

science advances vs nature communications

science advances vs nature communications represents a critical comparison between two influential scientific journals that shape the dissemination of cutting-edge research. Both journals serve as authoritative platforms for publishing significant scientific discoveries across diverse disciplines. While Science Advances is an open-access journal published by the American Association for the Advancement of Science (AAAS), Nature Communications is part of the prestigious Nature Publishing Group and also operates on an open-access model. This article explores the distinctions in scope, impact, publication processes, and audience reach between science advances vs nature communications. Understanding these differences is essential for researchers deciding where to publish and for readers navigating scientific literature. The following sections will delve into journal histories, editorial standards, thematic focus, and the implications of choosing one over the other for scientific communication.

- Journal Background and Publisher Profiles
- Scope and Thematic Coverage
- Impact Factor and Citation Metrics
- Open Access Policies and Publication Costs
- Peer Review and Editorial Processes
- Audience and Global Reach
- Advantages and Considerations for Authors

Journal Background and Publisher Profiles

Understanding the origins and affiliations of Science Advances and Nature Communications provides insight into their editorial philosophies and reputations. Science Advances was launched in 2015 by the American Association for the Advancement of Science (AAAS), the same organization that publishes the flagship journal Science. It was introduced to expand the availability of high-quality scientific research in an open-access format. In contrast, Nature Communications began publication in 2010 as part of the Nature Publishing Group, a division of Springer Nature known for its prestigious journals, including Nature. Both journals aim to provide broad access to impactful scientific research but stem from different publishing traditions.

Science Advances Publisher Profile

Science Advances operates under AAAS, a nonprofit organization dedicated to advancing science globally. This journal emphasizes transparency, rigorous peer review, and broad interdisciplinary appeal, reflecting the mission of AAAS to foster science for the benefit of society. Being a relatively

newer journal, Science Advances has rapidly gained recognition for publishing innovative research across multiple scientific fields.

Nature Communications Publisher Profile

Nature Communications benefits from the brand strength of Nature Publishing Group, renowned for high editorial standards and selective publication. It is designed as an open-access journal to complement the traditional subscription-based Nature journals, offering a venue for significant research that spans the natural sciences. Its affiliation with a major publishing house provides extensive resources for editorial quality and global dissemination.

Scope and Thematic Coverage

The scope and thematic focus of each journal determine the types of research articles they prioritize. Both Science Advances and Nature Communications publish across diverse scientific disciplines but have nuanced differences in coverage and emphasis.

Science Advances Scope

Science Advances covers a wide array of scientific disciplines, including biology, chemistry, physics, earth sciences, engineering, and interdisciplinary research. It encourages submissions that advance fundamental understanding and applied science, with a particular emphasis on studies that have broad implications or introduce innovative methodologies. This broad scope reflects the journal's commitment to interdisciplinary scientific progress and societal impact.

Nature Communications Scope

Nature Communications also spans numerous scientific fields, with a strong emphasis on natural sciences such as biology, physics, chemistry, and environmental sciences. It particularly highlights research with significant methodological advances or novel insights into fundamental scientific problems. The journal's scope is designed to capture high-impact research that is relevant across disciplines, often prioritizing studies that push the boundaries of scientific knowledge.

Impact Factor and Citation Metrics

Impact factors and citation metrics are widely regarded as indicators of journal influence and prestige within the academic community. A comparison of these metrics for Science Advances vs Nature Communications offers perspective on their relative reach and recognition.

Science Advances Impact Metrics

As a relatively new journal, Science Advances has achieved a notable impact factor, reflecting its growing influence. Its citation metrics demonstrate increasing recognition, with many published

articles receiving substantial citations across multiple disciplines. The journal's open-access model enhances visibility, contributing to a steady rise in its impact factor since inception.

Nature Communications Impact Metrics

Nature Communications traditionally holds a higher impact factor compared to many open-access journals, benefiting from the prestige associated with the Nature brand. It consistently ranks among top-tier multidisciplinary journals, with articles frequently cited in high-profile research. Its established reputation attracts influential studies that contribute to sustained citation performance.

Open Access Policies and Publication Costs

Open access publishing increases the accessibility of scientific knowledge but often involves publication fees. Comparing the open access policies and associated costs of Science Advances vs Nature Communications is crucial for authors and institutions.

Science Advances Open Access Model

Science Advances operates exclusively under an open-access model, allowing free public access to all published content immediately upon publication. Authors are required to pay an article processing charge (APC) to cover publication costs. The APC is competitive relative to other high-quality open-access journals and includes comprehensive editorial support and dissemination services.

