



HEPTech

Yearbook 2014

HEPTech
High Energy Physics Technology Transfer Network

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Contributions from represented individuals

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STFC acknowledges the contributions to this yearbook
of the HEPTech members listed in page 32



Jean-Marie Le Goff
Chairman

In the update of the European Strategy for Particle Physics of 2013 under the section on Organisational Issues there is an article devoted to knowledge and technology transfer:

“Knowledge and technology developed for particle physics research have made a lasting impact on society. These technologies are also being advanced by others leading to mutual benefits. Knowledge and technology transfer is strongly promoted in most countries. The HEPtech network has been created to coordinate and promote this activity, and to provide benefit to the European industries. HEPtech should pursue and amplify its efforts and continue reporting regularly to the Council.”

One year later, HEPtech will report to the Council on an increase of its activities in particular with regard to exchanging knowledge and practices amongst its members and collaborating with industry but also by providing support to Framework Plan projects and R&D projects conducting R&D on the accelerators and detectors of the future.

A handwritten signature in black ink, appearing to read 'J. Le Goff', written over a horizontal line.



Ian Tracey
Secretary General

It has been a very busy and productive year and I am impressed by the effort that has been put in by so many people to help achieve this.

I am pleased to say that we successfully ran our HEP Tech Symposium, where we brought a collection of Europe's brightest Early Stage Researchers to the Welsh Capital city of Cardiff to explore how we can improve society with their research. The finale of the symposium was a public showcase of HEP which was attended by the Welsh Government science office. I am pleased to say that Simon Moser from EPFL won the week and the UK KTN and the Welsh government are planning a trip to help secure industrial funding for his innovation.

This year we undertook a detailed survey of the network and this is being used to identify gaps and plan the work load. The survey emphasised the need from both early stage and advanced nodes for training in some core

areas, with a specific training programme around establishing industrial contacts and supporting external funding opportunities.

You will see a change in the way that HEP Tech is presented following the hard work undertaken by the communications task force. This will make the network more accessible by industry, provide better internal communications and increase attendance at our events.

The grant side of HEP Tech has progressed and we are seeing H2020 applications now being submitted that include HEP Tech members and with concepts supported from HEP Tech efforts. This should continue to grow to drive more money to our members.

We still have an active work programme of events. These are held across the range of HEP topics as well as across the network and I look forward to seeing both old and new members there.



Network of Contributors

HEPTECH Organisational Structure September 2014

HEPTech Coordination:

Chairman of the Board: Jean-Marie Le Goff (CERN)
Secretary General: Ian Tracey (STFC)
Coordination Manager: Antonio Pacheco (STFC/HEPTech)
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Workgroup on Accelerator Technology:

Convener: Jean-Marie Le Goff (CERN)

Workgroup on Detector Technology:

Convener: Andrea Vacchi (INFN)

Workgroup on Information and Computing Technology:

Convener: Peter Levai (Wigner RCP)
Convener: Cristian Cristescu (IFIN-HH)

Workgroup on Sharing of Best Practices:

Convener: Bojil Dobrev (Sofia University)
Convener: Cristian Cristescu (IFIN-HH)

Workgroup on Funding and Network Expansion:

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Convener: Katja Kroschewski (DESY)

Communication and Marketing Task Force:

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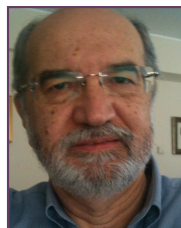


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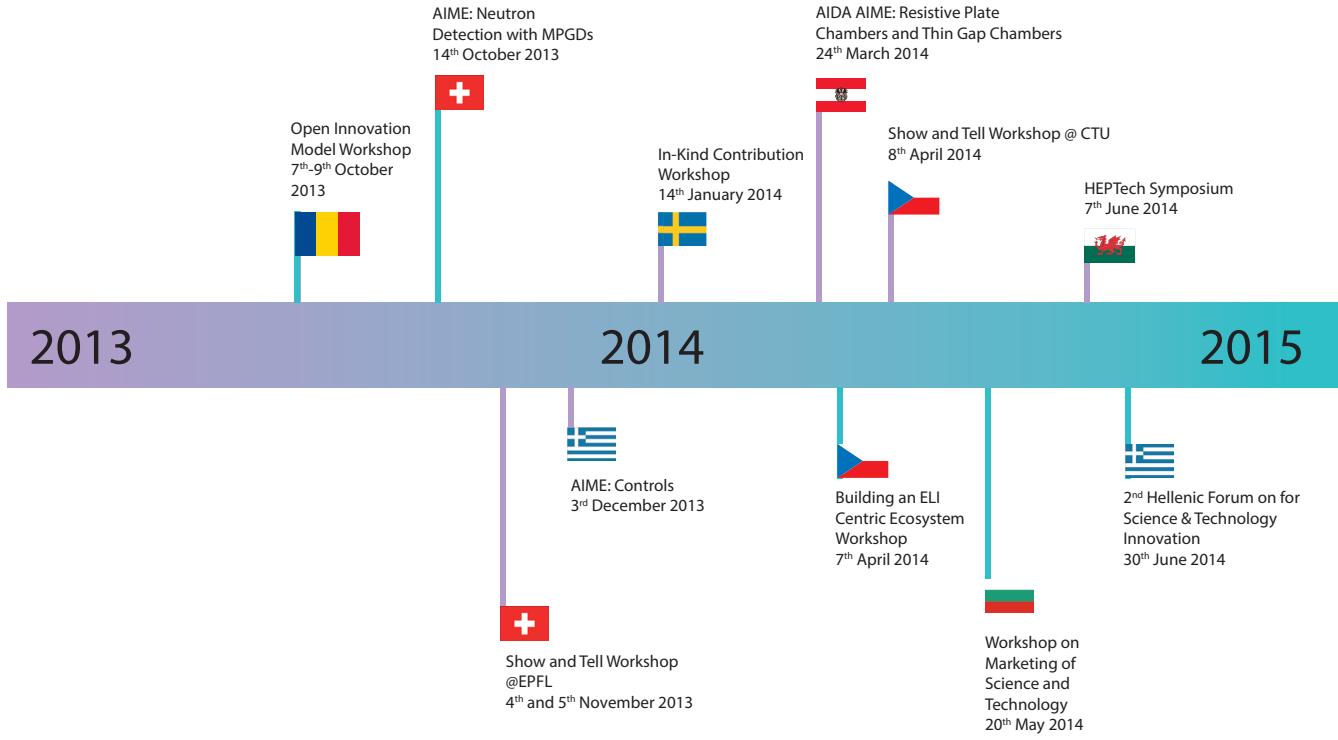
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Events

Events Timeline



Open Innovation Model Workshop

7th-9th October 2013



Factfile

Location: IFIN-HH, Magurele Town, Romania

Overall number of participants: 100

Industry: 30

Academia: 70

Countries represented: 12

HEPTech nodes represented: 8

This event consisted of a workshop completely focused on Open Innovation and how this model can benefit Technology Transfer (TT) activities in large research infrastructures or public research organisations.

The objective of this event was to bring pan-European industrial players with experience in Open Innovation, and expose them to the capabilities of Romanian R&D, with a view to fostering collaborations between Romanian and western European industrial base and research labs.

The large and diverse participation from both sides with its rich knowledge base underlined the value of this initiative. Both Romanian and other European participants had a first “hands on” dialogue in this new methodological forum.

The advantages offered by collaboration with HEPTech came from its area of activity in the high-tech research and industry environment synergic with the activities and interests of IFIN-HH and newly formed Cluster in Magurele. The degree of compatibility in competences and interests between these two organizations made them natural collaborators.



Science & Technology
Facilities Council

AIME: Neutron Detection with MPGDs

14th October 2013



Factfile

Location: CERN

88% Feedback good to excellent

12% Industry participation

88% Research organisation participation

The goal of this Academia-Industry Matching Event (AIME) was to help disseminate Micropattern Gas Detectors (MPGD) technologies beyond fundamental physics, where academic institutions, potential users and industry could meet together.

The shortage of the Helium-3 in the world brings new challenges to neutron detection, especially in the areas of homeland security, non-proliferation, neutron scattering science and other fields. MPGD offer attractive alternative solutions for neutron detection, compared to Helium-3 based proportional counters. Moreover, this event intended to provide a platform to discuss MPGD use for thermal and fast neutron detection, its commercial requirements and possible solutions. This workshop aimed to foster collaboration between the particle physics community and the industry of neutron detectors, and to discuss the potential of the MPGD technologies for the field.

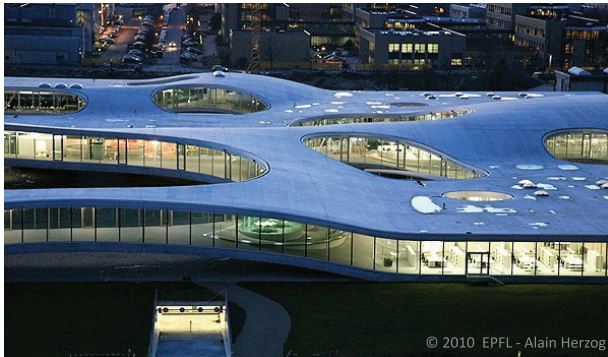
The R&D collaboration with RD51 aims at facilitating the development of advanced gas avalanche detector technologies and associated electronic readout systems for applications in basic and applied research. The main objective of the R&D programme is to advance technological development and application of MPGD.

