



# NATIONAL SCIENCE FOUNDATION AND CZECH SCIENCE FOUNDATION COLLABORATIVE RESEARCH OPPORTUNITIES

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U.S. National Science Foundation

# GACR IN PROFILE

- Independent public organisation, funded from public funds
- Support of all kinds of basic research
- All scientific fields
- The only organisation of its kind in the Czech Republic
- Since 1993
- Promoting and expanding international cooperation is one of our key priorities

# INTERNATIONAL ACTIVITIES

- Close cooperation with multiple important European and global organisations
  - Science Europe (SE)
  - Global Research Council (GRC)
  - European Research Council (ERC)
- Two basic types of international projects
  - Bilateral projects
  - Lead Agency projects

# BILATERAL COOPERATION

- Applies to
  - NRF (South Korea)
  - MOST (Taiwan)
  - FAPESP (Brazil)
- Submitted to both agencies at the same time
- Evaluated by both agencies simultaneously and independently
- Only projects recommended by both agencies are funded

# LEAD AGENCY PROJECTS

- Applies to
  - cooperation within the Weave initiative
  - mutual cooperation with the NSF (USA)
- Submitted to both (or all three) agencies at the same time
- Evaluated by only one agency (Lead Agency)
- The other agency (Partner Organisation) adopts the Lead Agency's results

# WEAVE INITIATIVE

- 12 research-funding European organisations, since 2020
- Expansion of the previous CEUS initiative
- Unique in scope
- GACR already directly cooperates with
  - DFG (Germany)
  - FWF (Austria)
  - NCN (Poland)
  - ARRS (Slovenia)
  - SNSF (Switzerland)
  - FNR (Luxembourg)

# WEAVE INITIATIVE

- GACR is committed to launching cooperation with the remaining members by 2025, these are:
  - FNRS (Belgium)
  - FWO (Belgium)
  - HRZZ (Croatia)
  - RCN (Norway)
  - FORMAS (Sweden)
- Trilateral projects are possible (1 Lead Agency + 2 Partner Organisations)
- Weave is likely to gain new members



# US NSF

*“To promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense...”*



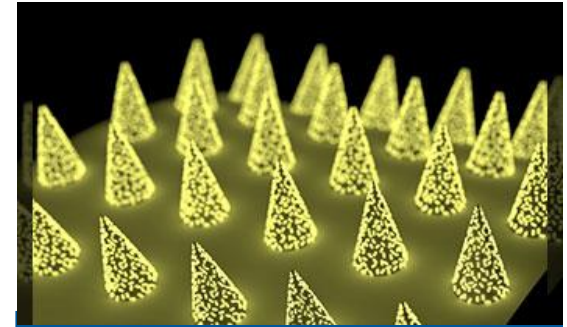
Biological Sciences



Computer & Information  
Science & Engineering



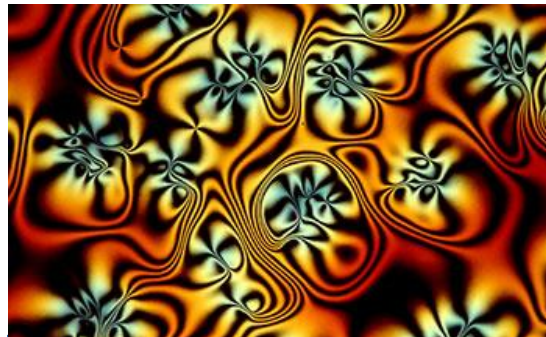
Education &  
Human Resources



Engineering



Geosciences (including Polar)



Mathematical & Physical  
Sciences



Social, Behavioral &  
Economic Sciences



Technology, Innovation,  
Partnerships





# What NSF Looks for in International Engagement

Promoting the development of a globally engaged science and engineering workforce

Facilitating and supporting beneficial international research partnership

Providing opportunities for U.S. leadership to shape the global science and engineering agenda



# Core Values for International Engagement

- International collaboration enhances research & education
- Reciprocal benefit
- Networks that link expertise and leverage resources
- Opportunities for U.S. students, early career researchers to engage in international research
- Commitment to openness, data sharing
- **Primary partners** for formal collaboration are foreign funding agencies (not individual researchers or universities)

