A Curves Tu Berlin

The six volume set LNCS 11361-11366 constitutes the proceedings of the 14th Asian Conference on Computer Vision, ACCV 2018, held in Perth, Australia, in December 2018. The total of 274 contributions was carefully reviewed and selected from 979 submissions during two rounds of reviewing and improvement. The papers focus on motion and tracking, segmentation and grouping, image-based modeling, dep learning, object recognition object recognition, object detection and categorization, vision and language, video analysis and event recognition, face and gesture analysis, statistical methods and learning, performance evaluation, medical image analysis, document analysis, optimization methods, RGBD and depth camera processing, robotic vision, applications of computer vision.

This book presents a broad overview of computer graphics (CG), its history, and the hardware tools it employs. Covering a substantial number of concepts and algorithms, the text describes the techniques, approaches, and algorithms at the core of this field. Emphasis is placed on practical design and implementation, highlighting how graphics software works, and explaining how current CG can generate and display realistic-looking objects. The mathematics is non-rigorous, with the necessary mathematical background introduced in the Appendixes. Features: includes numerous figures, examples and solved exercises; discusses the key 2D and 3D transformations, and the

main types of projections; presents an extensive selection of methods, algorithms, and techniques; examines advanced techniques in CG, including the nature and properties of light and color, graphics standards and file formats, and fractals; explores the principles of image compression; describes the important input/output graphics devices.
The 11th IMA Conference on Cryptography and Coding was held at the Royal Agricultural College, Cirencester, UK during December 18-20, 2007. As usual, the venue provided a relaxed and convivial atmosphere for attendees to enjoy the conference programme and discuss current and future research ideas.
Theprogrammecomprisedthreeinvitedtalksand22contributedpapers.The invited speakers were Jonathan Katz (University of Maryland, USA), Patrick Sol ?e(EcolePolytechniquedel'Universit ? e de Nice-Sophia Antipolis, France) and Whit Di'e (Sun Microsystems, USA). Special thanks are due to these speakers.
Twooftheinvitedspeakersprovidedpapers,includedinthisvolume,whichhi- light the connections between cryptography, coding theory and discrete mat- matics. The contributed talks were selected from 48 submissions. The accepted - pers cover a range of topics in mathematics and computer science, including symmetric and public key cryptography, Boolean functions, sequences, e'cient implementation and side-channel analysis. I would like to thank all the people who helped with the conference p-gramme and organization. First, I thank the Steering Committee for their gu- ance on the general format of the conference and for suggestions of members of the

Programme Committee. I also heartily thank the Programme Committee andthe sub-reviewerslistedonthe followingpages fortheir thoroughnessduring the reviewprocess. Eachpaper wasreviewed by at least three people. There was signi'cant online discussion about a number of papers. The submission and review process was greatly simpli'ed by the ichair so- ware developed by Thomas Baign` eresand Matthieu Finiasz. Thanks also to Jon HartforrunningthesubmissionsWebserverandSriramSrinivasanfordesigning and maintaining the conference Web page.

This book surveys the most recent advances in physics-inspired cell movement models. This synergetic, cross-disciplinary effort to increase the fidelity of computational algorithms will lead to a better understanding of the complex biomechanics of cell movement, and stimulate progress in research on related active matter systems, from suspensions of bacteria and synthetic swimmers to cell tissues and cytoskeleton.Cell motility and collective motion are among the most important themes in biology and statistical physics of out-of-equilibrium systems, and crucial for morphogenesis, wound healing, and immune response in eukaryotic organisms. It is also relevant for the development of effective treatment strategies for diseases such as cancer, and for the design of bioactive surfaces for cell sorting and manipulation. Substrate-based cell motility is, however, a very complex process as regulatory pathways and physical force generation mechanisms are intertwined. To understand the interplay between

adhesion, force generation and motility, an abundance of computational models have been proposed in recent years, from finite element to immerse interface methods and phase field approaches.This book is primarily written for physicists, mathematical biologists and biomedical engineers working in this rapidly expanding field, and can serve as supplementary reading for advanced graduate courses in biophysics and mathematical biology. The e-book incorporates experimental and computer animations illustrating various aspects of cell movement./div

