



*The **CRE**ation of the Department of Physical Chemistry of Biological Sys**TE**ms [CREATE]*

**666295 — CREATE — H2020-WIDESPREAD-2014-2015/H2020-WIDESPREAD-2014-2**

## **2<sup>nd</sup> Report on electronic promotion of the project**

**[Deliverable D.6.2]**

**Level of dissemination: Public**

**Warsaw, March 2021**



**This project has received funding from the *European Union's Horizon 2020 research and innovation programme* under grant agreement No 666295**

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## 1. Introduction

This document lists activities aimed at CREATE project promotion using electronic media from the 1/01/2019 till 31/03/ 2021 (M40 – M66).

In the report we describe the following electronic promotion activities:

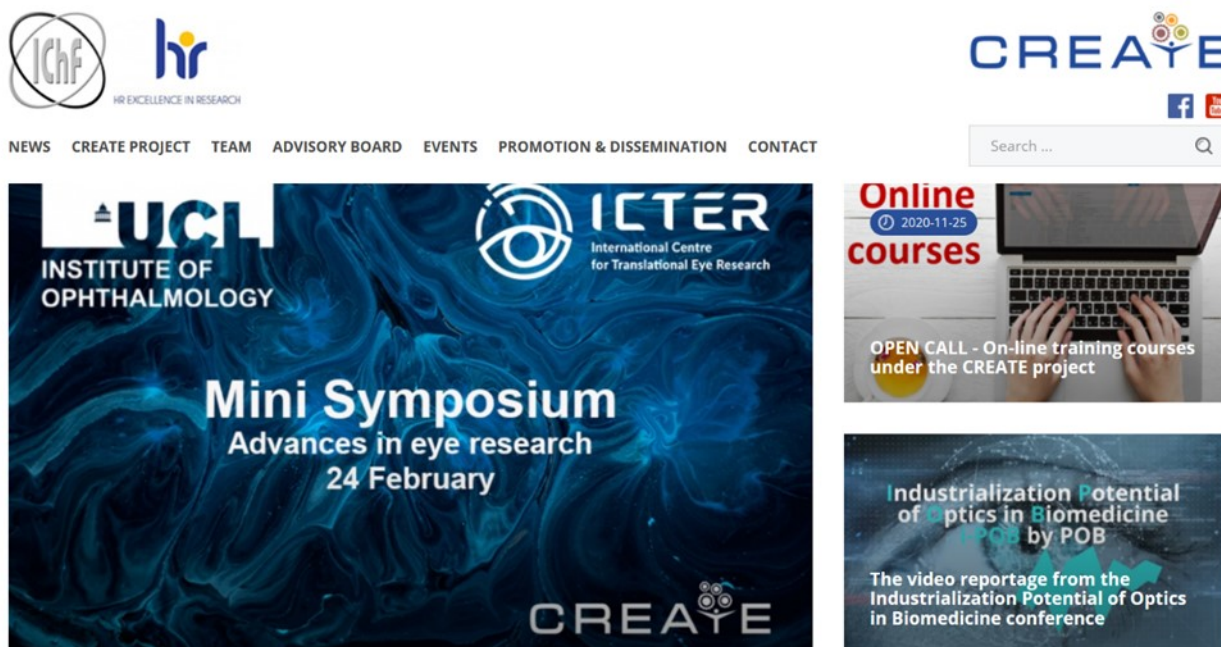
- CREATE website,
- Social media: Facebook, YouTube
- Press notes – electronic version
- Industrialization Potential of Optics in Biomedicine conference (online)
- ELAD+

## 2. CREATE website

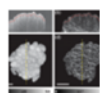
We have maintained the **project webpage** ([www.create.edu.pl](http://www.create.edu.pl)) and regularly updated it, using materials from events organized by IPC under the CREATE project, e.g. delivered lectures, conferences, seminars, visits, press notes and photos from these events. To the CREATE website we have also uploaded information about competitions organised by the ERA Chair holder (announcement, brief conditions, regulations) i.e.:

- “Lab visit under the CREATE project”,
- “Study visits under the CREATE project”,
- “On-line training courses under the CREATE project”.

