Some Dos and Don’ts for Writing Abstracts

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Writing a title and abstract for a lecture often feels like a chore with little payoff. The usual seminar crowd will come anyway. And the talk will explain what the talk is about, so why do we need this appendage?

The answer is that very often people really do decide whether or not to come to a talk based on the title and abstract. This is true even for job talks. You want people to come to your talk for a variety of reasons - to ask questions or suggest ideas, and just so that they know who you are (or hire you!).

Mathematicians like to understand talks, and we are more likely to go to a talk if we think we will get something out of it. Your abstract is going to give a good indication of whether I am going to have a good experience at your talk. So put some effort!

Do give a broad title. A narrow title indicates a narrow talk.

Do use one paragraph, roughly 5-6 sentences (as a general rule of thumb).

Do start from scratch, using words that everyone knows: To every knot in a 3-manifold, one can associate a number... Of course, what everyone knows depends on the situation. For a conference on a specialized topic, you can assume more.

Do give context for your work - where does it fit into the big picture?

Do mention your collaborators.

Do be inviting. If your abstract does not convey concern for the audience, it is safe to assume your talk won’t either!

Do de-symbolize your abstract as much as possible, just for the sake of readability. Symbols (except for the most basic ones, like S^3) just inherently take longer to process.

Do get feedback from a trusted advisor.

Don’t cram too many technical words into the title or abstract.

Don’t use LaTeX or HTML unless you really need to (or unless you know for sure which format is preferred). You do not want your host to have to convert from one format to another, and you do not want your audience to have to decipher your code.

Don’t try to explain the entire talk. Just explain the main idea in broad strokes.

To finish, I will share an example of one of my own abstracts. The first version is not bad. At the time, I thought it was as good as can be. After discussing with my advisor, I came up with an even better version, below. You can see that, in the second version, I got rid of the symbols, I started out with basic mathematical terms, I abandoned the attempt to explain the definition of “pseudo-Anosov” (even suppressing this term to a parenthetical), I shortened to one paragraph, I added some signposts as to where this fits into math: topology, geometry, dynamics, and last but not least the second title has a better ring to it. Big difference!

BEFORE:

Group-theoretical, geometrical, and dynamical aspects of surfaces

A pseudo-Anosov map of a surface is a homeomorphism that locally looks like a hyperbolic matrix (two distinct real eigenvalues) acting on the plane. Like its linear counterpart, a pseudo-Anosov map stretches in one direction by a factor K, called the dilatation, and contracts in another direction by 1/K. The dilatation of a pseudo-Anosov map is an algebraic integer that determines the entropy of the map, the growth rate of lengths of curves under iteration by the map, and the length of the corresponding loop in moduli space, for example.

The set of possible dilatations is quite mysterious. For a fixed surface, this set is known to be discrete in R, and so the small dilatation pseudo-Anosov maps are of particular interest. In joint work with Benson Farb and Chris Leininger, we introduce two universality phenomena concerning small dilatations. The first can be described as "algebraic complexity implies dynamical complexity", and the second can be described as "geometric complexity implies dynamical complexity".

AFTER:

Group theory, geometry and dynamics of surface homeomorphisms

Attached to every homeomorphism of a surface is a real number called its dilatation. For a generic (i.e. pseudo-Anosov) homeomorphism, the dilatation is an algebraic integer that records various properties of the map. For instance, it determines the entropy (dynamics), the growth rate of lengths of geodesics under iteration (geometry), the growth rate of intersection numbers under iteration (topology), and the length of the corresponding loop in moduli space (complex analysis). The set of possible dilatations is quite mysterious. In this talk I will explain the discovery, joint with Benson Farb and Chris Leininger, of two universality phenomena. The first can be described as "algebraic complexity implies dynamical complexity", and the second as "geometric complexity implies dynamical complexity".