ImageHeadstart .eu

Looking back AT the project

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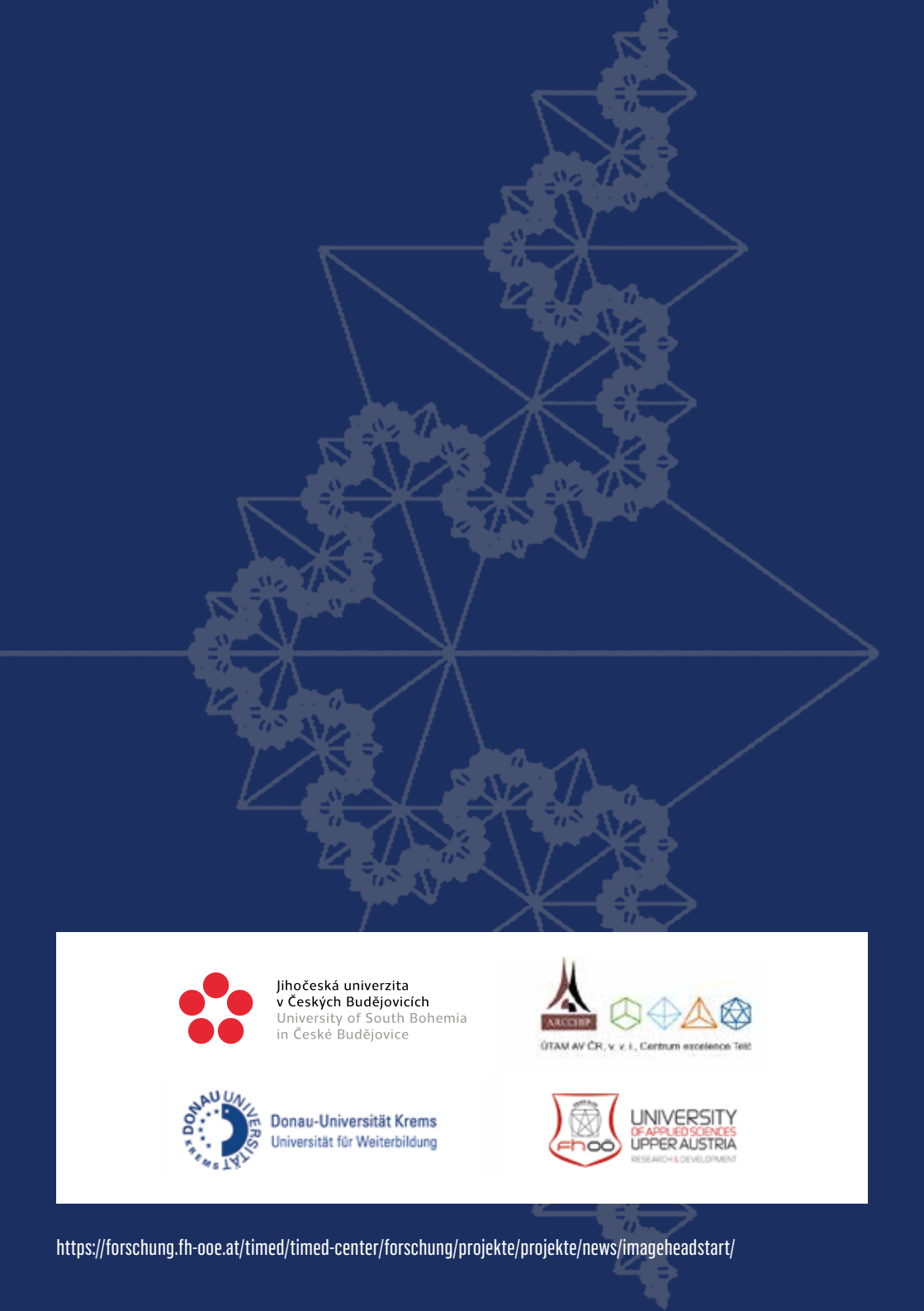

Jihočeská univerzita
v Českých Budějovicích
University of South Bohemia
in České Budějovice

ÚTAM AV ČR, v. v. i., Centrum excelence Telč

Donau-Universität Krems
Universität für Weiterbildung

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https://forschung.fh-ooe.at/timed/timed-center/forschung/projekte/projekte/news/imageheadstart/

ImageHeadstart news no. 6

INTRODUCTORY MESSAGE

In the editorial of the first newsletter I wrote that ImageHeadstart is my heart's project. Our goal is to ensure that taxpayers' money goes to local businesses and that we generate ideas to develop companies' research priorities. We want to achieve this goal by not offering ready-made solutions and devices at the lowest price in the tendering process, but by coming up with something technically new. This goal was achieved, much better than we expected and planned.

