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$$\prod_{k=1}^{3}(k+2)$$

Colloquium
in honor of
Angela Stevens

Birthday Colloquium
(joint with Wilhelm Killing Colloquium)

On meanders

Prof. Dr. Bernold Fiedler (FU Berlin)
1 July 2021 | 4:30 pm | via ZOOM

Meanders describe Jordan curves which cross a horizontal axis transversely, at N points. They also relate to pairs of parenthesis stackings (Dyck words), folded strips of stamps, to traces in Temperley-Lieb algebras, certain Cartesian billiards, the shooting approach to nonlinear second order boundary value problems in ordinary differential equations (ODEs), and the geometry of global attractors of scalar partial differential equations of parabolic type (PDEs). But, even their asymptotic combinatorics remains open.

We illustrate how the PDE global attractors of ODE meanders turn out to be regular Thom-Smale cell complexes, with an additional sign structure.

Many examples will accompany our approach. We happily exploit contributions by Pablo Castañeda, Anna Karnauhova, Phillipo Lappicy, Alejandro López Nieto, Carlos Rocha, Matthias Wolfrum, Peter Zograf, and many others. Theoretical flatworm chopping and grafting by Angela Stevens et al., however, presents a surprise.

Zoom Meeting ID: 913 7047 4263
Virtual tea time starts at 4:00 pm.

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