The collaboration established common goals, like experimental and simulation tools, characterization concepts and methods, common infrastructures at test beams and irradiation facilities, and methods and infrastructures for MPGD production.



Show and Tell Workshop @ EPFL

4th and 5th November 2013



© 2010 EPFL - Alain Herzog

Factfile

Location: Lausanne, Switzerland

Overall number of participants: 21

Countries represented: 8

HEPTech nodes represented: 10

École Polytechnique Fédérale de Lausanne (EPFL) welcomed HEPTech in Lausanne, Switzerland. The Global Innovation Index (GII) focuses on measuring innovation at the country level and on the Global Innovation Report 2013, the GI is topped by Switzerland.

At EPFL's premises HEPTech members were showcased to their Technology Transfer and Innovation practices. This was a great opportunity to have close contact with a very successful Swiss TT Office, and to have some insight on what services it offers and the practices they find successful.

The event was extremely interesting and provided great value for all attendees.



AIME: Controls

3rd December 2013



Factfile

Location: NCRS 'Demokritos', Athens, Greece

Overall number of participants: 93

Industry: 21

Academia: 72

Countries represented: 18

HEPTech nodes represented: 10

This event succeeded in bringing together academia and industry to share ideas and potential applications in technology of controls. It facilitated information exchange, addressed some of the challenges faced by future HEP projects in the controls area and examined new solutions.

The objective of the event concentrated on innovative applications for Technology Transfer to industrial partners with a specific focus on addressing open hardware vs. conventional development approach and systems for future projects.

The HEPTech management participation to the organizing committee transferred a significant boost to the setup of the organization agenda, the topics and speaker selection for the event, fixing in parallel, many small or large unexpected problems.

The main benefits were identified by participants:

- Contacts among people in the field of controls active in Europe
- Updating the industry about the research status of controls for accelerators and detectors and the new improvements
- Common projects to EU (i.e. H2020) among the academic and the industrial partners
- Updating all the participants about the future plans on the controls R&D for the next generation of accelerators and detectors



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ATHENS UNIVERSITY
OF ECONOMICS AND BUSINESS



In-Kind Contribution Workshop

14th January 2014



Factfile

Location: ESS, Lund, Sweden

Overall number of participants: 42

Countries represented: 10

HEPTech nodes represented: 8

The aim of the meeting was to exchange best practices and approaches to the management of the In-Kind Contribution (IKC) process in European large scale infrastructure. The In-Kind Contributions process presents challenges for the management of IP, quality control, legal framework, resources, expectations among other factors, which were discussed during the workshop.

A variety of speakers from different facilities (ITER, FAIR and XFEL) presented overviews of how In-Kind Contributions are handled at their respective facilities, including the philosophy, objectives, process, management and learning from their experiences. Specific case studies were also presented from VR (Swedish Research Council), Uppsala University and Research Centre Rez. A proactive discussion gave further insight on how to improve IKC processes in the future.

Almost all RIs today are being built with In-Kind Contributions. And this workshop was held exactly in order to benefit from these experiments. The exchange of best practices and case studies offered an overview of different approaches and implementation of IKC management in European research facilities. The event also offered an opportunity for one on one conversation with the different experts. It was agreed that this workshop should be repeated on a yearly basis and an online platform to continue the exchange of best practice should be established.



AIDA AIME: Resistive Plate Chambers and Thin Gap Chambers

24th March 2014



Factfile

Location: Technical University Vienna, Austria

Overall number of participants: 44

Industry: 10

Academia: 34

Countries represented: 13

HEPTech nodes represented: 5

The aim of the event was to foster academia industry collaboration for the manufacturing of large areas detectors for the next generation of particle physics experiments.

Gaseous detectors (MPGD, RPCs and TGCs) are based on technologies developed in various particle physics laboratories. Up to now, the laboratories themselves could manufacture the quantities and surfaces required. For the upgrade of the LHC experiments and the next generation of neutrino experiments, laboratories will not be able to produce the large quantity of detectors within a reasonable time frame. The specific challenge is to transfer all the know-how and processes required to allow industry to manufacture these devices according to the very challenging requirements of the physics.

AIDA, the FP project on Advanced European Infrastructures for Detectors at Accelerators is collaborating with HEPTEch for the organisation of the Academia Industry Matching events in the framework of the work package in relation to industry.

Thanks to the event industry became more aware of the very large number of detectors needed for new physics projects and academia got informed of the recent progress made in the search of alternative technologies to manufacture new detectors in easier and environmentally friendlier manner.

Discussions unveiled that new applications of RPC and TGC for the mining industry and homeland security with muon tomography could create a very interesting market for the companies willing to manufacture future detectors.



TECHNISCHE
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WIEN
VIENNA
UNIVERSITY OF
TECHNOLOGY



Building an ELI Centric Ecosystem Workshop

7th April 2014



This preparatory workshop involved management, researchers, procurement and IT professionals of organisations involved in the activities of developing lasers and detecting photons to discuss and develop a work plan on how to set up an (academia-industry) ecosystem of partners around the ELI transnational project. This ecosystem should foster R&D collaborations with industry and other research institutions, enrich the industry landscape for the procurement of high-tech equipment and facilitate the commercialisation of the results from the three ELI facilities. Such an ecosystem should be in place and fully operational for the ELI-ERIC.

The workshop reviewed the needs and expectations and presented some success cases from HEPTech members. The main output of the event was an outline of a work plan and definition of actions and milestones to achieve it.

Factfile

Location: Prague, Czech Republic

Overall number of participants: 24

Countries represented: 8

HEPTech nodes represented: 9



Show and Tell Workshop @ CTU

8th April 2014



In conjunction with Inovacentrum from Czech Technical University in Prague, HEPtech organised a Show and Tell workshop showcasing the success stories and practices of CTU to HEPtech and discussing the future of the network by addressing its needs together with the HEPtech Steering Committee.

During half a day the successful collaboration of CTU with CERN and also ITER was introduced, ranging from particle physics to fusion. In addition a case study was shown on how the know-how and expertise acquired in the detector technology field was transferred to industry successfully by Inovacentrum.

It was an overall fantastic experience with great lessons taken home by both the attendees and hosts.

Factfile

Location: Prague, Czech Republic

Overall number of participants: 15

Countries represented: 7

HEPtech nodes represented: 8



Workshop on Marketing of Science and Technology

20th May 2014



The workshop was held to support the HEPTEch nodes in developing and implementing marketing activities in order to foster the transfer of science results and technologies.

The nodes' skills survey revealed a need to improve the marketing skills in science, what resulted in the demand for training in this area.

The workshop was delivered through a series of presentations on basic marketing trends, dealing with the specific needs of target audiences, sharing current practice of marketing, and through sharing practices and tools. The workshop was concluded with a final brain-storming session, providing input for a future marketing strategy model.

The participants gained the following:

- General awareness of current marketing tools and practice;
- Specification of the target groups for marketing of science purposes in terms of their expectations;
- Knowledge of good practices in marketing of science (both of advanced and early stage nodes).

Factfile

Location: Sofia University - Scientific Research Centre

Overall number of participants: 17

Countries represented: 8

HEPTech nodes represented: 8



2nd Hellenic Forum for Science Technology and Innovation

30th June 2014

2nd HELLENIC FORUM for SCIENCE, TECHNOLOGY and INNOVATION

Invited Lectures by distinguished Greek Scientists
The Hellenic Forum was part of the 49th Summer School organized by the NCSR "Demokritos" (July 7-18, 2014) at Loughborough.

The Hellenic Forum is a meeting point aimed at building bridges with Greek scientists abroad in order to enhance scientific and technology transfer collaborations for innovation.

Forum Topics: Nanotechnology, Energy and Environment, Life Sciences, ICT, Particle and Nuclear Physics.

June 30 - July 4, 2014
Invited Lectures by distinguished Greek Scientists
The Hellenic Forum was part of the 49th Summer School organized by the NCSR "Demokritos" (July 7-18, 2014) at Loughborough.

June 30 - July 16, 2014
Exhibition of Greek Innovation Technologies

July 3, 2014 at 21:00
Greek Social Night

For more information:
National Center for Scientific Research "Demokritos"
tel: +30 2104610300 / 40 / 39
email: hellenicforum@central.demokritos.gr
www.demokritos.gr

NATIONAL CENTER FOR SCIENTIFIC RESEARCH "DEMOKRITOS"

This workshop was a one day focus on intellectual property in a week's programme of events that looked at the research and innovation landscape.

The day covered intellectual property issues, strategy and policy, setting up and running a technology transfer office, marketing science and technology, valuating and commercialising IP, and looking at practical applications.

HEPTech provided unique expertise in technology transfer and IP issues covering a large spectrum of products relevant to the network of nodes research domains.

The next forum is already being planned for 2015 and bookings are already being taken!