However, almost certainly none of the project partners would have thought that one of the strangest periods in the modern history of world civilization awaited us during the implementation of the project. We started with the Covid pandemic and ended with the war in Ukraine.

Our participation in the International Engineering Fair in Brno in October 2022 was very successful, we again consulted with more than 150 people from dozens of companies, universities and research institutes. We signed a research contract, negotiated several others.

Perhaps the changes that took place in the company at the time of the project resolution are an opportunity for the results of the ImageHeadstart project, which in a way really have global priorities. Europe should recognize its strengths and develop high-quality microscopes and X-ray tomographs and support well-trained students instead of energy-intensive production.

Dalibor Štys

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11th conference on industrial CT in Wels (Austria), 8-11 February 2022, online event

The iCT Conference 2022 was held online because of Covid-19 restrictions. Nevertheless, the relevance of Industrial X-ray computed tomography (XCT) is continuously increasing, mainly due to its great advantages in the non-destructive testing (NDT) of materials and components. In contrast to other NDT methods, XCT is able to provide three-dimensional representations of a component´s internal structure. The biggest advantage of XCT is representation of hidden, internal features and defects (e.g. shrink-holes, cracks, inclusions, and pores) in three dimensions. Using XCT it is possible to determine physical variables like porosity and density using high-resolution, 3D image data.

In total, 393 participants from all over the world took part in the online iCT 2022. Industry as well as scientific presentations provided an insight into the latest developments as well as established methods. Claudia Wittner gave an ImageHeadstart talk during the short talk session on 10 February and the live stream recordings is available from the FH website (STP-24).

The conference gave the unique possibility to get in contact with various industry partners and several contacts were made, e.g. during personal session: Contact Industry Partners. For example, Dan Kytyr from ITAM charir the industry day session on Tuesday the 8 February 2022. The abstract booklet is available under Abstract Booklet.

Most importantly, organized a special session the ImageHeadstart project which can be found in the program on page 17: https://www.fh-ooe.at/fileadmin/user_upload/fhooe/ueber-uns/kongresswesen/2022/iCT2022/programme/fhooe-iCT2022-Programme.pdf. During the Special Session, contact to other researchers as well as companies were made.

Sascha Senck


CONFERENCE ON
INDUSTRIAL COMPUTED TOMOGRAPHY

ImageHeadstart 4D CT techniques take part in Science Fair 2022 (2-4 June 2022)

A 4D CT demonstrator and compact tabletop loading device for time-lapse X-ray computed micro-tomography was introduced on the Science Fair 2022 and aroused interest especially among high-tech companies.

After a two-year Covid gap, the ITAM joined the Science Fair 2022 organized by the Czech Academy of Sciences. On June 2-4, 2022 more than 30,000 visitors came to the event, among them organized student groups as well as individual laymen and professional public and representatives of companies focused on technology transfers. Possibilities of the X-ray imaging techniques for the investigation of the time dependent processes in complex materials and structures were presented.

Visitors themselves could perform a simulated 4D CT experiment using the demonstrator. With the professionals, there were discussions about particular engineering application of this technique for possible further collaboration.

Dan Kytýř

4D CT demonstrator (right) and compact tabletop loading device (left) as a part of ITAM exhibition stage.

Modern imaging approaches attract also the new generation of scientists.

Night with Science
30 September 2022

This year's Night with Science at the Institute of Complex Systems in Nové Hrady was focused on the topic of Microscopy.

With the help of binocular microscopes, visitors discovered unexpected details of various natural materials and parts of insect´s or plant´s body and immersed themselves in the secrets of luminescence.

On a time-lapse video, they watched the growth of animal cells on the surfaces of materials used in medicine, recorded during the work in our laboratory.

They also learned about the latest trends in microscopy and got a glimpse over the development of the most modern, efficient microscopes.

Renata Štysová Rychtáriková


Nové Hrady – Telč –
Krems
We serve to
We seek


ImageHeadstart
ové Hrady – Telč – Linz/Wels –
Krems
We serve to regional
We seek investors
technologies

The ImageHeadstart ATCZ-215 project was successful again at the International Engineering Fair in Brno on the 4-7 October 2022

Also this year, researchers from Nové Hrady, Telč, Linz, Wels and Krems presented their results at the International Engineering Fair in Brno. The stand was once again conceived as a "hacker's den", this year with an additional notice of the project's final conference. Like the last year, this year we consulted with almost 150 specific people, which was at the limit of our capacity, aswell.