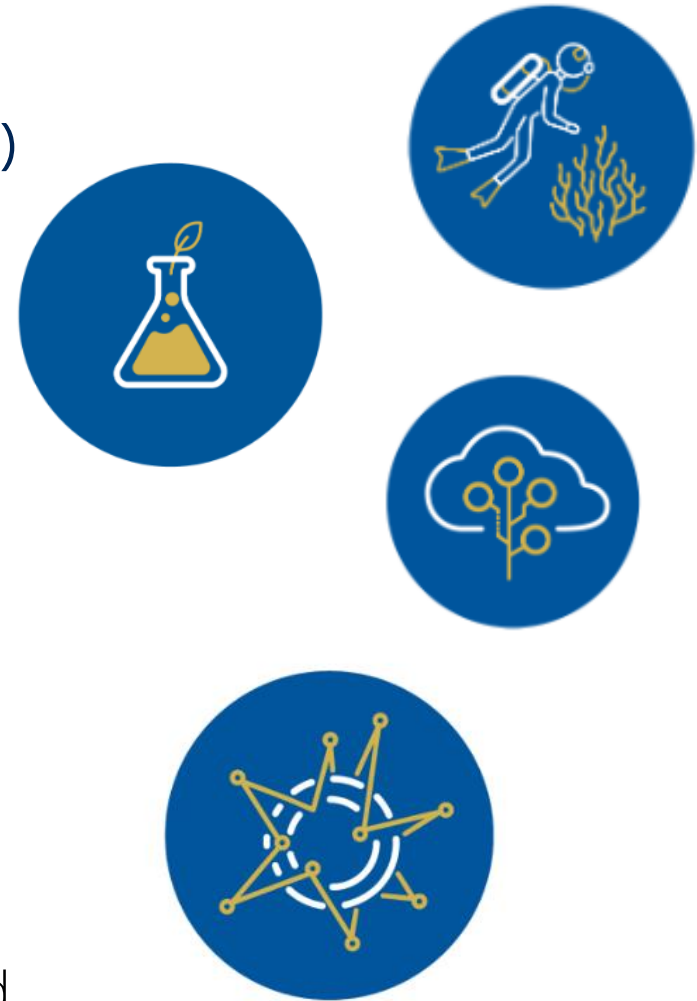




# NSF's International Engagement in Europe: Examples

## Lead agency opportunities with Europe

- **Czech Republic:** AI; Nanotechnology; Plasma science (NSF 21-111)
- **Finland:** AI; Digital Precision Cancer Medicine; Wireless Communication Technologies (NSF 21-035)
- **France:** CISE Core Programs (small) (NSF 21-020); Physics - Molecular and Cellular Biosciences Interface (NSF 21-120)
- **Germany:** Advanced Manufacturing (NSF 22-013), Chemistry and Transport in Confined Spaces (NSF 21-626); Molecular and Cellular Biology (NSF 22-015)
- **Ireland/Northern Ireland:** Nanoscale Science & Engineering; Sensors & Sensor Networks; Telecommunications; Energy & Sustainability; Cybersecurity (NSF 20-064)
- **Switzerland:** TBD
- **UK:** Engineering and Physical Sciences (NSF 20-510); Geo/Bio (NERC); Bio and UKRI/BBSRC (NSF 22-107); Social, Behavioral and Economic Sciences; Mathematical Sciences (NSF 19-082)





# NSF's International Opportunities: Additional Examples

Not comprehensive

NSF 22-108 – International Collaboration Supplements in Quantum Information Science and Engineering Research

For consideration in a given fiscal year, requests must be received before May 1 of that fiscal year.