Factfile

Location: Demokritos, Athens, Greece

Overall number of participants: 34

Industry: 12

Academia: 22

Countries represented: 3

HEPTech nodes represented: 3

An abstract graphic consisting of numerous thin, overlapping purple lines that form a vertical, slightly curved shape resembling a stylized letter 'Y' or a bundle of fibers. The lines are more densely packed in the middle and spread out towards the top and bottom.

HEPTech Symposium

HEPTech Symposium

2nd - 7th June 2014



From 2nd to 7th of June 2014, HEPTEch held, in conjunction with the Electronic Sensors and Photonics Knowledge Transfer Network the first HEPTEch Symposium in Cardiff, Wales.

This event is of paramount importance to the Network, aiming to bring together researchers at an early stage in their careers working on potentially impactful technologies in fields related to astro, nuclear and particle physics. For one whole week HEPTEch welcomes these Early Stage Researchers (ESR) from around Europe to showcase research that has the potential of impacting society providing an opportunity for networking with commercially experienced professionals and Technology Transfer experts developing their entrepreneurial potential.

At the end of such an event HEPTEch hopes to have allowed the ESR to network, gain a professional network of contacts and valuable practical knowledge on how to fund future research projects and how scientific output can be transferred to help society.

The event was a success welcoming 8 researchers from Greece, Romania, Germany and Switzerland, providing training in intellectual property rights, teaching them about entrepreneurship and working with them on how to build a business case.

We also welcomed entrepreneurs that shared their experience in how they transformed their science into a business and told the story of

their success. But most of all we allowed them to understand how powerful their work is and how they can have an impact in the world with an open mind.

The researchers came to Cardiff enthusiastically and worked hard during the week on their projects, allowing for the development of a final presentation evaluated by the Chief Scientific Advisor for the Welsh Government and a representative from the UK Knowledge Transfer Network.

The winner was funded a trip around the UK visiting companies, investors and funders to see how we secure the next stage of their project. It was a great presentation including really interesting science and we hope he will be successful in their future endeavours. We deeply hope that HEPTEch can have a further impact in the future of the projects of all participating researchers.

In 2015 we will be holding the second HEPTEch Symposium in Prague, Czech Republic. It will be hosted by Inovacentrum from the Czech Technical University and in collaboration with ELI Beamlines and Institute of Physics of the Academy of Sciences.



Science & Technology
Facilities Council



Llywodraeth Cymru
Welsh Government



Nodes Survey



Identifying the Needs of HEPTech Nodes

March 2014

A survey was undertaken to identify the support requirements of HEPTech nodes, with a particular focus on early stage (recently established) Technology Transfer Offices (TTOs). A sample of 9 early stage TTOs were selected and approved by the board and a benchmark selection of 7 advanced TTOs was included. The nodes covered multidisciplinary and more specialised HEPTech TTOs to address the overall profile of the HEPTech network. TTOs were asked to complete a 49 question survey and an interview form to elaborate their strengths, weaknesses, threats and opportunities. The survey and analysis was carried out by a team at Sofia University from May 2013 to March 2014, within the remit of the HEPTech Workgroup on Sharing of Best Practices.

Common Conclusions

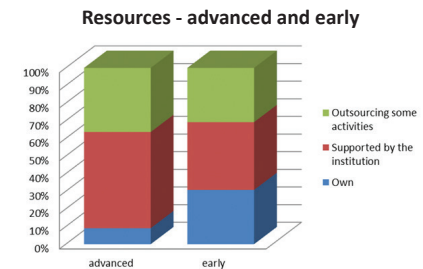
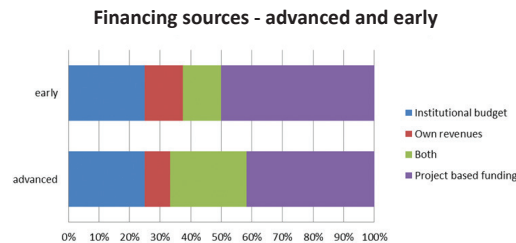
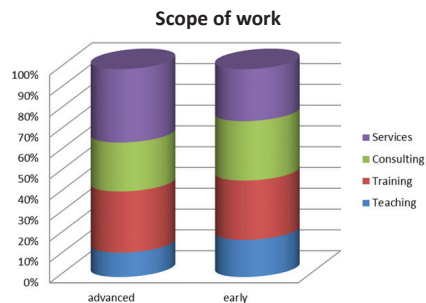
- The common vision of both advanced and early stage nodes is related to awareness and visibility. It requires from HEPTech to foster the communication and marketing activities.

Scope of work

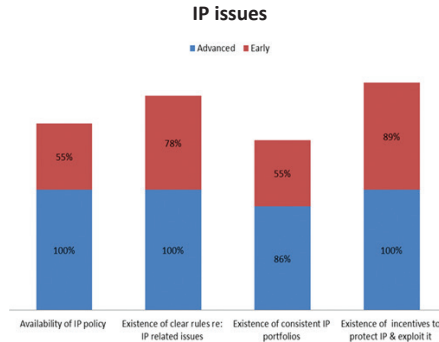
- The survey covered a total of 16 TTOs. 12 out of them (75%) are part of the administration of the institution to which they are affiliated.
- As a node becomes more experienced they tend to provide more services, which downplays the part of consulting, but training remains a permanent activity area.

Highlights from the study

- *Resources* – Regarding resources it was clear that TTOs outsource about one third of their activities in specific areas such as IP and patent attorney services, and some marketing activities, with advanced nodes using a larger portion from the resources of institution than the early stage nodes.



- **Intellectual Property** – TTOs often agree to compromise regarding Intellectual Property Rights (IPRs) to obtain research contracts with industry, and while advanced TTOs have specific licensing policies, only one early stage TTO had a written or published policy. The most frequent model for distribution of IP generated revenues is the “one-third” model where the actors receive up to 33% of the revenues. But almost half of the early stage TTOs do not have models for sharing revenues from IP. Also the early stage TTOs need support in elaboration of clear rules to guide their relations with the start-ups.



- **Marketing** – The advanced TTOs have already identified their target audiences for marketing purposes, so that they rely mostly on online and direct marketing while early stage TTOs are still in the process of identifying their target audiences and therefore, they prefer using associations and chambers as intermediaries. Irrespective of the main preference, promotional materials and match-making events remain powerful marketing tools for both types of TTOs.



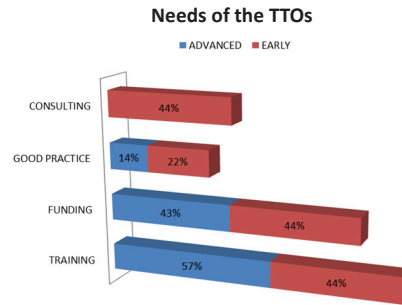
- **PR and Promotion** – a greater variety of personalized communication channels are used, until target audiences are identified, after which, the electronic communication channels step is preferred. As the early stage TTOs are still trying to make themselves visible and recognizable by industry they are more active in organising events.

On the other hand, the advanced TTOs are already well established in the market therefore, they have focused on the most purposeful and necessary types of events. Irrespective of their steady preferences, the advanced TTOs have not restricted themselves to usage of a single channel, and have achieved appropriate diversification that allows them to keep their positions in the market.

- *Results* – The percentage ratio of the HEP related number of patents by researchers of the two types of TTOs is very close respectively 24% for the advanced and 30% for the early stage.

The percentage ratio of the number of HEP related licenses is 44% for the advanced and 0% for the early stage TTOs . The same is the situation with the percentage ratio of the number of HEP related start-ups – 24% for the advanced and 0% for the early stage TTOs.

- *Needs* – Clearly identified needs include: training and consultancy in intellectual property management, marketing and market strategy, communication activities, and start-up policies. A HEPTech specific training programme should be elaborated, the establishment of contacts with industry, should be facilitated and support rendered in exploiting external funding opportunities.





Nodes Profiled

Nodes

1. Commissariat à l'énergie atomique et aux énergies alternatives (CEA)
2. European Centre for Nuclear Research (CERN)
3. Centre National de la Recherche Scientifique (CNRS/IN2P3)
4. Centro Nacional de Física de Partículas Astropartículas y Nuclear (CPAN)
5. Demokritos
6. Deutsches Elektronen Synchrotron (DESY)
7. ELI Beamlines
8. Ecole Polytechnique Fédérale de Lausanne (EPFL)
9. European Spallation Source (ESS)
10. Helmholtzzentrum für Schwerionenforschung (GSI)
11. Jožef Stefan Institute (JSI)
12. Horia Hulubei National Institute of Physics and Nuclear Engineering (IFIN-HH)
13. Istituto Nazionale di Fisica Nucleare (INFN)
14. Inovacentrum - Czech Technical University
15. Laboratório de Instrumentação e Física Experimental de Partículas (LIP)
16. National University of Athens (NTUA)
17. Sofia University St. Kliment Ohridski
18. Science & Technology Facilities Council (STFC)
19. Weizmann Institute of Science
20. Wigner RCP



Commissariat à l'énergie atomique et aux énergies alternatives

France



The CEA is the French Commission for Alternative Energies and Atomic Energy (Commissariat à l'énergie atomique et aux énergies alternatives). It is a public body established in October 1945 by General de Gaulle. A leader in research, development and innovation, the CEA mission statement has two main objectives: to become the leading technological research organization in Europe and to ensure that the nuclear deterrent remains effective in the future.

