context

European Network to connect research and innovation efforts on advanced Smart Textiles

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www.context-cost.eu

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ABOUT CONTEXT

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CONTEXT brings together European researchers, manufacturers and main relevant stakeholders in order to develop joint ideas and initiatives which can be turned into advanced smart textile products

SMART TEXTILE: functional textile material, which interacts actively with its environment, i.e. it responds or adapts to changes in the environment

CONTEXT network covers 35 European countries, 3 Near Neighbour Countries and 1 International Partner Country.

The Management Committee is formed by 66 experts in advanced textile materials and related fields.

CONTEXT AIMS TO

Promote the development of a joint research roadmap for smart textiles.

Foster the transfer of knowledge among different actors in order to find suitable applications in various multidisciplinary fields.

Act as stakeholder platform to identify needs and requirements from different points of view in a bottom-up approach.

Promote networking activities in order to attract talent, build more and better research projects with more consciousness on the objectives of creating exploitable results.

CONTEXT is funded by the European Cooperation in Science and Technology (COST), which provides funding for the creation of research networks, called COST Actions. These networks offer an open space for collaboration among scientists across Europe (and beyond) and thereby give impetus to research advancements and innovation.

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CONTEXT at the CIRATM-9 conference

From November 12th to 13th 2021, CIRATM-9 (International Conference of Applied Research on Textile and Materials) was held in hybrid format (online and in Monastir, Tunisia).

It is a scientific meeting that provides an international open forum for researchers from academic and industrial fields to present their original work and exchange ideas and information. CIRATM brings worldwide researchers and practitioners to share and discuss the latest scientific concepts and technological developments in textile. It also intends to promote sharing ideas and emerging technologies, as well as to foster research and development collaborations amongst academia, research institutions & relevant industries.

On November 13th, Dr. Ariadna Detrell, Cluster Manager of AEI Tèxtils, presented CONTEXT within the session "Comfort in textile and clothing".

More information

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TECHTERA organized a webinar on Textile / Soft Material and Energy as a CONTEXT Virtual Mobility Grant

Techtera, thanks to a Virtual Mobility Grants awarded by CONTEXT, organized a webinar on 22nd October 2021 on the topic « Textile / Soft Material and Energy » with the objective to present the last innovations, to give an overview of the issues and to reinforce the European network.

The webinar started with an introduction to CONTEXT, by its Action Vice Chair, Dr. Bruno Mougin followed with an introduction of TECHTERA, by its project manager Dr. Stephane Bone.

The main part of the session was dedicated to technical presentations from industrial and academic research labs:

Textile soft electronics for angle estimation of human body parts – V-Trion

PV Textile – accessorise and repurpose textile materials – Solar Cloth Systems

Smart textiles and devices for energy harvesting & storage towards self-powered technologies – LAQV-REQUIMTE

How to combine design & solar energy for smart textiles ? – ASCA

Materials and energy in textiles – Polymage

More information

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CONTEXT launches 3 videos

CONTEXT has issued 3 videos to promote the network and spread the knowledge and use of smart textiles.

1st video | **2nd video** | **3rd video**

Virtual Mobility Grant report published!

Dr. Aleksandra Ivanoska-Dacikj has published the final report for the Virtual Mobility Grant "CONTEXT Participants' Interest in Relevant Open and Forthcoming Calls - Networking Opportunities for Greater Competitiveness".

Download the report here:

More information

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CONTEXT opens a call for Virtual Mobility Grants

CONTEXT launched a call for Virtual Mobility Grants, which aim to strengthening the existing networks by allowing scientists to foster collaboration in a virtual setting, to exchange knowledge, learn new techniques, disseminate the Action results, etc.
Six grants were awarded.

CONTEXT selects the winner of its facemask graph design competition

The design presented by Helga Ahrens-Wels, researcher at ITA-Institut für Textiltechnik of RWTH Aachen University, has been selected by CONTEXT management committee to be used for the production of promotional facemasks.

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AEI TÈXTILS

The value of internationalization with the cluster

Internationalization is a crucial factor to increase the competitiveness of companies, particularly SMEs. Hence, AEI Tèxtils, the Catalan cluster of Advanced Textile Materials, has prioritized internationalization as one of its strategic axes with the aim of developing tools and resources to increase the international visibility of its members to promote their internationalization.