Nature Communications Open Access Model

Nature Communications also follows a fully open-access publishing model, with all articles freely available online. The APC for Nature Communications tends to be higher than that of Science Advances, reflecting its market positioning and the extensive editorial resources invested. Funding agencies and institutions often support APCs for authors publishing in this journal due to its high visibility.

Peer Review and Editorial Processes

Peer review quality and editorial standards are central to maintaining scientific rigor. Both journals employ rigorous review processes but differ in some procedural aspects.

Science Advances Peer Review

Science Advances utilizes a transparent, single-blind peer review process managed by professional editors and an extensive network of expert reviewers. The journal emphasizes timely decision-making and constructive feedback to facilitate the publication of robust and reproducible research. Editorial decisions prioritize scientific quality, originality, and broad significance.

Nature Communications Peer Review

Nature Communications employs a rigorous peer review system combining expert reviewers and in-house editorial oversight to ensure high-quality publications. The journal uses a single-blind review process and often involves multiple rounds of revision to refine the manuscripts. The editorial board maintains strict criteria for novelty, technical soundness, and relevance to the readership.

Audience and Global Reach

The readership and global reach of Science Advances vs Nature Communications influence their impact on the scientific community and beyond.

Science Advances Audience

Science Advances targets a broad audience of researchers, policymakers, and educators across various scientific disciplines. Its open-access nature ensures accessibility worldwide, facilitating knowledge sharing in both developed and developing regions. The journal's interdisciplinary approach attracts diverse readers interested in emerging science and technology.

Nature Communications Audience

Nature Communications serves a global audience of specialists and multidisciplinary scientists. Its association with the Nature brand enhances its visibility among academic institutions, industry researchers, and funding bodies. The journal's content is widely accessed by scientists seeking cutting-edge research with high impact potential.

Advantages and Considerations for Authors

Selecting between Science Advances and Nature Communications requires careful consideration of various factors that affect authors' publication goals and funding availability.

- **Publication Speed:** Science Advances generally offers faster review and publication timelines, which can be advantageous for timely dissemination.
- **Cost Considerations:** The APC for Science Advances is often lower, making it more accessible for authors with limited funding.
- **Impact and Prestige:** Nature Communications commands higher impact and prestige, potentially enhancing visibility and career advancement.
- **Scope Fit:** Authors should assess which journal's thematic focus aligns better with their research topic.
- **Open Access Reach:** Both journals provide wide visibility, but institutional support for APCs

may influence the choice.

Frequently Asked Questions

What are the main differences between Science Advances and Nature Communications?

Science Advances is an open-access journal published by the American Association for the Advancement of Science (AAAS) focusing on a broad range of scientific disciplines, whereas Nature Communications is an open-access journal from the Nature Publishing Group that covers all areas of the natural sciences with a strong emphasis on high-impact research.

Which journal has a higher impact factor: Science Advances or Nature Communications?

As of recent metrics, Nature Communications generally has a higher impact factor compared to Science Advances, reflecting its strong reputation and citation rates in the scientific community, though exact values can vary year by year.

Are both Science Advances and Nature Communications fully open access?

Yes, both Science Advances and Nature Communications are fully open-access journals, meaning all published articles are freely available to read and download without subscription fees.

What types of research articles do Science Advances and Nature Communications typically publish?

Both journals publish original research articles across a wide range of scientific fields, including biology, chemistry, physics, earth sciences, and interdisciplinary studies, with Nature Communications sometimes emphasizing groundbreaking or highly novel findings.

How do the peer review processes compare between Science Advances and Nature Communications?

Both journals employ rigorous peer review processes involving expert reviewers to ensure the quality and validity of published research, but the specific review timelines and editorial practices may differ slightly based on publisher policies.

Which journal is considered more suitable for interdisciplinary research between Science Advances and Nature

Communications?

Both journals are receptive to interdisciplinary research; however, Science Advances is often praised for its broad scope and encouragement of interdisciplinary studies, while Nature Communications also publishes significant interdisciplinary work but may have a more selective acceptance rate.

How do publication fees compare between Science Advances and Nature Communications?

Both journals charge article processing charges (APCs) for open-access publication. The fees can vary, but generally, Nature Communications has higher APCs compared to Science Advances, reflecting differences in publisher pricing policies and journal prestige.

