

Andrew J Turberfield

List of Publications by Year in descending order

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Version: 2024-02-01

119
papers

15,935
citations

36203

51
h-index

18606

119
g-index

130
all docs

130
docs citations

130
times ranked

9818
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|--|------|-----------|
| 1 | A DNA-fuelled molecular machine made of DNA. <i>Nature</i> , 2000, 406, 605-608. | 13.7 | 2,247 |
| 2 | Fabrication of photonic crystals for the visible spectrum by holographic lithography. <i>Nature</i> , 2000, 404, 53-56. | 13.7 | 1,720 |
| 3 | Engineering Entropy-Driven Reactions and Networks Catalyzed by DNA. <i>Science</i> , 2007, 318, 1121-1125. | 6.0 | 1,022 |
| 4 | Rapid Chiral Assembly of Rigid DNA Building Blocks for Molecular Nanofabrication. <i>Science</i> , 2005, 310, 1661-1665. | 6.0 | 1,013 |
| 5 | DNA nanomachines. <i>Nature Nanotechnology</i> , 2007, 2, 275-284. | 15.6 | 934 |
| 6 | DNA Cage Delivery to Mammalian Cells. <i>ACS Nano</i> , 2011, 5, 5427-5432. | 7.3 | 506 |
| 7 | A Unidirectional DNA Walker That Moves Autonomously along a Track. <i>Angewandte Chemie - International Edition</i> , 2004, 43, 4906-4911. | 7.2 | 441 |
| 8 | The single-step synthesis of a DNA tetrahedron Electronic supplementary information (ESI) available: stoichiometry control. See http://www.rsc.org/suppdata/cc/b4/b402293a/ . <i>Chemical Communications</i> , 2004, , 1372. | 2.2 | 397 |
| 9 | Reconfigurable, braced, three-dimensional DNA nanostructures. <i>Nature Nanotechnology</i> , 2008, 3, 93-96. | 15.6 | 356 |
| 10 | Direct observation of stepwise movement of a synthetic molecular transporter. <i>Nature Nanotechnology</i> , 2011, 6, 166-169. | 15.6 | 351 |
| 11 | A DNA-based molecular motor that can navigate a network of tracks. <i>Nature Nanotechnology</i> , 2012, 7, 169-173. | 15.6 | 340 |
| 12 | DNA Fuel for Free-Running Nanomachines. <i>Physical Review Letters</i> , 2003, 90, 118102. | 2.9 | 338 |
| 13 | A Free-Running DNA Motor Powered by a Nicking Enzyme. <i>Angewandte Chemie - International Edition</i> , 2005, 44, 4358-4361. | 7.2 | 305 |
| 14 | Remote Toehold: A Mechanism for Flexible Control of DNA Hybridization Kinetics. <i>Journal of the American Chemical Society</i> , 2011, 133, 2177-2182. | 6.6 | 263 |
| 15 | Time-Resolved Photoluminescence of Two-Dimensional Hot Carriers in GaAs-AlGaAs Heterostructures. <i>Physical Review Letters</i> , 1984, 53, 1841-1844. | 2.9 | 262 |
| 16 | Single-Molecule Protein Encapsulation in a Rigid DNA Cage. <i>Angewandte Chemie - International Edition</i> , 2006, 45, 7414-7417. | 7.2 | 252 |
| 17 | Optical detection of the integer and fractional quantum Hall effects in GaAs. <i>Physical Review Letters</i> , 1990, 65, 637-640. | 2.9 | 240 |
| 18 | Self-Assembly of Chiral DNA Nanotubes. <i>Journal of the American Chemical Society</i> , 2004, 126, 16342-16343. | 6.6 | 207 |

