



ICChF

Institute of Physical Chemistry PAS

MSCA-Cofund: Lessons Learnt & Keys to Success

- A personal perspective

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MSCA Cofund: Lesson Learnt & Keys to Success. IChF.



Institute of Physical Chemistry, Polish Academy of Sciences:

- scientific category A+ (top 5%, highest in PL)
- 270 researchers, 28 Research Groups, i.a., **Dioscuri Centre for Physics and Chemistry of Bacteria** + **Centre for Chemical Biology** – under construction (HE–ERA Chairs, PERFECTION)
- sub-unit: **International Centre for Translational Eye Research** (ICTER) with 5 groups (H2020–ERA Chairs, HE–Teaming)

DIOSCURI
CENTRE FOR PHYSICS AND
CHEMISTRY OF BACTERIA

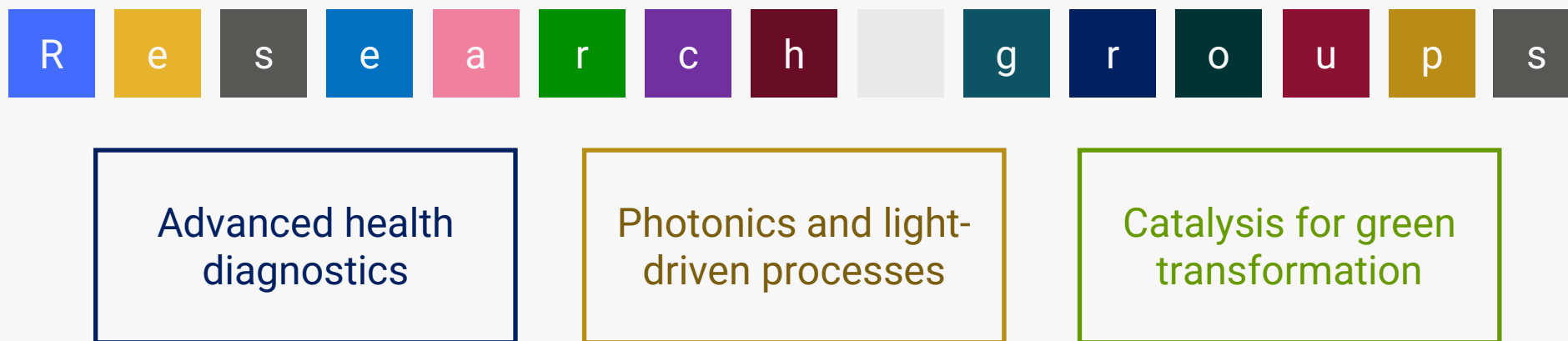


- member of EIT Health, BERSTIC, ERASMUS+, CEEPUS (...) networks



Institute of Physical Chemistry, Polish Academy of Sciences:

- physical chemistry inspired by biology and physics



IChF's Clusters of Excellence

Our distinctive features - commercialisation portfolio



„For me, completing my PhD at IChF was a ticket to a postdoctoral fellowship at Harvard University.”

Prof. Piotr Garstecki, IChF PhD graduate & Research group leader, ERC StG winner

- CEO of a **IChF spin-off Scope Fluidics**
- winner of the Special Award of EY Entrepreneur of the Year
- sold **PCR|ONE technology** for rapid infection detection to **Bio-Rad Labs (\$170 m.)**

MSCA Cofund: Lesson Learnt & Keys to Success.

MSCA-Cofund Projects.



Interdisciplinary NAnoscience School: from phenoMEology to applicationS

NaMeS – PhD Programme



From Postdoc to PI: Future leaders of ERA

PD2PI – Postdoctoral Programme

From Postdoc to PI: Future leaders of ERA

PD2PI – Postdoctoral Programme



Interdisciplinary school of UNITED chemistry: from solar cells to living cells

UNITED – PhD Programme

From postdoctoral training to ERC grant

PD2ERC – Postdoctoral Programme

Basic Sciences 4 Society needs: postdoctoral training

BS4S – Postdoctoral Programme



What Went Wrong in Unsuccessful Proposals?

From Postdoc to PI: Future leaders of ERA

PD2PI – Postdoctoral Programme

Supplementary funding is uncertain

Appointment conditions could be better

Safeguards: conflict resolution
mechanisms not well elaborated

Interdisciplinary school of UNITED chemistry: from solar cells to living cells

UNITED – PhD Programme

The concept is boring and rather low on the
agenda



From postdoctoral training to ERC grant

PD2ERC – Postdoctoral Programme

ERC funding is not really our strength 😞



What Worked in Successful Proposals?