Some examples of AEI Tèxtils ongoing projects to support its members' internationalization include CLAMTEX and GALACTICA, focused on generating business opportunities in Europe through innovation, networking and learning via cross-sectoral synergies and collaborations among textile, aeronautics/aerospace and advanced manufacturing. On the other hand, AEI Tèxtils is also working on post-COVID opportunities globally with ongoing projects to explore new markets outside Europe: TEXGLOBAL and ADMANTEX2i. These two projects will deliver value to AEI Tèxtils members through detailed marked studies, webinars, organization of business mission, travel vouchers to participate in those missions for different target countries. In addition, some joint participation in trade fairs will be promoted for selected markets.

More information

Scalable production of magnetic fluorescent cellulose microparticles

Fluorescent and magnetic nano - and microparticles have already been used for wide range of (bio)applications. Multimodal imaging as well as simultaneous control and monitoring of intracellular movements profit from the combination of these functionalities.

Accordingly, several methods have been developed for the synthesis of magnetic fluorescent particles. We describe a straightforward and scalable method for the magnetic modification of cellulose-based fluorescent particles. The method is based on the use of microwave-synthesized magnetite nanoparticles prepared from ferrous sulfate at high pH. Magnetic modification did not change the pH sensitivity or the optical properties of the fluorescent particles, and allowed them to be manipulated by external magnetic field.

Our results demonstrate the possibility of large scale, easy production of bifunctional particles. Our method can be expanded to include other types of particles or functionalities relevant for biomedical applications.

More information

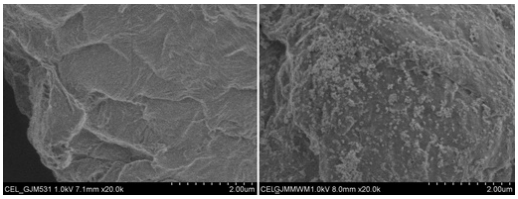
BIOLOGY CENTRE, CAS; PALACKÝ UNIVERSITY; JOANNEUM RESEARCH FORSCHUNGSGESELLSCHAFT MBH-MATERIALS; INSTITUTE OF EXPERIMENTAL PHYSICS, SAS; EMPA

BIOLOGY CENTRE CAS

Palacký University Olomouc

JOANNEUM RESEARCH

Empa
Materials Science and Technology



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CENTEXBEL

Motion – Mechanised Orthosis for Children with Neurological Disorders

MOTION seeks to develop an exoskeleton and smart garment to aid revalidation therapy of children with cerebral palsy. The smart garment assesses the stress level of the children during therapy with the exoskeleton by measuring multiple physiological parameters such as heart rate, respiration rate, skin conductance and heat flux. For each of these parameters a sensor is developed during the project and incorporated into a garment. Centexbel is responsible for the development of the heart rate and respiration rate sensors, and for the confection of the smart garment.

The MOTION Project is funded by the Interreg V 2Seas program with financial support from the European Fund for Regional Development, and made possible by financial support of the province Oost-Vlaanderen and the Flemish region.

More information

Digital Marketplace for Flexible and Wearable Technologies

SmartEEs2 is a European project funded by European Union's Horizon 2020 Research and Innovation programme, the aim of which is to help the European Industry to reinforce its competitive advantage by providing acceleration support to Innovative Companies for integration of Flexible and Wearable Electronics Technologies. For this goal, a free access Digital Marketplace was created and is currently available for material producers, technology providers, tool makers, integrators, and end-users!

The digital marketplace offers information and contacts to the leading European organizations involved in flexible & wearable technologies research, development, integration, and commercialization. The uniqueness of this virtual catalogue is its technical part, where detailed specifications of more than 138 products, prototypes and technology services are included. The competencies for business support are also listed.

These marketplaces are accompanied by the Community module, where essential information (events, funding, jobs, reports, skills & trainings, videos) for the whole ecosystem could be posted.

More information **Marketplace**

CENTI - CENTRE FOR NANOTECHNOLOGY AND SMART MATERIALS

Centre for Nanotechnology and Smart Materials

The SmartEEs2 project is funded by the European Union's Horizon 2020 research and innovation programme under grant agreement No. 872076.

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CITEVE / PORTUGUESE TEXTILE CLUSTER

citeve TEXTILE TECHNOLOGY

PORTUGUESE TEXTILE CLUSTER

SMARTX EUROPEAN SMART TEXTILES ACCELERATOR

SmartX – European Smart Textiles Accelerator

The Portuguese Textile Cluster/CITEVE is partner of SmartX project. SmartX is an acceleration platform for innovative and smart textile projects, driven by a cluster of thirteen European partners from the textile and tech industries, focused on manufacturing technology, microelectronics, data processing, and IoT.

During the 3 calls, SmartX funded 25 innovative projects in the novel smart textiles value chain, grouped into in four categories: Health, Protection, Sport, and Industrial applications. Two projects involving 3 Portuguese companies are in the list of the 25 SmartX winners (Têxteis Penedo, Sensing Future and NanoPaint).