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|----|--|------|-----------|
| 19 | Coordinated Chemomechanical Cycles: A Mechanism for Autonomous Molecular Motion. <i>Physical Review Letters</i> , 2008, 101, 238101. | 2.9 | 185 |
| 20 | DNA Hairpins: Fuel for Autonomous DNA Devices. <i>Biophysical Journal</i> , 2006, 91, 2966-2975. | 0.2 | 183 |
| 21 | Engineering a 2D Protein-DNA Crystal. <i>Angewandte Chemie - International Edition</i> , 2005, 44, 3057-3061. | 7.2 | 179 |
| 22 | Programmable energy landscapes for kinetic control of DNA strand displacement. <i>Nature Communications</i> , 2014, 5, 5324. | 5.8 | 172 |
| 23 | Reversible Logic Circuits Made of DNA. <i>Journal of the American Chemical Society</i> , 2011, 133, 20080-20083. | 6.6 | 160 |
| 24 | A Programmable Molecular Robot. <i>Nano Letters</i> , 2011, 11, 982-987. | 4.5 | 155 |
| 25 | Guiding the folding pathway of DNA origami. <i>Nature</i> , 2015, 525, 82-86. | 13.7 | 146 |
| 26 | A Self-Assembled DNA Bipyramid. <i>Journal of the American Chemical Society</i> , 2007, 129, 6992-6993. | 6.6 | 144 |
| 27 | Multistep DNA-Templated Reactions for the Synthesis of Functional Sequence Controlled Oligomers. <i>Angewandte Chemie - International Edition</i> , 2010, 49, 7948-7951. | 7.2 | 144 |
| 28 | An autonomous molecular assembler for programmable chemical synthesis. <i>Nature Chemistry</i> , 2016, 8, 542-548. | 6.6 | 130 |
| 29 | Quantitative Single-Molecule Surface-Enhanced Raman Scattering by Optothermal Tuning of DNA Origami-Assembled Plasmonic Nanoantennas. <i>ACS Nano</i> , 2016, 10, 9809-9815. | 7.3 | 127 |
| 30 | Mechanism for a Directional, Processive, and Reversible DNA Motor. <i>Small</i> , 2009, 5, 1513-1516. | 5.2 | 110 |
| 31 | DNA-Templated Protein Arrays for Single-Molecule Imaging. <i>Nano Letters</i> , 2011, 11, 657-660. | 4.5 | 99 |
| 32 | “Giant Surfactants” Created by the Fast and Efficient Functionalization of a DNA Tetrahedron with a Temperature-Responsive Polymer. <i>ACS Nano</i> , 2013, 7, 8561-8572. | 7.3 | 93 |
| 33 | Optimizing DNA Nanotechnology through Coarse-Grained Modeling: A Two-Footed DNA Walker. <i>ACS Nano</i> , 2013, 7, 2479-2490. | 7.3 | 88 |
| 34 | Infiltration and Inversion of Holographically Defined Polymer Photonic Crystal Templates by Atomic Layer Deposition. <i>Advanced Materials</i> , 2006, 18, 1561-1565. | 11.1 | 87 |
| 35 | Ordering Gold Nanoparticles with DNA Origami Nanoflowers. <i>ACS Nano</i> , 2016, 10, 7303-7306. | 7.3 | 87 |
| 36 | High-Resolution Structural Analysis of a DNA Nanostructure by cryoEM. <i>Nano Letters</i> , 2009, 9, 2747-2750. | 4.5 | 82 |

| # | ARTICLE | IF | CITATIONS |
|----|--|------|-----------|
| 37 | Holographic photonic crystals with diamond symmetry. <i>Physical Review B</i> , 2003, 68, . | 1.1 | 79 |
| 38 | Programmable One-Pot Multistep Organic Synthesis Using DNA Junctions. <i>Journal of the American Chemical Society</i> , 2012, 134, 1446-1449. | 6.6 | 78 |
| 39 | Transport and self-organization across different length scales powered by motor proteins and programmed by DNA. <i>Nature Nanotechnology</i> , 2014, 9, 44-47. | 15.6 | 75 |
| 40 | Sequence-specific synthesis of macromolecules using DNA-templated chemistry. <i>Chemical Communications</i> , 2012, 48, 5614. | 2.2 | 74 |
| 41 | Three-Dimensional Optical Lithography for Photonic Microstructures. <i>Advanced Materials</i> , 2006, 18, 1557-1560. | 11.1 | 71 |
| 42 | The Evolution of DNA-Templated Synthesis as a Tool for Materials Discovery. <i>Accounts of Chemical Research</i> , 2017, 50, 2496-2509. | 7.6 | 69 |
| 43 | A Facile Method for Reversibly Linking a Recombinant Protein to DNA. <i>ChemBioChem</i> , 2009, 10, 1551-1557. | 1.3 | 68 |
| 44 | Spin and Charge Density Excitations and the Collapse of the Fractional Quantum Hall State at $\nu=1/3$. <i>Physical Review Letters</i> , 1997, 78, 4095-4098. | 2.9 | 67 |
| 45 | Combinatorial Displacement of DNA Strands: Application to Matrix Multiplication and Weighted Sums. <i>Angewandte Chemie - International Edition</i> , 2013, 52, 1189-1192. | 7.2 | 67 |
| 46 | Design of hidden thermodynamic driving for non-equilibrium systems via mismatch elimination during DNA strand displacement. <i>Nature Communications</i> , 2020, 11, 2562. | 5.8 | 66 |
| 47 | Non-covalent Single Transcription Factor Encapsulation Inside a DNA Cage. <i>Angewandte Chemie - International Edition</i> , 2013, 52, 2284-2288. | 7.2 | 63 |
| 48 | Time-resolved photoluminescence from hot two-dimensional carriers in GaAs/GaAlAs MQWS. <i>Surface Science</i> , 1986, 170, 511-519. | 0.8 | 55 |
| 49 | Variable sample temperature scanning superconducting quantum interference device microscope. <i>Applied Physics Letters</i> , 1999, 74, 4011-4013. | 1.5 | 52 |
| 50 | Sol-Gel Organic-Inorganic Composites for 3-D Holographic Lithography of Photonic Crystals with Submicron Periodicity. <i>Chemistry of Materials</i> , 2003, 15, 2301-2304. | 3.2 | 52 |
| 51 | Kinetically Controlled Self-Assembly of DNA Oligomers. <i>Journal of the American Chemical Society</i> , 2009, 131, 2422-2423. | 6.6 | 51 |
| 52 | Domain-swap polymerization drives the self-assembly of the bacterial flagellar motor. <i>Nature Structural and Molecular Biology</i> , 2016, 23, 197-203. | 3.6 | 48 |
| 53 | Photonic crystals for the visible spectrum by holographic lithography. <i>Optical and Quantum Electronics</i> , 2002, 34, 3-12. | 1.5 | 45 |
| 54 | Peptide Assembly Directed and Quantified Using Megadalton DNA Nanostructures. <i>ACS Nano</i> , 2019, 13, 9927-9935. | 7.3 | 45 |