Additional Resources

1. *Science Advances and Its Role in Modern Research*

This book explores the impact of the journal Science Advances on contemporary scientific research. It highlights groundbreaking studies published in various fields, emphasizing how open-access platforms have accelerated knowledge dissemination. Readers will gain insight into the evolving landscape of scientific communication and its influence on innovation.

2. *Nature Communications: Bridging Disciplines in Science*

Focusing on the multidisciplinary approach of Nature Communications, this book examines how the journal fosters collaboration across diverse scientific domains. It discusses landmark papers and their contributions to solving complex global challenges. The narrative also covers editorial standards and the journal's role in shaping research trends.

3. *Comparative Analysis of Science Advances and Nature Communications*

This comprehensive analysis compares the editorial policies, impact factors, and publication models of Science Advances and Nature Communications. It provides a critical evaluation of their respective contributions to scientific progress and accessibility. The book is ideal for researchers deciding where to publish and for librarians managing journal collections.

4. *Open Access Publishing: Case Studies from Science Advances and Nature Communications*

Delving into the open access movement, this volume presents case studies from both journals to illustrate benefits and challenges. It addresses issues such as funding, peer review, and citation impact. The book also offers guidance for authors navigating the open access publishing landscape.

5. *Advances in Interdisciplinary Science: Insights from Nature Communications*

Highlighting key interdisciplinary research published in Nature Communications, this book showcases how integrating diverse scientific perspectives leads to innovation. It covers fields like bioinformatics, environmental science, and materials engineering. The text encourages scientists to embrace cross-disciplinary collaboration.

6. *Science Advances: Accelerating Scientific Discovery through Technology*

This book investigates how Science Advances leverages cutting-edge technologies in publishing and research dissemination. Topics include digital platforms, data sharing, and artificial intelligence in peer review. It also discusses the journal's influence on speeding up the scientific discovery process.

7. *Impact and Influence: Tracking Citations in Science Advances and Nature Communications*

Focusing on bibliometrics, this book analyzes citation patterns and their implications for scientific visibility and career progression. It compares how articles from both journals perform in terms of citations, altmetrics, and media coverage. The findings help researchers understand the reach and impact of their work.

8. *Editorial Perspectives: Behind the Scenes of Science Advances and Nature Communications*

Offering insider views from editors and reviewers, this book reveals the decision-making processes that shape the content of these leading journals. It discusses challenges such as maintaining quality, handling conflicts of interest, and promoting diversity in publishing. Readers gain a deeper appreciation of the complexities involved in scientific publishing.

9. *Future Trends in Scientific Publishing: Lessons from Science Advances and Nature Communications*

This forward-looking book explores emerging trends such as preprints, open peer review, and data transparency, using examples from Science Advances and Nature Communications. It predicts how these trends will transform research communication and collaboration. The book is a valuable resource for scientists, publishers, and policy makers preparing for the future.

Science Advances Vs Nature Communications

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science advances vs nature communications: *Integrated Nanophotonics* Peng Yu, Hongxing Xu, Zhiming Wang, 2023-06-06 Integrated Nanophotonics Helps readers understand the important advances in nanophotonics materials development and their latest applications This book introduces the current state of and emerging trends in the development of integrated nanophotonics. Written by three well-qualified authors, it systematically reviews the knowledge of integrated nanophotonics from theory to the most recent technological developments. It also covers the applications of integrated nanophotonics in essential areas such as neuromorphic computing, biosensing, and optical communications. Lastly, it brings together the latest advancements in the key principles of photonic integrated circuits, plus the recent advances in tackling the barriers in photonic integrated circuits. Sample topics included in this comprehensive resource include: Platforms for integrated nanophotonics, including lithium niobate nanophotonics, indium phosphide nanophotonics, silicon nanophotonics, and nonlinear optics for integrated photonics The devices and technologies for integrated nanophotonics in on-chip light sources, optical packaging of photonic integrated circuits, optical interconnects, and light processing devices Applications on neuromorphic computing, biosensing, LIDAR, and computing for AI and artificial neural network and deep learning Materials scientists, physicists, and physical chemists can use this book to understand the totality of cutting-edge theory, research, and applications in the field of integrated nanophotonics.