This is a volume in honor of Professor Peter Carruthers on the occasion of his 61st birthday. It is a unique collection of papers by the world's leading experts, describing the most exciting developments in many areas of theoretical physics. While traditionally physics is driven to ever smaller and simpler systems, end-of-this-century scientists see themselves confronted with complex systems in many of their areas. It is just this interdisciplinary character of complexity that is addressed in this book, with topics ranging from the origin of intelligent life and of universal scaling laws in biology via heartbeats, proteins, fireballs, phase transitions, all the way to parton branching in collisions of elementary particles at high energies. The contributions include extensive discussions on complexity (M Gell-Mann, M Feigenbaum, D Champbell, D Pines and L M Simmons), neutrino masses (R Slansky and P Rosen), high temperature superconductors (D Pines), low Moon (M Feigenbaum), origin of intelligent life (S Colgate), chaos of the heart (M Duong-Van), origin of universal scaling laws in

biological systems (G West), critical behavior of quarks (R Hwa), status of LEGO (S Meshov), disoriented chiral condensate (F Cooper), and many others.

This book constitutes the thoroughly refereed post-conference proceedings of the 6th International Conference on Mathematical Aspects of Computer and Information Sciences, MACIS 2015, held in Berlin, Germany, in November 2015. The 48 revised papers presented together with 7 invited papers were carefully reviewed and selected from numerous submissions. The papers are grouped in topical sections on curves and surfaces, applied algebraic geometry, cryptography, verified numerical computation, polynomial system solving, managing massive data, computational theory of differential and difference equations, data and knowledge exploration, algorithm engineering in geometric computing, real complexity: theory and practice, global optimization, and general session.

This book presents contributions to a workshop dedicated to Prof. Gerd Gudehus on the occasion of his 80th birthday and held in Vienna, Austria, on 14-16 August 2018. The articles gathered here, many of which were written by former students, friends and colleagues of Prof. Gudehus, cover diverse topics that reflect the breadth and depth of geomechanics research. Consequently, they offer a valuable source of ideas and inspiration on areas ranging from sophisticated constitutive models to advanced numerical methods, from particles to continua, and from fractals of geomaterials to the design of offshore wind turbine foundations.

Content Description #Includes bibliographical references and index.
Since the appearance of the authors' first volume on elliptic curve cryptography in 1999 there has been tremendous progress in the field. In some topics, particularly point counting, the progress has been spectacular. Other topics such as the Weil and Tate pairings have been applied in new and important ways to cryptographic protocols that hold great promise. Notions such as provable security, side channel analysis and the Weil descent technique have also grown in importance. This second volume addresses these advances and brings the reader up to date. Prominent contributors to the research literature in these areas have provided articles that reflect the current state of these important topics. They are divided into the areas of protocols, implementation techniques, mathematical foundations and pairing based cryptography. Each of the topics is presented in an accessible, coherent and consistent manner for a wide audience that will include mathematicians, computer scientists and engineers.
This book on the dynamics of rail vehicles is developed from the manuscripts for a class with the same name at TU Berlin. It is directed mainly to master students with pre-knowledge in mathematics and mechanics and engineers that want to learn more. The important phenomena of the running behaviour of rail vehicles are derived and explained. Also recent research results and experience from the

operation of rail vehicles are included. One focus is the description of the complex wheel-rail contact phenomena that are essential to understand the concept of running stability and curving. A reader should in the end be able to understand the background of simulation tools that are used by the railway industry and universities today.