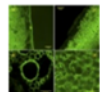
The webpage had 8,061 visitors during the reporting period. The current look of the front page:



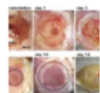
## PUBLICATIONS



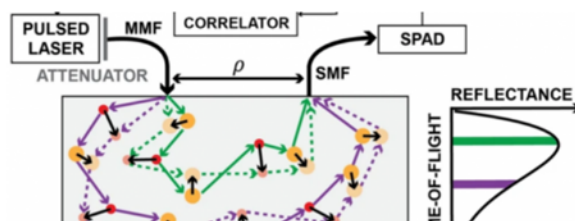
Influence of tissue fixation on depth-resolved birefringence of oral cavity tissue samples



Frequency-doubled femtosecond Er-doped fiber laser for two-photon excited fluorescence imaging



Longitudinal in-vivo OCM imaging of glioblastoma development in the mouse brain



Time-domain diffuse correlation spectroscopy (TD-DCS) for noninvasive, depth-dependent blood flow quantification in human tissue in vivo

Scientific Reports 2021 | 11, Article number: 1817

## Institute of Physical Chemistry of the Polish Academy of Sciences (IPC PAS)

The IPC in Warsaw is one of the leading Polish research institutions dealing with widely understood chemistry. In the ranking of scientific institutions run by the Ministry of Science and Higher Education, IPC is listed at the top (category: large scientific units).

IPC collaborates with over 40 universities and scientific institutions throughout the

## CREATE

The CREATE project ("The CREAtion of the Department of Physical Chemistry of Biological SysTEems"), elaborated by the Institute of Physical Chemistry of the Polish Academy of Sciences (IPC), is one of thirteen projects, which received funding under the ERA Chairs actions (CSA, Horizon2020).

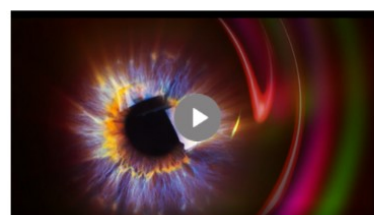
## VIDEO



The video reportage from the Industrialization Potential of Optics in Biomedicine conference



The 44th Congress of Polish Physical Society



The scientific potential of the ERA CHAIRS research group - Physical Optics and Biophotonics



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 666295.

Moreover, the CREATE webpage is regularly updated and enriched with new information consistent with the needs of IPC stakeholders (public institutions, companies, authorities & investors). Recently we have added the list of publications and patents. We have also listed all reports having "PUBLIC" status. Up to now, 91 news pieces were published.



## Team

Maciej Wojtkowski - ERA Chair Holder

Team members

Department of Physical Chemistry of Biological Systems

Lab

Activities

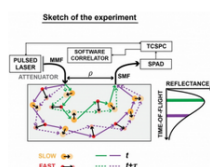
Publications

Patents

Grant funding

## Publications

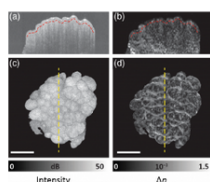
1 2 3 »



### Time-domain diffuse correlation spectroscopy (TD-DCS) for noninvasive, depth-dependent blood flow quantification in human tissue in vivo

Scientific Reports 2021 | 11, Article number: 1817

read more



### Influence of tissue fixation on depth-resolved birefringence of oral cavity tissue samples

Journal of Biomedical Optics 2020 | 25(9), 096003

read more



## Team

Maciej Wojtkowski - ERA Chair Holder

Team members

Department of Physical Chemistry of Biological Systems

Lab

Activities

Publications

Patents

Grant funding

## Patents

### Apparatus for parallel Fourier domain optical coherence tomography imaging and imaging method using parallel Fourier domain optical coherence tomography

Inventors: Patrycjusz Stremplewski, Maciej Wojtkowski, Paweł Wnuk

read more



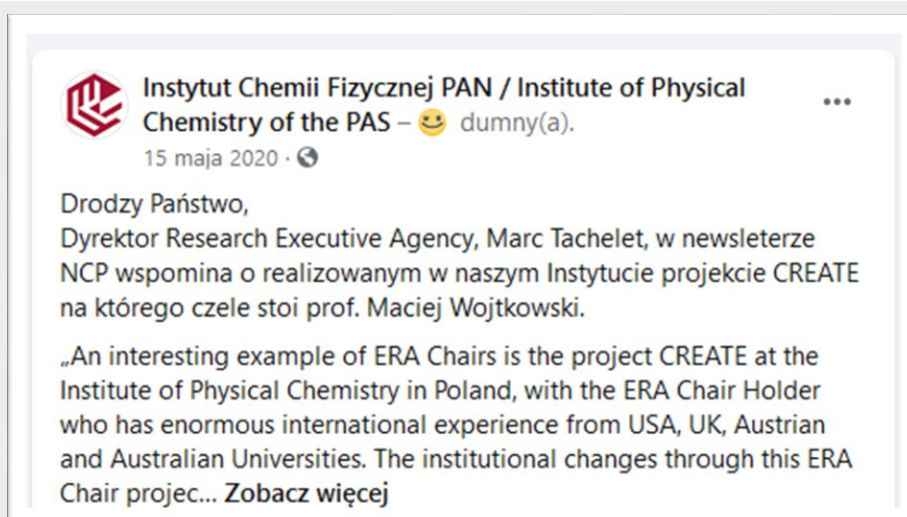
This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 666295.