Within CEA, the activities of the Institute of Research into the Fundamental Laws of the Universe (IRFU) cover the fields of astrophysics, nuclear physics, and particle physics.

IRFU's activities are focused on five thematic fields of physics: ultimate constituents of matter, energy content of the universe, structure formation in the universe, structure and evolution of celestial bodies, nuclear matter in extreme states.

Four other key topics cover the development of instruments and the transfer of IRFU's knowledge in the nuclear energy field or other communities:

Innovation for Detector Systems

The activities carried out in this field are about development of detectors, computation and simulation, signal processing and real time systems.

Magnets and Accelerators

These activities cover cryogenic test facilities, new developments for magnet and accelerator instrumentation, particle accelerators and super conducting magnets.

Physics for Nuclear Energy

Basic research in nuclear physics paves the way for new developments in the field of nuclear energy. The teams at IRFU are providing CEA with basic nuclear data; they are also studying the possible transmutation of long-lived nuclear waste, and contributing to projects in nuclear fusion.

Expertise Working for Society

Knowledge and technology developed for basic research prove to be useful in many other fields: dismantling of nuclear installations, development of sophisticated medical imaging tools or climate studies benefit today from the expertise at IRFU.



Stephan Aune

**Project leader on detection system
CEA/IRFU**

Email: stephan.aune@cea.fr

Training: mechanical & thermal engineer

Stephan has 10 years (1993-2003) of experience on CDD camera for astrophysics / astroparticle physics. He worked on the following projects:

- Project EROS (mechanical & thermal engineer)
- Project Megacam (mechanical & thermal engineer, system engineer)

He has 10 years (2000-2010) experience on micromegas detectors, while he worked as a project leader for several experiments:

- Project leader of Piccolo micromegas (sealed micromegas detector for nuclear power plant in core neutron flux measurement)
- Project leader of CAST detector (low background micromegas detector for AXION search at CERN)
- Collaboration on various micromegas R&D for other projects

Since 2008 he took several responsibilities:

- Project leader of CLAS12 tracker (low budget material curved micromegas vertex tracker)
- Responsible of the Saclay MPGD workshop (realisation of bulk micromegas R&D & prototypes) and member of RD51 collaboration
- Responsible for the Saclay micromegas bulk technology transfer to industry
- Deputy of the detector integration group (IRFU/LIDA) in Saclay.



Sylviane Zaninotti

Technology Transfer Officer CEA

Email: sylviane.zaninotti@cea.fr

Sylviane has been involved in Technology Transfer at CEA since 2005.

Her mission spans from patent portfolio management to establishing and negotiating licenses, with a focus on particle/nuclear physics matter and their related instrumentation.

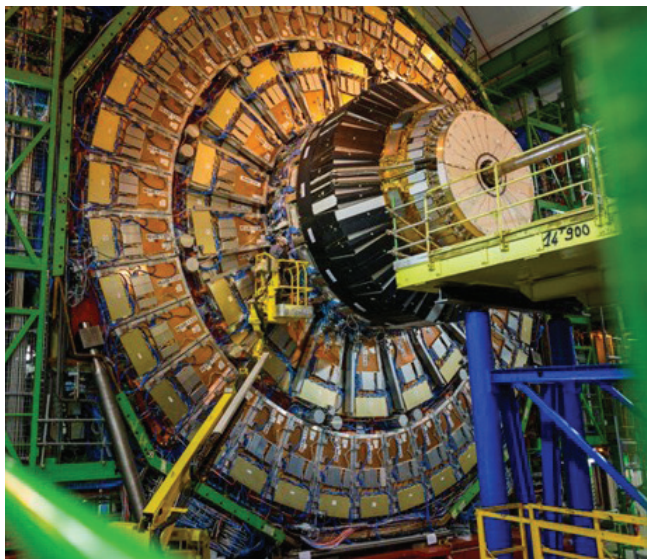
Before 2005 she worked 4 years as a business manager for a public sector institution dedicated to economic development. Prior to that she spent 15 years in ICT, networks and information systems, namely as a project manager and group leader.

Sylviane received a Ph.D. in Particle Physics from the University PARIS XI in 1984.



European Centre for Nuclear Research

Switzerland



CERN's Technology Transfer Office has developed a wide range of technology transfer opportunities, reflecting the needs of its partners and the principles of the Organisation. CERN provides access to its technical expertise and innovative technology for scientific and commercial purposes through a variety of technology transfer opportunities.

R&D Collaborations

Collaborative R&D projects can be developed in CERN's areas of technical expertise, such as superconductivity to ultra high vacuum, from detectors to ICT. CERN has a well established tradition of collaboration with companies and research institutes, with the objective to generate technological results having a potential for commercial exploitation.

Service and Consultancy

CERN's expertise and cutting edge infrastructures represent a unique opportunity for companies and academics in need of a specific high tech service.

Our experts in the many areas of technical excellence are available to provide professional advice or specific studies to your business.

Spin-off Companies

CERN encourages the creation of new companies based on CERN technologies in the Member States.

The creation of spin-off companies is also fostered through incubation centres: In April 2012 CERN and STFC (Science and Technology Facilities Council in the UK) announced the launch of a new Business Incubation Centre at the STFC's Daresbury Science and Innovation Campus.

Licensing

CERN grants licences to commercial and academic partners for the exploitation of its technologies.

A selection of these technologies is available through CERN Easy Access IP, a royalty free licence.



Thierry Lagrange

Head of Finance, Procurement and Knowledge Transfer Department
Email: thierry.lagrange@cern.ch

Responsible for the financial operations of the Organization, such as accounting, payroll and treasury, procurement of goods and services, knowledge transfer activities and sales.

Former positions

- CERN Finance Deputy Department Head, Purchasing and Industrial Services Group Leader, Industrial Services Manager (2004 – 2008)
- Management and supervision of all the purchasing activities of the Organization
- Alternate member of CERN Pension Fund
- Member of the Investment Committee
- Member of the Health Insurance Committee
- CERN Supplies Procurement & Logistics Division Leader (2002 – 2003)
- CERN Purchasing Service Head (1993 – 2001)

Education

- Masters degree in Financial Management VLEKHO, Brussels, (1982 – 1983)
- Degree in applied economic science RUCA, Antwerp, (1977 – 1982)



Giovanni Anelli

Head of Knowledge Transfer Group at CERN
Email: giovanni.anelli@cern.ch

Giovanni Anelli was appointed Head of the Knowledge Transfer Group in August 2011.

Giovanni joined CERN's Knowledge Transfer Group in 2010 as Technology Transfer Officer. Before he worked for three years for LEM SA, a company market leader in providing solutions for measuring electrical parameters, where he was managing projects on the design of Integrated Circuits (ICs) for current transducers to be used in industrial and automotive applications. Prior to this, Giovanni worked for 10 years in CERN's Microelectronics Group (Physics Department), where he designed several low noise low power analog and mixed signal VLSI circuits for High Energy Physics applications. His research work also dealt with techniques to design radiation tolerant integrated circuits in deep submicron CMOS technologies, an approach which is now employed by the large majority of the integrated circuits of the Large Hadron Collider (LHC) at CERN.

Giovanni received a M.S. in Electronics Engineering from the Polytechnic of Milan (Italy) in 1997, a Ph.D. in Electronics Engineering (with honors) from the Polytechnic of Grenoble (France) in 2000 and an EMBA from HEC in Paris (France) in 2008. He is author and co-author of more than 70 publications and is an IEEE senior member.



Myriam Ayass

Legal Advisor, Intellectual Property CERN

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Myriam Ayass is Legal Advisor for the Knowledge Transfer Group at CERN. She gained her LLM from Queen Mary, University of London, specialising in Intellectual Property Law, and a DEA from the Graduate Institute of International Studies. She joined CERN in 2005 after a period at the WHO, and has been working in the field of technology transfer since that date. As such, she drafts all the Knowledge and Technology Transfer contracts of CERN since end of 2005, and generally provides advice on intellectual property issues for the Organization. In this context she became involved in Open Hardware and drafted the CERN Open Hardware Licence. She has also contributed to the definition of HEPTech's IP Charter and to CERN's Policy on the Management of Intellectual Property in Technology Transfer activities at CERN.



Jean-Marie Le Goff

HEPTech Chairman

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Jean-Marie Le Goff is a senior applied physicist at CERN where he has been working since 1988. He holds a PhD in particle physics and a DPhil in computer sciences.

At CERN he has been involved with the L3 experiment (LEP) where he was first in charge of the optimization the muon spectrometer before taking responsibility for the general control system of the experiment; RD-38 a DRDC project to lay the foundations of the control system middleware of the LHC experiments, resulting in the transfer of the technology to a major paper manufacturer and utility company in Finland. He then worked on the electromagnetic calorimeter of the CMS experiment where he took charge of the team responsible for the software development dedicated to the tracking and assembly of the detector, which found applications in industry as Enterprise Resource Programming (ERP) software and Business Process Management (BPM).