This volume offers a well-structured overview of existent computational approaches to Riemann surfaces and those currently in development. The authors of the contributions represent the groups providing publically available numerical codes in this field. Thus this volume illustrates which software tools are available and how they can be used in practice. In addition examples for solutions to partial differential equations and in surface theory are presented. The intended audience of this book is twofold. It can be used as a textbook for a graduate course in numerics of Riemann surfaces, in which case the standard undergraduate background, i.e., calculus and linear algebra, is required. In particular, no knowledge of the theory of Riemann surfaces is expected; the necessary background in this theory is contained in the Introduction chapter. At the same time, this book is also intended for specialists in geometry and mathematical physics applying the theory of Riemann surfaces in their research. It is the first book on numerics of Riemann surfaces that reflects the progress

made in this field during the last decade, and it contains original results. There are a growing number of applications that involve the evaluation of concrete characteristics of models analytically described in terms of Riemann surfaces. Many problem settings and computations in this volume are motivated by such concrete applications in geometry and mathematical physics.

This volume constitutes the thoroughly refereed post-conference proceedings of the 7th International Conference on Curves and Surfaces, held in Avignon, in June 2010. The conference had the overall theme: "Representation and Approximation of Curves and Surfaces and Applications". The 39 revised full papers presented together with 9 invited talks were carefully reviewed and selected from 114 talks presented at the conference. The topics addressed by the papers range from mathematical foundations to practical implementation on modern graphics processing units and address a wide area of topics such as computer-aided geometric design, computer graphics and visualisation, computational geometry and topology, geometry processing, image and signal processing, interpolation and smoothing, scattered data processing and learning theory and subdivision, wavelets and multi-resolution methods.

This book constitutes the refereed proceedings of the 26th International Symposium on Graph Drawing and Network Visualization, GD 2018, held in

Barcelona, Spain, in September 2018. The 41 full papers presented in this volume were carefully reviewed and selected from 85 submissions. They were organized in topical sections named: planarity variants; upward drawings; RAC drawings; orders; crossings; crossing angles; contact representations; specialized graphs and trees; partially fixed drawings, experiments; orthogonal drawings; realizability; and miscellaneous. The book also contains one invited talk in full paper length and the Graph Drawing contest report.

This book constitutes the refereed proceedings of the 7th International Workshop on Theory and Practice in Public Key Cryptography, PKC 2004, held in Singapore in March 2004. The 32 revised full papers presented were carefully reviewed and selected from 106 submissions. All current issues in public key cryptography are addressed ranging from theoretical and mathematical foundations to a broad variety of public key cryptosystems.

Pairing-based cryptography is at the very leading edge of the current wave in computer cryptography. That makes this book all the more relevant, being as it is the refereed proceedings of the First International Conference on Pairing-Based Cryptography, Pairing 2007, held in Tokyo, Japan in 2007. The 18 revised full papers presented together were carefully reviewed and selected from 86 submissions. The papers are organized in topical sections including those on

applications, and certificateless public key encryption.
http://www.worldscientific.com/worldscibooks/10.1142/4569

“Number Theory and Related Fields” collects contributions based on the proceedings of the "International Number Theory Conference in Memory of Alf van der Poorten," hosted by CARMA and held March 12-16th 2012 at the University of Newcastle, Australia. The purpose of the conference was to promote number theory research in Australia while commemorating the legacy of Alf van der Poorten, who had written over 170 papers on the topic of number theory and collaborated with dozens of researchers. The research articles and surveys presented in this book were written by some of the most distinguished mathematicians in the field of number theory, and articles will include related topics that focus on the various research interests of Dr. van der Poorten.?

The three-volume set LNCS 11857, 11858, and 11859 constitutes the refereed proceedings of the Second Chinese Conference on Pattern Recognition and Computer Vision, PRCV 2019, held in Xi’an, China, in November 2019. The 165 revised full papers presented were carefully reviewed and selected from 412 submissions. The papers have been organized in the following topical sections: Part I: Object Detection, Tracking and Recognition, Part II: Image/Video Processing and Analysis, Part III: Data Analysis and Optimization.