NSF 22-056 – Research Collaboration Opportunity in Europe for NSF Awardees

Opportunity closed this year. Expected to be reissued spring 2023

NSF 20-609 – Collaborative Research in Computational Neuroscience

Includes France, Germany, Israel, Japan and Spain

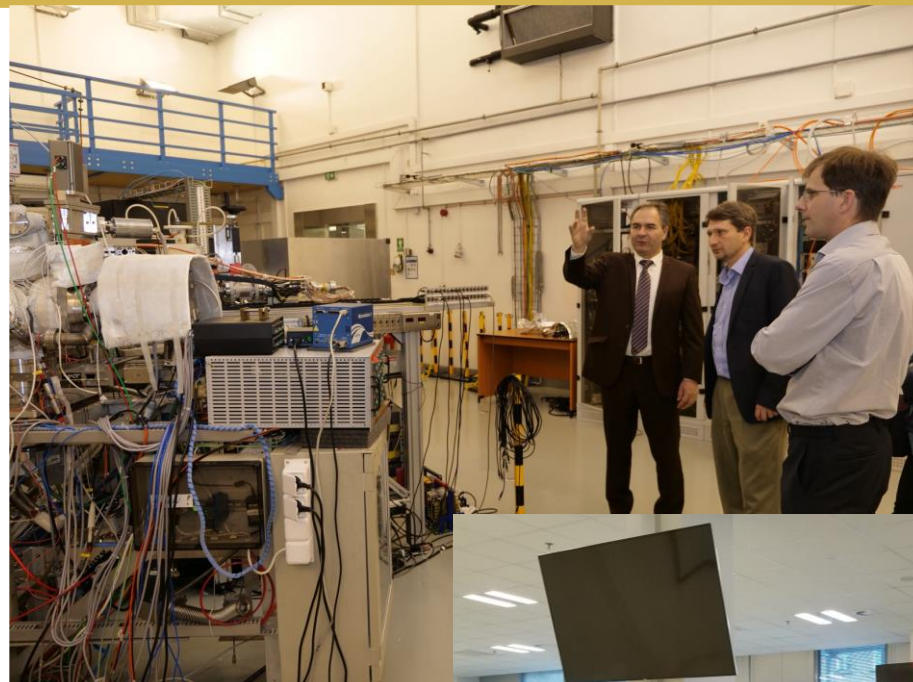
Deadline November 22, 2022



# History of NSF-GACR Collaboration

Engagement included:

- Expert delegations (on both sides)
- Community workshops
- High-level commitments
- NSF Embassy Science Fellow
- MULTIPLIER trip
- MOU signed/lead agency opportunity initiated in June 2021



NSF delegations tour Czech research institutes  
(Photo credit: Michael Baugh, US Embassy Prague).





# NSF-GA CR Awards to Date

Study of Gamma-Ray Generation in High-Intensity Laser-Plasma Interactions at ELI Beamlines

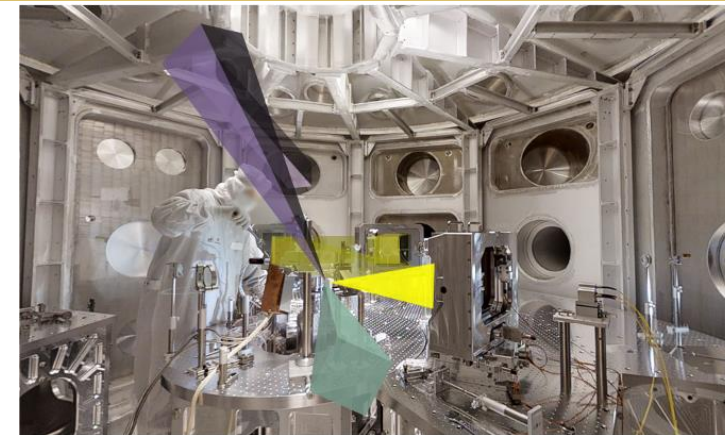
UC San Diego (US) and ELI Beamlines (CZ)

Strong Field QED Plasma Physics at PetaWatt-Class Laser Facilities

University of Michigan (US) and ELI Beamlines (CZ)

Atoms to nanoparticles to atoms - predicting evolving catalyst activity under inherently transient conditions

University of Virginia (US) and University of Chemistry and Technology (VŠCHT, CZ)



