

PRISMA

de espaitec

UNA VISIÓN 360°
DE TECNOLOGÍA
E INNOVACIÓN

ENERO
FEBRERO
MARZO
2023

Inteligencia
artificial en salud

El almacenamiento
de Energía

Impresión 4D

Contenidos

NOTICIAS

- 05  Denied by AI: How Medicare Advantage plans use algorithms to cut off care for seniors in need
- 05  A 4D printer for smart materials with magneto-and electro-mechanical properties has been developed
- 06  Green Hydrogen Project Is New “World’s Biggest”
- 06  5 Ways ChatGPT Will Change Healthcare Forever, For Better
- 06  New EV battery offers 50% more density than traditional lithium-ion batteries
- 07  Three trends that will define the future of healthcare
- 07  Artificial Intelligence used to facilitate self-assembly of new nanostructures
- 07  Even High Battery Prices Can’t Chill the Hot Energy Storage Sector
- 08  Top 10 Energy Storage Trends in 2023
- 08  Why and how we must accelerate AI’s impact on global health
- 08  4D Printing: All you need to know in 2023

EMPRESAS Y MERCADOS

- 09  Hina Battery becomes 1st battery maker to put sodium-ion batteries in EVs in China
- 09  What can eye tracking reveal about cognitive processes?
- 10  Perfect Corp. Unveils 2023 Upgrade to AI Skin Analysis Solution, Adding Real-Time Skin Concern Detection, Skin-care Product Suggestions and Routine Recommendations, Further Enhancing the Industry-Leading Solution
- 10  Battery-swapping EVs are all the rage in Taiwan. Will it work abroad?
- 10  TREAT-NMD, a Leading Global NeuroMuscular Diseases Registry Network, and Aetion Announce Partnership on Real-World Evidence
- 11  INBRAIN Neuroelectronics wins El Periódico’s innovation award for developing graphene-based brain implant technology
- 11  MDI Health Raises \$20 Million Series A to Tackle Medication-Related Problems
- 11  New Strategic Partnership with Milton Keynes University Hospital
- 12  GE HealthCare to Acquire Caption Health, Expanding Ultrasound to Support New Users Through FDA-Cleared, AI-Powered Image Guidance
- 12  Urban population health initiative delivers significant reductions in heart disease
- 12  Spotify Founder Daniel Ek officially launches new startup — and this time, he’s taking on healthcare
- 13  Pfizer and Boehringer Ingelheim discuss the importance of real-world evidence
- 13  Ten energy storage companies to watch in 2023

PATENTES

- 14 ● Systems and methods for the early detection and classification of live microorganisms using time-lapse coherent imaging and deep learning
- 14 ● 3D print head with screw extruder
- 15 ● Machine Learning analysis techniques for clinical and patient data
- 15 ● Bootstrap method of electric vehicle charging station
- 15 ● Method and systems for respiratory sound classification
- 15 ● 4D microstrip line using 4d printing and manufacturing method thereof
- 16 ● Deformable apparatus for steering and splitting beam
- 16 ● PVA-polyester as highly conductive and stable polymer electrolytes for lithium/sodium secondary batteries
- 16 ● Battery pack, energy storage system, and vehicle
- 16 ● Biodegradable packaging or clothing accessory with integrated heating system, and decomposable pressure sensor
- 17 ● Monitoring, predicting and alerting short-term oxygen support needs for patients
- 17 ● Auto-Configurable Energy Storage System
- 17 ● Energy storage system and control method of energy storage system
- 17 ● Method for charging battery, charging and discharging device
- 18 ● Battery assembly for use in an electric aircraft
- 18 ● Device, system and method for verified self-diagnosis
- 18 ● Method and apparatus for selecting a target edge application server in an edge computing environment
- 18 ● Systems and methods for predicting and preventing patient departures from bed
- 19 ● Point of Care Claim Processing System and Method
- 19 ● Porous ceramic separator materials and formation processes

INFORMES SECTORIALES

- 20 ● Release of I-DAIR's 2022 Annual Report
 - 20 ● 'Transforming healthcare with AI' Hub
 - 21 ● IEA Electricity Market Report 2023
 - 21 ● Things Fall Together: A Guide to the New Materials Revolution
 - 21 ● 4d printing in healthcare
-

PUBLICACIONES CIENTÍFICAS

- 22 ● Achieving Ultrahigh Energy Storage Density of La and Ta Codoped AgNbO₃ Ceramics by Optimizing the Field-Induced Phase Transitions
 - 22 ● Characterization of Shape-Memory Polymers by DMA
 - 23 ● Development of Pneumatic Artificial Rubber Muscle Using Segmented Shape-Memory Polymer Sheets
 - 23 ● Penholder-Shaped Capacitance of Dielectric Polymer-Coated Supercapacitors
 - 23 ● Non-Bulk Morphologies of Extremely Thin Block Copolymer Films Cast on Topographically Defined Substrates Featuring Deep Trenches: The Importance of Lateral Confinement
 - 24 ● Simulating Assembly Landscapes for Comprehensive Understanding of Supramolecular Polymer-Solvent Systems
 - 24 ● 4D Printing of Electroactive Triple-Shape Composites
 - 24 ● Event-triggered Hybrid Energy-aware Scheduling in Manufacturing Systems
 - 25 ● Self-Assembly of a Two-Dimensional Coordination Polymer Based on Silver and Lanthanide Tetrakis-Acylpyrazolonates: An Efficient New Strategy for Suppressing Ligand-to-Metal Charge Transfer Quenching of Europium Luminescence
 - 25 ● The Diagnostic and Triage Accuracy of the GPT-3 Artificial Intelligence Model
 - 25 ● Direct seawater electrolysis by adjusting the local reaction environment of a catalyst
 - 26 ● Large language models generate functional protein sequences across diverse families
 - 26 ● Anorexia in Medicare Fee-for-Service Beneficiaries: A Claims-Based Analysis of Epidemiology and Mortality
 - 26 ● Mechanical behavior analyses of 4D printed metamaterials structures with excellent energy absorption ability
 - 27 ● Tripling energy storage density through order-disorder transition induced polar nanoregions in PbZrO₃ thin films by ion implantation
 - 27 ● 4D-Printed Soft and Stretchable Self-Folding Cuff Electrodes for Small-Nerve Interfacing
 - 27 ● Magnetorheological elastomer-based 4D printed electroactive composite actuators
-

Noticias

Denied by AI: How Medicare Advantage plans use algorithms to cut off care for seniors in need

Fuente: StateNews.com / Fecha: 13/03/2023

IA en Salud

An algorithm, not a doctor, predicted a rapid recovery for Frances Walter, an 85-year-old Wisconsin woman with a shattered left shoulder and an allergy to pain medicine. In 16.6 days, it estimated, she would be ready to leave her nursing home. On the 17th day, her Medicare Advantage insurer, Security Health Plan, followed the algorithm and cut off payment for her care, concluding she was ready to return to the apartment where she lived alone. Meanwhile, medical notes in June 2019 showed Walter's pain was maxing out the sc...(+)

Ver más...



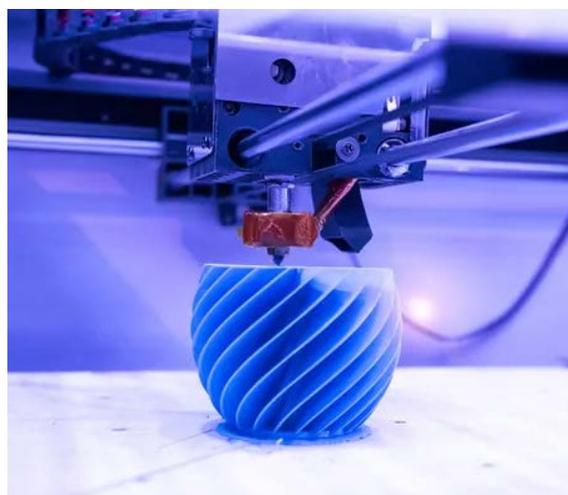
A 4D printer for smart materials with magneto-and electro-mechanical properties has been developed

Fuente: Uc3m.es / Fecha: 06/03/2023

Impresión 4D

Researchers at Universidad Carlos III de Madrid (UC3M) have created software and hardware for a 4D printer with applications in the biomedical field. In addition to 3D printing, this machine allows for controlling extra functions: programming the material's response so that shape-changing occurs under external magnetic field, or changes in its electric properties develops under mechanical deformation. This opens the door to the design of soft robots or sr...(+)

Ver más...



