

1. Record Nr.	UNINA9910133837203321
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Titolo	Multilayer Thin Films : Sequential Assembly of Nanocomposite Materials
Pubbl/distr/stampa	Hoboken, : Wiley, 2012
ISBN	9786613642561 9783527646760 3527646760 9781280665639 1280665637 9783527646777 3527646779 9783527646746 3527646744
Edizione	[2nd ed.]
Descrizione fisica	1 online resource (1124 p.)
Altri autori (Persone)	SchlenoffJoe B
Disciplina	530.4275
Soggetti	Nanostructured materials Polyelectrolytes Thin films, Multilayered Nanocomposites (Materials)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di contenuto	Multilayer Thin Films: Sequential Assembly of Nanocomposite Materials; Contents; List of Contributors; 1 Layer-by-Layer Assembly (Putting Molecules to Work); 1.1 The Whole is More than the Sum of its Parts; 1.2 From Self-Assembly to Directed Assembly; 1.3 History and Development of the Layer-by-Layer Assembly Method; 1.4 LbL-Assembly is the Synthesis of Fuzzy Supramolecular Objects; 1.5 Reproducibility and Choice of Deposition Conditions; 1.6 Monitoring Multilayer Build-up; 1.7 Spray- and Spin-Assisted Multilayer Assembly; 1.8 Recent Developments; 1.8.1 Self-patterning LbL-Films 1.8.2 Deposition of LbL-Films on Very Small Particles 1.8.3 Purely Inorganic LbL-"Films"; 1.9 Final Remarks; References; Part I: Preparation and Characterization; 2 Layer-by-Layer Processed

Multilayers: Challenges and Opportunities; 2.1 Introduction; 2.2 Fundamental Challenges and Opportunities; 2.2.1 LbL Assembly on Nanoscale Elements and in Confined Geometries; 2.2.2 Living Cells as Functional Elements of Polyelectrolyte Multilayers; 2.2.3 Multilayer Cellular Backpacks; 2.2.4 Direct LbL Processing of Living Cells; 2.3 Technological Challenges and Opportunities
2.3.1 Improving Processing Time and Versatility 2.3.2 Towards Mechanically Robust Multilayer Coatings; 2.4 The Path Forward; References; 3 Layer-by-Layer Assembly: from Conventional to Unconventional Methods; 3.1 Introduction; 3.2 Conventional LbL Methods; 3.2.1 Electrostatic LbL Assembly; 3.2.2 Hydrogen-Bonded LbL Assembly; 3.2.3 LbL Assembly Driven by Coordination Interaction; 3.2.4 To Combine LbL Assembly and Post-Chemical Reaction for the Fabrication of Robust Thin Films; 3.3 Unconventional LbL Methods; 3.3.1 Electrostatic Complex for Unconventional LbL Assembly
3.3.1.1 Nanoreactors with Enhanced Quantum Yield 3.3.1.2 "Ion Traps" for Enhancing the Permselectivity and Permeability; 3.3.1.3 Surface Imprinted LbL Films; 3.3.1.4 Cation-Selective CP Based on SMILbL Film; 3.3.2 Hydrogen-Bonded Complex for Unconventional LbL Assembly; 3.3.3 Block Copolymer Micelles for Unconventional LbL Assembly; 3.3.4 - Interaction Complex for Electrostatic LbL Assembly; 3.4 Summary and Outlook; References; 4 Novel Multilayer Thin Films: Hierarchic Layer-by-Layer (Hi-LbL) Assemblies; 4.1 Introduction; 4.2 Hi-LbL for Multi-Cellular Models
4.3 Hi-LbL for Unusual Drug Delivery Modes 4.4 Hi-LbL for Sensors; 4.4.1 Mesoporous Carbon Hi-LbL; 4.4.2 Mesoporous Carbon Capsule Hi-LbL; 4.4.3 Graphene/Ionic-Liquid Hi-LbL; 4.5 Future Perspectives; References; 5 Layer-by-Layer Assembly Using Host-Guest Interactions; 5.1 Introduction; 5.2 Supramolecular Layer-by-Layer Assembly; 5.3 3D Patterned Multilayer Assemblies on Surfaces; 5.4 3D Supramolecular Nanoparticle Crystal Structures; 5.5 Porous 3D Supramolecular Assemblies in Solution; 5.6 Conclusions; References
6 LbL Assemblies Using van der Waals or Affinity Interactions and Their Applications

Sommario/riassunto

This second, comprehensive edition of the pioneering book in this field has been completely revised and extended, now stretching to two volumes. The result is a comprehensive summary of layer-by-layer assembled, truly hybrid nanomaterials and thin films, covering organic, inorganic, colloidal, macromolecular and biological components, plus the assembly of nanoscale films derived from them on surfaces. For anyone working in the field as well as scientists and researchers active in materials development who need the key knowledge provided here for linking the fields of molecular self-assembly

