# 21 years of "Knot Theory of Complex Plane Curves"

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Thursday, May 8, 2003
102 Bradley Hall, 4:00 pm
(Tea 3:30 pm Math Lounge)

**Abstract**

Since the publication in 1982 of my survey "Some knot theory of complex plane curves" (a hyperlinked, minimally updated version is available at http://arxiv.org/abs/math.GT/0106058), knot theory in general has seen much progress and many changes. *Classical knot theory*—the study of knots as objects in their own right (as for instance in the classic book by Crowell and Fox)—has made great strides. Simultaneously, there have been extraordinarily wide and deep developments in what might be called *modern knot theory*: the study of knots in the presence of extra structure.[1] In these terms, the knot theory of algebraic plane curves is solidly part of modern knot theory, with the extra structures in question being variously algebraic, analytic, and geometric.

I will begin this talk with a brief account of some problems—the Zariski Conjecture, the Thom Conjecture, Milnor's Question—which have shaped the subject, and a quick summary of the major "old" results described in my 1982 survey. I will then lay out the present state of the art in a more leisurely fashion. I will end the talk with a couple of suggestions for the direction of future research, which may be summarized by the slogans "Think of every 'complex link' as a 'complex-hyperbolic link-at-infinity'!" and "Study 'the space of all complex links'!"

This talk should be accessible to graduate students.                    1048610317

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[1] Some observers have also detected *postmodern knot theory*—the study of extra structure in the absence of knots.