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|----|--|------|-----------|
| 55 | Incompressible electron liquid states studied by optical spectroscopy. <i>Physical Review B</i> , 1993, 47, 4794-4797. | 1.1 | 44 |
| 56 | DNA origami signposts for identifying proteins on cell membranes by electron cryotomography. <i>Cell</i> , 2021, 184, 1110-1121.e16. | 13.5 | 43 |
| 57 | Modifying Membrane Morphology and Interactions with DNA Origami Clathrin-Mimic Networks. <i>ACS Nano</i> , 2019, 13, 9973-9979. | 7.3 | 42 |
| 58 | Dimensions and Global Twist of Single-Layer DNA Origami Measured by Small-Angle X-ray Scattering. <i>ACS Nano</i> , 2018, 12, 5791-5799. | 7.3 | 35 |
| 59 | Photonic Crystals Made by Holographic Lithography. <i>MRS Bulletin</i> , 2001, 26, 632-636. | 1.7 | 34 |
| 60 | Peptidomimetic bond formation by DNA-templated acyl transfer. <i>Organic and Biomolecular Chemistry</i> , 2011, 9, 1661. | 1.5 | 33 |
| 61 | Registration of single quantum dots using cryogenic laser photolithography. <i>Applied Physics Letters</i> , 2006, 88, 193106. | 1.5 | 32 |
| 62 | Chiral DNA Origami Nanotubes with Well-Defined and Addressable Inside and Outside Surfaces. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 7687-7690. | 7.2 | 29 |
| 63 | Modelling DNA origami self-assembly at the domain level. <i>Journal of Chemical Physics</i> , 2015, 143, 165102. | 1.2 | 28 |
| 64 | Small Molecule Signals that Direct the Route of a Molecular Cargo. <i>Small</i> , 2012, 8, 3593-3597. | 5.2 | 26 |
| 65 | A clocked finite state machine built from DNA. <i>Chemical Communications</i> , 2013, 49, 237-239. | 2.2 | 26 |
| 66 | DNA walker circuits: computational potential, design, and verification. <i>Natural Computing</i> , 2015, 14, 195-211. | 1.8 | 26 |
| 67 | The Control of Shrinkage and Thermal Instability in SU-8 Photoresists for Holographic Lithography. <i>Advanced Functional Materials</i> , 2011, 21, 1593-1601. | 7.8 | 25 |
| 68 | DNA Walker Circuits: Computational Potential, Design, and Verification. <i>Lecture Notes in Computer Science</i> , 2013, , 31-45. | 1.0 | 25 |
| 69 | DNA as an engineering material. <i>Physics World</i> , 2003, 16, 43-46. | 0.0 | 24 |
| 70 | Design of an Autonomous DNA Nanomechanical Device Capable of Universal Computation and Universal Translational Motion. <i>Lecture Notes in Computer Science</i> , 2005, , 426-444. | 1.0 | 24 |
| 71 | DNA Monofunctionalization of Quantum Dots. <i>ChemBioChem</i> , 2009, 10, 1781-1783. | 1.3 | 23 |
| 72 | The Formal Language and Design Principles of Autonomous DNA Walker Circuits. <i>ACS Synthetic Biology</i> , 2016, 5, 878-884. | 1.9 | 23 |