### 3. Social media: Facebook, Youtube

IPC Facebook profile and IPC YouTube channel are subsequently supplemented with relevant information related to the progress of the CREATE project (**27 posts**) – examples below:

#### Facebook:

- ✓ *CREATE project among the most recent success stories on EC portal.*
- ✓ *Science Picnic 2019 (participation of Prof. Wojtkowski's team)*
- ✓ *NCP\_WIDE.NET Bulletin about CREATE*
- ✓ *We are looking for interns for the CREATE project*
- ✓ *Lessons with prof. Wojtkowski at the IPC PAS*
- ✓ *Look what we have created!*
- ✓ *Look what ERA Chair holder prof. Maciej Wojtkowski and his team, POB - Physical Optics & Biophotonics, are developing in our Institute! - movie promotion*
- ✓ *CREATE in the NCP newsletter*
- ✓ *I-POB leaflet - conference promotion*
- ✓ *Teaser i-POB*
- ✓ *I-POB conference*







Instytut Chemii Fizycznej PAN / Institute of Physical Chemistry of the PAS

11 maja 2019 · 🌐

Jeszcze przez 4 godziny można nas odwiedzić na [Piknik Naukowy](#).  
Namiot A47. Zapraszamy.



Instytut Chemii Fizycznej PAN / Institute of Physical Chemistry of the PAS

21 czerwca 2019 · 🌐



CREATE.EDU.PL

**NCP\_WIDE.NET Bulletin with - Press notes  
- Promotion & dissemination - Create Ichf**

A new issue of NCP\_WIDE.NET Bulletin, which is an official bulletin of a network of National Contact Points, has just arrived. Inside (p. 11)...



Instytut Chemii Fizycznej PAN / Institute of Physical Chemistry of the PAS

31 sierpnia 2020 · 🌐

Ruszyła rejestracja na konferencję Industrialization Potential of Optics in Biomedicine. Zachęcamy do zapisów! Udział w konferencji jest bezpłatny.

<http://i-pob.edu.pl/>

...



I-POB.EDU.PL

**i-POB by POB - Industrialization Potential of Optics in Biomedicine**

Industrialization Potential of Optics in Biomedicine



Instytut Chemii Fizycznej PAN / Institute of Physical Chemistry of the PAS

2 września 2019 · 🌐

Ruszyły zapisy na lekcje doświadczalne w IChF PAN. Zapraszamy nauczycieli szkół średnich do kontaktu i rezerwowania terminów. Zajęcia są bezpłatne (finansowane są z grantu CREATE) i trwają około 1,5 godziny. Uczniowie poza wysłuchaniem wykładu mają możliwość samodzielnego wykonywania eksperymentów.

...







Instytut Chemii Fizycznej PAN / Institute of Physical  
Chemistry of the PAS

19 września 2019 · 🌐

!! !! CREATE project (create.edu.pl) among the most recent success  
stories on EC portal. !! !!

Great success of Maciej Wojtkowski and project team from the  
Institute of Physical Chemistry PAS.



@EUScienceInnov #H2020 #ERACHairs @POBlab

EC.EUROPA.EU

ec.europa.eu



Instytut Chemii Fizycznej PAN / Institute of Physical  
Chemistry of the PAS

27 września 2019 · 🌐

*Look what we have*  
**CREATED!**



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research and innovation programme under grant agreement No 666295.