**Interdisciplinary NAnoscience School:
from phenoMEology to applicationS**

NaMeS – PhD Programme

2016

From Postdoc to PI: Future leaders of ERA

PD2PI – Postdoctoral Programme

2019

**Basic Sciences 4 Society needs:
postdoctoral training**

BS4S – Postdoctoral Programme

2024

Strong scientific concept

Topic's presence on wider agenda -> impact

Success factors

- **Interesting concept** acknowledging EU policies and reflecting current agenda
- **Looking beyond the project** (longer effects)
- **A diversified group of mentors** fitting the concept
- **Non-biased recruitment protocol** involving sound evaluation criteria
- **Excellent appointment conditions** for researchers
- **Comprehensive well-structured mentoring programme** involving partners
- **Procedures for monitoring researchers' progress**
- **Safeguards** (built-in mechanisms to prevent issues): monitoring of ethic issues, conflict resolution, risk management, flexibility



What Worked in Successful Proposals [BS4S]?

“Basic Sciences 4 Society needs: postdoctoral training” (BS4S) is a research training programme of IChF for postdoctoral fellows. Despite its main focus on fundamental research, **IChF is well-known for its strong culture of business collaboration and openness to partnering with companies through diverse models.** Our greatest up-to-date success has been spinning off Scope Fluidics Plc., known for its successful commercialisation of PCR|ONE (digital PCR, sold to Bio-Rad Labs for \$170 m).

BS4S aims to reshape the mindset of researchers engaged in fundamental studies, encouraging them to consider broader contexts when selecting research topics and planning their studies. Most researchers adopt an idea-driven innovation approach, focusing on literature searches or discussions with peers instead of considering citizens’ needs, market demands or existing technologies. BS4S proposes the **need-driven innovation approach** that **encourages researchers to undertake research that addresses real societal, market, or technological needs**, making them more accountable to society, and streamlining knowledge flow between academic and business sectors.

We will admit to BS4S **20 experienced researchers** (expected fellowship duration: 36M) selected in transparent, open and merit-based proceedings (three calls) by independent experts (from outside of the partnership). Candidates can choose the research area from the IChF offer (research spanning chemistry, biology and physics) and propose their own **interdisciplinary research**. At large, the **research fields of the proposed mentors stem from IChF’s Core areas of Excellence** (CoE 1: Advanced Biomaterials & Technologies for Health, CoE 2: Photonics and Light-Driven Processes, and CoE 3: Catalysis & Materials for Sustainable Transformations), **aligning with Horizon Europe, Green Deal and regional and national Smart Specialisations Strategies.**

TOPIC

PATHWAY TO
IMPACT

POLICY
ALIGNMENT

What Worked in Successful Proposals [BS4S]?

To submit a proposal to BS4S, the candidates must obtain the support of two mentors from different countries, one of whom must be an IChF researcher and the other an ERC or EIC grant holder. **Twenty ERC/EIC/significant application-oriented holders have committed to the project to mentor, advise and host the fellows** during secondments and expose them to the environment of high-impact research. During the fellowship, ERs will evolve their original BS4S projects to develop frontier research, simultaneously attending tailor-made (CDP-driven) training. The training will be centred around tailored **guidance on transforming fundamental research into products/services**, supported by **12 businesses** that have committed to BS4S to offer business-oriented internships, serving as project advisors and mentors. Commitment to the project of Scope Fluidics (microfluidic devices for medicine), BASF (mobile emissions catalysts), Perosol (perovskite solar cells), ML System (photovoltaics, sustainable construction) and EcoResorces (sustainable solutions for chemistry, agri-food and engineering), can particularly drive the development of more sustainable and environmentally friendly technologies and products.

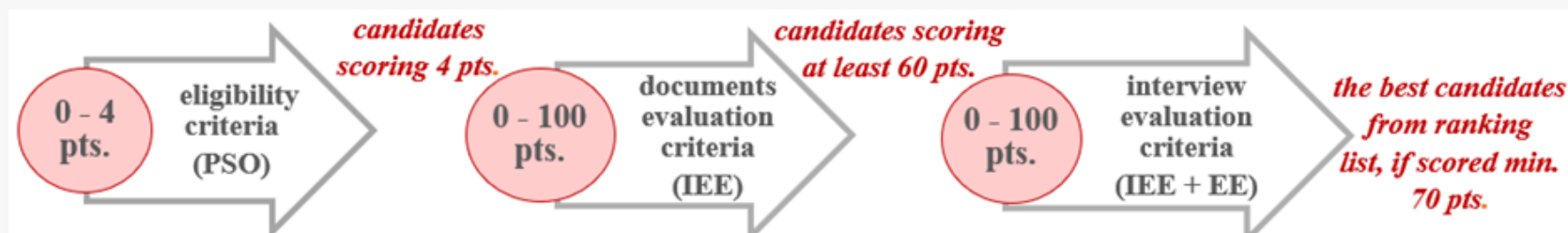
**EXCELLENT
MENTORS**

PARTNERS

What Worked in Successful Proposals [BS4S]?