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|----|--|-----|-----------|
| 73 | Practical aspects of structural and dynamic DNA nanotechnology. MRS Bulletin, 2017, 42, 889-896. | 1.7 | 23 |
| 74 | A Two-Dimensional DNA Array: The Three-Layer Logpile. Journal of the American Chemical Society, 2009, 131, 13574-13575. | 6.6 | 21 |
| 75 | Optical spectroscopy of correlated phases of degenerate two-dimensional electrons. Surface Science, 1992, 263, 1-8. | 0.8 | 20 |
| 76 | Designs of Autonomous Unidirectional Walking DNA Devices. Lecture Notes in Computer Science, 2005, , 410-425. | 1.0 | 17 |
| 77 | Photonic crystals with a chiral basis by holographic lithography. Photonics and Nanostructures - Fundamentals and Applications, 2005, 3, 79-83. | 1.0 | 16 |
| 78 | Electron Diffraction from a 2D Electron Wigner Crystal. Europhysics Letters, 1995, 29, 333-338. | 0.7 | 15 |
| 79 | Experimental aspects of DNA neural network computation. Soft Computing, 2001, 5, 10-18. | 2.1 | 15 |
| 80 | Self-propulsion of catalytic nanomotors synthesised by seeded growth of asymmetric platinum-gold nanoparticles. Chemical Communications, 2018, 54, 1901-1904. | 2.2 | 15 |
| 81 | Design and assembly of double-crossover linear arrays of micrometre length using rolling circle replication. Nanotechnology, 2005, 16, 1574-1577. | 1.3 | 13 |
| 82 | Replicated photonic crystals by atomic layer deposition within holographically defined polymer templates. Applied Physics Letters, 2009, 94, 263109. | 1.5 | 13 |
| 83 | Geometrical self-assembly. Nature Chemistry, 2011, 3, 580-581. | 6.6 | 12 |
| 84 | A DNA Network as an Information Processing System. International Journal of Molecular Sciences, 2012, 13, 5125-5137. | 1.8 | 12 |
| 85 | Photoluminescence study of two-dimensional carriers in the presence of in-plane magnetic fields. Surface Science, 1986, 170, 624-628. | 0.8 | 11 |
| 86 | Optically detected nuclear magnetic resonance from a single heterojunction in the fractional quantum Hall regime. Physica B: Condensed Matter, 1998, 256-258, 104-112. | 1.3 | 11 |
| 87 | Templated self-assembly of wedge-shaped DNA arrays. Tetrahedron, 2008, 64, 8530-8534. | 1.0 | 11 |
| 88 | Controlling the Bioreceptor Spatial Distribution at the Nanoscale for Single Molecule Counting in Microwell Arrays. ACS Sensors, 2019, 4, 2327-2335. | 4.0 | 11 |
| 89 | Strategies for Constructing and Operating DNA Origami Linear Actuators. Small, 2021, 17, e2007704. | 5.2 | 11 |
| 90 | Skyrmion-hole excitations at $\nu=1$ studied by photoluminescence spectroscopy. Physica B: Condensed Matter, 1998, 249-251, 544-548. | 1.3 | 10 |

