1062-30-23   **David Radnell** (`dradnell@aus.edu`), Department of Mathematics, American University of
Sharjah, P.O. Box 26666, Sharjah, United Arab Emirates, and **Eric Schippers***
(`eric_schippers@umanitoba.ca`), Department of Mathematics, 342 Machray Hall, 186 Dysart
Rd, University of Manitoba, Winnipeg, Manitoba R3T 2N2, Canada. *A fiber structure on the
Teichmuller space of a bordered Riemann surface.*

One of the central objects in two-dimensional conformal field theory is the "rigged moduli space" of Riemann surfaces with parametrized boundary curves. The "sewing operation" joins two parametrized Riemann surfaces along two boundaries, identifying points using the parametrizations. In joint work with David Radnell, we showed that the rigged moduli space of Riemann surfaces of a given type is a quotient of the Teichmuller space of bordered surfaces of the same type.

In this talk, I will give applications of this correspondence to Teichmuller theory. In further joint work, David Radnell and I constructed coordinates on the infinite-dimensional Teichmuller space of a Riemann surface with boundary. These coordinates arise from a fiber structure of Teichmuller space. This fiber structure arises naturally from an alternate model of the rigged moduli space in terms of non-overlapping mappings into the Riemann surface, combined with our earlier work described above. Another tool is Gardiner's construction of coordinates on finite-dimensional Teichmuller space using Schiffer variation. (Received June 15, 2010)