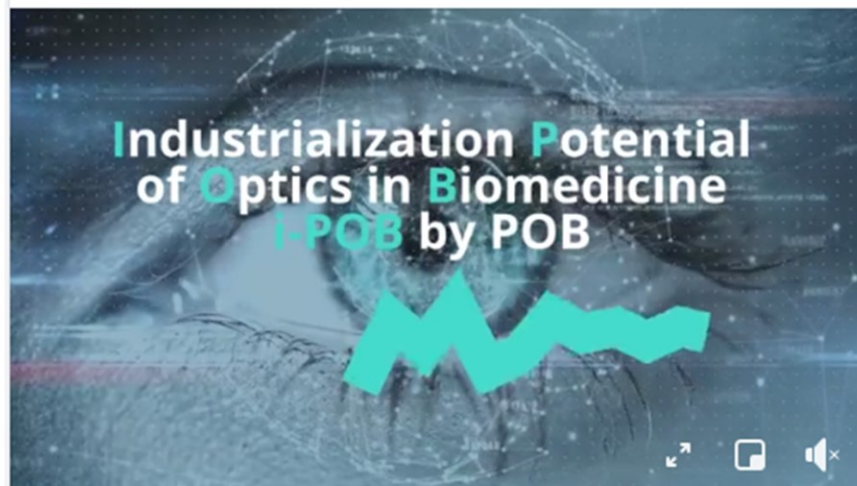




Instytut Chemii Fizycznej PAN / Institute of Physical Chemistry of the PAS

30 września 2020 · 🌐

Zachęcamy do zapisów! Udział w konferencji jest bezpłatny.



Instytut Chemii Fizycznej PAN / Institute of Physical Chemistry of the PAS

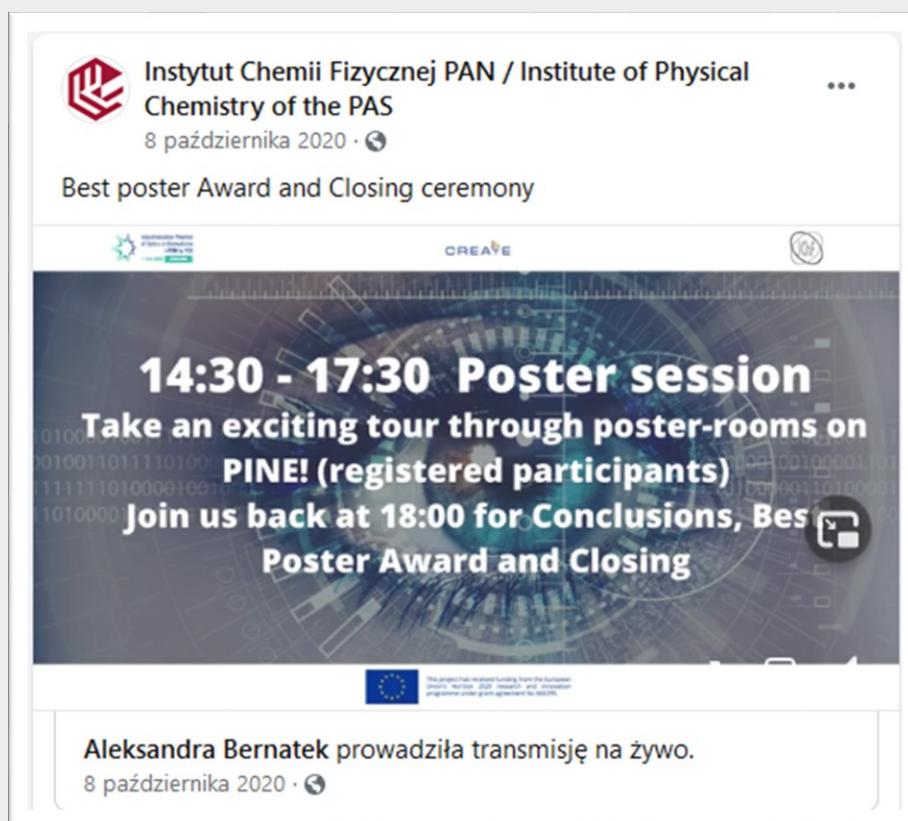
7 października 2020 · 🌐

Rozpoczyna się konferencja I-POB. Zapraszamy do wspólnego oglądania za pośrednictwem serwisu Youtube



YOUTUBE.COM

Industrialization Potential of Optics in Biomedicine. i-POB by POB



#### YouTube:

- ✓ [Light is an amazing phenomenon](#)
- ✓ [Industrialization Potential of Optics in Biomedicine. i-POB by POB](#)
- ✓ [i-POB by POB](#)
- ✓ [Reakcje samozapłonu \(Self-ignition reactions\)](#)
- ✓ [Dwutlenek węgla i efekt cieplarniany \(Carbon dioxide and the greenhouse effect\)](#)