science advances vs nature communications: *Climate Change 2021 - The Physical*

Science Basis Intergovernmental Panel on Climate Change (IPCC), 2023-07-26 The Working Group I contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) provides a comprehensive assessment of the physical science basis of climate change. It considers in situ and remote observations; paleoclimate information; understanding of climate drivers and physical, chemical, and biological processes and feedbacks; global and regional climate modelling; advances in methods of analyses; and insights from climate services. It assesses the current state of the climate; human influence on climate in all regions; future climate change including sea level rise; global warming effects including extremes; climate information for risk assessment and regional adaptation; limiting climate change by reaching net zero carbon dioxide emissions and reducing other greenhouse gas emissions; and benefits for air quality. The report serves policymakers, decision makers, stakeholders, and all interested parties with the latest policy-relevant information on climate change. Available as Open Access on Cambridge Core.

science advances vs nature communications: *Cameras and Display Systems Towards Photorealistic 3D Holography* Jin Li, Jintao Hong, Yi Zhang, Xiaoxun Li, Zilong Liu, Yanyan Liu, Daping Chu, 2023-11-26 This book presents recent advances in three-dimensional (3D) imaging and display frameworks, encompassing three categories of 3D imaging and display technologies. The first category is nonphotorealistic 3D approaches based on conventional optical cameras to implement 3D stereoscopic observation of a scene. In the context of nonphotorealistic 3D imaging and reconstruction systems, the authors introduce general principles and also demonstrate camera calibration for 3D imaging, smart cameras, and full-link imaging methods using the optical modulation transfer function to improve imaging quality in conventional cameras. The second category is based on light-ray light field technology to achieve photorealistic 3D imaging and displays. In the context of light-ray light field systems, two approaches capable of light-ray light field 3D imaging by utilizing a camera array or a lens array are demonstrated. Accordingly, light-ray light field display approaches comprising head-mounted displays and integral displays are also introduced. The third category is also photorealistic 3D imaging and display technology, which is based on holography (i.e., diffraction or wavefront light field). In the corresponding holographic displays, the authors introduce 3D holographic displays from three elements: algorithms, devices, and systems, involving fast hologram generation algorithms, wide-viewing-angle display systems, and metasurface holography, etc. Including an investigative roadmap for future progress in optical imaging and 3D display systems, this book is essential reading for scientists and engineers in academia and industry who are interested in next-generation imaging and display concepts for 3D visual sensing systems.

science advances vs nature communications: Drug Development Supported by Informatics Hiroko Satoh, Kimito Funatsu, Hiroshi Yamamoto, 2024-10-18 This book describes the state-of-the-art of chemoinformatics, bioinformatics, materials informatics and measurement/metrology informatics to develop drugs with desired activity or physicochemical properties and to optimize the functionality, efficacy, safety and quality of the compounds for drugs. Recently, AI drug discovery, drug discovery research utilizing artificial intelligence technology such as machine learning, has attracted much attention. This book provides an overview of the four applied informatics fields and their applications in drug development for a wide spectrum of readers from learners to professional scientists in academia and industry. It focuses on the basic research stage of drug development with contributions from experts at the forefront of these fields. The authors hope that this book will be of assistance to explore new opportunities for collaboration between pharmaceutical science and informatics.

science advances vs nature communications: **Flexible Electronic Packaging and Encapsulation Technology** Hong Meng, Wei Huang, 2024-03-25 Flexible Electronic Packaging and Encapsulation Technology A systematic introduction to the future of electronic packaging Electronic packaging materials are among the most important components of the broader electronics industry, capable of facilitating heat dissipation, redistributing stress on electronic components, and providing environmental protections for electronic systems. Recent advances in integrated circuits, especially

the development of flexible electronic technology, have placed increasingly stringent demands on the capabilities of electronic packaging. These technologies have the potential to reshape our world, and they demand a generation of engineers capable of harnessing that potential. Flexible Electronic Packaging and Encapsulation Technology meets this demand with an introduction to the cutting-edge technologies available to package electronic components, as well as the testing methods and applications that bring these technologies to bear on the industry. These packaging technologies promise to bring lightness, flexibility, and environmental friendliness to the next generation of electronic systems. Flexible Electronic Packaging and Encapsulation Technology readers will also find: Survey of commercial electronic packaging materials and patents for reference purposes Guidelines for designing high-performance packaging materials with novel structures An authorial team of leading researchers in the field Flexible Electronic Packaging and Encapsulation Technology is ideal for materials scientists, electronics engineers, solid state physicists, professionals in the semiconductor industry, and any other researchers or professionals working with electronic systems.