From 2000-2008, Jean-Marie Le Goff was in charge of Technology Transfer. His active role in transferring CERN technologies to industry lead to the evacuated solar collectors, now equipping Geneva's airport, the small animal PET system for Drug discovery developed by the Cristal Clear Collaboration (CCC) and an ultra-compact cyclotron for PET isotopes production cases. During his mandate Jean-Marie Le Goff proposed to the CERN Council the creation of HEPTech. He is also the leader of the work package on relation with industry in AIDA, the FP7 project on the development of new detector techniques for future accelerators.



Nick Ziogas

Technology Transfer Officer

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Nick joined the Knowledge Transfer group as a Technology Transfer Officer in September 2012.

He previously worked within the IT Service Management team, involved notably in problem and event management. While leading the User Support section of IT, Nick was responsible for the site-wide computing desktop support, the CERN IT Helpdesk and IT problem management. Additionally, his responsibilities included the definition and negotiation of service level agreements with services across the Organization and the definition of the strategy for the implementation of a CERN wide printing policy for which he oversaw the operations management.

Prior to User Support, Nick was a systems analyst and developer within the IT Advanced Information Systems group, involved in the definition and development of web based applications like e-groups, CRA and e-payslip. From within the Administrative Support department, he worked on workflow systems such as Remedy ARS and electronic data interchange systems, establishing data exchange partnerships with financial organizations and CERN suppliers. Prior to CERN, Nick worked for the Sandoz Institute for Medical Research in London on a software analysis package.

Nick holds a BSc Honours degree in Physics from Imperial College of Science and Technology and an MSc in Computer Science from University College, London.

Centre National de la Recherche Scientifique

France



Founded in 1939, The National Centre for Scientific Research (C.N.R.S.) is a public organization under the responsibility of the French Ministry of Higher Education and Research.

It covers all scientific disciplines from humanities and social sciences, chemistry, mathematic to earth sciences and astronomy, within its eleven institutes organized around their specific scientific field.

One of these institutes, the National institute of nuclear and particle physics (IN2P3) of the CNRS, is in charge to promote and unify research activities in the fields of nuclear physics, particle and astroparticle physics. It coordinates programmes within these fields on behalf of the CNRS and universities, in partnership with CEA.

Whilst these main themes represent the core of the discipline, IN2P3 also has several additional vocations: enabling other scientific domains to benefit from its competencies and solving certain problems posed by society, and accompanying universities in contributing to youngsters' training.

Lastly, it has a duty to offer the world of business the benefit of its expertise by providing industry with the technological resources that it has successfully expanded within the framework of its research activities.

It has contributed to design and develop very large scale research facilities, which are useful for all its disciplines as telescopes, particle accelerator, detector systems, computer etc.



Catherine Clerc

Technical Deputy Director of IN2P3 / CNRS

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Catherine Clerc is a nuclear science and technology engineer.

Her first assignment at CNRS was to work on the design, construction and commissioning of a small tandem accelerator devoted to ion implantation and material analysis using ion beams.

From 2006 to 2013, she joined a high energy IN2P3 laboratory to contribute to the integration studies of a big detector, foreseen for the future International Linear Collider (500 GeV).

From 2013, she became the Technical Deputy Director of her institute where she is in charge of effectively manage the projects and technical resources through a national coordination.

One of her mission is to oversee and promote Technology Transfer in the 24 laboratories of IN2P3.

Centro Nacional de Fisica de Particulas Astroparticulas y Nuclear

Spain



CPAN is the Spanish National Center for Particle, Astroparticle and Nuclear Physics. It aims to actively promote the coordinated participation of the Spanish scientific groups in cutting edge research in particle physics, astroparticle and nuclear physics and enhance the visibility of member groups, reinforce their international competitiveness and ensure a critical mass, while optimizing available resources.

CPAN coordinates the activities of participating groups, supporting them in major projects and international initiatives, contributing to providing technical personnel and the know-how needed to deal competitively in the international scientific environment of technological developments for future experiments, both those already approved (as the LHC, FAIR, MAGIC, ANTARES, Auger South, etc.) and those which are under R&D (such as ILC, KM3, CTA, or EURISOL Auger North, for example) or even future projects that require it.

CPAN also promotes R&D activities that support young scientists and technical staff, ensuring that there is an appropriate transfer of technological knowledge for companies, supporting scientific dissemination and training activities.



Kiko Albiol

Researcher IFIC (CPAN)

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Kiko holds a PhD in particle physics. From 1993 to 1998 he worked at CERN, Liverpool University and Valencia on the development of particle detectors for High Energy Physics. These developments were carried using silicon strips detectors.

In 1998 he co-founded a consulting enterprise to perform developments in Open Source, and I+D+i projects involving signal processing including imaging, data processing and in house developments.

He took the position of CTO at Sertecnet SL and President of a non-profit association Integralia.

He worked on CISA certification in IT auditing (<http://www.isaca.org>).

He carried out plenty of applications and product developments funded and commercialized in private sector, including licenses carried within industry.

From 2006 to 2009 he worked as medical physics programming consultant.

He was involved in the development of radiotherapy planning systems including FDA certification.

From 2010 he started working for Deputy Vice Presidency of Knowledge Transfer Spanish National Research Council (CSIC) as part of Valencia Community Delegation.

Main areas of his responsibility are:

- Project manager in I+D+i involving vision and final product
- Automatization and system optimization
- Auditing and IT consulting
- Patent and IP experience.

Since 2013 Kiko works in research of I+D+i at IFIC.

Demokritos

Greece



DEMOKRITOS
NATIONAL CENTER FOR SCIENTIFIC RESEARCH



“Our mission is to further augment Research Excellence and to promote innovation and technology transfer.”

NCSR Demokritos, the largest multidisciplinary research centre of the country, hosts significant scientific research, technological development and educational activities, coordinated by eight institutes. The centers with internationally distinguished scientific personnel utilise a number of unique Greek research infrastructures, working diligently towards scientific excellence, technological innovation and education. Moreover intensive efforts are directed towards the interconnection of technology and innovation. Through the combination of effective research administration and scientific management NCSR Demokritos promotes scientific research and technological development at a large scale and ranks among the top research centres in Greece and Europe. In this manner, the scientific publications of scientists from NCSR Demokritos account for 35% of all publications produced by Greek research centres on an annual basis.



Michele Barone

**Industry Liaison Officer and Technology
Transfer Officer for Greece at CERN**

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Michele Barone graduated in experimental physics at the University of Bari, Italy.

Following experimental work at CERN with the Division Group of Carlo Rubbia, he held teaching and research positions in Switzerland, Italy (Universita di Perugia, INFN-National Laboratory of Frascati) and Greece (Institute of Nuclear Physics at National Scientific Research Centre Demokritos and University of Athens). His interest in experimental work led to managerial positions in international companies manufacturing systems for medical and scientific research. Dr. Barone is currently member of the Compact Muon Solenoid Collaboration and is acting as Industry Liaison Officer and Technology Transfer Officer for Greece at CERN. He is author of some 150 papers and organizer of several international congresses and conferences.



Deutsches Elektronen-Synchrotron

Germany



DESY - Deutsches Elektronen-Synchrotron, is one of the world's leading accelerator centres and a member of the Helmholtz Association. DESY develops, builds and operates large particle accelerators used to investigate the structure of matter. DESY offers a broad research spectrum of international standing focusing on three main areas: accelerator development, construction and operation; photon science; particle and astroparticle physics.

Thanks to its expertise and worldwide unique diversity of excellent light sources, DESY is a very attractive venue for more than 3000 scientists from over 40 countries a year, and a sought after partner in national and international cooperations and projects. The DESY research programme is not restricted to the facilities at its two locations in Hamburg and Zeuthen. DESY is closely involved in a number of major international projects, including the European X-Ray Laser Project XFEL in Hamburg and Schleswig Holstein, the Large Hadron Collider LHC in Geneva, the neutrino telescope IceCube at the South Pole and the International Linear Collider ILC.

Currently DESY is planning an innovation centre on campus which serves as an incubator and is supported by the city of Hamburg. Young spin-off groups get workspace and a range of support there.



Katja Kroschewski

Head of Technology Transfer Office DESY

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After having studied at IMS Stuttgart (Institute for Natural Language Processing) and UC Berkeley Katja Kroschewski received her diploma degree in Computational Linguistics in 1996 and joined directly the Institute for Natural Language Processing at the University of Stuttgart as a research assistant. She then switched to the Language Services of Daimler AG in 1997. There she was responsible for machine translation and translation memory projects between May 1997 and September 2003. As she had moved to Hamburg with her family in 2001 she left Daimler AG in October 2003, when she became the executive director of CompCat Software und IT-Lösungen GmbH (CompCat Software and IT Solutions Co.) and kept working freelance for Daimler Chrysler.

In November 2007 she joined DESY as a team member of DESY's TT office, marketing synchrotron radiation and working for the EU ERID watch project. Within this project she carried out a case study on industrial usage of synchrotron radiation across Europe.