#### 4. Press notes – electronic version

In the period covered by the this report, the following press articles related to CREATE project were prepared and published at the webpages of the project, IPC, Alpha Galileo and/or EurekAlert! websites as well as on Facebook:

- ⇒ [SERSitive: New substrates make it possible to routinely detect one molecule in a million](#)
- ⇒ [NCP WIDE.NET Bulletin about CREATE](#)
- ⇒ [Cells: live stream](#)
- ⇒ [The CREATE project presentation at NCP in Warsaw](#)
- ⇒ [CREATE among most recent success stories on DG Research portal](#)
- ⇒ [To see the Invisible](#)
- ⇒ [Look into the mirror](#)
- ⇒ [Industrialization Potential of Optics in Biomedicine conference](#)

The purpose of publishing the abovementioned articles was to:

- promote the ERA Chair holder and his teams,
- promote the new IPC specialization,
- spread information on the conference organized under CREATE,
- promote the CREATE project.

It is aimed at improving visibility and positioning IPC better at the regional, national and international level. The press notes are mainly dedicated to the increase of awareness of the society and promote a profession of a researcher as a valuable and satisfying career path.

## 5. Industrialization Potential of Optics in Biomedicine conference (online)

A significant promotional activity was the online conference "Industrialization Potential of Optics in Biomedicine (I-POB)" organized by Professor Maciej Wojtkowski on October 7-8, 2020.

A conference website was designed and launched - <http://i-pob.edu.pl/>. The webpage contained all information related to the event, incl. description of the conference, keynote speakers specification, and conference programme.



***i-POB website***

In addition, we have designed a flyer promoting the conference and a conference intro to increase the visibility of the project and promote the event. An electronic version of the flyer and intro was attached to the conference invitation and posted on FB and YouTube (intro).





Industrialization Potential  
of Optics in Biomedicine  
**i-POB** by POB

7-8 X 2020 Warsaw, Poland

# Industrialization Potential of Optics in Biomedicine

ORGANIZER:  
Institute of Physical Chemistry  
Polish Academy of Sciences

**7-8.10.2020**

**Online only**

Special abstract requirements (peer-review):

Submissions for the on-line poster session are due  
no later than **20 September 2020** and must include  
2-page PDF summary for committee review.

The conference will be focused on the past, current and the future developments of optical biomedical imaging techniques. The program of the i-POB conference will provide companies with an opportunity to share the experience and tribulations of taking a new discovery to the market with researchers that are successful in the process of implementing new technologies.

The event will include opportunities for interaction between, scientist, innovators and entrepreneurs, including education on how to successfully run projects, start the company and enter to the global market. The meeting will be especially instructive for junior researchers and inventors interested in the development of novel imaging technologies.

## Keynote Speakers



**Melissa Scala**



**Yann Cotte**



**Brett Bouma**

## Scientific Committee

Prof. Maciej Wojtkowski

*Institute of Physical Chemistry PAS  
Department of Physical Chemistry of Biological Systems*