The Showcase Room is now open and we invite you to look around!

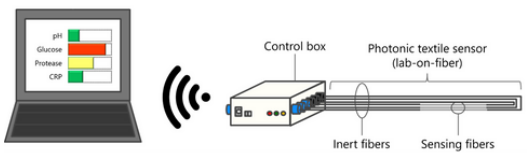
More information

EMPA

Empa Materials Science and Technology

WoundSense: Spatially resolved, integrated lab-on-fiber fluorescence sensor for the monitoring of chronic and acute wounds

WuondSense Project aims to realize a non-invasive multi-sensing platform for monitoring metabolites in wound exudate. The polymeric-based optical fibers are functionalized with the sensing chemistry targeting specific metabolites (e.g., pH, glucose, protease, etc.) that are indicative of the healing process. Once functionalized with the appropriate chemistries, the optical fibers are incorporated into textile patches/garments to allow spatial resolution in the detection reaching a multi-sensing device for the in-situ and non-invasive monitor of wound healing. Such patches will then be used for an extensive study in patients for monitoring healing in acute or chronic wounds.



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ESITH

esith Constructeur de compétences | Recherche & Développement

ESITH contributions to the innovative smart textile

In its research and developement strategy/ in its continuous pursuit to contribute to the textile industry, ESITH constantly strives to strengthen its collaborations with diverse enterprises.

ESITH is working with a large textile company in the cotton industry on a textile production project for the Moroccan market. The objective of this exploratory project is to conduct a feasibility study by ESITH experts, within a reasonable period of time, in order to respond to the company's strategy.

ESITH is also working on a project that involves a small-scale dyeing study of a polyamide fabric by acidic dyeing with solidities adapted to bathing suits. The dyeing was done after the development of the recopies and the dyeing, on a laboratory scale, using Pantone codes provided by the client.

GIRESUN UNIVERSITY - MEDICINAL AND AROMATIC PLANT DEPARTMENT

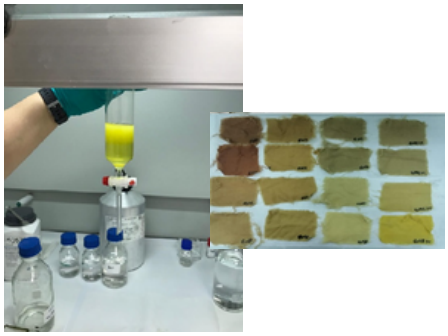
GİRESUN ÜNİVERSİTESİ 2006

Natural and antimicrobial dye with plants

Giresun University is a relatively new university in Turkey. We, as the Department of Medicinal and Aromatic Plants, are carrying out a joint project with the Department of Textile Engineering at Ege University. In this study, we are trying to develop fabrics with wound healing properties by researching the dyeing properties and various bioactive properties of local plants.

The dyeing properties, antibacterial properties, antioxidant properties, UV permeability etc. of 3 kinds of colorful plants collected from the high region are tested by changing various conditions. The results obtained in the studies done so far appear to be good.

More information



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NEXT TECHONOLOGY TECNOTESSILE

Next Technology Tecnotessile present at Ecomondo fair 26-29 Oct. 2021

Next Technology Tecnotessile has participated to ECOMONDO, The Green Technology Expo, which took place in Rimini, from 26th to 29th October 2021.
This important event, relevant at European level, focused on the ecological transition and on new models of circular economy. The fair is a point of reference for the innovative and sustainable ecosystem; it gathers in a unique platform the different sectors of the circular economy world. Indeed, in 2019, 80.930 attendees, more than 130 visiting countries, 3.500 B2B on virtual platform, more than 675 million media contacts were reached.

Networking activities among national and international leaders, buyers, experts and stakeholders were carried out. NTT Pavilion showed the main achievements of its R&D activities, as well as the results of several European projects. In this occasion, the TEXGLOBAL activities and the opportunities related to the international missions to the target Country: US, Mexico and Vietnam were presented.

More information

POLYTECHNIC UNIVERSITY OF TIRANA, DEAPRTMENT OF TEXTILE ANF FASHION

9th International Textile Conference & the 3rd International Conference for Engineering and Entrepreneurship

The Department of Textile and Fashion has organized a joint International Conference for the 70th Anniversary of the Faculty of Mechanical Engineering and the 70th Anniversary of the Polytechnic University of Tirana.