Since December 2009 Katja Kroschewski has been head of DESY's Technology Transfer Office, which is reaching out and inviting companies to share the benefits of basic research together. DESY's TTO is responsible for patenting, licensing, industry contracts, sponsoring, assistance for spin-offs as well as utilization and marketing of technologies and services.



Christian Mennrich

Technology Transfer Office DESY

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Christian Mennrich joined DESY's Technology Transfer Office in June 2013 where he is responsible for all topics related to the marketing of DESY's technologies and services for industry. He is also part of a project team conducting a socio-economic study on DORIS, Germany's first storage ring which was switched off - after running for almost 40 years - in early 2013.

After having worked for a Hamburg based market research company from 2000 to 2007, Christian studied Political Sciences and Administration at Fern Universität Hagen (a distance learning university) and received his Bachelor of Arts in 2011. Currently he is enrolled in a master program in Governance. During his studies he gained professional experience in the marketing division of Philips Television (now TP Vision) in Hamburg.

Institute of Physics of the Academy of Sciences

Czech Republic



ELI Beamlines is the Czech part of the Extreme Light Infrastructure (ELI) project, which is a part of the European roadmap of next generation major research facilities that have been identified by the European Strategic Forum for Research Infrastructures (ESFRI).

From 2018, ELI Beamlines will be a fully operational international research infrastructure based on an open access policy using cutting edge laser technologies to generate ultrashort light pulses with intensity up to 10 PW. The ELI Beamlines mission will be both fundamental academic research as well as applied research with direct societal impact.

The primary mission of the ELI Beamlines will consist of producing an entirely new generation of secondary sources driven by ultra-intense lasers. These secondary sources will produce pulses of radiation and particles such as flashes of XUV, X-rays and gamma-rays, bunches of accelerated electrons, protons and ions, etc., exploitable as qualitatively new tools in many research disciplines and in the development of new technologies, namely material research and biotechnologies.

The research programmes (RP) of the ELI project are structured in the following way:

- RP1: Lasers generating high repetition rate ultrashort pulses and multi-petawatt peak powers
- RP2: X-ray sources driven by ultrashort laser pulses
- RP3: Particle acceleration by lasers
- RP4: Applications in molecular, biomedical and material sciences
- RP5: Plasma and high energy density physics
- RP6: Exotic physics and theory



Aleš Hála

**Head of Centre for Innovation and
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Beamlines & HiLASE**

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Aleš joined the ELI Beamlines project in July 2011. Since the beginning of his engagement at ELI Beamlines, his major objective has been the creation of a solid technology transfer platform for laser projects ELI Beamlines and HiLASE. His team is involved mainly in technology prior art searches, patenting processes, supporting contract and collaborative research and delivering legal and business consultancy support to its fellow researchers.

Aleš started his professional career in 2002 in CzechInvest working with multinational companies in the electronics and semiconductor industries. Later, he lead the CzechAccelerator project identifying financial and development opportunities for technology driven start-up companies in the USA and other world destinations.

École Polytechnique Fédérale de Lausanne (EPFL)

Switzerland



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EPFL (École Polytechnique Fédérale de Lausanne) is one of two Swiss Federal Institutes of Technology. Like its sister institution, ETHZ, it has three missions: education, research and technology transfer at the highest international level.

Located on the shores of Lake Geneva, EPFL is Europe's most cosmopolitan technical university. It receives students, professors and staff from over 120 nationalities. With both a Swiss and international calling, it is therefore guided by a constant wish to open up its missions of teaching, research and partnership impact to various circles: universities and engineering schools, developing and emerging countries, secondary schools and gymnasiums, industry and economy, political circles and the general public.

With over 350 laboratories and research groups on campus and its unique structure, EPFL fosters transdisciplinary research and promotes partnerships with other institutions and companies. It continuously combines fundamental research and engineering.



Gabriel Clerc

Head of Technology Transfer Office EPFL

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Gabriel Clerc is a mechanical engineer of the Swiss Federal Institute of Technology in Lausanne (EPFL) with specialization in applied thermodynamics and turbo machinery. From 1978 to 1979 he worked as research and development engineer in the central R&D department of SULZER Co, Switzerland with activities in new products and systems in the fields of applied thermodynamics and materials. From 1979 to 1988 he was an experimental test pilot at the Swiss federal aircraft factory with numerous test flights and evaluations experiences mainly on fighter jets. He did one year of specialized training in this field in the US (USNTPS).

Since 1988 he was research contracts officer and licensing officer at EPFL. Since its creation in 1998, he has been a Head of TTO of EPFL and responsible for TTO and Industrial Research Contracts Office of EPFL. During many years he contributed to the development of the Science Park on EPFL campus as well as to the Foundation for Technological Innovation (FIT) which supports financially early stage start-up projects with pre-seed loans.

Gabriel is a member of AUTM (Association of university technology managers, USA) and ASTP (Association of European science and technology transfer professionals) and co-founder and past president of the Swiss Technology Transfer association swiTT (association of Swiss Technology Transfer professionals working for universities, federal institutes of technology and public higher education and research institutions).



Andrea Crottini

Technology Transfer Manager EPFL

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Andrea is technology transfer manager at the Technology Transfer Office of EPFL since 2011. His main mission is licensing technologies in engineering and physics.

Prior to that, Andrea worked in the field of optical sensors at IMT in Neuchâtel (CH), lasers and amplifiers at the Alcatel research centre in Marcoussis (F) and instrumentation for traces analysis in liquids at Hach-Lange (Danaher Corp.)

Andrea graduated in Physics from the University of Milan (I) in 1996, and obtained a PhD degree in optics and spectroscopy at EPFL in 2001.

European Spallation Source (ESS)

Sweden/Denmark



ESS is a next generation materials research infrastructure that brings benefit to society. It is a partnership of seventeen European nations committed to the goal of collectively building and operating the world's leading facility for materials research using neutrons by the end of the decade. It is one of the largest research infrastructures being built in Europe today and will be located in Lund, Sweden, while the ESS Data Management and Software Centre will be based in Copenhagen, Denmark. Around two to three thousand guest researchers will carry out experiments at ESS each year. Most of the users will be based at European universities and institutes, others within industry.

The European Spallation Source will have a state of the art facility, which can be compared to a microscope, using a neutron beam instead of the conventional light or electron beam. The ESS construction is a collective effort by scientists and engineers from partner laboratories all over Europe and worldwide. Together, they have developed and specified a technical design of the facility, including the accelerator, the target and instrument concepts.

Many of the project contributions for ESS will be in the form of In-Kind Contributions from shareholders and partners. The implementation of In-Kind Contributions will be the responsibility of the partner countries and result in various collaborations between national institutes and industry.

To facilitate the cooperation with partners and institutions an ESS Industry Liaison Office (ILO) Network has been established. The ILO Network provides companies with a point of contact in the ESS partner countries. This support is focused on facilitating business opportunities related to In-Kind Contributions and procurement activities at ESS. They will also support the development of Technology Transfer opportunities linked to ESS, in addition to facilitating the industrial usage of beamtime.

The European Spallation Source is entering the construction phase, which will be followed by the operations phase starting in 2023. After the positive verdict from the Swedish Environmental Court allowing ESS to begin construction, site preparations are on their way for the ground break in autumn of 2014.



Ute Gunsenheimer

HEPTech Representative of ESS

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Ute Gunsenheimer joined ESS in November 2012 and is in charge of External Relations and EU Projects, which includes the collaboration with industrial stakeholders. In the past year the priority has been to raise awareness for ESS in the partner countries by organizing Partner and Industry Days, reaching a total audience of approximately one thousand participants.

In 2013 ESS established its Network of Industrial Liaison Offices which provides companies with a first point of contact in the ESS partner countries. For the time being this support is focused on facilitating business opportunities related to In-Kind Contributions and procurement activities at ESS.

ESS hosted the HEPTech “In-Kind Contribution Collaboration – A Challenging Partnership” workshop in January 2014 and Ute kick started the HEPTech Communication Task Force.

Ute has several years of experience in managing large teams in business environments. She was Managing Director of a Berlin based International Communication Agency with clients from almost all of the different General Directorates of the European Commission, as well as other European institutions.



Matti Tiirakari

HEPTech Representative of ESS

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Matti Tiirakari joined ESS in January 2011 as the Director for Administration. Matti’s responsibilities include strategic management plan, finance, budget, HR, IT/non-scientific computing, Bureau (ESS’ governing bodies’ secretariat), procurement, In-Kind Contributions negotiations and contract management, legal services, safety/quality/ security and logistics/office management.

Before joining ESS, Matti worked at CERN as a Logistic Manager for LHC (Large Hadron Collider) and was responsible for the supply chain management for the organization, stores procurement and management. In 2008 Matti was promoted to the Head of Site Management and Engineering, and Deputy Department Leader for General Services Department of CERN.

Helmholtzzentrum für Schwerionenforschung

Germany



GSI operates a worldwide unique large scale accelerator facility for heavy ions and currently employs about 1,100 people. In addition approximately 1,000 researchers from universities and other research institutes around the world use the facility for their experiments.