science advances vs nature communications: Nature-Inspired Sensors Hossam Haick, 2024-10-24 Nature-Inspired Sensors presents and discusses the basic principles and latest developments in nature-inspired sensing and biosensing materials as well as the design and mechanisms for analyzing their potential in multifunctional sensing applications. The book starts with a comprehensive review of certain fundamental mechanisms in different living creatures, including humans, animals, and plants. It presents and discusses ways for imitating various nature-inspired structural features and their functional properties, such as hierarchical, interlocked, porous, and bristle-like structures and hetero-layered brick-and-mortar structures. It also highlights the utility of these structures and their properties for sensing functions, which include static coloration, self-cleaning, adhesive, underwater navigation and object detection, electric charge generation, and sensitive olfactory functions for detecting various substances. This is followed by an appraisal of accumulating knowledge and its translation from the laboratory to the point-of-care phase, using selective sensors as well as desktop and wearable artificial sensing devices, for example, electronic noses and electronic skins, in conjunction with AI-assisted data processing and decision-making in the targeted field of application. In addition, the book offers an insight into the challenges of continuing the development of nature-inspired smart sensing and biosensing technology and their wider availability, which can be substantially improved. It is a valuable reference for graduates, undergraduates, researchers, and working professionals in the fields of chemistry, materials science, and biomedical and environmental science. - Discusses the current strategies for fabricating nature-derived bio/chemical sensors - Presents ways to apply nature-derived bio/chemical sensors in real life - Describes the future of nature-derived bio/chemical sensors

science advances vs nature communications: Untethered Small-Scale Robots for Biomedical Applications Haojian Lu, Xian Wang, Shuailong Zhang, 2023-06-12 Untethered Small-Scale Robots for Biomedical Applications introduces the principle, design, fabrication and application of small-scale robots for biomedical applications. Robots in the scale of nanometer, micrometer and millimeter are described in detail, along with their impact on the field of biomedical engineering. The selected examples of robots across different scales are of the most essential and innovative designs in a small-scale robot with various application settings for biomechanics characterization, drug delivery and surgical procedure. The representative robots represented operate robustly and safely in complex physiological environments where they have a transformative impact in bioengineering and healthcare. This book will lead the audience to the field of small-scale robots through the description of the physics in the small scale, design and fabrication of small-scale robots, and how these robots may impact the future of biomedical studies and minimally-invasive surgical procedures. - Provides a comprehensive review of the current advances in biomedical untethered mobile milli/microrobots - Describes the most representative small-scale robots in detail, including design, fabrication, control and function aspects - Presents the imminent potential impacts of biomedical microrobots - Discusses the existing challenges and emerging concepts associated

with designing such a miniaturized robot for operation inside a biological environment for biomedical applications

science advances vs nature communications: Biomimetic Nanomaterials Bing Ni, Zhicheng Zhang, 2025-08-05 An accurate and authoritative discussion of the structure, fabrication, and applications of biomimetic materials In Biomimetic Nanomaterials: Inorganic and Macromolecular Structures, Catalytic Processes, a team of distinguished researchers delivers an up-to-date discussion of select emerging topics in nature-inspired approaches to biomimetic nanomaterials. The authors focus on two core subjects: mimicking biological structures and replicating biological functions. The book begins with an exploration of bio-inorganic structures and biomineralization processes, including biominerals and bio-inspired architectures like aerogels and chiral nanoparticles. It continues on to discuss biomacromolecule-based materials and synthetic mimics, as well as their structural and functional attributes. Finally, it covers bio-inspired functional materials, including nanozymes and catalytic systems for applications, like artificial photosynthesis, CO₂ conversion, and N₂ fixation. Readers will also find: A thorough introduction to the foundational concepts and the latest developments in biomimetic nanomaterials Comprehensive explorations of the latest applications of biomimetic nanomaterials, including artificial muscles, protective coatings, and catalytic processes Practical discussions of the structures of biomimetic inorganic nanomaterials, like biominerals, biomorphs, artificial plastic materials, and chiral nanoparticles Complete treatments of particularly remarkable uses of biomimetic materials, including water splitting catalysis nanozymes Perfect for materials scientists, bioinorganic chemists, and biotechnologists, Biomimetic Nanomaterials will also benefit bioengineers, polymer chemists, and biochemists.