Contents:Affine Bibliography 1998 (T Binder et al.)Contact Metric R-Harmonic

Manifolds (K Arslan & C Murathan)Local Classification of Centroaffine Tchebychev Surfaces with Constant Curvature Metric (T Binder)Hypersurfaces in Space Forms with Some Constant Curvature Functions (F Brito et al.)Some Relations Between a Submanifold and Its Focal Set (S Carter & A West)On Manifolds of Pseudosymmetric Type (F Defever et al.)Hypersurfaces with Pseudosymmetric Weyl Tensor in Conformally Flat Manifolds (R Deszcz et al.)Least-Squares Geometrical Fitting and Minimising Functions on Submanifolds (F Dillen et al.)Cubic Forms Generated by Functions on Projectively Flat Spaces (J Leder)Distinguished Submanifolds of a Sasakian Manifold (I Mihai)On the Curvature of Left Invariant Locally Conformally Para-Kählerian Metrics (Z Olszak)Remarks on Affine Variations on the Ellipsoid (M Wiehe)Dirac's Equation, Schrödinger's Equation and the Geometry of Surfaces (T J Willmore)and other papers Readership: Researchers doing differential geometry and topology. Keywords:Proceedings;Geometry;Topology;Valenciennes (France);Lyon (France);Leuven (Belgium);Dedication

Annotation This book constitutes the refereed proceedings of the 26th Annual International Conference on the Theory and Applications of Cryptographic Techniques, EUROCRYPT 2007, held in Barcelona, Spain in May 2007. The 33 revised full papers presented were carefully reviewed and selected from 173 submissions. The papers address all current foundational, theoretical and research aspects of cryptology, cryptography, and cryptanalysis as well as advanced applications.

This book constitutes the thoroughly refereed proceedings of the Second International Conference on Pairing-Based Cryptography, Pairing 2008, held in London, UK, in September 2008. The 20 full papers, presented together with the contributions resulting from 3 invited talks, were carefully reviewed and selected from 50 submissions. The contents are organized in topical sections on cryptography, mathematics, constructing pairing-friendly curves, implementation of pairings, and hardware implementation.
Computer Vision – ACCV 201814th Asian Conference on Computer Vision, Perth, Australia, December 2–6, 2018, Revised Selected PapersSpringer
4e de couverture : "These proceedings contain most of the contributions to the Göttingen-Jerusalem Conference 2008 on "Symmetries in Algebra and Number Theory" including three addresses given at the conference opening, and two contributions to the Satellite Conference "On the Legacy of Hermann Weyl". The contributions are survey articles or report on recent work by the authors, for exemple new results on the famous Leopoldt conjecture."
This thesis sheds light on the unique dynamics of optoelectronic devices based on semiconductor quantum-dots. The complex scattering processes involved in filling the optically active quantum-dot states and the presence of charge-carrier nonequilibrium conditions are identified as sources for the distinct dynamical behavior of quantum-dot based devices. Comprehensive theoretical models, which allow for an accurate description of such devices, are presented and applied to recent experimental

observations. The low sensitivity of quantum-dot lasers to optical perturbations is directly attributed to their unique charge-carrier dynamics and amplitude-phase-coupling, which is found not to be accurately described by conventional approaches. The potential of quantum-dot semiconductor optical amplifiers for novel applications such as simultaneous multi-state amplification, ultra-wide wavelength conversion, and coherent pulse shaping is investigated. The scattering mechanisms and the unique electronic structure of semiconductor quantum-dots are found to make such devices prime candidates for the implementation of next-generation optoelectronic applications, which could significantly simplify optical telecommunication networks and open up novel high-speed data transmission schemes.

