



Academia-Industry Exchange Programme

An opportunity for early-career industry professionals to come to laboratories and vice-versa

www.ifast-project.eu/ifast-traineeship-programme



This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under GA No 101004730.

Three IFAST 2.4 Academia-Industry exchange applications granted till March 2023

Proposal for budget reallocations relative to these grants

[I.FAST](#) announces the possibility to apply for a grant to finance a programme of exchange of knowledge, expertise, and working practices of new accelerator and magnet component technologies between an [I.FAST European Accelerator Development Laboratory](#) and a European Industrial Company.

The programme offers the opportunity for a Company to send an engineer or technician for one or several visits to one of the I.FAST Laboratories and for a I.FAST Laboratory to send a scientist, engineer or technician to a Company for one or several visits. A grant of up to 15000 € can be requested for financing such a technical exchange programme which should put emphasis on transfer between the two parties of knowledge, expertise, and working practices of design, fabrication and testing of new advanced technological components for frontline accelerator and magnet research and/or technology infrastructures.

The grant can be used to finance the following costs for the engineers and/or technicians during their visits:

- Salary
- Travel
- Subsistence

1. The FREIA-Leijenaar Traineeship programme

I.FAST Laboratory
FREIA/ Uppsala universitet
Lägerhyddsvägen 1
751 20 Uppsala
Sweden

Industrial Company
Leijenaar Electronics
Dionisiusstraat 9
5808 CA Oirlo
The Netherlands

The proposed traineeship in the FREIA Laboratory at Uppsala University of Mr. William Leijenaar, former engineer at the Ampleon semiconductor company in the Netherlands and founder of his own technical consulting company, regards the development of a 400-kW solid-state power amplifier (SSPA) station that we are presently developing at the FREIA laboratory. This project covers different aspects of large power radiofrequency (RF) stations: solid state power transistors (an SSPA with a total of 1.5 kW power will be realized), power combiners and controls and is of high relevance for the trainee and his future activities in this area. The trainee is interested to learn more about the challenges and opportunities related to the development at FREIA Laboratory of large SSPA RF systems used in particle accelerators.

6000 € + 25%OH =7500€ has been allocated to this project to be paid through Uppsala University

2. The CERN-THALES exchange programme

I.FAST Laboratory CERN

Esp. des Particules 1, 1211 Meyrin,
Suisse
Nuria Catalan Lasheras

Industrial Company THALES AVS FRANCE SAS

2 rue Marcel Dassault — 8P2, 78140 Vélizy Villacoublay Cedex
France3
Karim HAJ KH LI FA

THALES AVS Microwave and Imaging Subsystems (MIS) is the sole European manufacturer of high power klystrons for particle accelerators. THALES has developed and supplied the UHF klystrons (300 kW CW-400 MHz) powering the LHC (16 positions). For several decades, THALES has developed and produced many high efficiency RF sources (single or multi-beam solution). Therefore, THALES is the ideal candidate to provide novel designs in collaboration with CERN. One key point to succeed in the development of disruptive technology to facilitate exchanges not only of simulation results but also of simulation models and simulation tools, to allow experts from Laboratory and Company communities to exchange efficiently and make use of the latest available research. The project consists of a workshop at CERN with scientists and engineers from THALES to improve their practice with two simulation codes and to develop a common knowledge base and development method with CERN experts.

9404€ + 25%OH = 11755€ has been allocated to this project to be paid through THALES

3. The CERN-PercyRoc exchange programme

I.FAST Laboratory CERN, Beams department.

Address: Espl. des Particules 1, 1211 Meyrin, Switzerland.

Contact person: Steffen Doebert, Ben Woolley.

Industrial Company Percy Roc.

Address: Genetikvägen 17, 75-651, Uppsala, Sweden.

Contact person: Kristiaan Pelckmans.

The Company has been working for last 1.5 year on an implementation of the Low Level RF (LLRF) control system based on a microTCA embedded system for enabling the explorations of advanced RF systems in Uppsala University (UU) in the context of the next iteration of the AWAKE ('wakefield acceleration') project. This effort fits within the wider AWAKE collaboration in Uppsala University. This expertise build-up serves the SME ('Percy Roc') as technologies and development are similar to those in use for the core business ('Industrial microwave heating'), with vision of:

- (i) identifying openings for further innovation,
- (ii) gathering experience and credibility in the state-of-art LLRF systems, and
- (iii) prepare for meeting emerging challenges towards automatic control and energy-aware processing.

CERN in turn benefits from this effort both for building up expertise for the foreseen migration to microTCA and for access to the RF and LLRF hardware. The benefit to the Company is to enable closer interaction between involved parties in the AWAKE collaboration, to enable integration of achievements, and to ensure solid grounds for continuation.

7000€ + 25% = 8750€ allocated to this project to be paid through CERN

Proposed budget reallocations

	Max grant amount (GA Annex 2)	Amount to be redistributed for the execution of Task 2.4	Corrected Max grant amount
CERN	2 030 837,50 €	- 19 255,00 €	2 011 582,50 €
THALES	258 125,00 €	+ 11 755,00 €	269 880,00 €
UU	364 500,00 €	+ 7 500,00 €	372 000,00 €

More applications to the I:FAST Academia-Industry exchange program are solicited – contact your industrial collaborator, formulate an exchange programme and submit a fund request to:

<https://ifast-project.eu/ifast-traineeship-programme>