Prof. Małgorzata Kujawińska

*Faculty of Mechatronics,  
Warsaw University of Technology*

Prof. Christophe Gorecki

*Institute of Physical Chemistry PAS*

Prof. Krzysztof Palczewski

*Gavin Herbert Eye Institute, UCI Irvine*

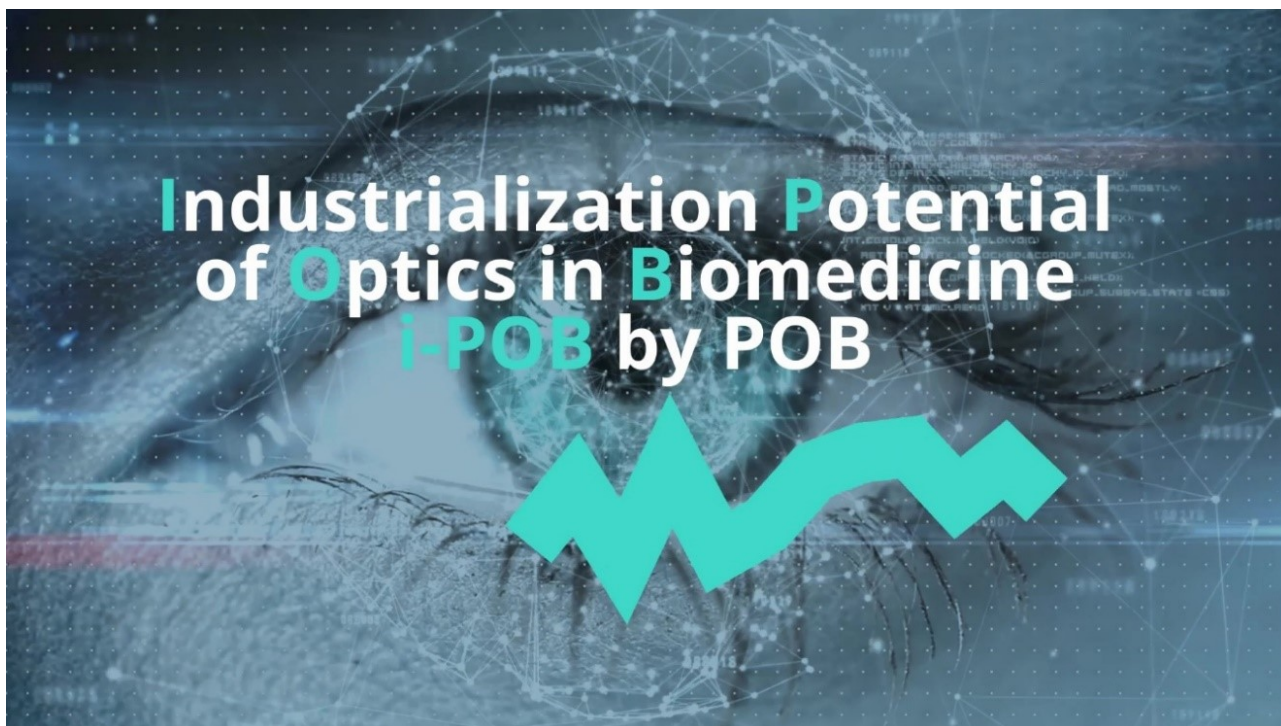
[www.i-pob.edu.pl](http://www.i-pob.edu.pl)



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 666295.

*i-POB flyer*





### ***i-POB conference INTRO***

All lectures and talks were broadcast via the conference channel (Pine conference platform) and streamed live on YouTube and FB. 208 participants registered for the conference. There were also many non-registered observers on YouTube, coming from 80 scientific centres from all over the world, including China, Denmark, Finland, France, Great Britain, United States, and even New Zealand, not to mention many reputable Polish universities and institutes.

During the two-day conference, participants could choose from six sessions presenting different aspects of Optics in Biomedicine. There As the whole event was interactive, participants could not only listen to lectures but also ask questions and voice their personal opinions on presented subjects.

A video report of the conference with the project logo and funding source was also produced to increase the visibility of the CREATE project.

## **6. ELAD+**

Among recommendations of the ERA Chair holder was to improve the image of our Institute through elaborating a coherent book of visualisation with professionally designed logotype. As a result, 2020 IPC finished works on the new logotype and following that – launched a revamped webservice for its stakeholders. The ELAD database (<https://ichf.edu.pl/en/equipment>) and its new module ELAD+ - the "Database of research workers (<https://ichf.edu.pl/en/researchers>) were redesigned to fit the new website of IPC and transferred to the webservice. Additionally, we have added searching machines to effectively search the records of the database.

Aligning the databases with the new IPC website improves their visibility and increases our attractiveness to external audience. It is also an effective way of disseminating knowledge among our stakeholders, mainly: researchers, society, enterprises and the authorities.

Below we place some screens from the current ELAD+:

← → ↻ 🏠 <https://ichf.edu.pl/en/equipment> 🔍 Search BIP Intranet 🗨️ 📄 PL EN

**ICHF**  
Institute of Physical Chemistry

INSTITUTE RESEARCH EDUCATION AND CAREER SCIENCE FOR BUSINESS EVENTS CONTACT

ICHF > SCIENCE FOR BUSINESS > EQUIPMENT DATABASE

## Equipment database

🔍 Search by name, brand or manufacturer

<b>Alinger</b>	<b>Producer:</b> Suss MicroTec <b>Model:</b> MJB4 <b>Description:</b> The Aligner is a device used to prepare lithographic systems. It allows the preparation of systems with an accuracy of up to 0.5 $\mu\text{m}$ .
Amplifier for recording membrane ionic currents	<b>Producer:</b> Molecular Devices <b>Model:</b> Axopatch 200B; converter Digidata1440A; head CV-203BU <b>Description:</b> Axopatch 200B – a microelectrode amplifier designed for low-noise patch-clamp recordings. It employs capacitor-feedback technology and active headstage cooling for single channel measurements, while...