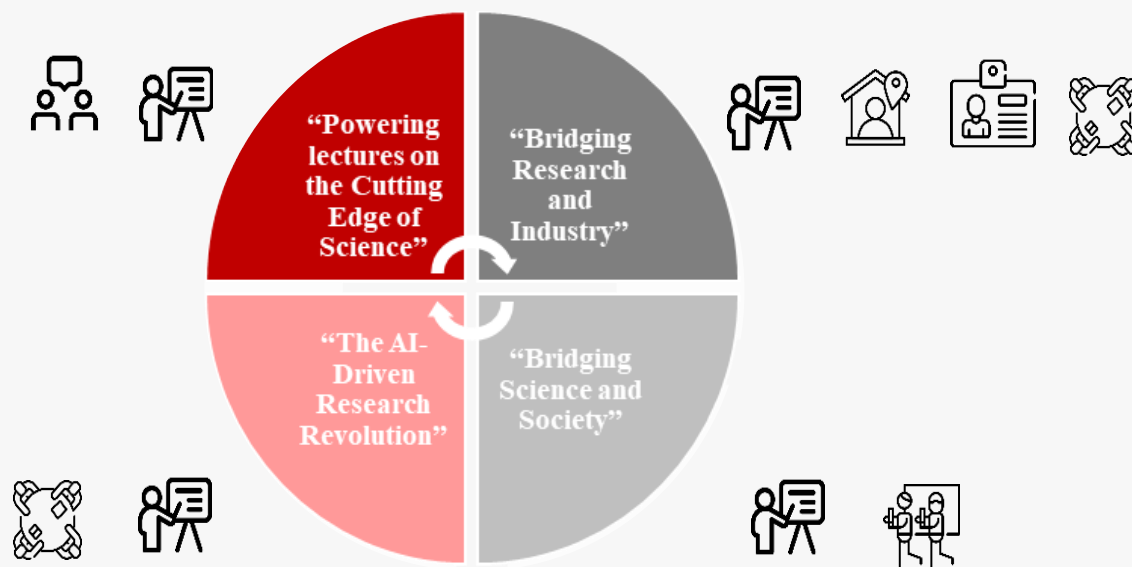
RECRUITMENT

- ✓ Base evaluation on external, independent (preferably international) panels
- ✓ Define a clear procedure for handling ex-aequo cases
- ✓ Provide transparent assessment criteria that support the project concept
- ✓ Clearly outline the redress procedure
- ✓ Incorporate ethical clearance into the proposal evaluation process
- ✓ Address diversity and inclusion considerations
- ✓ Implement a Conflict of Interest Management mechanism
- ✓ **Propose recruitment KPIs**



PSO – Project Support Office
IEE – International External Experts
EE – External Experts

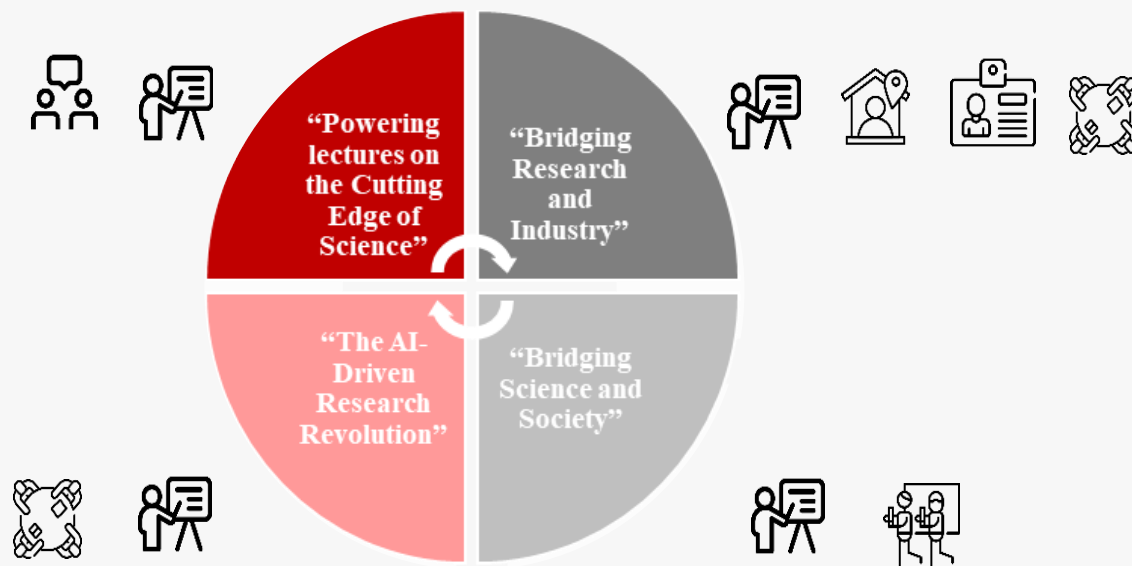
What Worked in Successful Proposals [BS4S]?