GSI is a limited liability company (Ger. GmbH). Associates are the German Federal Government (90%), the State of Hessen (8%), the State of Rhineland Palatinate (1%) and the Free State of Thuringia (1%). They are represented in the Board of Directors by the Federal Ministry of Education and Research and the respective Ministries. GSI is a member of the Helmholtz Association, Germany's largest research organisation.

The best known results are the discovery of six new chemical elements and the development of a new type of tumor therapy using ion beams.

Currently the international accelerator centre called FAIR (Facility for Antiproton and Ion Research) one of the largest research projects in the world is being built adjacent to GSI.



Tobias Engert

**Head of Technology Transfer, Physicist,
Engineer, Patent Engineer**

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Tobias Engert studied mechanical engineering with specialization on “Manufacturing and Process Technology” and holds a PhD in Nuclear Structure Physics. Tobias has been working at GSI since 2003 and he started in the Nuclear Structure Research Department. He was involved in a lot of developments and experiments with the spectrometers “Online Separator”, RISING and AGATA. Before GSI he worked for BMW, CORONET Kunststoffwerke GmbH and Freudenberg Vliesstoffe KG in the fields of services, plastic production and quality management. During the time as researcher, Tobias was involved in a lot of R&D projects in the fields of radiation detection, mine verification and development of several medical devices. Furthermore, he is an expert in mechanics, surface and semiconductor physics.

After seven years in the research department of GSI he changed to the Technology Transfer Group and following, he led the strategic Human Resources Group with focus on HR management and consulting for the FAIR project. In parallel to the work as Technology Transfer Manager, he studied National and International Patent Engineering in Berlin. Since 2013, he is in charge of the Technology Transfer department covering innovation management, business development, technology marketing and GSI services. Furthermore, Tobias is CEO of a R&D company called GFE Gesellschaft für Forschungs und Entwicklungsservice GmbH.

Jožef Stefan Institute

Slovenia



The Jožef Stefan Institute (JSI), founded in 1949, is the leading Slovenian scientific research institute, covering a broad spectrum of basic and applied research.

The staff of more than 930 employees specializes in natural sciences, life sciences and engineering. The main subjects concern physics, chemistry, biochemistry, new materials and nanotechnology, electronics, information and communication technology, reactor techniques and energetics, nuclear engineering and environmental technologies. The basic goals of the JSI are to provide expert scientific and applied output in the form of processes, products and consultancy, and to produce well trained young scientists.

JSI is building strong links to universities, other research institutions and industry.

Today JSI cooperates with many leading scientific research institutions world wide, such as Joanneum Research, the leading Austrian technological institute and Korean Basic Science Institute. For example, close collaboration with the University Medical Centre has resulted in the development of medical equipment (tomography, electrical stimulators and appliances), the provision of isotopes for clinical research and treatment of patients, and the introduction of new research techniques and diagnostic methods into clinical medicine.

JSI devotes a considerable amount of effort to transferring the results of its research and knowledge to productive applications and to the market. A Technology Park established by JSI was a predecessor of the Ljubljana Technology Park, which today brings together over 290 companies. The Park supports creation and growth of new enterprises based on the results of research from Slovenian universities and international institutes.

Their products, technologies and services have been developed within research or application projects over the past few years. JSI actively makes use of this support for hi-tech enterprises to create an environment in which innovation, financing and production interact to accelerate the cycle of development of innovative products.



Špela Stres

Head of Centre for Technology Transfer and Innovation (JSI)

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Špela Stres holds a PhD in Physics and a LLM Master of Laws. She is currently active as: Head of Centre for Technology Transfer and Innovation at the Jožef Stefan Institute; Founder of Slovenian Association of Science and Technology Professionals, SITT; Slovenian representative in Steering Committee and Board member of the CERN TT Network, Geneva, Switzerland; and Vice President of Association of Science and Technology Professionals (ASTP), Hague, Netherlands.

“Horia Hulubei” National Institute of Physics and Nuclear Engineering



Romania



The “Horia Hulubei” National Institute of Physics and Nuclear Engineering (IFIN-HH) is standing at the forefront of Romanian science both in terms of research infrastructures and research personnel, providing over 10% of the national scientific output. Following the tradition initiated by the founder Professor Horia Hulubei, the IFIN-HH addresses a wide spectrum of research and development activities in fundamental and applied research areas including nuclear physics and astrophysics, particle physics, atomic physics, life and environmental physics, theoretical physics, nuclear techniques, and advanced communication systems.

The IFIN-HH has a staff of 688 employees, which include 307 R&D personnel, 235 PhD students and 21 PhD advisors. This makes the IFIN-HH fully compliant with the political, scientific and managerial requirements prevailing in the European space. To turn its strength to the best account, the institute concentrates its resources in two areas: (a) to steadily develop a sound in-house capability to get to and stay at the forefront of nuclear science and technology; and (b) to substantively participate in the European collaborative endeavors centered on Large Scale Facilities such as GSI-Darmstadt (Germany), GANIL-Caen (France), CERN (Geneva), JINR (Dubna).

The IFIN-HH will continue to develop its infrastructure, manpower, and expertise. Bringing bright young people at the frontiers of Science and blending their enthusiasm with the experience and educated tenacity of the elders, is believed to be a sure recipe for the long term sustainability of the IFIN-HH activities.

In line with this, the IFIN-HH is leading the realization of the Extreme Light Infrastructure – Nuclear Physics (ELI-NP), the Romanian research centre part of the European distributed infrastructure ELI. This will be based on two main pieces of research equipment, a laser system that will produce two 10PW beams and a gamma beam system that will produce highly collimated, high intensity gamma radiation with tunable energy up to 20MeV. Using at the same time both high intensity gamma and laser beams, the materials behaviour in extreme radiation conditions will be studied.



Cristian Cristescu

**Head of Centre for Technology Transfer
and Marketing**

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Cristian has a deep understanding of industry needs due to his international business background that is very relevant for a scientific environment. With a large pool of well connected associates and business partners from Romania and world wide, and with vision and diligence, he is very reliable, and more important, a very creditable partner to work with. In 2013 he was appointed also as Marketing Director of the “Magurele High Tech Cluster” (MHTC), an association of innovative SMEs, RD Institutes and local administration aiming to cooperate and to create a local environment through common projects.

Being an active networker he shows welcome determination in securing the best advantage for his constituency based on building lasting meaningful partnerships. He prefers structured project plans, delivered through his network of extensive contacts. He pays tenacious attention to detail till the objectives have been met.

He graduated in Electronics and Telecommunication Engineering from Universitatea Politehnica Bucharest in Romania having MSc in Digital Integrated Circuits & Microprocessors Design.

Italian National Institute for Nuclear Physics

Italy



INFN is primarily a research community whose members work to discover the mechanisms and the fundamental components of matter. To do so, they invent and develop innovative technologies and make some of the most accurate measurements humanely possible. INFN is a public research agency under the supervision of the Ministry of Education, Universities and Research (MIUR). It conducts theoretical and experimental research within a framework of international competition, in collaboration with universities. This requires the use of cutting edge technology and instruments developed by INFN at its own laboratories and in collaboration with industries. Today INFN employs around 5,000 scientists whose work is recognised internationally not only for their contribution to various European laboratories, but also to numerous research centres worldwide.

Impact on society and on the economy – Technology transfer

Basic research needs innovative solutions using advanced technology that often exceeds the available industrial know how. That is why INFN develops technological research for use in advanced experiments, driven by the need to develop new methods of particle acceleration and detection or data acquisition and analysis.

These experiments represent a unique source of innovative technology in the field of superconductivity, electronics, precision mechanics, high performance networks, medical imaging diagnostics, nuclear particle beam therapy, techniques for use in the preservation of artistic heritage, etc. It is therefore only natural that INFN should transfer the knowledge acquired during its research activities.

Transfer of technology is gradually becoming an established practice within INFN, also thanks to its new functional organisation. Over the years, INFN's technological research has had a multiple impact on many companies: from the size of their workforce to the ability to extend their product ranges and increase their engineering and production capacity.

Some businesses have been set up on the basis of ongoing relations with INFN. There are hundreds of cases in which INFN has been a source of stimulus and growth, even of employment, mainly among small and medium sized enterprises, and has fostered the creation and success of leading companies. Although from a financial perspective the impact on large scale industry has been marginal, it has developed and activated production lines which have made a significant technological contribution.



Andrea Vacchi

Director of Research at INFN

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Andrea Vacchi is an experimental physicist coordinating a group active in space and accelerator physics experiments. He has an extensive experimental background in development and use of particles detectors. He has lead the realization of the silicon tungsten tracking calorimeter, a key instrument, for the satellite based spectrometer PAMELA successfully launched in June 2006 dedicated to antimatter search in cosmic rays with particular regards to the high energy component of antiprotons and positrons.

He has been active in the medical application of silicon detectors with particular regard to the problems of screening in mammography with the development of high efficiency high contrast detector now on its path towards applications.

