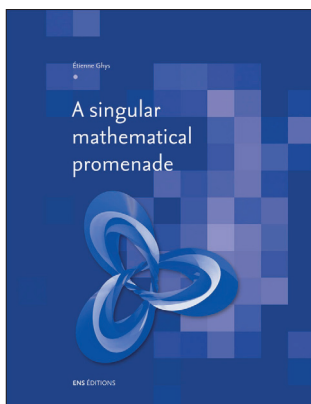


ENS
ÉDITIONS

NEW
RELEASE



A singular mathematical promenade

Étienne Ghys

A stroll in the mathematical world. This is neither an elementary introduction to the theory of singularities, nor a specialized treatise containing many new theorems. The purpose of this little book is to invite the reader on a mathematical promenade. We pay a visit to Hipparchus, Newton and Gauss, but also to many contemporary mathematicians. We play with a bit of algebra, topology, geometry, complex analysis, combinatorics, and computer science. Hopefully motivated undergraduates and more advanced mathematicians will enjoy some of these panoramas.

Étienne Ghys is a CNRS Senior Researcher at École normale supérieure de Lyon.

EDITION Paperback

PUBLISHED 2017

LANGUAGE English

SERIE Sciences

ISBN 978-2-84788-939-0

PAGES 312

DIMENSIONS 17,6 x 25

 27 €

 free



ENS
ENS DE LYON

TO ORDER

 PAPERBACK

Through our bookshop

ENS DE LYON

19, allée de Fontenay
69007 Lyon

Through ENS ÉDITIONS website

ens-lyon.fr/editions/catalogue.fr

Distribution : CID

cid@msh-paris.fr

 OTHER AVAILABLE FORMATS

 free of charge

ens-lyon.fr/editions/catalogue.fr


TO JOIN US

 ENS ÉDITIONS

ENS de Lyon

15, parvis René-Descartes
Bâtiment Ferdinand-Buisson
BP 7000
69342 Lyon cedex 07
France

 +33 (0)4 26 73 11 91 / 11 98

 +33 (0)4 26 73 12 68

 editions@ens-lyon.fr

 @ens_editions

 facebook.com/enseditions

Preface

Road map

Intersecting polynomials: Maxim Kontsevich

Patterns and permutations: Donald Knuth

Separable permutations

Hipparchus and Schroeder

De methodis serierum et fluxionum: Newton's method

De methodis serierum et fluxionum: Newton's series

Some formal algebra

Gauss on algebraic curves

Proof of Gauss's claim on singularities

De seriebus divergentibus : Euler, Cauchy and Poincaré

Convergence : Cauchy

Moebius and his band

Moebius necklaces

Resolution of singularities

The 3-sphere and the Hopf fibration

The cusp and the trefoil

Victor Puiseux, at last!

Jack Milnor and his fibration

The Hipparchus-Schroeder-Tamari-Stasheff associahedron

Jim Stasheff and loop spaces

Operads

Singular operads

Gauss is back: curves in the plane

Analytic chord diagrams: an algorithm

Analytic chord diagrams: interlace graphs

Gauss and linking

Kontsevich is back: universal invariant

Postface

Acknowledgments

Image Credits