The field of sketch-based interfaces and modeling (SBIM) is concerned with developing methods and techniques to enable users to interact with a computer through sketching - a simple, yet highly expressive medium. SBIM blends concepts from computer graphics, human-computer interaction, artificial intelligence, and machine learning. Recent improvements in hardware, coupled with new machine learning techniques for more accurate recognition, and more robust depth inferencing techniques for sketch-based modeling, have resulted in an explosion of both sketch-based interfaces and pen-based computing devices. Presenting the first coherent, unified overview of SBIM, this unique text/reference bridges the two complementary research areas of user interaction (sketch-based interfaces), and graphical modeling and construction (sketch-based modeling). The book discusses the state of the art of this rapidly evolving field, with contributions from an international selection of experts. Also

covered are sketch-based systems that allow the user to manipulate and edit existing data - from text, images, 3D shapes, and video - as opposed to modeling from scratch. Topics and features: reviews pen/stylus interfaces to graphical applications that avoid reliance on user interface modes; describes systems for diagrammatic sketch recognition, mathematical sketching, and sketch-based retrieval of vector drawings; examines pen-based user interfaces for engineering and educational applications; presents a set of techniques for sketch recognition that rely strictly on spatial information; introduces the Teddy system; a pioneering sketching interface for designing free-form 3D models; investigates a range of advanced sketch-based systems for modeling and designing 3D objects, including complex contours, clothing, and hair-styles; explores methods for modeling from just a single sketch or using only a few strokes. This text is an essential resource for researchers, practitioners and graduate students involved in human-factors and user interfaces, interactive computer graphics, and intelligent user interfaces and AI.

This is the first book on a newly emerging field of discrete differential geometry providing an excellent way to access this exciting area. It provides discrete equivalents of the geometric notions and methods of differential geometry, such as notions of curvature and integrability for polyhedral surfaces. The carefully edited collection of essays gives a lively, multi-facetted introduction to this emerging field.

The European Photovoltaic Solar Energy Conferences are dedicated to accelerating the impetus towards sustainable development of global PV markets. The 16th in the series, held in Glasgow UK, brought together more than 1500 delegates from 72 countries, and provided an important and vital forum for information exchange in the field. The Conference Proceedings

place on record a new phase of market development and scientific endeavour in the PV industry, representing current and innovative thinking in all aspects of the science, technology, markets and business of photovoltaics. In three volumes, the Proceedings present some 790 papers selected for presentation by the scientific review committee of the 16th European Photovoltaic Solar Energy Conference. The comprehensive range of topics covered comprise: * Fundamentals, Novel Devices and New Materials * Thin Film Cells and Technologies * Space Cells and Systems * Crystalline Silicon Solar Cells and Technologies * PV Integration in Buildings * PV Modules and Components of PV Systems * Implementation, Strategies, National Programs and Financing Schemes * Market Deployment in Developing Countries These proceedings are an essential reference for all involved in the global PV industry-scientists, researchers, technologists and those with an interest in global market trends. The conference was organised by WIP-Renewable Energies, Munich, Germany.

This book constitutes the refereed proceedings of the 9th International Conference on the Theory and Application of Cryptology and Information Security, ASIACRYPT 2003, held in Taipei, Taiwan in November/December 2003.The 32 revised full papers presented together with one invited paper were carefully reviewed and selected from 188 submissions. The papers are organized in topical sections on public key cryptography, number theory, efficient implementations, key management and protocols, hash functions, group signatures, block cyphers, broadcast and multicast, foundations and complexity theory, and digital signatures.

This book constitutes the refereed proceedings of the 4th International Algorithmic Number Theory Symposium, ANTS-IV, held in Leiden, The Netherlands, in July 2000. The book presents 36 contributed papers which have gone through a thorough round of reviewing,

selection and revision. Also included are 4 invited survey papers. Among the topics addressed are gcd algorithms, primality, factoring, sieve methods, cryptography, linear algebra, lattices, algebraic number fields, class groups and fields, elliptic curves, polynomials, function fields, and power sums.

Based on the ontology and semantics of algebra, the computer algebra system Magma enables users to rapidly formulate and perform calculations in abstract parts of mathematics. Edited by the principal designers of the program, this book explores Magma. Coverage ranges from number theory and algebraic geometry, through representation theory and group theory to discrete mathematics and graph theory. Includes case studies describing computations underpinning new theoretical results.