Green Hydrogen Project Is New “World’s Biggest”

Fuente: Cleantecnica.com / Fecha: 27/02/2023

Energy storage

According to Hydrogen Insight, China has just begun construction on the world’s biggest green hydrogen project, called Ordos. It will nudge aside Sinopec’s Kuqa plant from the #1 spot. Kuqa is currently being built in the western region of Xinjiang. The Kuqa plant is projected to produce 20,000 tonnes of green hydrogen per year. Hydrogen from Kuqa is expected to replace grey H2 made from fossil gas at Sinopec’s Tahe refinery. The even bigger Ordos project in Inner Mongolia will use 390 MW of electrolyzers to produce around 30,000 tonnes of green hydrogen per year. Hydrogen produce...(+)

Ver más...



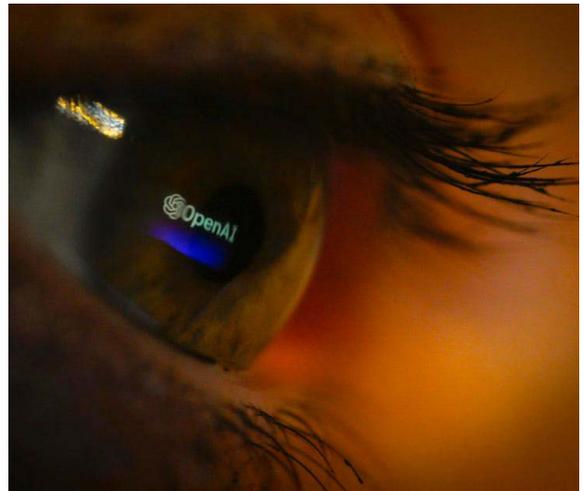
5 Ways ChatGPT Will Change Healthcare Forever, For Better

Fuente: Forbes.com / Fecha: 13/02/2023

IA en Salud

Over the past decade, I’ve kept a close eye on the emergence of artificial intelligence in healthcare. Throughout, one truth remained constant: Despite all the hype, AI-focused startups and established tech companies alike have failed to move the needle on the nation’s overall health and medical costs. Finally, after a decade of underperformance in AI-driven medicine, success is approaching faster than physicians and patients currently recognize. The reason is ChatGPT, the generative AI chatbot from OpenAI that’s taking the digital w...(+)

Ver más...



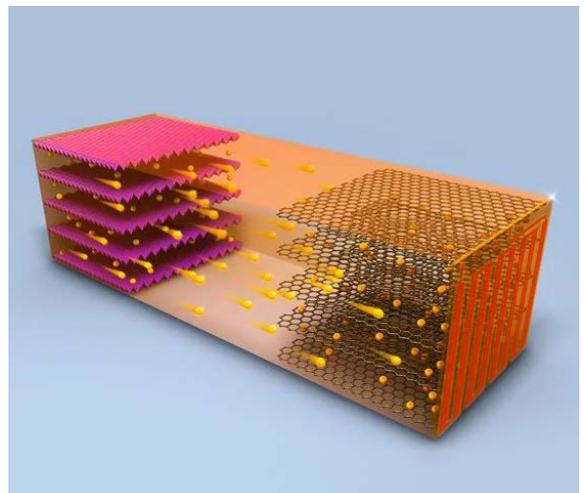
New EV battery offers 50% more density than traditional lithium-ion batteries

Fuente: PV.magazine.com / Fecha: 09/02/2023

Energy storage

Ionblox says it will use \$32 million of series B funding to support the buildout of a novel silicon anode electric vehicle battery. Ionblox says it has secured \$32 million in a recent Series B funding round. The funds – provided by Liliium, Applied Ventures, Temasek, and Catalus Capital – will help the startup to scale its high-power cells for electric aviation and prototype its fast-charge EV cells. The batteries are developed with lithium-ion cells that have pre-lithiated silicon dominant anodes. Ionblox said the technology leads to a po...(+)

Ver más...



Three trends that will define the future of healthcare

Fuente: Nuance.com / Fecha: 17/01/2023

IA en Salud

There's no doubt that this year will bring numerous challenges for healthcare organizations, but the sector cannot slow down its progress toward achieving the Quintuple Aim. With innovative AI solutions, organizations can make a meaningful impact in three key areas: collaborative care, the tech-enabled workforce, and health equity. During 2022, we saw health systems make valiant efforts as they strive to achieve the Quintuple Aim against a backdrop of higher patient volumes, severe staff shortages, and shrinking margins...(+)

Ver más...



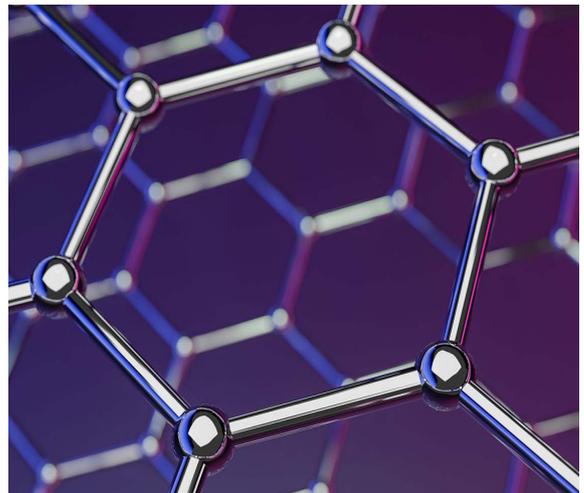
Artificial Intelligence used to facilitate self-assembly of new nanostructures

Fuente: InnovationNewsNetwork.com / Fecha: 16/01/2023

Impresión 4D

Scientists at the U.S. Department of Energy's (DOE) Brookhaven National Laboratory have used Artificial Intelligence to rapidly discover new self-assembled nanostructures. The team demonstrated that Artificial Intelligence (AI) can be used to facilitate the self-assembly of new nanostructures. The new autonomous methods have led to the discovery of three new nanostructures, including a first-of-its-kind nanoscale 'ladder'. The research, 'Autonomous discovery of emergent morphologies in directed self-assembly of block 3 copoly...(+)

Ver más...



Even High Battery Prices Can't Chill the Hot Energy Storage Sector

Fuente: Bloomberg.com / Fecha: 12/01/2023

Energy storage

Lithium-ion battery storage has expanded by orders of magnitude since the 1990s, with new devices creating ever-larger demand. Camcorders came first, followed by personal computers and then smartphones and other personal electronics. In the 2010s, the newest and far biggest demand center emerged: electric vehicles. EVs now drive the bulk of global lithium-ion battery manufacturing, as well as substantial R&D. As the industry scaled, costs fell. A kilowatt-hour of lithium-ion battery storage declined in cost by 80%...(+)

Ver más...



Top 10 Energy Storage Trends in 2023

Fuente: Bnef.com / Fecha: 11/01/2023

Energy storage

At the beginning of each year, we pause to reflect on what has happened in our industry and gather our thoughts on what to expect in the coming 12 months. These 10 trends highlight what we think will be some of the most noteworthy developments in energy storage in 2023. Lithium-ion battery pack prices remain elevated, averaging \$152/kWh. In 2022, volume-weighted price of lithium-ion battery packs across all sectors averaged \$151 per kilowatt-hour (kWh), a 7% rise from 2021 and the first time BNEF recorded an increase in price. Now, BNEF expects the volume-weighted average bat...(+)

Ver más...



Why and how we must accelerate AI's impact on global health

Fuente: WeForum.org / Fecha: 09/01/2023

IA en Salud

While AI-driven healthcare solutions have proven their impact and reliability, healthcare organizations struggle to achieve the desired value from their investments in AI. The most promising use cases are in early diagnosis and risk stratification for chronic disease, but AI also has the potential to revolutionize drug discovery and health system operations. AI's impact on global health depends on three enablers: usable, representative data; trustworthy design; and, scalability. The most promising use cases are in early diagnosis and...(+)

Ver más...



