delta_p^p=p+1} \bigoplus_{w_p \in W_p} \bigoplus_{w_p^p \in W_p^p} H(n_p^p; H(n_p; E))_{w_p} \\
 &\cong \bigoplus_{w \in W_p} H(n_p; E)_w \otimes \bigoplus_{\#\Delta_p^p=p+1} I_{p,w} H(c(|\Delta_p^p)
 \end{aligned}$$



Faculty Research Expertise

Geometry

Algebraic Geometry: P. Aspinwall, R. Hain, E. Miller, C. Schoen • **Symplectic Geometry:** L. Ng • **Differential Geometry and Geometric Analysis:** H. Bray, A. Petters, L. Saper, M. Stern

Topology

Algebraic Topology: R. Hain, W. Pardon, L. Saper • **Geometric Topology:** J. Harer, L. Ng

Algebra & Number Theory

R. Calderbank, J. Getz, R. Hain, E. Miller, L. Pierce, L. Saper, C. Schoen

Mathematical Physics

General Relativity: H. Bray, A. Petters • **String Theory:** P. Aspinwall, R. Plesser, M. Stern

Probability & Stochastic Analysis

R. Calderbank, R. Durrett, J. Lu, M. Maggioni, J. Mattingly, S. Mukherjee, J. Nolen

Analysis & Partial Differential Equations

Analysis: M. Reed • **Harmonic Analysis:** R. Calderbank, I. Daubechies, M. Maggioni, L. Pierce • **Partial Differential Equations:** T. Beale, J.-G. Liu, J. Lu, J. Mattingly, J. Nolen, M. Stern, T. Witelski • **Integrable Systems:** S. Venakides

Numerical Analysis & Scientific Computing

Multiscale Methods: I. Daubechies, A. Layton, J.-G. Liu, J. Lu, M. Maggioni, J. Mattingly, J. Nolen • **Computational Geometry and Topology:** P. Aspinwall, J. Harer, E. Miller

Mathematical Biology

Computational and Systems Biology: J. Harer, E. Miller, S. Mukherjee • **Cancer Modeling:** R. Durrett • **Mathematical Physiology and Cell Biology:** A. Layton, H. Layton, J. Mattingly, M. Reed, S. Venakides

Fluid Dynamics

T. Beale, J.-G. Liu, J. Mattingly, T. Witelski

The Graduate Program

The graduate program in mathematics at Duke University provides a stimulating and supportive atmosphere for learning and research. Our graduate students pursue studies in pure or applied fields, leading to careers in academics, industry, and business. All doctoral students making satisfactory progress receive full financial support for five years of study.

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The Graduate Faculty

Advanced courses and lively seminar series are held in the areas of our faculty's expertise in pure and applied mathematics. Many faculty members also participate in interdisciplinary research collaborations in subjects such as biology, chemistry, computer science, engineering, physics, and statistics.

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Application Deadline: January 3, 2014