Friday seminar (10/13)

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Bennequin surfaces and braid index of alternating knots

The braid index inequality of Morton-Williams-Franks is
exact for many alternating knots, but Murasugi
gave an example of inexact inequality of
crossing number 18, genus 6 and braid index 6.
In my talk I will explain the proof of exactness of the
Morton-Williams-Franks inequality for alternating knots of

1. at most 18 crossings (except Murasugi's example and its mutant)
2. genus at most 4 and
3. braid index at most 4 (actually Morton-Williams-Franks bound
   at most 4, and here links could be included)

I will explain how to extend these proofs to show that many alternating
knots have a minimal string Bennequin surface (= minimal genus braided
Seifert surface), in particular alternating knots of genus at most 3
or at most 16 crossings.