The P3 (Plasma Physics Platform)-installation at ELI Beamlines where the experiments will take place.  
Credit: ELI Beamlines

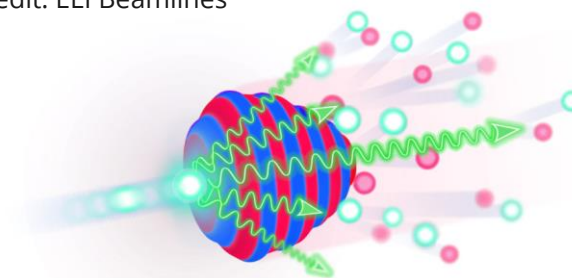


Image credit: Steve Alvey/University of Michigan Engineering, Communications & Marketing.

# SPECIFICATIONS OF NSF-GACR COOPERATION

- NSF is always in the role of the Lead Agency
- The largest-scale US-CZ collaborative funding opportunity in basic research
- The fields of research supported within this cooperation are limited, three core areas:
  - Artificial intelligence
  - Nanotechnology
  - Plasma science
- Detailed information can be found [here](#)

# GACR TECHNICAL SPECIFICATIONS FOR NSF- GACR AWARDS

- The C1 part is different (only a one-page Cover Sheet, a significantly shorter document compared to other projects)
- It is not needed to attach the copy of the foreign part of the submitted proposal (unlike with all other foreign agencies)
- First step – Expression of Interest on the American side (EoI is not required by GACR)
- The whole project is elaborated and submitted (on both sides) only after the initial approval by the NSF





# NSF Technical Specifications: NSF-GACR Awards

- Proposals must represent an integrated collaborative effort between the U.S. and Czech researchers and be submitted to NSF by an eligible U.S. organization
  - Proposals must be in the areas of **artificial intelligence, nanotechnology, and/or plasma science**
- 1) The project team first submits an Expression of Interest (EOI) to [nsf-gacr@nsf.gov](mailto:nsf-gacr@nsf.gov) (use template)
    - 1) EOIs are internally reviewed by NSF for alignment of the proposed research and budget with the scientific scope of the target program.
  - 2) Project team submits full proposal following the guidelines for the specific participating NSF program and the Dear Colleague Letter (**NSF 21-111**)
  - 3) Proposals go through NSF external review process



# NSF Review Process

## PHASE I

PROPOSAL  
PREPARATION  
AND SUBMISSION  
90 DAYS



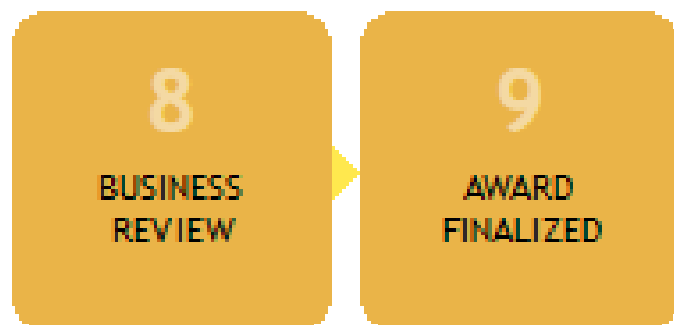
## PHASE II

PROPOSAL  
REVIEW AND  
PROCESSING  
6 MONTHS



## PHASE III

AWARD  
PROCESSING  
30 DAYS



### Review criteria:

- Intellectual Merit
- Broader Impacts
- Also must demonstrate why the international collaboration is critical to the project

# USEFUL LINKS

## GACR

- [GACR's website](#)
- [Overview of international activities](#)
- [FAQ](#)
- [Specific FAQ for the NSF cooperation](#)
- [Submission of project proposals](#)
- [Weave's website](#)

## NSF

- [NSF's website](#)
- [DCL guidelines for NSF-GACR proposals \(NSF 21-111\)](#)

# THANK YOU FOR YOUR ATTENTION!

- [nsf-gacr@nsf.gov](mailto:nsf-gacr@nsf.gov)

- [la@gacr.cz](mailto:la@gacr.cz)

- [info@gacr.cz](mailto:info@gacr.cz)