**See also**

- IPC PAS for companies
- CHEMIPAN R&D
- [Equipment database](#)
- Researchers database
- Patents
- Business activities

**Contact**

IPC PAS for companies  
 Kasprzaka 44/52  
 01-224 Warsaw  
 Tel: 22 343 33 12  
 E-mail: [ichfdlafirm@ichf.edu.pl](mailto:ichfdlafirm@ichf.edu.pl)

### General look of the equipment database (a module of ELAD+)

🔍 Search BIP Intranet 🗨️ 📄 PL EN

**ICHF**  
Institute of Physical Chemistry

INSTITUTE RESEARCH EDUCATION AND CAREER SCIENCE FOR BUSINESS EVENTS CONTACT

ICHF > SCIENCE FOR BUSINESS > EQUIPMENT DATABASE > ASSEMBLY FOR OPERANDO STUDIES

## Equipment database

**Name:** Assembly for operando studies

**Producer:** AXS, Hiden Analytical, IPC PAS, and others

**Model:** unique apparatus

**Research group:** Team 16. Structure of nanocrystals and their dynamics triggered by surface chemical reactions

**Description:** An assembly for studying the structure of powder materials by diffractometric methods with simultaneous analysis of the gas atmosphere during chemical reactions by mass spectrometry. Information is obtained about the crystallographic phases and chemical reactions in which they take part. The assembly is fully controlled by the distributed local network. The lab includes a sensitive X-ray diffractometer with a LynxEye belt counter (Bruker), a mass spectrometer (Hiden), a gas flow controllers (MKS), temperature controllers (Lumel, Omega), pressure measurement etc. The diffractometric analysis includes the possibility of recording subtle phase and surface changes of nanocrystalline materials. Temperature range - from -198oC to 550oC, pressure -10-2 Tr to 1 atm. Experiments completely programmed with the help of S.O. Linux scripts.

**Contact:** dr hab. Zbigniew Kaszukur

**Research**

<b>Type of measurement:</b> Crystallite growth kinetics <b>Test method:</b> Monitoring the diffraction image as a function of temperature
<b>Type of measurement:</b> Phase transition kinetics <b>Test method:</b> Monitoring the composition of the camera's output gases and the evolution of the diffraction image

**See also**

- IPC PAS for companies
- CHEMIPAN R&D
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 01-224 Warsaw  
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 E-mail: [ichfdlafirm@ichf.edu.pl](mailto:ichfdlafirm@ichf.edu.pl)

### An exemplary record from the equipment database (a module of ELAD+)

← → ↻ 🏠 <https://ichf.edu.pl/en/researchers> 90% ... 📄 📌 📁 📧 📞 📠

**IchF**  
Institute of Physical Chemistry

🔍 Search BIP Intranet 🌐 AAA PL EN

INSTITUTE RESEARCH EDUCATION AND CAREER SCIENCE FOR BUSINESS EVENTS CONTACT

ICHF > SCIENCE FOR BUSINESS > RESEARCHERS DATABASE

## Researchers database

[Search by category](#)

🔍 Search by name, research group or keyword

<b>Adam Leśniewski</b> PhD	<b>Position:</b> Associate professor <b>Research group:</b> Team 04 - Surface Nanoengineering for chemo- and bio-sensors <b>Keywords:</b> fingerprints development, forensic science, sol-gel, electrochemistry, organic-inorganic synthesis, surface chemistry, nanoparticles, luminescence, phosphorescence, fluorescence	>
<b>Adam Tulewicz</b> PhD	<b>Position:</b> Associate professor <b>Research group:</b> Team 09 - Organometallic and Materials Chemistry <b>Keywords:</b> DFT, organometallic chemistry	>
<b>Adam Kubas</b> PhD	<b>Position:</b> Associate professor <b>Research group:</b> Team 15 - Modern Heterogenous Catalysis <b>Keywords:</b> reactivity modelling, theoretical spectroscopy, hydrogenases, electron transfer	>

### See also

IPC PAS for companies  
CHEMIPAN R&D  
Equipment database  
[Researchers database](#)  
Patents  
Business activities

### Contact

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Kasprzaka 44/52  
01-224 Warsaw  
Tel: 22 343 33 12  
E-mail: [ichfdlafirm@ichf.edu.pl](mailto:ichfdlafirm@ichf.edu.pl)