The activity will take place on 18-19 November 2021, in Tirana will be opened by two important scientific activities of FIM, which this year will come together in this jubilee, the 9th International Textile Conference & the 3rd International Conference for Engineering and Entrepreneurship. This will be a Hybrid multi-event, combining Live (On-site) and Virtual (On-line) presentations and participation.

More information

9th INTERNATIONAL TEXTILE CONFERENCE & 3rd INTERNATIONAL CONFERENCE on ENGINEERING and ENTREPRENEURSHIP 2021

18-19 November 2021, Tirana, Albania

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SMARTTEX-NETZWERK

SmartTex Netzwerk

inmotion smart textiles international 2022 conference

Inmotion2022: Smart Textiles International Conference

The international conference offers current insights into technological developments of smart textiles and their broad fields of application. The focus is on the potential applications of smart textile-based materials in the automotive, aeronautics and personal protective equipment sectors.

In lectures, discussions, practice-oriented workshops and an accompanying exhibition, results of interdisciplinary and often international cooperation will be presented and scrutinized. Best practice examples from the automotive, textile industry, medical technology, robotics and mechanical engineering will demonstrate the diversity of perspectives. This is not just about technological aspects, but also about value creation and the balance between entrepreneurial input and output.

Inmotion2022 will take place as a face-to-face event with a cultural program in the German classical city Weimar and as an online event. There will also be a matchmaking event for all participants.

More information

International Conference on Biomedical Innovations and Applications (BIA-2021)

The International Conference on Biomedical Innovations and Applications (BIA-2021) will be held on June 2-4, 2022.

Conference Topics include Bioelectronics and Biomedical Engineering Applications, Biomedical Applications of Smart Textiles, Biosensors and Personal Sensor Networks, Healthcare Applications, Innovative Materials in Biomedical Engineering, Smart Systems, Wearable Technology and Innovations and others.

The BIA-2021 proceeding will appear in IEEE Xplore Digital Library and SCOPUS. The authors of the best papers will be invited to submit extended manuscripts for consideration to a special issue of Electronics (ISSN 2079-9292, Impact Factor: 2.412) indexed in WoS. In addition, extended manuscripts can be submitted to the SCOPUS-indexed journals - International Journal of Mechanics, International Journal of Biology and Biomedical Engineering, International Journal of Circuits, Systems and Signal Processing - at significantly reduced fees.

Important dates: Full Paper Submission: March 1, 2022 | Notification of Acceptance: April 15, 2022 | Final paper submission: April 30, 2022

More information

TECHNICAL UNIVERSITY OF VARNA

International Conference on Biomedical Innovations and Applications
Varna, Bulgaria
June 2 - 4, 2022

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UNIVERSITY OF BORÅS, FACULTY OF TEXTILES, ENGINEERING AND BUSINESS, TEXTILE MATERIAL TECHNOLOGY

UNIVERSITY OF BORÅS

Erasmus+

European collaboration boosting sustainable digital printing technologies for sensor applications

The research project 'Sustainable Digital Technologies Toward Printed Sensor Applications For Smart-functional Textiles' granted by Erasmus+ is an educational-industrial collaboration of partners in Estonia, Sweden and the Netherlands starting in February 2022. TTK University of Applied Sciences (coordinator), University of Borås, Saxion University of Applied Sciences, Moomoo and SPG Prints aim to innovate textile education through digital technologies.

Considering the needs of the industry the partners target to provide a strong and modern educational base for emerging demands of today's textile production and to reach the level of sustainability required by the EU's environmental agreements. Digital and resource-efficient processes have large potential to boost the breakthrough of smart and functional printed textiles, as these products often necessitate high-cost materials and only require small batches. The transformation of the industry toward digital technologies can tackle several challenges in the domain, boost innovation and strengthen European textile production in a high-tech domain.

Smart-textile biosensor for human metabolites detection from sweat

Wearable smart-textile biosensor investigates the physiologically important metabolites (e.g. glucose, lactate etc.) from human biofluids like sweat, saliva, urine, etc. and imbalance of these metabolites can cause serious health issues like stroke, heart failure, and cancer. It is non-invasive and provides real-time information of an individual's health condition during exercise, sports, and athletic competitions.

In this news, V-Trion has developed (SWEAT-TEX project) a highly sensitive, low cost and easily producible electrochemical textile biosensor for the detection of metabolites from sweat with a lower limit of detection. Chemically/enzymatically modified reduced graphene oxide (RGO) was used to develop nanocomposites material for sensing those biomolecules. This sensor shows an excellent reproducibility and able to detect the lower concentration of the human metabolites present in sweat.

More information

More information

V-TRION GMBH TEXTILE RESEARCH

V trion textile research