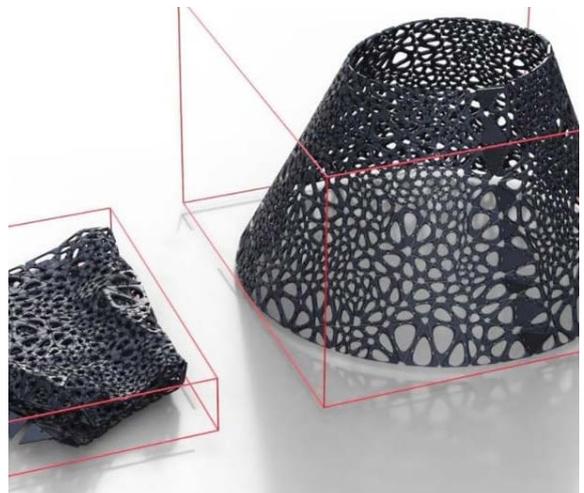
4D Printing: All you need to know in 2023

Fuente: Sculpteo.com / Fecha: 01/01/2023

Impresión 4D

3D Printing technology has existed for almost 30 years now. Yet, while the Additive Manufacturing industry is still discovering new applications, new materials, and new 3D printers, another technology is arising. It is called 4D Printing and is coming straight from the future! How do we add the fourth dimension to 3D printing? Even if we have previously introduced you to how materials change shape with this technology, in this blog post we will go together through 4D Printing technology itself, and investigate its potential and its future applications. What is 4D Printing? 4D printing is the process thro...(+)

Ver más...



ENERO
FEBRERO
MARZO
2023

Empresas y mercados

Hina Battery becomes 1st battery maker to put sodium-ion batteries in EVs in China

Fuente: Cnevpost.com / Fecha: 23/02/2023

Energy storage

The unveiling of the Sehol E10X test vehicle means that sodium-ion batteries are starting to be used in passenger cars, after the new batteries were mainly used in electric two-wheelers and for energy storage. An unknown Chinese power battery maker has begun putting sodium-ion batteries in passenger cars, potentially marking the beginning of a big change in the battery industry and in the market for affordable passenger electric vehicles (EVs). Battery maker Hina Battery today unveiled three sodium-ion battery cell products ...(+)

Ver más...



What can eye tracking reveal about cognitive processes?

Fuente: Tobii.com / Fecha: 23/02/2023

IA en Salud

Every day, people navigate complex visual environments where their retinas are bombarded with an immense amount of visual stimuli. Nevertheless, people can select what stimuli to attend to and which ones to ignore in this highly dynamic process. Humans achieve this selective perception by directing their gaze toward a specific region of the visual scene. Eye movements do not merely reveal the visual information that is being selectively harvested on a moment-to-moment basis; they are tightly coupled to cognitive processes suc...(+)

Ver más...



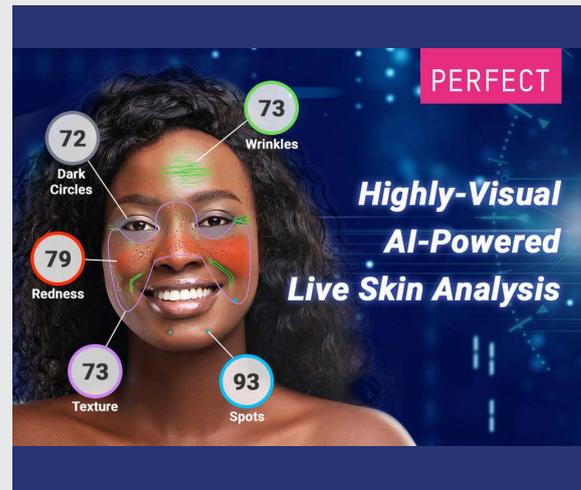
Perfect Corp. Unveils 2023 Upgrade to AI Skin Analysis Solution, Adding Real-Time Skin Concern Detection, Skincare Product Suggestions and Routine Recommendations, Further Enhancing the Industry-Leading Solution

Fuente: Finance.yahoo.com / Fecha: 23/02/2023

IA en Salud

The major upgrade allows users to gain insight into their unique skin conditions through an AR overlay on live camera feed, and receive information for the most accurate skincare routine and product recommendations. Perfect Corp. (NYSE: PERF), the leading augmented reality (AR) and artificial intelligence (AI) beauty and fashion tech...(+)

Ver más...



Battery-swapping EVs are all the rage in Taiwan. Will it work abroad?

Fuente: Restofworld.com / Fecha: 22/02/2023

Energy storage

Gogoro, the company that revolutionized EVs in Taiwan, is launching pilot projects from Korea to Germany. When entrepreneur Horace Luke first landed in Taipei two decades ago, the first thing he noticed were the motorcycles. Then, like today, the streets were clogged with millions of two-wheeled vehicles, their ambient roar background noise anywhere in the city, even indoors. During his time working for companies like Microsoft and HTC on projects like the Xbox gaming system and Android phones, Luke mulled over...(+)

Ver más...



TREAT-NMD, a Leading Global NeuroMuscular Diseases Registry Network, and Aetion Announce Partnership on Real-World Evidence

Fuente: Aetion.com / Fecha: 22/02/2023

IA en Salud

TREAT-NMD Services Ltd, the business arm of TREAT-NMD Alliance Ltd, a charity focused on neuromuscular disorders, and Aetion, Inc., the global leader in real-world evidence (RWE) technology and analytics, today announced a three-year global partnership that will see the organizations working on a number of projects to expedite the development of treatment solutions for people with rare neuromuscular diseases – e.g., spinal muscular atrophy (SMA), Duchenne...(+)

Ver más...



INBRAIN Neuroelectronics wins El Periódico's innovation award for developing graphene-based brain implant technology

Fuente: lcn2.cat / Fecha: 20/02/2023

IA en Salud

INBRAIN Neuroelectronics has won the Empresa + Innovadora prize from EL PERIÓDICO for its development of graphene-based chips implantable in the brain. The material, which is 200 times stronger than aluminum, flexible, and biocompatible, allows for less invasive and more effective brain implants for the treatment of neurological diseases such as Parkinson's, epilepsy, depression, and Alzheimer's. The first human clinical trial using the technology is set to begi...(+)

Ver más...



MDI Health Raises \$20 Million Series A to Tackle Medication-Related Problems

Fuente: BusinesWire.com / Fecha: 14/02/2023

IA en Salud

MDI Health, an AI-powered platform that automates the optimization of personalized medication treatment, at scale, has raised \$20 million in Series A funding led by Intel Capital with participation from Maverick Ventures Israel and existing investors Hanaco Ventures, Welltech Ventures, Arc Impact, Basad Ventures, Fresh.Fund, Jumpspeed Ventures and former SVP of Optum Richard Montwill. MDI Health is equipping clinicians with the technology they need to prevent adverse drug reactions, which are the fourth leading ca...(+)

Ver más...



New Strategic Partnership with Milton Keynes University Hospital

Fuente: BeamTree.com / Fecha: 13/02/2023

IA en Salud

A ground-breaking partnership between Beamtree and Milton Keynes University Hospital (MKUH) Foundation Trust is creating a global centre of excellence for automation and AI solutions for challenges facing the NHS and health systems across the world. MKUH will appraise Beamtree's AI products and, where they judge these will make a significant impact and collaborate to scale these across the NHS. This includes an evaluation of Beamtree's Ainsoff Deterioration Index. They are also the first hospital in the world to be put...(+)

Ver más...



GE HealthCare to Acquire Caption Health, Expanding Ultrasound to Support New Users Through FDA-Cleared, AI-Powered Image Guidance

Fuente: aaaa / Fecha: 09/02/2023

IA en Salud

GE HealthCare (Nasdaq: GEHC), a leading global precision care innovator, announced that it has signed an agreement to acquire Caption Health, Inc., a privately owned artificial intelligence (AI) healthcare leader that creates clinical applications to aid in early disease detection, using AI to assist in conducting ultrasound scans. With Caption AI applications, ultrasound examinations can be easier and faster, enabling a broader set of healthcare professionals to ...(+)

Ver más...