**TRAINING
PROGRAMME**

- ✓ Involve various actors & offer various training formats
- ✓ Propose programme adjustments to fit in various needs
- ✓ Incorporate quality assurance mechanism
- ✓ **Propose fellows' progress measurement KPIs**

What Worked in Successful Proposals [BS4S]?



**TRAINING
PROGRAMME**

KPIs for measuring Fellows Performance (further referred to as “Fellow Development Objectives”)		Target (per fellow)
KPI2.8	IChF Annual Meetings: posters, flash talks or research impact talks	40 (2)
KPI2.9	Presentation of research results , i.e., oral presentation at a conference or a seminar at a partner’s	20 (1)
KPI2.10	Internships in industry (of at least 1 month) or Business-guided collaborative real-world projects	20 (1)
KPI2.11	Secondments to international research organisations of at least 1 month	20 (1)
KPI2.12	Showcasing research findings in a citizen-friendly format at a popular science event	20 (1)

What Worked in Successful Proposals [BS4S]?



**MENTORING
PROGRAMME**

1-to-2(3) Mentoring Scheme: Each fellow will be paired with two academic mentors – one from IChF and one from a partner (+ a business mentor as an option). The topics covered during mentoring will be based on the fellow's CDP.

Guidance & Evaluation: At the project start, PC will provide guidance on mentoring objectives and format to all mentors. PC will then oversee and evaluate the mentoring process (i.e., collecting feedback from mentors & fellows).

This gives **at least 28-30 hours of formalised structured mentoring** during the fellowship.

What Worked in Successful Proposals [BS4S]?

Recording Fellows' Progress and Supervisors' Role:

Written Reports: Every 3 months, ERs will prepare Progress Reports detailing their research and training achievements, listing BS4S Fellow Development Objectives they have met, and reporting on diversity issues relevant to their projects. ...

Oral Presentation: Key findings from the Progress Report will be presented during Reporting Sessions (...).

**MONITORING
PROGRESS**

What Worked in Successful Proposals [BS4S]?

APPOINTMENT CONDITIONS

01.

BASIC SALARY

4,700 EUR

Basic + Mobility

02.

MOBILITY ALLOWANCE

ER's project budget

1,400 EUR

Research, training & travel

03.

FAMILY ALLOWANCE

200 EUR

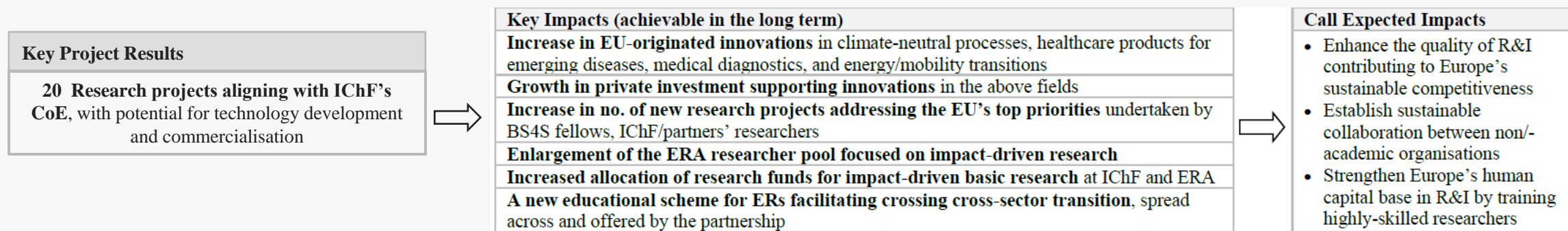
Family

What Worked in Successful Proposals [BS4S]?

Project Key Results ▶ Key Impacts ✕ Call Expected Impacts

IMPACT

- ✓ Begin by summarising project results (e.g., refer to key KPIs mentioned under various sections)
- ✓ Demonstrate how these results contribute to the broader impacts expected under the call



Key takeaways from the presentation

- ✓ MSCA-Cofund prioritises training and career development over pure scientific excellence
- ✓ Choose a topic where you have strong expertise and solid supporting evidence
- ✓ Engage someone with a keen understanding of politics and policy-making
- ✓ Incorporate metrics, KPIs, and SMART objectives for a strong evaluation framework
- ✓ Leverage AI... but do so wisely!

„Tactics win games, but strategy wins tournaments.“



IChF

Institute of Physical Chemistry PAS

Thank you

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