

DCB OPEN INNOVATION CHALLENGE 2023

Category Diabetes Devices



Eduardo W. Jørgensen (ES): Medicsen – Needle and cannula-free Smartpatch for painless insulin delivery based on ultrasounds

Our wearable SMARTPATCH is the first truly non-invasive delivery patch for large molecules, completely free of needles & cannulas. It's based on a patented ultrasonic system that transforms electric currents into sound vibrations to open skin pores temporarily and deliver macromolecular drugs through them.



H el ene Lefebvre (FR) : Eclypia – Non-Invasive continuous glucose monitoring

Eclypia is developing a unique non-invasive sensing platform targeting health and wellness. Its first product is a non-invasive Continuous Glucose Monitoring device built on outstanding new and disruptive photonics technologies. At Eclypia, we are driven by excellence and a multi-expertise global approach to tackle technological, physiological and algorithmic challenges.



Nevena Paunovi  (CH): OctoPatch – Painless alternative for type 2 diabetes patients depending on injectable drugs

OctoPatchTM – a small buccal patch that can be easily self-applied to the inner side of the cheek. It gently stretches the mucosa and together with proper additives temporarily permeates the barrier, enabling these large drugs to reach the bloodstream. Our device is not only more attractive than injectors, but it also provides more flexibility regarding intake instructions.

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Ebba Reinholdt (SE): D-stract – Creating painless injections

D-stract aims to reduce the fear of needles and injections by reducing the pain from the initial injection. Needle phobia is one of the top 5 phobias in the world. Many who have repeated injections, such as people with diabetes, develop needle phobia over time. By using a method that is clinically proven, our product reduces the pain instantly as the product is in contact with your skin.



Adam Greybill (US): Journey Biosciences is dedicated to creating technologies to predict and overcome preventable diseases

Journey Biosciences launched the first predictive screening for people with diabetes that identifies patients at risk of chronic kidney disease prior to any clinical signs or symptoms. The company's target audience and TAM creates strategic synergies in the Laboratory, Pharma, Retail Pharmacy and other Healthcare businesses that value access to newly-diagnosed diabetes patients or identifying at-risk populations of a costly condition.



Amin Zayani (US): dotcool box – Connected storage container for insulin and biologic injections

Introducing dotcool box, a connected storage container for medications. With dotcool box, PwD can be assured that their medications are always kept at the correct temperature, protected from accidental freezing and from heating up. Users place their medications inside the box, connect it to their home network and place it inside their refrigerator. It connects it to the dotcool App on their phone and provides real-time remote monitoring.

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Arvind Jina (US): ArKal Medical – Novel Surface Continuous Glucose Monitoring Technology

Developing continuous glucose monitoring system for the management of diabetes. ArKal's monitoring system is designed to eliminate many of the inconveniences of current glucose monitoring technologies. ArKal Medical's technology has the potential to make an important advancement.



Olesja Bondarenko (EE): Next-generation nanotechnology to cure diabetic foot ulcers that cannot be cured with standard methods

We are scientists and medical doctors, who developed platform nanotechnology to prevent and cure topical bacterial infections, including those caused by antibiotic-resistant bacteria. We developed our first product for infected diabetic foot ulcers, an advanced antibacterial wound dressing and tested it in vitro, in animals, and initiated a controlled single-blind randomized clinical trial at the largest Estonian hospital.



Belén Odriozola (ES): NERVECHECK MASTER – To Increase the diagnoses, to Generate Data and to Personalize medical treatment (diabetic foot)

An unmet care need has been detected in the diagnostic field of Sensory Neuropathy. There is a lack of effective tools for the diagnosis and control of the indiscriminate evolution of Sensory Neuropathy (Diabetic Foot). Phi Med Europe has developed NerveCheck Quantitative Sensory Testing (QST) equipment, for the quantification and diagnosis of the state of small and long nerve fibres first altered in Diabetic Foot, by running 4 tests: vibration, cold, warm and heat pain.

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Amin Zayani (US): dotcool mini– Wireless temperature sensor for insulin and biologic injections

Introducing dotcool mini, a wireless temperature sensor for medications. With dotcool mini, PwD can be assured that their medications are always kept at the correct temperature. The user simply places the sensor alongside their medications and connects it to the dotcool App on their phone via Bluetooth.



Severine Sigrist (FR): MailPan – encapsulation on insulin secreting cell to forget diabetes

Defymed developed MailPan®, a macro encapsulation device: it has the three pre-requisite functions of protecting the recipient of the injected cells, protecting the donor cells (immune-protection) and maximizing cell function. In addition, the developed device contains enough cells to restore the insulin independence of patients and can be emptied/refilled into cells without additional surgery. Finally, completely implantable, MailPan® is invisible and will therefore allow a physiological treatment of the disease.



Robert Wylie (UK): Fada Medical – 30-day insulin delivery technology

We are proud to unveil our new technology that we have developed that can extend an infusion set cannula's performance for up to 30 days to support long term insulin pump use for people with type 1 diabetes. We use a first-of-its-kind method to successfully delivery a therapeutic, such as insulin, into subcutaneous tissue and past any blockage that can occur from the foreign body response.

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Greta Preatoni (CH): MY-SENSATION – Reducing pain and restoring touch in diabetic neuropathy through a fully wearable non-invasive neuromodulation system

We developed a unique wearable device that restores the sense of touch and decreases pain through a non-invasive electrical nerve stimulation driven by AI algorithms. Thanks to years of research, we achieved a carefully designed electrode placement and optimal stimulation parameters, that can target directly the nerves with a pleasant stimulation, hence reducing neuropathic pain by more than 40% after just one use.



Roman Sojic (CH): Fastskin[®], a revolutionary treatment for chronic wounds

FastSkin[®] is a new autologous treatment for chronic wounds. It combines micrografting and blood clotting, enhanced by sonication, to accelerate healing and address the unmet clinical need in chronic wound management, including diabetic wounds. Micrografting stimulates cellular growth, kickstarting the restoration of damaged tissue and speeding up wound closure.



Elvis Silva (BR): SmartWalk[®] Plus: it is time to stay in range!

SmartWalk[®] is a device capable of generating the mechanical pattern of walking, but at 1,680 steps/minute. Using the resonant frequencies of muscle fibers, it may induce the translocation of glucose transporters (GLUT4) to the cell membrane and the release of undercarboxylated osteocalcin through bone remodeling. Simply put: SmartWalk[®] may reduce postprandial glucose spikes and also prevent hypoglycemia. \$

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Rohan Arora (IN): Diaplay – Learning diabetes management by playing games!

For a newly diagnosed, every few days diabetes can throw new questions for which they try to find answers through whichever means available. The current learning process to understand diabetes can be boring, intimidating or challenging and seems like added burden. We are trying to develop gaming devices which will help people living with diabetes to learn, understand, have conversations and inculcate good habits to manage diabetes in a fun & interactive way.



Deval Karia (IN): InsuFlo – An affordable insulin pump for people with diabetes

Adoption of CSII is sparse, particularly in resource constrained settings like India. Institutional factors aside, fixed, and recurring costs of such a device are often found to be a withholding factor to widespread adoption. This is the exact problem we have attempted to address: making an affordable insulin pump (InsuFlo) that is accessible to patients at the base of the economic pyramid. The other problem that we've attempted to address is the design of a pump particularly catering to Indian patients.