Urban population health initiative delivers significant reductions in heart disease

Fuente: NovartisFoundation.org / Fecha: 05/01/2023

IA en Salud

A new urban population health approach to tackle cardiovascular disease has led to significant improvements in blood pressure control rates in the cities where it was rolled out, according to a study published in the journal BMC Public Health. The paper describes the results of implementing CARDIO4Cities, an urban population health approach developed by the Novartis Foundation and rolled out with local city authorities, illustrating how control rates for high blood pressure – the prime risk factor for heart disease – tripled or ...(+)

Ver más...



Spotify Founder Daniel Ek officially launches new startup - and this time, he's taking on healthcare

Fuente: Sifted.eu / Fecha: 00/00/2023

IA en Salud

Spotify founder and CEO Daniel Ek is launching a new startup which aims to shake up an industry even bigger than music: healthcare. Neko Health will offer advanced full-body scanning to help doctors find and prevent disease. It's launching after four years of research and development — and hopes to be a gamechanger for Europe's beleaguered healthcare systems. "Early detection and prevention of serious illness would mean that we can avoid both the human suffering and the high social costs that serious illness entails. With...(+)

Ver más...



Pfizer and Boehringer Ingelheim discuss the importance of real-world evidence

Fuente: ClarifyHealth.com / **Fecha:** 01/02/2023

IA en Salud

Life sciences companies use real-world evidence (RWE) to make key decisions throughout a therapy's life cycle — from research and development (R&D) to clinical trials to commercial operations. Pfizer and Boehringer Ingelheim have built centers of excellence (CoEs) to accelerate the use of real-world data and real-world evidence across their organizations. Tom Dougherty, director of RWE Partnerships and Innovation for Pfizer, and Paul Petraro, executive director and global head of the RWE Analytic Center of Excellence at Boehri...(+)

[Ver más...](#)



Ten energy storage companies to watch in 2023

Fuente: EnergyStorageReport.info / **Fecha:** 13/01/2023

Energy storage

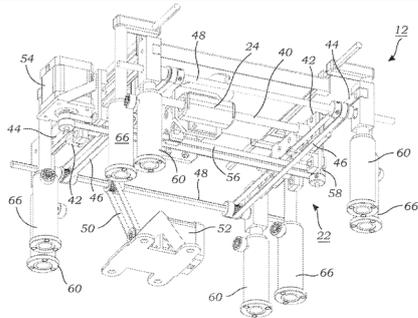
Which energy storage companies are best-placed to substantially grow their share of the market in the next 12 months? Energy Storage Report gives you a run-down of the ten companies to watch in the coming year. Which energy storage companies are best-placed to substantially grow their share of the market in the next 12 months? Energy Storage Report gives you a run-down of the 'Ten Energy Storage Companies To Watch In 2023'. Why have these companies made the list? Each of these businesses meet at least...

[Ver más...](#)



ENERO
FEBRERO
MARZO
2023

Patentes



Systems and methods for the early detection and classification of live microorganisms using time-lapse coherent imaging and deep learning

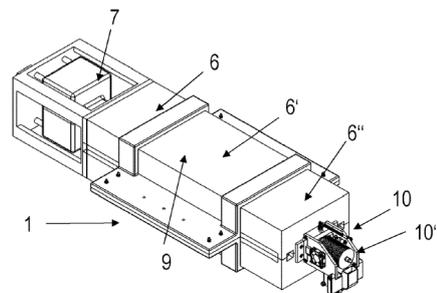
Publicación: Espacenet / **Fecha:** 23/02/2023

IA en Salud

Solicitante: UNIV CALIFORNIA [US]

A system for the detection and classification of live microorganisms in a sample includes a light source and an incubator holding one or more sample-containing growth plates. A translation stage moves...

[Ver más...](#)



3D print head with screw extruder

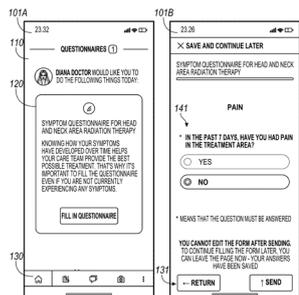
Publicación: Espacenet / **Fecha:** 22/02/2023

Impresión 4D

Solicitante: REVO FOODS GMBH [AT]

The present invention relates to a 3D print head, in particular a 3D food print head, comprising a cooling die (10) with at least one extrusion nozzle (10'), and a screw extrusion unit (1) comprising- a drive unit (7),- at least one material inlet (3) for introducing raw material, preferably raw food material, to be extruded,- an extruder barrel (9) housing at least one screw (2, 4),- and a ...(+)

[Ver más...](#)



Machine Learning analysis techniques for clinical and patient data

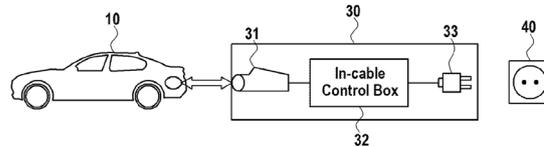
Publicación: Espacenet / Fecha: 16/02/2023

IA en Salud

Solicitante: KAIKU HEALTH OY [FI]

Systems and methods are disclosed for analyzing data from oncology treatments such as immune checkpoint inhibitor or radiotherapy therapies, including predicting adverse events of the oncology therapies, predicting objective response of the oncology therapies, predicting symptoms from the onco...(+)

Ver más...



Bootstrap method of electric vehicle charging station

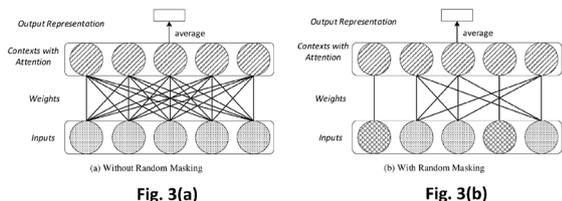
Publicación: Espacenet / Fecha: 16/02/2023

Energy storage

Solicitante: HYUNDAI MOTOR CO LTD [KR]

Provided is a bootstrap method for registering a charging station (CS), which was in an offline state, to an electric vehicle charging station management system (CSMS) and operating same. The bootstrap method comprises the steps of: storing at least partial bootstrap information in a CS so as to configure boots...(+)

Ver más...



Method and systems for respiratory sound classification

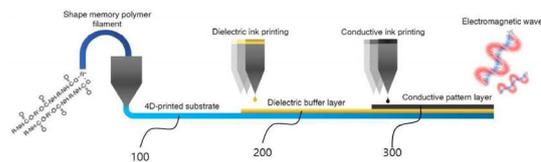
Publicación: Espacenet / Fecha: 16/02/2023

IA en Salud

Solicitante: MELBOURNE INST TECH [AU]

Described embodiments relate to methods, systems, and computer-readable media for training a feature encoder for encoding sound samples, such as respiratory sounds. Some embodiments further relate to methods, systems, and computer-readable media for training an audio classifier, such as a respira...(+)

Ver más...



4D microstrip line using 4d printing and manufacturing method thereof

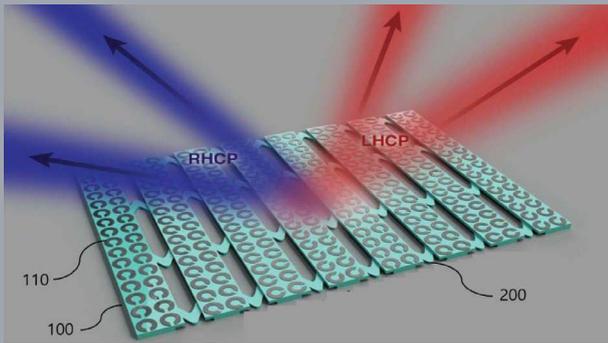
Publicación: Espacenet / Fecha: 14/02/2023

Impresión 4D

Solicitante: UNIV CHUNG ANG IND ACAD COOP FOUND [KR]

This specification relates to a microstrip line using 4D printing and a method for manufacturing the same. A method for manufacturing a microstrip line according to an embodiment of the present specification includes generating a substrate by 4D printing based on a ...(+)

Ver más...