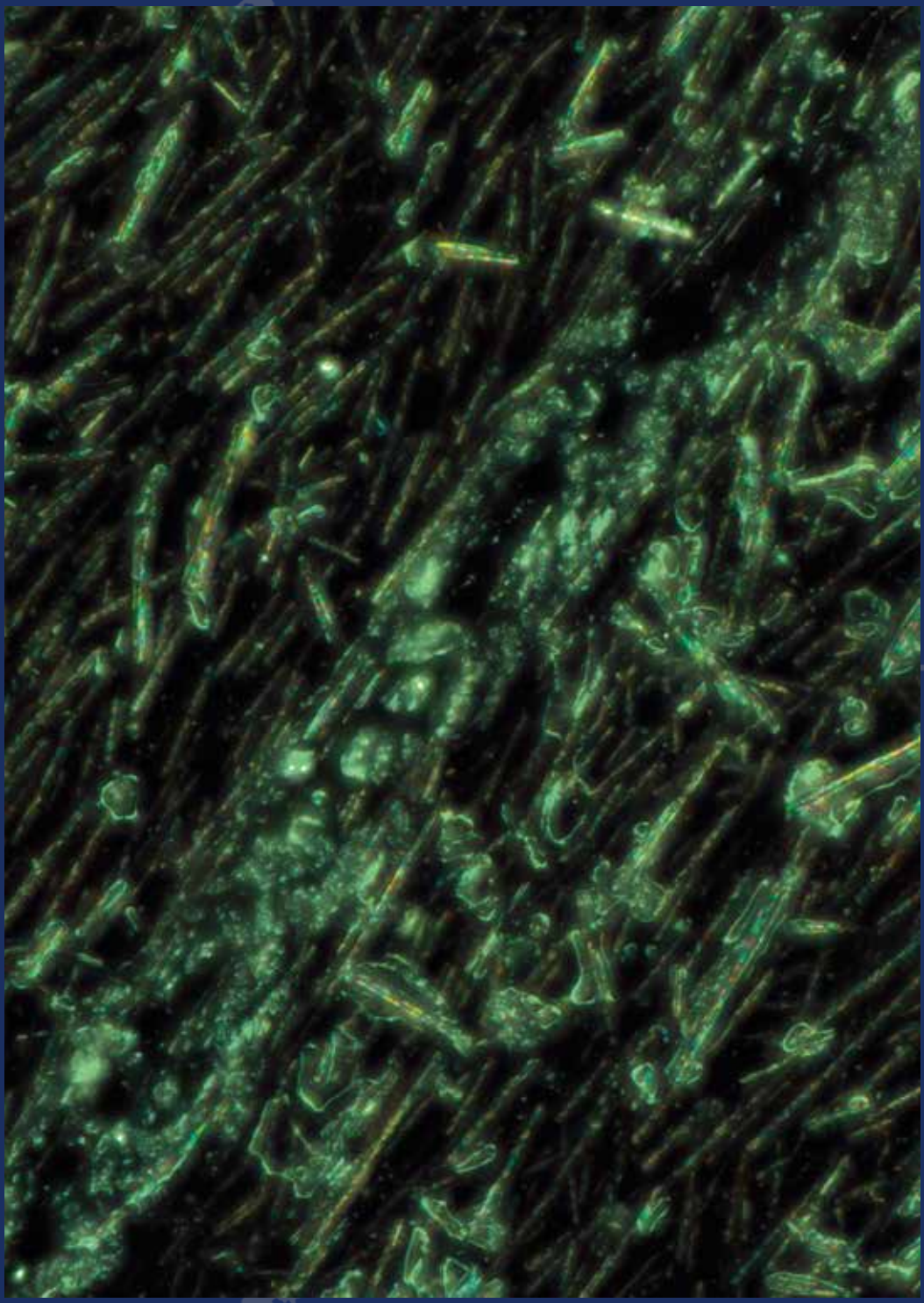
Compared to the last year, when we were at the fair for the first time, particular interest in our results increased and interested parties brought us samples for testing. Digibro, a supplier of 3D printers, even printed a sample of 3D plastic with admixture of carbon fibers on site.

On Wednesday 5 October, the chairman of the Czech-Moravian Confederation of Trade Unions and presidential candidate Josef Středula also stopped by the stand.

Renata Štysová Rychtáriková

Tomáš Volf from Trilab s.r.o., metallographer, discusses our surface analysis methods.

Josef Středula with the main creators of the exhibited technologies.



Digital print image cutout of carbon fiber doped nylon surface.

The final conference of the ImageHeadstart project 5 October 2022

As part of our stay in Brno, we also organized the final conference of the ImageHeadstart project, where all groups presented their results and technologies that are available thanks to the project and previous development.

The conference was also attended by students of the 3rd year of the field of Water Protection, who were in Brno on a planned excursion in the subject Technical standards, when they took advantage of the fact that the creators of standards and testing institutes were also exhibiting at the fair. Thanks to the funds from the project, we were able to make the excursion possible for them.

Only in the last hours of the fair we were able to look at some competing technologies and discuss their advantages and disadvantages.

Renata Štysová Rychtáriková

Stand with posted conference program.

Students of the 3rd year of the field of Water Protection at the MSV in Brno.

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