science advances vs nature communications: Inorganic Flexible Optoelectronics Zhenqiang Ma, Dong Liu, 2019-04-29 Comprehensively covering inorganic flexible optoelectronics and their applications This highly application-oriented book provides an overview of the vibrant research field of inorganic flexible optoelectronics ? from materials to applications ? covering bulk materials as well as nanowires, thin films, nanomembranes for application in light emitting diodes, photodetectors, phototransistors, and solar cells. Edited and written by world-leading experts in the field, Inorganic Flexible Optoelectronics: Materials and Applications begins by covering flexible inorganic light emitting diodes enabled by new materials and designs, and provides examples of their use in neuroscience research. It then looks at flexible light-emitting diodes based on inorganic semiconductor nanostructures ? from thin films to nanowires. Next, the book examines flexible photodetectors with nanomembranes and nanowires; 2-D material based photodetectors on flexible substrates; and IV group materials based solar cells and their flexible photovoltaic technologies. Following that, it presents readers with a section on thin-film III-V single junction and multijunction solar cells and demonstrates their integration onto heterogeneous substrates. Finally, the book finishes with in-depth coverage of novel materials based flexible solar cells. -A must-have book that provides an unprecedented overview of the state of the art in flexible optoelectronics -Supplies in-depth information for new and already active researchers in the field of optoelectronics -Lays down the undiluted knowledge on inorganic flexible optoelectronics ? from materials to devices -Focuses on materials and devices for high-performance applications such as light-emitting diodes, solar cells, and photodetectors Inorganic Flexible Optoelectronics: Materials and Applications appeals to materials scientists, electronics engineers, electrical engineers, inorganic chemists, and solid state physicists.

science advances vs nature communications: The Sounds of Science Henrik Österblom, 2023-07-26 The Sounds of Science provides a comprehensive account of a large-scale scientific experiment with globally operating seafood corporations headquartered in North America, Europe, and Asia. It describes how scientists worked to identify these, world's largest seafood companies, and how their disproportionate powers were mobilized in a coalition of companies called SeaBOS (Seafood Business for Ocean Stewardship), aiming to provide global and science-based industry leadership on ocean stewardship. As invoked by the cover art (Flow, 2020) by world-renowned

creative director, Kashiwa Sato, the experiment is creating a small wave of change that sits within a larger wave, supporting and generating larger movements towards improved stewardship of the planet. A new direction for the private sector is emerging, and new priorities are flourishing. The book explores how corporations, guided by science, can be part of the solution to the biosphere challenges. Written in collaboration with international experts on sustainability, ocean ecosystems, fisheries policy, and corporations, this book explores the mechanisms leading to the evolution of cooperation, and the barriers to address in order to engage in collaborative learning, corporate change and novel science. It offers tangible advice to scientists on how to work with the private sector for a better, more sustainable world. The Sounds of Science is an important resource for scientists interested in engaging with the private sector. Corporate leaders and policy makers will find this book useful for understanding, collaborating, and working with the planet to reach global sustainability goals. - Details the origin, developments, and effects of SeaBOS (Seafood Business for Ocean Stewardship) - Offers workable solutions and out-of-the-box thinking for university scientists, chief executives and corporatesustainability experts - Provides insight on tools, conditions, and navigation techniques for cooperation across cultures - Includes insider and personal perspectives of developing and nurturing relationships between ocean scientistsand corporate leaders

science advances vs nature communications: *Future Humans* Scott Solomon, 2016-10-25 An evolutionary biologist provides surprising insights into the changing nature of Homo sapiens in this "important and an entertaining read (Choice). In *Future Humans*, evolutionary biologist Scott Solomon draws on recent discoveries to examine the future evolution of our species. Combining knowledge of our past with current trends, Solomon offers convincing evidence that evolutionary forces are still affecting us today. But how will modernization—including longer lifespans, changing diets, global travel, and widespread use of medicine and contraceptives—affect our evolutionary future? Solomon presents an entertaining and accessible review of the latest research on human evolution in modern times, drawing on fields from genomics to medicine and the study of our microbiome. Drawing together topics ranging from the rise of online dating and Cesarean sections to the spread of diseases such as HIV and Ebola, Solomon suggests that we are entering a new phase in human evolutionary history—one that makes the future less predictable and more interesting than ever before.

science advances vs nature communications: *Quantum Dot Optoelectronic Devices* Peng Yu, Zhiming M. Wang, 2020-04-16 This book captures cutting-edge research in semiconductor quantum dot devices, discussing preparation methods and properties, and providing a comprehensive overview of their optoelectronic applications. Quantum dots (QDs), with particle sizes in the nanometer range, have unique electronic and optical properties. They have the potential to open an avenue for next-generation optoelectronic methods and devices, such as lasers, biomarker assays, field effect transistors, LEDs, photodetectors, and solar concentrators. By bringing together leaders in the various application areas, this book is both a comprehensive introduction to different kinds of QDs with unique physical properties as well as their preparation routes, and a platform for knowledge sharing and dissemination of the latest advances in a novel area of nanotechnology.