Deformable apparatus for steering and splitting beam

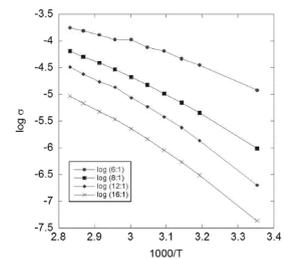
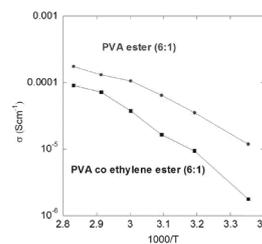
Publicación: Espacenet / **Fecha:** 14/02/2023

Impresión 4D

Solicitante: UNIV CHUNG ANG IND ACAD COOP FOUND [KR]

This specification relates to a deformable beam shaping device. A beamforming apparatus according to an embodiment of the present specification includes a plurality of meta strips and a plurality of meta strips including a split ring resonator (SRR) for splitting ...(+)

Ver más...



PVA-polyester as highly conductive and stable polymer electrolytes for lithium/sodium secondary batteries

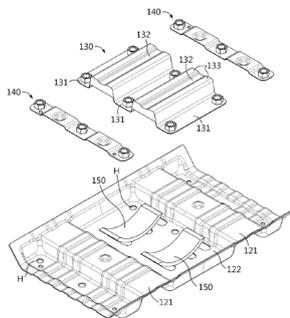
Publicación: Espacenet / **Fecha:** 09/02/2023

Energy storage

Solicitante: FUNDACION CENTRO DE INVESTIG COOPERATIVA DE ENERGIAS ALTERNATIVAS CIC ENERGIGU-NE FUNDAZIOA [ES]

A solid electrolyte includes a polymer and a lithium salt, a sodium salt or mixtures of these salts. The polymer has at least 50 mol % of recurring units of formula ...(+)

Ver más...



Battery pack, energy storage system, and vehicle

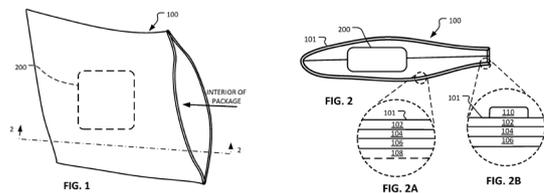
Publicación: Espacenet / **Fecha:** 09/02/2023

Energy storage

Solicitante: LG ENERGY SOLUTION LTD [KR]

A battery pack has improved safety against external impacts, and an energy storage system and a vehicle including the same. The battery pack includes a battery module having at least one battery cell; a tray having a plate shape so that the battery module is mounted thereon; a reinforcing member havir...(+)

Ver más...



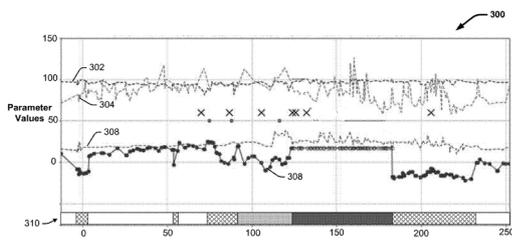
Biodegradable packaging or clothing accessory with integrated heating system, and decomposable pressure sensor

Publicación: Espacenet / **Fecha:** 08/02/2023

Impresión 4D

Solicitante: ACCENTURE GLOBAL SOLUTIONS LTD [IE] Packaging devices such as bags, pouches, envelopes, containers, and the like, including a biodegradable integrated heating system. In some embodiments, the packaging devices use fibrous natural materials (e.g., leaf skeletons and soft biomaterials like chitosan) al...(+)

Ver más...



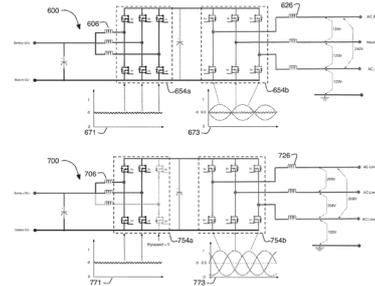
Monitoring, predicting and alerting short-term oxygen support needs for patients

Publicación: Espacenet / **Fecha:** 02/02/2023

IA en Salud

Solicitante: GE PREC HEALTHCARE LLC [US]
Systems and techniques for monitoring, predicting and/or alerting for short-term oxygen support needs of patients are presented. A system can include a data collection component that receives multimodal patient data for a patient having a respiratory co...(+)

Ver más...



Auto-Configurable Energy Storage System

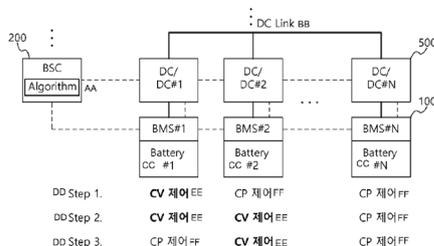
Publicación: Espacenet / **Fecha:** 02/02/2023

Energy storage

Solicitante: APPLE INC [US]

An energy storage system can include a battery, a power converter comprising a first plurality of switching devices coupled to the battery and a second plurality of switching devices coupled between the first plurality of switching devices and an AC power system, and control circuitry that determines whether the AC pc...(+)

Ver más...



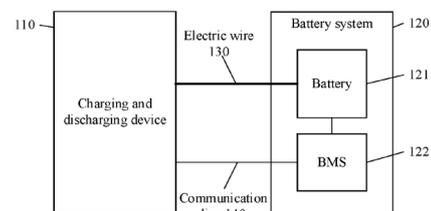
Energy storage system and control method of energy storage system

Publicación: Espacenet / **Fecha:** 02/02/2023

Energy storage

Solicitante: LG ENERGY SOLUTION LTD [KR]
A control method of an energy storage system according to an embodiment of the present invention relates to a control method of an energy storage system comprising: multiple batteries; and multiple power conversion devices connected to the multiple batteries, respectively, and the method may cor...(+)

Ver más...



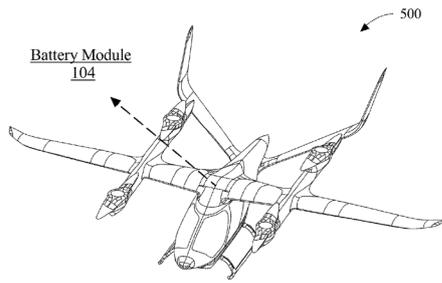
Method for charging battery, charging and discharging device

Publicación: Espacenet / **Fecha:** 02/02/2023

Energy storage

Solicitante: CONTEMPORARY AMPEREX TECHNOLOGY CO LTD [CN]
Embodiments of the application provide a method for charging battery a charging and discharging device, which can ensure the safety performance of the battery. The charging and discharging device includes a first DC/DC converter, a unidirectional AC/DC conve...(+)

Ver más...



Battery assembly for use in an electric aircraft

Publicación: Espacenet / **Fecha:** 26/01/2023

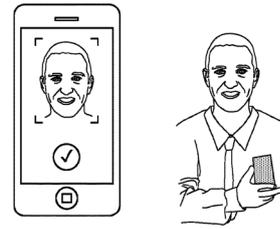
Energy storage

Solicitante: BETA AIR LLC [US]

A battery assembly for use in an electric aircraft, the battery assembly including a plurality of battery cells, four opposite and opposing sides, where at least two sides are angled inward as to secure the plurality of battery cells inside the battery assembly, and at least a sensor, where the at least a sensor is configure...(+)

[Ver más...](#)

Verify your Identity ← 32



Device, system and method for verified self-diagnosis

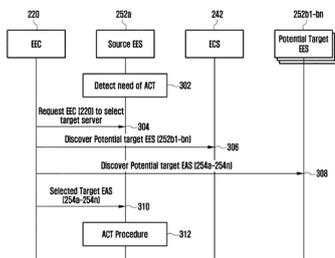
Publicación: Espacenet / **Fecha:** 19/01/2023

IA en Salud

Solicitante: DYNAMIC CENTURY HOLDINGS LTD [CN]

Methods and systems are provided for verifying results of a self-test by a subject using a test kit. The subject's identity may be verified, for example using AI-assistant facial recognition and/or data obtained from scanned government issued documents of the subject. Images obtained while the test is conducted may be use...(+)

[Ver más...](#)



Method and apparatus for selecting a target edge application server in an edge computing environment

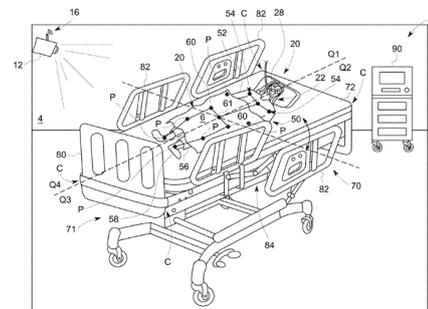
Publicación: Espacenet / **Fecha:** 12/01/2023

