

Sewing of Riemann surfaces and the fiber structure of Teichmueller space

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School of Physical and Mathematical Sciences

Riemann surfaces with parametrized boundaries can be sewn together using the parametrizations to identify boundary points. The moduli space of these surfaces and the sewing operation are fundamental to two-dimensional conformal field theory. Teichmueller theory is the natural way to solve the complex analytic questions that arise. Moreover, the sewing operation has been applied to give new results in classical Teichmueller theory. A fiber structure and new holomorphic local coordinates for the infinite-dimensional Teichmueller space of bordered Riemann surfaces have been obtained. A brief overview of Teichmueller theory and the relation to conformal field theory will also be given.

This is joint work with Eric Schippers.

Speaker Biography

David Randell obtained his Ph.D. from Rutgers University in 2003 under the supervision of Prof. Yi-Zhi Huang. He has held research positions in the University of Michigan in Ann Arbor and the Max Plank Institute for Mathematics in Bonn Germany. Currently, he is an assistant professor in the American University of Sharjah. He specializes in Riemannian geometry.

Host: Prof. Zhao Liangyi, Division of Mathematical Sciences, School of Physical and Mathematical Sciences

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