science advances vs nature communications: *Climate Change 2022 - Impacts, Adaptation and Vulnerability* Intergovernmental Panel on Climate Change (IPCC), 2023-06-22 The Working Group II contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) provides a comprehensive assessment of the scientific literature relevant to climate change impacts, adaptation and vulnerability. The report recognizes the interactions of climate, ecosystems and biodiversity, and human societies, and integrates across the natural, ecological, social and economic sciences. It emphasizes how efforts in adaptation and in reducing greenhouse gas emissions can come together in a process called climate resilient development, which enables a liveable future for biodiversity and humankind. The IPCC is the leading body for assessing climate change science. IPCC reports are produced in comprehensive, objective and transparent ways, ensuring they reflect the full range of views in the scientific literature. Novel elements include

focused topical assessments, and an atlas presenting observed climate change impacts and future risks from global to regional scales. Available as Open Access on Cambridge Core.

science advances vs nature communications: Untethered Miniature Soft Robots Li Zhang, Jiachen Zhang, Neng Xia, Yue Dong, 2023-11-06 Untethered Miniature Soft Robots Reference on achieving contactless manipulation of soft robots, detailing high level concepts and perspectives and technical skills of soft robots Untethered Miniature Soft Robots: Materials, Fabrications, and Applications introduces the emerging field of miniature soft robots and summarizes the recent rapid development in the field to date, describing different types of functional materials to build miniature soft robots, such as silicone elastomer, carbon-based materials, hydrogels, liquid crystal polymer, flexible ferrofluid, and liquid metal, and covering the material properties, fabrication strategies, and functionalities in soft robots together with their underlying mechanisms. The book discusses magnetically, thermally, optically, and chemically actuated soft robots in depth, explores the many specific applications of miniature soft robots in biomedical, environmental, and electrical fields and summarizes the development of miniature soft robots based on soft matter, fabrication strategies, locomotion principles, sensing and actuation mechanisms. In closing, the text summarizes the opportunities and challenges faced by miniature soft robots, providing expert insight into the possible futures of this field. Written by four highly qualified academics, Untethered Miniature Soft Robots covers sample topics such as: Soft elastomer-based robots with programmable magnetization profiles and untethered soft robots based on template-aiding Working mechanisms of carbon-based materials, covering light-induced expansion and shrinkage, and humidity-induced deformation Designing microscale building blocks, modular assembly of building blocks based on Denavit-Hartenberg (DH) matrix, and inverse and forward design of modular morphing systems Material designs of magnetic liquid crystal elastomers (LCE) systems, multiple-stimuli responsiveness of magnetic LCE systems, and adaptive locomotion of magnetic LCE-based robots Controllable deformation and motion behaviors, as well as applications of ferrofluids droplet robots (FDRs), including cargo capturing, object sorting, liquid pumping/mixing, and liquid skin. Providing highly detailed and up-to-date coverage of the topic, Untethered Miniature Soft Robots serves as an invaluable and highly comprehensive reference for researchers working in this promising field across a variety of disciplines, including materials scientists, mechanical and electronics engineers, polymer chemists, and biochemists.

science advances vs nature communications: The Solar System William Sheehan, Clifford J. Cunningham, 2025-07-13 An inviting expedition across our galactic neighborhood, from Mercury to the Sun's furthest satellites, complete with the latest discoveries. The Space Age probes to the Moon, Venus, and Mars ushered in a golden age of planetary science, transforming our understanding of the solar system from a distant mystery into many, vividly realized worlds. This book provides an accessible survey of the solar system, covering each of the planets as well as the major asteroids and bodies just outside the solar system. Drawing on interviews with leading scientists, the book offers an engaging overview of the latest discoveries for amateur astronomers, making it an essential guide for anyone interested in our celestial neighborhood.

