



ICChF



HR EXCELLENCE IN RESEARCH



*The **CREA**tion of the Department of Physical Chemistry of Biological Sys**TE**ms [CREATE]*

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Open Access database – ELAD+

[Deliverable D.5.3]

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1. Introduction

Under Noblesse project (FP7), the Institute of Physical Chemistry, Polish Academy of Sciences (IPC) created an **Electronic Laboratory Equipment Database (ELAD)**. The main aim of ELAD was to accumulate information on laboratory equipment resources of IPC and collaborating research units in the region with the objective of its popularization. So far, ELAD helped to:

- **establish relations and new common research projects** between research entities and enterprises,
- **widen the range of exploitation of laboratory equipment available at IPC** for wide group of potential users from research and industrial area.

However, to enhance collaboration, IPC identified the need to supplement this database by information on the fields of expertise of our researchers and inventions offered for business application (ELAD+). It aimed to strengthen collaboration, i.a. providing our stakeholders with IPC researchers contact details and information on the ownership of the patent rights. The extended database was called ELAD+.

The database is available in Polish and English.

Since recently we have also launched a revamped webservice for our stakeholders with a new IPC visualization (including a new logo). The ELAD+ database was transferred to this new webpage (subpage: "Science for business").

Under this report we describe the final effects of our work – i.e. the new functionalities of ELAD+.

2. ELAD+ database

To the previous version of ELAD we have added new modules (forming the new ELAD+ database), such as:

a) "**Researchers**" (<https://ichf.edu.pl/en/researchers>):

The module lists the fields of expertise of IPC and, in detail, our researchers (incl. the new IPC specialization – i.e. chemistry inspired by biology). Users may search the records using a dedicated machine broken by: researcher's name, research group or keywords.

A general view:

The screenshot shows the 'Researchers database' page on the IChF website. The header includes the IChF logo and navigation links: INSTITUTE, RESEARCH, EDUCATION AND CAREER, SCIENCE FOR BUSINESS, EVENTS, CONTACT. A search bar is located at the top right. The main content area displays a list of researchers with their names, positions, research groups, and keywords. A 'Search by' dropdown menu is open, showing options like 'IPC PAS for companies', 'CHEMIPAN R&D', 'Equipment database', 'Researchers database', 'Patents', and 'Business activities'. A 'See also' section on the right provides links to these same categories. The 'Contact' section on the right lists the address, phone number, and email of the IPC PAS for companies.

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

Searching machine:

The screenshot shows the 'Researchers database' page with a 'Search by category' modal window open. The modal window has a search bar and a list of categories: Acoustics, Analytical chemistry, Anatomy, Animal genetics, Atomic and molecular physics, Bacteriology, Biochemistry, Biochemistry/Biological chemistry, Bioinformatics, Biological engineering, cell engineering, and Biophysics. The background page is dimmed, showing the same researcher list and 'See also' section as in the previous screenshot.

An exemplary record:

ICHF > SCIENCE FOR BUSINESS > RESEARCHERS DATABASE > WOJTKOWSKI

Researchers database

Maciej Wojtkowski Prof.

Position: Full Professor

Research group: Team O3 - 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
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

The displayed search results include: (1) name of the researcher, (2) their affiliation to the research group, (3) keywords corresponding with their research topics, (4) more general research categories and (5) contact details. **Currently, this module has 155 records** (only those scientists who agreed to be listed).

a) "Patents" (<https://ichf.edu.pl/en/patents>):

The module specifies industrial protection rights, i.e. patent applications or granted patent rights, securing research results. Users may search the records using a dedicated machine by: subject, offer no., title, summary and keywords. This module has 83 records.

A general view:

ICHf Institute of Physical Chemistry

INSTITUTE RESEARCH EDUCATION AND CAREER SCIENCE FOR BUSINESS EVENTS CONTACT

ICHF > SCIENCE FOR BUSINESS > PATENTS

Patents

[Go back](#) [Search by](#)

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:

also

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

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[Equipment database](#)
[Researchers database](#)
[Patents](#)
[Business activities](#)

Contact

IPC PAS for companies
Kasprzaka 44/52
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Patents

Go back

Search query: „Apparatus“, found 9 results.

Q m|

polycarbonate **s**moother, polycarbonate hydrophobization

Surface-enhanced **R**aman scattering (SERS), SERS platform, detection of **m**icroorganisms

Graphene, DNA origami, fluorescence, single **m**olecules, energy transfer, surface **c**hemistry, pyrene

Emulsion, passive **e**mulsification, droplet library

Molecularly **i**mprinted polymer, conductive polymers, tyramine, food toxins, self-reporting polymer

Surface-enhanced **R**aman scattering (SERS), photovoltaic arrays, SERS platform, detection of **m**icroorganisms

inverse opal, spherical silica nanoparticle, colloidal crystal, **m**acroporosity, polythiophene, protein surface **i**mprinting, **s**emi-covalent **i**mprinting, **h**uman chorionic gonadotropin **h**ormone (hCG)

monodisperse **e**mulsion, droplet, **m**icrofluidic device, high throughput **e**mulsion production

SERS; bacteria; bacterial detection; plasma;

electrocatalysis, **m**ethanol electrooxidation, structural developed Ni catalyst, advanced nanomaterials

An exemplary offer:

Offer no. 2/12

Method for the on-demand separation of paramagnetic material from droplet and the apparatus for the on-demand separation of paramagnetic material from droplet

Summary:

The present invention describes the method of on-demand separation of paramagnetic material from a droplet and a system for an on-demand separation of paramagnetic material from a droplet. The technique is based on the division of droplet into two droplets; one of which containing most of volume of initial droplet, but no paramagnetic material, and another containing only paramagnetic material. The invention also describes a microfluidic system for such division of droplets.

Inventors:

Paweł Dębski, Piotr Garstecki, Sławomir Jakiela

Advantages / Innovative aspects:

- ✓ non-invasive method of the separation of paramagnetic beads from droplets in a microfluidic system
- ✓ separation on demand the paramagnetic material is separated from the droplet only if necessary
- ✓ applicable for microfluidic channels with oval and rectangular cross section, which is particularly important for lab-on-chip techniques
- ✓ the system provides the separation of more than 99% of paramagnetic material from droplets
- ✓ the improvement of the efficiency of the separation is due to the change of the shape of the channel, i.e. by widening its short segment

Keywords:

microfluidic techniques, lab-on-chip, diagnostics, paramagnetic beads

Field:

Instruments - Analysis of biological materials

Chemistry - Biotechnology

Usage:

Plastics, Polymers, Analytical chemistry, Clinical research, Health Service, Measuring sensors, Chemical techniques

State of the progress:

stage of research

Intellectual property rights:

Patent in Germany

Attachments

Stages of separation of the paramagnetic material from a droplet in a microfluidic channel with square cross-section [↓](#)

[Back to patents list](#) >