2. Record Nr.	UNINA9910484121203321
Titolo	Tools and Algorithms for the Construction and Analysis of Systems : 20th International Conference, TACAS 2014, Held as Part of the European Joint Conferences on Theory and Practice of Software, ETAPS 2014, Grenoble, France, April 5-13, 2014, Proceedings // edited by Erika Abraham, Klaus Havelund
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2014
ISBN	3-642-54862-8
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (XVIII, 652 p. 142 illus.)
Collana	Theoretical Computer Science and General Issues, , 2512-2029 ; ; 8413
Disciplina	004.21
Soggetti	Computer science Algorithms Software engineering Compilers (Computer programs) Machine theory Computer Science Logic and Foundations of Programming Software Engineering Theory of Computation Compilers and Interpreters Formal Languages and Automata Theory
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Variations on Safety -- Decision Procedures and their Application in Analysis Decision Procedures for Flat Array Properties -- SATMC: A SAT-Based Model Checker for Security-Critical Systems -- IC3 Modulo Theories via Implicit Predicate Abstraction -- SMT-Based Verification of Software Countermeasures against Side-Channel Attacks -- Detecting Unrealizable Specifications of Distributed Systems -- Synthesizing Safe Bit-Precise Invariants -- PEALT: An Automated Reasoning Tool for Numerical Aggregation of Trust Evidence -- GRASShopper: Complete Heap Verification with Mixed Specifications -- Alternating Runtime and Size Complexity Analysis of Integer Programs -- Proving Non

termination via Safety -- Ranking Templates for Linear Loops -- Modeling and Model Checking Discrete Systems FDR3 — A Modern Refinement Checker for CSP -- Concurrent Depth-First Search Algorithms -- Basic Problems in Multi-View Modeling -- GPU explore: Many-Core On-the-Fly State Space Exploration Using GPUs -- Forward Reachability Computation for Autonomous Max-Plus-Linear Systems -- Compositional Invariant Generation for Timed Systems -- Characterizing Algebraic Invariants by Differential Radical Invariants -- Quasi-Equal Clock Reduction: More Networks, More Queries -- Are Timed Automata Bad for a Specification Language? Language Inclusion Checking for Timed Automata -- Monitoring, Fault Detection and Identification Formal Design of Fault Detection and Identification Components Using Temporal Epistemic Logic -- Monitoring Modulo Theories -- Temporal-Logic Based Runtime Observer Pairs for System Health Management of Real-Time Systems -- Status Report on Software Verification (Competition Summary SV-COMP 2014) -- CBMC – C Bounded Model Checker (Competition Contribution) -- CPAchecker with Sequential Combination of Explicit-Value Analyses and Predicate Analyses (Competition Contribution) -- CPALIEN: Shape Analyzer for CPAchecker (Competition Contribution) -- Lazy-CSeq: A Lazy Sequentialization Tool for C (CompetitionContribution) -- MU-CSeq: Sequentialization of C Programs by Shared Memory Unwindings (Competition Contribution) -- ESBMC 1.22 (Competition Contribution) -- FrankenBit: Bit-Precise Verification with Many Bits (Competition Contribution) -- Predator: A Shape Analyzer Based on Symbolic Memory Graphs (Competition Contribution) -- Symbiotic 2: More Precise Slicing (Competition Contribution) -- Ultimate Automizer with Unsatisfiable Cores (Competition Contribution) -- Ultimate Kojak (Competition Contribution) -- Specifying and Checking Linear Time Properties Discounting in LTL -- Symbolic Model Checking of Stutter-Invariant Properties Using Generalized Testing Automata -- Symbolic Synthesis for Epistemic Specifications with Observational Semantics -- Synthesis for Human-in-the-Loop Control Systems -- Learning Regular Languages over Large Alphabets -- Verification of Concurrent Quantum Protocols by Equivalence Checking -- Computing Conditional Probabilities in Markovian Models Efficiently -- Permissive Controller Synthesis for Probabilistic Systems -- Precise Approximations of the Probability Distribution of a Markov Process in Time: An Application to Probabilistic Invariance -- SACO: Static Analyzer for Concurrent Objects -- VeriMAP: A Tool for Verifying Programs through Transformations -- CIF 3: Model-Based Engineering of Supervisory Controllers -- EDD: A Declarative Debugger for Sequential Erlang Programs -- APTE: An Algorithm for Proving Trace Equivalence -- The Modest Toolset: An Integrated Environment for Quantitative Modelling and Verification -- Bounds2: A Tool for Compositional Multi-parametrised Verification -- On the Correctness of a Branch Displacement Algorithm -- Analyzing the Next Generation Airborne Collision Avoidance System -- Environment-Model Based Testing of Control Systems: Case Studies.

Sommario/riassunto

This book constitutes the proceedings of the 20th International Conference on Tools and Algorithms for the Construction and Analysis of Systems, TACAS 2014, which took place in Grenoble, France, in April 2014, as part of the European Joint Conferences on Theory and Practice of Software, ETAPS 2014. The total of 42 papers included in this volume, consisting of 26 research papers, 3 case study papers, 6 regular tool papers and 7 tool demonstrations papers, were carefully reviewed and selected from 161 submissions. In addition the book contains one invited contribution. The papers are organized in topical sections named: decision procedures and their application in analysis;

complexity and termination analysis; modeling and model checking
discrete systems; timed and hybrid systems; monitoring, fault detection
and identification; competition on software verification; specifying and
checking linear time properties; synthesis and learning; quantum and
probabilistic systems; as well as tool demonstrations and case studies.