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|-----|--|-----|-----------|
| 91 | Design of Autonomous DNA Cellular Automata. Lecture Notes in Computer Science, 2006, , 399-416. | 1.0 | 10 |
| 92 | A DNA molecular printer capable of programmable positioning and patterning in two dimensions. Science Robotics, 2022, 7, eabn5459. | 9.9 | 9 |
| 93 | Quasi-particle recombination and spatial ordering of 2D electrons in the extreme quantum limit. Surface Science, 1994, 305, 61-66. | 0.8 | 7 |
| 94 | Cryogenic two-photon laser photolithography with SU-8. Applied Physics Letters, 2006, 88, 143123. | 1.5 | 7 |
| 95 | Chiral DNA Origami Nanotubes with Well-Defined and Addressable Inside and Outside Surfaces. Angewandte Chemie, 2018, 130, 7813-7816. | 1.6 | 7 |
| 96 | Investigation of inter-valley scattering and hot phonon dynamics in GaAs quantum wells using femtosecond luminescence intensity correlation. Superlattices and Microstructures, 1989, 6, 199-202. | 1.4 | 6 |
| 97 | Optical spectroscopy of GaAs in the extreme quantum limit: integer and fractional quantum Hall effect, and onset of the electron solid. Physica B: Condensed Matter, 1991, 169, 336-354. | 1.3 | 6 |
| 98 | Low-energy electronic spin excitations between filling factors $\nu=1$ and studied by optically detected nuclear magnetic resonance. Physica E: Low-Dimensional Systems and Nanostructures, 2000, 6, 56-59. | 1.3 | 6 |
| 99 | Magnetic field-dependent hot carrier relaxation in GaAs quantum wells. Solid-State Electronics, 1988, 31, 387-390. | 0.8 | 5 |
| 100 | Luminescence from degenerate two-dimensional electrons at an ultrahigh mobility heterojunction. Surface Science, 1992, 263, 614-617. | 0.8 | 5 |
| 101 | Optical studies of tunneling in double barrier diodes. Superlattices and Microstructures, 1991, 9, 357-361. | 1.4 | 4 |
| 102 | Optical investigation of tunneling in AlAs/GaAs/AlAs double-barrier diodes. Physical Review B, 1993, 47, 15705-15716. | 1.1 | 4 |
| 103 | Towards registered single quantum dot photonic devices. Nanotechnology, 2008, 19, 455307. | 1.3 | 4 |
| 104 | Picosecond photoluminescence measurements of Landau level lifetimes and time dependent Landau level linebroadening in modulation-doped GaAs-GaAlAs multiple quantum wells. Physica B: Physics of Condensed Matter & C: Atomic, Molecular and Plasma Physics, Optics, 1985, 134, 318-322. | 0.9 | 3 |
| 105 | Picosecond photoluminescence intensity correlation measurements of hot carriers in GaAs/AlxGa1-xAs quantum wells. Journal of Luminescence, 1994, 59, 303-313. | 1.5 | 3 |
| 106 | Automated Design and Verification of Localized DNA Computation Circuits. Lecture Notes in Computer Science, 2015, , 168-180. | 1.0 | 3 |
| 107 | Molecular machinery built from DNA. , 2013, , . | | 2 |
| 108 | DNA nanomachines. , 2009, , 124-133. | | 2 |

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|-----|--|-----|-----------|
| 109 | Optical Measurements of Correlated States of Two Dimensional Electrons in GaAs at Low Temperatures and High Magnetic Fields. <i>Physica Scripta</i> , 1991, T39, 223-229. | 1.2 | 1 |
| 110 | Correlated states of degenerate 2D electrons studied by optical spectroscopy. <i>Physica Scripta</i> , 1992, T45, 164-167. | 1.2 | 1 |
| 111 | Role of spin excitations in the fractional quantum Hall effect at. <i>Physica B: Condensed Matter</i> , 1998, 249-251, 44-48. | 1.3 | 1 |
| 112 | Holographic fabrication of photonic crystals. , 2005, 5720, 1. | | 1 |
| 113 | Reconfigurable Tâ€junction DNA Origami. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 15942-15946. | 7.2 | 1 |
| 114 | Algorithmic Control: The Assembly andÂOperation ofÂDNA Nanostructures andÂMolecular Machinery. <i>Natural Computing Series</i> , 2009, , 215-225. | 2.2 | 1 |
| 115 | 1P127 Smallest structure revealed by cryo-EM(Nucleic acid,Poster Presentations). <i>Seibutsu Butsuri</i> , 2007, 47, S55. | 0.0 | 0 |
| 116 | 2P-118 Structural analysis of a DNA nanomachine with a piston motion(The 46th Annual Meeting of the Tj ETQq0 0.0 rgBT /Qverlock 10 | | |
| 117 | Reconfigurable Tâ€junction DNA Origami. <i>Angewandte Chemie</i> , 2020, 132, 16076-16080. | 1.6 | 0 |
| 118 | A Geometrical Allosteric DNA Switch. <i>Lecture Notes in Computer Science</i> , 2010, , 189-189. | 1.0 | 0 |
| 119 | Template-directed conjugation of heterogeneous oligonucleotides to a homobifunctional molecule for programmable supramolecular assembly. <i>Nanoscale</i> , 2022, 14, 4463-4468. | 2.8 | 0 |