science advances vs nature communications: Solution-Processed Organic Light-Emitting Devices Guohua Xie, 2023-08-29 Solution-Processed Organic Light-Emitting Devices provides a comprehensive reference on the principles and advances in materials design, device structures, and processing technologies of organic light-emitting diodes (OLEDs). Most importantly, the book analyses the dynamics of thin-film growth from solutions such as solvent orthogonalization, coffee-ring effects, and interfacial adhesion. Exciton generation and utilization, host-guest energy transfer, and interfacial interaction in the solution-processed films are considered with the material and device design to maximize the electroluminescent performance of OLEDs. The book reviews the materials, devices, and technologies dedicated to solution-processed thin-film devices, which are not only applicable to OLEDs but may be adapted to other emerging semiconducting devices due to the similarity in methods (for instance, quantum-dot LEDs and solar cells, and perovskite-based LEDs/photovoltaics/detectors). This book is suitable for researchers in

academia and industry working in the materials science and engineering, chemistry, and physics disciplines. - Discusses the most relevant and emerging solution-processable materials for OLED applications - Reviews device engineering to address defects, charge transport, and exciton generation in fabricated solution-processable thin films - Provides the methods to grow multilayered thin films from solutions with organic semiconductors, with particular attention to new technologies to overcome interfacial mixing effects

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Encyclopedia of Virology, Fourth Edition, Five Volume Set builds on the solid foundation laid by the previous editions, expanding its reach with new and timely topics. In five volumes, the work provides comprehensive coverage of the whole virosphere, making this a unique resource. Content explores viruses present in the environment and the pathogenic viruses of humans, animals, plants and microorganisms. Key areas and concepts concerning virus classification, structure, epidemiology, pathogenesis, diagnosis, treatment and prevention are discussed, guiding the reader through chapters that are presented at an accessible level, and include further readings for those needing more specific information. More than ever now, with the Covid19 pandemic, we are seeing the huge impact viruses have on our life and society. This encyclopedia is a must-have resource for scientists and practitioners, and a great source of information for the wider public. Offers students and researchers a one-stop shop for information on virology not easily available elsewhere Fills a critical gap of information in a field that has seen significant progress in recent years Authored and edited by recognized experts in the field, with a range of different expertise, thus ensuring a high-quality standard

science advances vs nature communications: Microelectromechanical Systems (MEMS)

- Innovation, Manufacturing Techniques and Applications Zdravko Stanimirović, Ivanka Stanimirović, 2025-02-26 To present their latest work in the field of Microelectromechanical systems (MEMS), researchers from distant parts of the world have joined their efforts and contributed their ideas according to their interest and engagement. Their chapters will give you the opportunity to learn about advanced materials, techniques, and applications in MEMS. The topics presented included flexible MEMS techniques for multi-physical sensors, highlighting the adaptability of these systems to complex sensing environments and the use of MEMS in optical and photonic devices, demonstrating their impact on advanced imaging and communication technologies. The book also explores biomedical MEMS, which are advancing healthcare through improved diagnostics and therapeutic tools. The editors hope the book will allow professionals and readers not involved in the immediate field to understand and enjoy the topic.

science advances vs nature communications: DNA Origami Masayuki Endo, 2022-05-10

DNA ORIGAMI Discover the impact and multidisciplinary applications of this subfield of DNA nanotechnology DNA origami refers to the technique of assembling single-stranded DNA template molecules into target two- and three-dimensional shapes at the nanoscale. This is accomplished by annealing templates with hundreds of DNA strands and then binding them through the specific base-pairing of complementary bases. The inherent properties of these DNA molecules—molecular recognition, self-assembly, programmability, and structural predictability—has given rise to intriguing applications from drug delivery systems to uses in circuitry in plasmonic devices. The first book to examine this important subfield, DNA Origami brings together leading experts from all fields to explain the current state and future directions of this cutting-edge avenue of study. The book begins by providing a detailed examination of structural design and assembly systems and their applications. As DNA origami technology is growing in popularity in the disciplines of chemistry, materials science, physics, biophysics, biology, and medicine, interdisciplinary studies are classified and discussed in detail. In particular, the book focuses on DNA origami used for creating new functional materials (combining chemistry and materials science; DNA origami for single-molecule analysis and measurements (as applied in physics and biophysics); and DNA origami for biological detection, diagnosis and therapeutics (medical and biological applications). DNA Origami readers will also find: A complete guide for newcomers that brings together fundamental and developmental

aspects of DNA origami technology Contributions by a leading team of experts that bring expert views from different angles of the structural developments and applications of DNA origami An emerging and impactful research topic that will be of interest in numerous multidisciplinary areas A helpful list of references provided at the end of each chapter to give avenues for further study Given the wide scope found in this groundbreaking work, DNA Origami is a perfect resource for nanotechnologists, biologists, biophysicists, chemists, materials scientists, medical scientists, and pharmaceutical researchers.

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