IA en Salud

Solicitante: SAMSUNG ELECTRONICS CO LTD [KR]

The present disclosure relates to a communication method and system for converging a 5th-Generation (5G) communication system for supporting higher data rates beyond a 4th-Generation (4G) system with a technology for Internet of Things (IoT). The pre...(+)

[Ver más...](#)



Systems and methods for predicting and preventing patient departures from bed

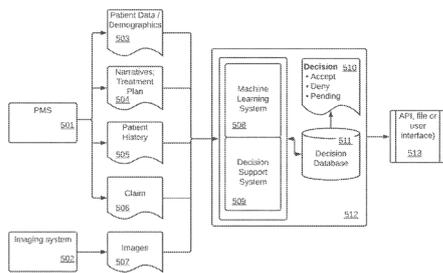
Publicación: Espacenet / **Fecha:** 12/01/2023

IA en Salud

Solicitante: GE PREC HEALTHCARE LLC [US]

A method for monitoring a patient in a bed using a camera. The method includes identifying a boundary of the bed using data from the camera, identifying parts of the patient using data from the camera, and determining an orientation of the patient using the p...(+)

[Ver más...](#)



Point of Care Claim Processing System and Method

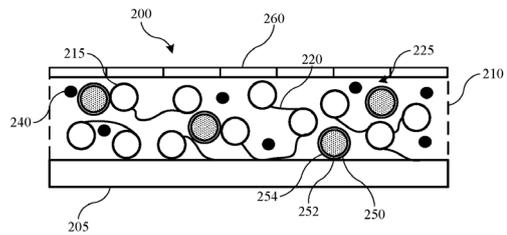
Publicación: Espacenet / **Fecha:** 12/01/2023

IA en Salud

Solicitante: OVERJET INC [US]

A computer-implemented method and system provide point of care processing of an insurance claim relating to oral care delivered to a subject patient during a visit of the patient to a dental clinic. The method includes processing, by a computer system, of dental image data and patient data, using a sc...(+)

[Ver más...](#)



Porous ceramic separator materials and formation processes

Publicación: Espacenet / **Fecha:** 05/01/2023

Energy storage

Solicitante: APPLE INC [US]

Energy storage devices, battery cells, and batteries may include a battery cell component that may be or include a ceramic layer produced by methods including admixing a ceramic with a water-soluble dispersant to form a first mixture. The methods may include admixing an organic polymeric dispersant with the first mixture...(+)

[Ver más...](#)

ENERO
FEBRERO
MARZO
2023

Informes sectoriales

Release of I-DAIR's 2022 Annual Report

Fuente: I-dair.org / **Fecha:** 12/02/2023

IA en Salud

In 2022, I-DAIR grew and established itself as a pioneering organization dedicated to digital health and AI for collaborative research. OUR YEAR AT A GLANCE. Projects developments. I-DAIR released the Mental Health and Wellbeing edition of its Global Research Map, made available to the global scientific community as a public digital good to celebrate World Mental Health Day. We also launched the citizen science needs assessments to research optimal approaches to building participatory intelligence for efficient pandemic preparedness ...(+)

Descargar



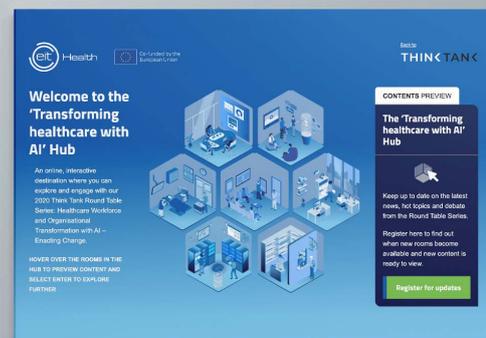
'Transforming healthcare with AI' Hub

Fuente: Thinktank.eithealth.eu / **Fecha:** 01/01/2023

IA en Salud

An online, interactive destination where you can explore and engage with our 2020 Think Tank Round Table Series: Healthcare Workforce and Organisational Transformation with AI – Enacting Change. The content in each virtual 'room' centres on six key domains identified as levers for change to drive greater acceptance and utility of AI within healthcare. Through these rooms we bring you the ideas, debate and hot topics from the series, culminating in our final report which can be found in the Reception.

Descargar



IEA Electricity Market Report 2023

Fuente: lea.org / Fecha: 01/02/2023

Energy storage

Electricity is central to many parts of life in modern societies and will become even more so as its role in transport and heating expands through technologies such as electric vehicles and heat pumps. Power generation is currently the largest source of carbon dioxide (CO2) emissions globally, but it is also the sector that is leading the transition to net zero emissions through the rapid ramping up of renewables such as solar and wind. At the same time, the current global energy crisis has placed electricity security and affordability high on the poli..(+)

Descargar



Things Fall Together: A Guide to the New Materials Revolution

Fuente: SelfAssemblyLab.com / Fecha: 01/01/2023

Impresion 4D

From the visionary founder of the Self-Assembly Lab at MIT, a manifesto for the dawning age of active materials. Things in life tend to fall apart. Cars break down. Buildings fall into disrepair. Personal items deteriorate. Yet today's researchers are exploiting newly understood properties of matter to program materials that physically sense, adapt, and fall together instead of apart. These materials open new directions for industrial innovation and challenge us to rethink the way we build ...(+)

Descargar



4d printing in healthcare

Fuente: OpenPR.com / Fecha: 10/02/2023

Impresion 4D

The 4D printing innovation has gotten a generous change in the clinical industry. 4D printing is the process through which a 3D printed object changes itself into one more construction over the influence of outer energy input as temperature, light, or other environmental upgrades. Mechanical advancements in 3D printing innovation and the increasing demand for innovations in organ transplants are the main considerations driving the market's development. Additionally, the focus of market players to develop 4D printing applications for design...(+)

Descargar



ENERO
FEBRERO
MARZO
2023

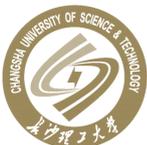
Publicaciones científicas

Achieving Ultrahigh Energy Storage Density of La and Ta Codoped AgNbO₃ Ceramics by Optimizing the Field-Induced Phase Transitions

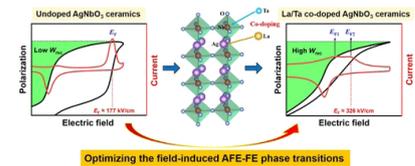
Fuente: Pubs.acs.org

Fecha: 15/03/2023

Energy storage



Energy storage capacitors are extensively used in pulsed power devices because of fast charge/discharge rates and high power density. However, the low energy storage density and efficiency of dielectric capacitors limit their further commercialization in modern energy storage applications. Lead-free AgNbO₃-based antiferroelectric (AFE) ceramics are considered to be one of the most promising environmentally friendly materials for dielectric capacitors because of their characteristic double polarization–electric field hysteresis loops with small remanent polarization and large maximum polarization. Ar...(+)



Ver más...



Characterization of Shape-Memory Polymers by DMA

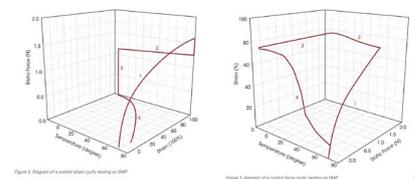
Fuente: Tainstruments.com

Fecha: 01/03/2023

Impresion 4D



Shape-memory polymers (SMP) have received increasing attention because of their scientific and technological significance. These kinds of materials have the capability of changing their shape in response to an external stimulus, such as temperature or light. The ability of shape memory polymers to spontaneously recover from large deformations in restricted environments has been exploited in numerous applications, such as heat-shrink tubing, deployable aerospace structures, microsystems, and biomedical devices. It is important to develop quantitative mechanical analysis techniques to bette...(+)



Ver más...