A collection of articles discussing integrable systems and algebraic geometry from leading researchers in the field.

The mathematical foundation of free form surface representations and constructions is an emerging field covering many interesting research problems and numerous important applications. This book contains selected presentations from the CAGD Conference at Oberwolfach, with new developments of mathematical methods and efficient algorithms for the representation of curves and surfaces. The contributions focus on the following topics: rational splines, scattered data interpolation, multivariate splines, interpolating with geometric constraints, algorithms for graphic representations.

This volume contains the proceedings of the Eighth International Conference on Finite Fields and Applications, held in Melbourne, Australia, July 9-13, 2007. It

contains 5 invited survey papers as well as original research articles covering various theoretical and applied areas related to finite fields. Finite fields, and the computational and algorithmic aspects of finite field problems, continue to grow in importance and interest in the mathematical and computer science communities because of their applications in so many diverse areas. In particular, finite fields now play very important roles in number theory, algebra, and algebraic geometry, as well as in computer science, statistics, and engineering. Areas of application include algebraic coding theory, cryptology, and combinatorial design theory. This fifth edition has been fully updated to cover the many advances made in CAGD and curve and surface theory since 1997, when the fourth edition appeared. Material has been restructured into theory and applications chapters. The theory material has been streamlined using the blossoming approach; the applications material includes least squares techniques in addition to the traditional interpolation methods. In all other respects, it is, thankfully, the same. This means you get the informal, friendly style and unique approach that has made Curves and Surfaces for CAGD: A Practical Guide a true classic. The book's unified treatment of all significant methods of curve and surface design is heavily focused on the movement from theory to application. The author provides complete C implementations of many of the theories he discusses, ranging from

the traditional to the leading-edge. You'll gain a deep, practical understanding of their advantages, disadvantages, and interrelationships, and in the process you'll see why this book has emerged as a proven resource for thousands of other professionals and academics. * Provides authoritative and accessible information for those working with or developing computer-aided geometric design applications. * Covers all significant CAGD curve and surface design techniques-from the traditional to the experimental. * Includes a new chapter on recursive subdivision and triangular meshes. * Presents topical programming exercises useful to professionals and students alike. * Offers complete C implementations of many of the book's examples via a companion Web site.

Created as a celebration of mathematical pioneer Emma Previato, this comprehensive book highlights the connections between algebraic geometry and integrable systems, differential equations, mathematical physics, and many other areas. The authors, many of whom have been at the forefront of research into these topics for the last decades, have all been influenced by Previato's research, as her collaborators, students, or colleagues. The diverse articles in the book demonstrate the wide scope of Previato's work and the inclusion of several survey and introductory articles makes the text accessible to graduate students and non-experts, as well as researchers. This first volume covers a wide range of

areas related to integrable systems, often emphasizing the deep connections with algebraic geometry. Common themes include theta functions and Abelian varieties, Lax equations, integrable hierarchies, Hamiltonian flows and difference operators. These powerful tools are applied to spinning top, Hitchin, Painleve and many other notable special equations.

The Abel Symposia volume at hand contains a collection of high-quality articles written by the world's leading experts, and addressing all mathematicians interested in advances in deterministic and stochastic dynamical systems, numerical analysis, and control theory. In recent years we have witnessed a remarkable convergence between individual mathematical disciplines that approach deterministic and stochastic dynamical systems from mathematical analysis, computational mathematics and control theoretical perspectives. Breakthrough developments in these fields now provide a common mathematical framework for attacking many different problems related to differential geometry, analysis and algorithms for stochastic and deterministic dynamics. In the Abel Symposium 2016, which took place from August 16-19 in Rosendal near Bergen, leading researchers in the fields of deterministic and stochastic differential equations, control theory, numerical analysis, algebra and random processes presented and discussed the current state of the art in these diverse fields. The

current Abel Symposia volume may serve as a point of departure for exploring these related but diverse fields of research, as well as an indicator of important current and future developments in modern mathematics.