# Morse Structures on Open Books

by **Joan Licata**

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| **Research talk:** | Wednesday May 17, | 12.15, | Seminarraum 2 |
| **Graduate talks:** | Thursday May 18, | 12.15, | Seminarraum 3 |
| | Friday May 19, | 10.00, | Seminarraum 2 |

**Graduate talks:**
(1) Introduction to Morse Theory
(2) Open Books and (Contact) 3-Manifolds
These talks will be informal introductions to important tools in low-dimensional topology, assuming little background.

**Research talk.** Every contact 3-manifold is locally contactomorphic to the standard contact $\mathbb{R}^3$, but this fact does not necessarily produce large charts that cover the manifold efficiently. I'll describe joint work with Dave Gay and Dan Mathews which uses an open book decomposition of a contact manifold to produce a particularly efficient collection of such contactomorphisms, together with simple combinatorial data describing how to reconstruct the contact 3-manifold from these charts. We use this construction to define front projections for Legendrian knots and links in arbitrary contact 3-manifolds, with or without convex boundary. This approach generalises existing constructions of front projections for Legendrian knots in $S^3$ and universally tight lens spaces.

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*Alle Interessenten sind herzlich eingeladen.*
gez. S. Durst & M. Kegel