Development of Pneumatic Artificial Rubber Muscle Using Segmented Shape-Memory Polymer Sheets

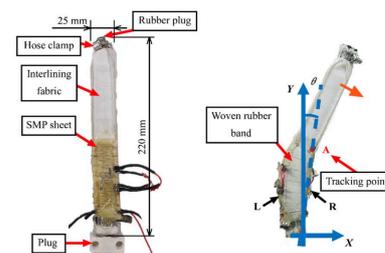
Fuente: Fujipress.jp

Fecha: 20/02/2023

Impresion 4D



We have developed a pneumatic artificial rubber muscle using two shape-memory polymer (SMP) sheets. We attached the SMP sheets to a linear pneumatic artificial rubber muscle. Utilizing the large difference in the elastic modulus below and above the glass transition temperature, the shape fixity and shape recovery of SMPs, the bending direction and the initial shape can be changed. In this study, in order to increase the bending motion range, we developed a segmented SMP sheet with embedded electrical heating wires, and evaluated its mechanical properties using bending and tensile tests. Moreover...(+):



Ver más...



Penholder-Shaped Capacitance of Dielectric Polymer-Coated Supercapacitors

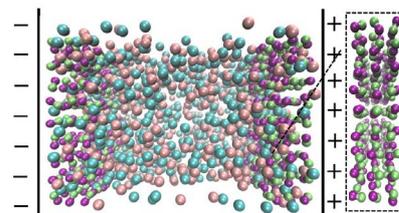
Fuente: Arxiv.org

Fecha: 19/02/2023

Energy storage



Aqueous supercapacitor has attracting broad interests as a novel energy storage device. However, its large-scale applications have been severely limited by the short operating potential. Recent experiments have shown that dielectric polymer-coated capacitors can tackle this challenge and exhibit a great performance promotion, while the intrinsic molecular mechanism remains to be explored. Herein we theoretically investigate this new-type supercapacitor by molecular dynamics simulations and observe an abnormal "penholder" shaped differential capacitance. It results in the improver...(+):



Ver más...



Non-Bulk Morphologies of Extremely Thin Block Copolymer Films Cast on Topographically Defined Substrates Featuring Deep Trenches: The Importance of Lateral Confinement

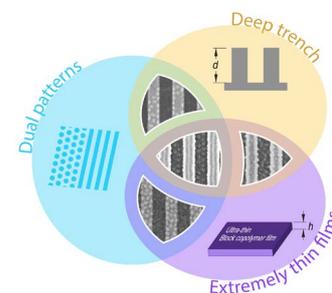
Fuente: Mdpi.co

Fecha: 19/02/2023

Impresion 4D



Directed self-assembly of block copolymers is evolving toward applications that are more defect-tolerant but still require high morphological control and could benefit from simple, inexpensive fabrication processes. Previously, we demonstrated that simply casting ultra-thin block copolymer films on topographically defined substrates leads to hierarchical structures with dual patterns in a controlled manner and unraveled the dependence of the local morphology on the topographic feature dimensions. In this article, we discuss the extreme of the ultraconfined thickness regime at the border of film d...(+):



Ver más...



Simulating Assembly Landscapes for Comprehensive Understanding of Supramolecular Polymer-Solvent Systems

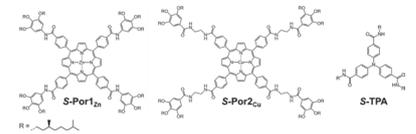
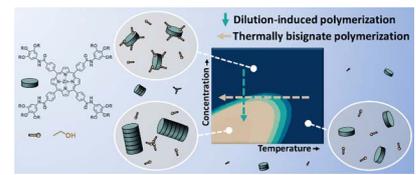
Fuente: Pubs.acs.org

Fecha: 09/02/2023

Impresion 4D



Complexity in supramolecular polymer systems arises from interactions between different components, including solvent molecules. By varying their concentration or temperature in such multicomponent systems, complex phenomena can occur such as thermally bisignate and dilution-induced assembly of supramolecular polymers. Herein, we demonstrate that both these phenomena emerge from the same underlying interaction mechanism between the components. As a model system, amide-decorated supramolecular polymers of porphyrins were investigated in combination with aliphatic alcoho...(+)



Ver más...



4D Printing of Electroactive Triple-Shape Composites

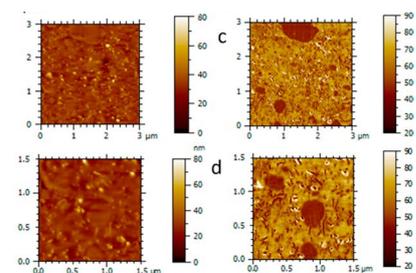
Fuente: Mdpi.com

Fecha: 07/02/2023

Impresion 4D



Triple-shape polymers can memorize two independent shapes during a controlled recovery process. This work reports the 4D printing of electro-active triple-shape composites based on thermoplastic blends. Composite blends comprising polyester urethane (PEU), polylactic acid (PLA), and multiwall carbon nanotubes (MWCNTs) as conductive fillers were prepared by conventional melt processing methods. Morphological analysis of the composites revealed a phase separated morphology with aggregates of MWCNTs uniformly dispersed in the blend. Thermal analysis showed two different trans...(+)



Ver más...



Event-triggered Hybrid Energy-aware Scheduling in Manufacturing Systems

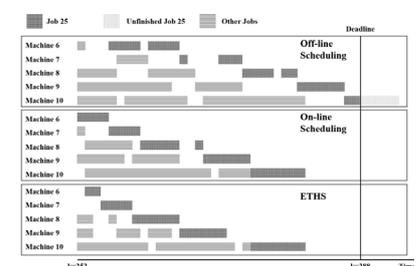
Fuente: Arxiv.org

Fecha: 02/02/2023

Energy storage



Incorporating renewable energy sources (RESs) into manufacturing systems has been an active research area in order to address many challenges originating from the unpredictable nature of RESs such as this http URL the energy-aware scheduling for manufacturing systems, the traditional off-line scheduling techniques cannot always work well due to their lack of robustness with respect to uncertainties coming from imprecise models or unexpected situations. On the other hand, on-line scheduling or rescheduling, which can improve the robustness by using the model and the latest measurement...(+)



Ver más...



Self-Assembly of a Two-Dimensional Coordination Polymer Based on Silver and Lanthanide Tetrakis-Acylpyrazolonates: An Efficient New Strategy for Suppressing Ligand-to-Metal Charge Transfer Quenching of Europium Luminescence

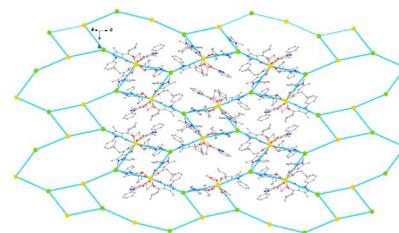
Fuente: Mdpi.com
Fecha: 02/02/2023

Impresion 4D



LOMONOSOV MOSCOW
STATE UNIVERSITY

A new strategy for the easy polymerization of anionic $[Ln(Qcy)4]^-$ ($HQcy$ -4-(cyclohexanecarbonyl)-5-methyl-2-phenyl-2,4-dihydro-3H-pyrazol-3-one) into two-dimensional layers of $[AgLn(Qcy)4]_n$ ($Ln = Sm, Eu, Gd, Tb$ and Dy) is proposed by binding the single molecular anions $[Ln(Qcy)4]^-$ to silver cations through the coordination of the pyridinic nitrogen atoms of the pyrazolonate rings. The luminescent properties of $[AgLn(Qcy)4]_n$ have been studied in detail, and it was shown that the previously described low photoluminescence quantum yield (PLQY) of $[Eu(Qcy)4]^-$ is due to Ligand-To-Metal Charge Trai...(+)



Ver más...



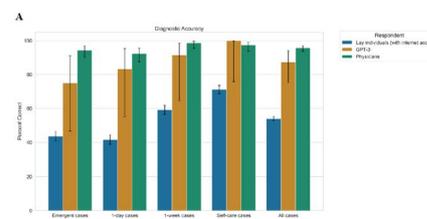
The Diagnostic and Triage Accuracy of the GPT-3 Artificial Intelligence Model

Fuente: Medrxiv.org
Fecha: 01/02/2023

IA en Salud

Brigham and Women's Hospital
Founding Member, Mass General Brigham

Importance Artificial intelligence (AI) applications in health care have been effective in many areas of medicine, but they are often trained for a single task using labeled data, making deployment and generalizability challenging. Whether a general-purpose AI language model can perform diagnosis and triage is unknown. Objective: Compare the general-purpose Generative Pre-trained Transformer 3 (GPT-3) AI model's diagnostic and triage performance to attending physicians and lay adults who use the Internet. Design: We compared the accuracy of GPT-3's diagnostic and triage ability for 48 validated case vi...(+)



Ver más...