***General look of the researchers database (a module of ELAD+)***

🔒 <https://ichf.edu.pl/en/researchers/wojtkowski> 90% ... 📄 📌 📁 📧 📞 📠

**IchF**  
Institute of Physical Chemistry

🔍 Search BIP Intranet 🌐 AAA PL EN

INSTITUTE RESEARCH EDUCATION AND CAREER SCIENCE FOR BUSINESS EVENTS CONTACT

ICHF > SCIENCE FOR BUSINESS > RESEARCHERS DATABASE > WOJTKOWSKI

## Researchers database

**Maciej Wojtkowski Prof.**

**Position:** Full Professor

**Research group:** Team 03 - Physical Optics and Biophotonics Group

**Keywords:** experimental physics, physical optics, medical physics, biomedical imaging, optical imaging methods

**Category:** [Biophysics](#)  
[Lasers, laser physics](#)  
[Optics](#)

**Contact:** [mwojtkowski@ichf.edu.pl](mailto:mwojtkowski@ichf.edu.pl)  
0048 22 343 3283

### See also

IPC PAS for companies  
CHEMIPAN R&D  
Equipment database  
[Researchers database](#)  
Patents  
Business activities

### Contact

IPC PAS for companies  
Kasprzaka 44/52  
01-224 Warsaw  
Tel: 22 343 33 12  
E-mail: [ichfdlafirm@ichf.edu.pl](mailto:ichfdlafirm@ichf.edu.pl)

[Back to researchers database](#) >

***An exemplary record from the researchers database (a module of ELAD+)***

## Patents

[Search by category](#)

Q Search by name of patent, number or keywords

Offer no. 9/19

**Title:**

The subject of the invention is a method of smoothing and hydrophobization of polycarbonate (PC) surface, especially a surface of a polycarbonate microchannel

**Keywords:**

polycarbonate smoothing, polycarbonate hydrophobization

Offer no. 7/19

**Title:**

A flexible platform for a surface-enhanced Raman effect, a method for the preparation of such a platform, a method for the determination of substances and/or microorganisms using such a platform, the use of such a platform for the direct detection

**Keywords:**

PET; ITO; SERS; cancer cells; bacteria, detection

### See also

[IPC PAS for companies](#)

[CHEMIPAN R&D](#)

[Equipment database](#)

[Researchers database](#)

[Patents](#)

[Business activities](#)

### Contact

IPC PAS for companies

Kasprzaka 44/52

01-224 Warsaw

Tel: 22 343 33 12

E-mail: [ichfdlafirm@ichf.edu.pl](mailto:ichfdlafirm@ichf.edu.pl)

***General look of the patents database (a module of ELAD+)***

## Offer no. 6/19

### The method of detecting thermotolerant bacteria of the genus *Campylobacter* spp. in food

#### Summary:

The subject of the invention is a method of detecting thermotolerant bacteria of the genus *Campylobacter* in food. More specifically, the invention discloses a method for detecting *C. jejuni*, *C. coli*, *C. upsaliensis* and *C. lari* in food, especially in poultry meat, and a method of distinguishing the above-mentioned bacterial species from other bacteria found in this type of food by coupling breeding methods with surface-enhanced Raman spectroscopy (SERS) and principal component analysis (PCA).

#### Inventors:

Evelin Witkowska, Krzysztof Niciński, Dorota Korsak, Bartłomiej Dominiak, Agnieszka Michota-Kamińska

#### Advantages / Innovative aspects:

Development of a new method for identification of thermotolerant bacteria from the genus *Campylobacter* spp. in food, which:

- ✓ is much less time-consuming than classical methods;
- ✓ can be carried out by people with less experience and professional qualifications;
- ✓ is a development of the current ISO standard in the field of food testing for the presence of the above-mentioned bacteria;
- ✓ gives a high percentage of certainty of bacteria identification at the species level

#### Keywords:

Surface-enhanced Raman scattering (SERS), SERS platform, detection of microorganisms

#### Field:

Instruments - Optics Chemistry - Biotechnology Chemistry - Micro-structural and nano-technology

#### Usage:

Laboratory identification of thermotolerant bacteria of the genus *Campylobacter* spp. in food samples.

#### State of the progress:

stage of prototype

#### Intellectual property rights:

Patent application in Poland

#### See also

IPC PAS for companies  
 CHEMIPAN R&D  
 Equipment database  
 Researchers database  
[Patents](#)  
 Business activities

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***An exemplary record from the patents database (a module of ELAD+)***