Direct seawater electrolysis by adjusting the local reaction environment of a catalyst

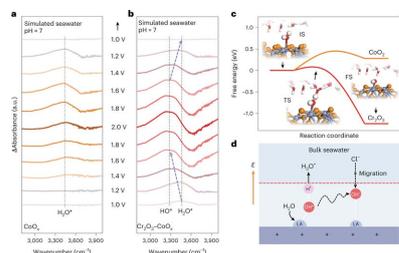
Fuente: Nature.com
Fecha: 30/01/2023

Energy storage



天津大学
Tianjin University

The use of vast amounts of high-purity water for hydrogen production may aggravate the shortage of freshwater resources. Seawater is abundant but must be desalinated before use in typical proton exchange membrane (PEM) electrolyzers. Here we report direct electrolysis of real seawater that has not been alkalisied nor acidified, achieving long-term stability exceeding 100 h at 500 mA cm^{-2} and similar performance to a typical PEM electrolyser operating in high-purity water. This is achieved by introducing a Lewis acid layer (for example, Cr_2O_3) on transition metal oxide catalysts to dynamically split v...(+)



Ver más...



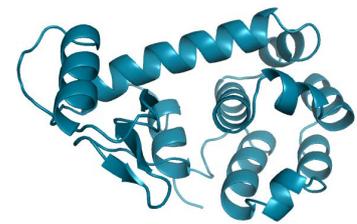
Large language models generate functional protein sequences across diverse families

Fuente: Mdpi.com
Fecha: 26/01/2023

IA en Salud



Deep-learning language models have shown promise in various biotechnological applications, including protein design and engineering. Here we describe ProGen, a language model that can generate protein sequences with a predictable function across large protein families, akin to generating grammatically and semantically correct natural language sentences on diverse topics. The model was trained on 280 million protein sequences from >19,000 families and is augmented with control tags specifying protein properties. ProGen can be further fine-tuned to curated sequences and tags to imp...(+)



Ver más...

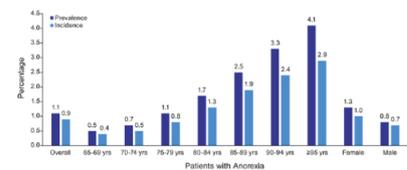


Anorexia in Medicare Fee-for-Service Beneficiaries: A Claims-Based Analysis of Epidemiology and Mortality

Fuente: Ncbi.nlm.nih.gov
Fecha: 16/01/2023

IA en Salud

Objectives: Loss of appetite in older adults can lead to malnutrition, weight loss, frailty, and death, but little is known about its epidemiology in the United States (US). The objective of this study was to estimate the annual prevalence and incidence of anorexia in older adults with Medicare fee-for-service (FFS) health insurance. Design: Retrospective and observational analysis of administrative health insurance claims data. Setting: This study included Medicare FFS claims from all settings (eg, hospital inpatient/outpatient, office, assisted living facility, skilled nursing facility, hospice, rehabilitation facility, home). ...(+)



Ver más...

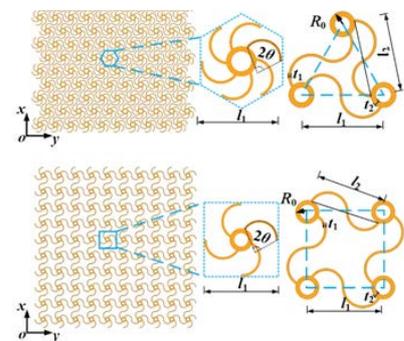


Mechanical behavior analyses of 4D printed metamaterials structures with excellent energy absorption ability

Fuente: Sciencedirect.com
Fecha: 15/01/2023

Impresion 4D

Mechanical metamaterials with immense specific energy absorption and high specific strength are extensively being applied in engineering fields, including bone tissue scaffolds, aerospace and automotive engineering. Many structural design strategies have been developed to improve their mechanical properties. The lattice metamaterials with a tremendous specific energy absorption capacity exhibit continual platform stress after initial yield and before densification. Here, combined with bionic design, we designed and fabricated a series of mechanical metamaterial with tension-dominated mechanical beh...(+)



Ver más...



Tripling energy storage density through order-disorder transition induced polar nanoregions in PbZrO₃ thin films by ion implantation

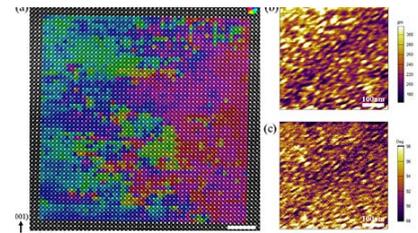
Fuente: Aip.scitation.org

Fecha: 05/01/2023

Energy storage

HZDR
HELMHOLTZ ZENTRUM
DRESDEN ROSENDOERF

Dielectric capacitors are widely used in pulsed power electronic devices due to their ultrahigh power densities and extremely fast charge/discharge speed. To achieve enhanced energy storage density, maximum polarization (P_{max}) and breakdown strength (E_b) need to be improved simultaneously. However, these two key parameters are inversely correlated. In this study, order-disorder transition induced polar nanoregions have been achieved in PbZrO₃ thin films by making use of the low-energy ion implantation, enabling us to overcome the trade-off between high polarizability and break...(+)



Ver más...



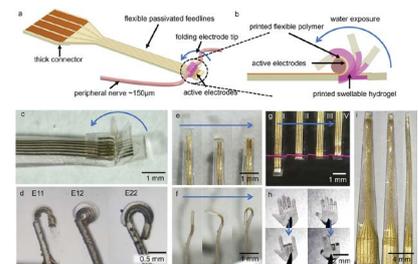
4D-Printed Soft and Stretchable Self-Folding Cuff Electrodes for Small-Nerve Interfacing

Fuente: Aaaaa

Fecha: 02/01/2023

Impresion 4D

Peripheral nerve interfacing (PNI) has a high clinical potential for treating various diseases, such as obesity or diabetes. However, currently existing electrodes present challenges to the interfacing procedure, which limit their clinical application, in particular, when targeting small peripheral nerves (<200 μm). To improve the electrode handling and implantation, a nerve interface that can fold itself to a cuff around a small nerve, triggered by the body moisture during insertion, is fabricated. This folding is achieved by printing a bilayer of a flexible polyurethane printing resin and a highly swelling sodium ac...(+)



Ver más...



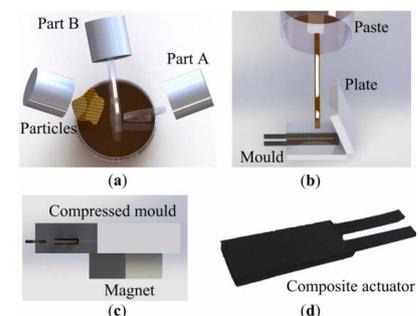
NTT

Magnetorheological elastomer-based 4D printed electroactive composite actuators

Fuente: Sciencedirect.com

Fecha: 01/01/2023

Magnetorheological elastomer (MRE) composite actuators are extraordinary since they can be controlled remotely, move swiftly, adapt to rough surfaces, and engage with humans in a secure manner. Despite all these advantages, pure MREs are not stable enough because of their high degree of softness. Also, a magnetic field is always required to actuate and hold them in the required position accordingly. This paper offers a new conceptual design for bi-stable MRE-based electroactive composite actuators with high performance. The idea is a combination of MRE composites and 4D printing (4D...(+)



Ver más...



NTU Nottingham Trent University



UJI UNIVERSITAT
JAUME I
Fundació General · FUGEN

espaitec
Parc Científic i Tecnològic

(+34) 964 387 390
espaitec@espaitec.uji.es
www.espaitec.uji.es



(+34) 934 189 796
contacto@ialetecnologia.com
www.ialetecnologia.com



Fondo Europeo de
Desarrollo Regional
Una manera de hacer Europa