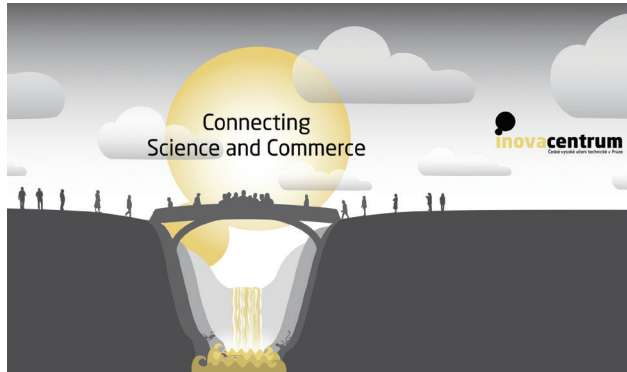
He is also chairman of the INFN Board for Basic Technology Developments "INFN-Commissione 5", he had the opportunity to gather a rather complete view of all themes bound to front edge technology developments and applications.

As a member of the INFN executive board he has followed, besides other commitments, the activities caring for all aspects of R&D; Technology Transfer; intellectual property, spin-off creation and contact with the industry. As a coordinator of the Technology Transfer Board of INFN, he is still dedicating a lot of attention to this demanding activity whose most important aspect is to bridge the distance between research motivated innovation and its applications in the entrepreneurial world.

<http://www.asimmetrie.it/>

Inovacentrum CTU

Czech Republic



Inovacentrum CTU is a university centre for cooperation with companies in the Czech Republic and abroad. Inovacentrum provides comprehensive services to everybody wanting to use the expert knowledge and services available at the oldest and most prestigious Czech Technical University (CTU). CTU stands for Czech Technical University, in original language ČESKÉ VYSOKÉ UČENÍ TECHNICKÉ (ČVUT). Inovacentrum has 30 employees in 6 departments and offers the following services: customized research and development, technology sales, access to experts, use of specialized laboratories and test rooms, organization of round table discussions and conferences, student internships and grant advisory services and grant administration. Inovacentrum also manages InovaJET, a business incubator with around 24 innovative start-up companies every year.



Jaroslav Burčík

Director CTU Inovacentrum

Email: burcik@inovacentrum.cvut.cz

Jaroslav Burčík graduated from the Faculty of Electrical Engineering at the Czech Technical University in Prague (CTU). In 2005 he initiated a project called Tripod aiming to develop and enhance innovative business and technology transfer at the university. After the establishment of the Centre of Cooperation with Industry at the Faculty of Electrical Engineering and in December 2009 he was appointed director of the Technology and Innovation Centre of CTU. These two centres were united in 2011 and Inovacentrum CTU was established, providing services for the whole university. Today Inovacentrum has 30 employees.



Filip Kessler

Project Manager

Email: kessler@inovacentrum.cvut.cz

Filip Kessler has graduated from the Faculty of Civil Engineering at the Czech Technical University in Prague (CTU), Business and Economics Department. He worked in PricewaterhouseCoopers as assistant auditor and in Institute of Experimental Botany of the Czech Academy of Science as controller.

He joined HEPTech in 2013 as a representative of CTU Inovacentrum. He plays active role within the HEPTech and its structure and events.

Now he is responsible for the upcoming HEPTech symposium in 2015 in Prague.



Benjamin Mlýnek

Project Manager

Email: mlynek@inovacentrum.cvut.cz

Benjamin Mlýnek works as a project manager and grants consultant for Inovacentrum of the Czech Technical University in Prague. Benjamin focuses on grant opportunities for research and innovation activities from donors such as European Commission – in particular programme Horizon 2020, the Technology Agency of the Czech Republic and the Czech Ministry of Education, Youth and Sports. He has been involved in negotiation, formulation and administration of various publically funded projects of collaborative research. Moreover, Benjamin has been active in forming a sustainable model of cooperation between the business and the university.



Michaela Netolická

Project Management Team Leader

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Michaela Netolická works as a project management team leader in Inovacentrum of the Czech Technical University in Prague. Michaela formulated and managed grant projects in the field of education, university industry cooperation and technology transfer. Nowadays she is responsible for small team of project managers and grant consultants. Furthermore she manages grant projects portfolio in the field of technology transfer and research and innovation activities related to the industrial applications.

Laboratório de Instrumentação e Física Experimental de Partículas

Portugal



LIP is a scientific and technical association of public utility that has research in the fields of experimental high energy physics and associated instrumentation.

LIP's research domains have grown to encompass experimental high energy physics and astroparticles, radiation detection instrumentation, data acquisition and data processing, advanced computing and applications to other fields, in particular medical physics.

The main research activities of the lab are developed in the framework of large collaborations at CERN and at other international organizations and large facilities in Europe and elsewhere, such as ESA, SNOLAB, GSI, NASA, AUGER and LUX.

LIP is an “associated laboratory” assessed as “excellent” in three successive evaluations by international panels.

In its three laboratories in Coimbra, Lisbon and Minho, LIP has about 170 people, out of which 70 hold a PhD degree, and many are professors at the local universities.



Emir Sirage

Coordinator of the Technology Office

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Currently the Coordinator of the Technology Office from the Portuguese Foundation for Science and Technology (FCT), he is responsible for the coordination of a designated structure that integrates the a number of programmes including international partnerships (MIT, CMU, UTAustin, Harvard Medical School and Fraunhofer Institute), industrial R&D (Eureka, Eurostars), industrial Liaison (CERN, ESO, ESRF) and Technology Transfer (PTTI - Portuguese Technology Transfer Initiative).

Emir also serves as the European Commission Portuguese Delegate at the ERAC (European Research Area Committee, formerly CREST) working group on Knowledge Transfer. ERAC is a strategic policy advisory body whose function is to assist the European Commission and the Council of the European Union in the sphere of research and technological development. The Knowledge Transfer Group follows issues regarding the intellectual property recommendations on the management of intellectual property in knowledge transfer activities.

Currently he is appointed as the Industrial Liaison Officer of the FCT responsible for industrial relations to ensure on behalf of the Portuguese delegation a progressive and sustainable industrial return for Portugal by actively meeting with Portuguese companies in the various sectors of industry, scientific organizations CERN, ESO (European Southern Observatory) and ESRF (European Synchrotron Radiation Facility).

Emir is also responsible as Industrial Policy Committee (IPC) Delegate to ensure on behalf of the Portuguese delegation at the European Space Agency (ESA) a positive and sustainable evolution of the geo return to Portugal.

National Technical University of Athens

Greece



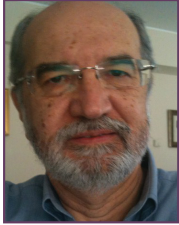
The National Technical University of Athens (NTUA) is the oldest and most prestigious educational institution of Greece in the field of technology and science, and has contributed unceasingly to the country's scientific, technical and economic development since its foundation in 1836. It is closely linked with Greece's struggle for independence, democracy and social progress. In Greek, NTUA is called the "Ethnicon Metsovion Polytechnion" which stands for National Metsovion Polytechnic.

NTUA is divided into nine academic schools, eight being for the engineering sciences, including architecture, and one for the mathematical and physics science. The scientific research in NTUA is funded by both the public and private sectors, as well as by European Union sources.

The Senate supervises the overall institution's function in compliance with the state laws as the institution's internal regulations. It forms the institution's educational and research policy, its strategic planning development, and reports on its regular activities. Moreover, it is in close cooperation with various Greek and foreign universities, as well as other scientific and cultural institutions.

The Lavrion Technological & Cultural Park (LTCP), near by the temple of Poseidon (Sounion cape), is a body of scientific research, education, business and culture. It was founded in place of the old French Mining Company of Lavrion (Compagnie Francaise des Mines du Laurium) in 1992, as a result of the initiative undertaken from the NTUA.

LTCP aims at linking scientific and technological research conducted in Athens with the needs and interests of the business world with respect to events related to the promotion of the local history and culture of the wider Lavreotiki area and the history of the premises maintenance activities. The LTCP area is a unique monument of industrial architecture and archeology with a series of housing facilities for business and research excellence.



Evangelos Gazis

**Professor of Experimental Particle Physics
Head of the Technology Transfer Office of
the NTUA and Industry Liaison Officer for
Greece at CERN**

Email: egazis@central.ntua.gr

Evangelos Gazis is a professor of experimental particle physics at the School of Applied Mathematical and Physical Sciences, Physics Department, since 1982.

His positions, responsibilities and distinguished awards:

2014: Officier de Palmes Académique, Ministry of Education, Paris, France

2014-2015: CERN Scientific Associate

2011-2014: Chair of the NTUA Senate Committee of International and Bilateral Affairs

2009-2010: CERN Guest Professor, ATLAS Collaboration

2007-2008: CERN Scientific Associate and Visiting Professor at the University of Lund, Sweden

2005- currently: IEEE-NSS-MIC Contributed Papers Referee

Professor Gazis participates in research in nuclear, particle and astro-particle physics; gas detector construction, accelerator R&D, detector control systems and medical applications in hadron therapy.

He is author of more than 700 papers with 43000 references and 11 text books for the NTUA students and is supervisor and external examiner of many PhD candidates.

Professor Gazis has created a Greek hub for the HEPtech network in Greece with the involvement of the following institutions: NCSR Demokritos, Athens University of Economics & Business and University of Piraeus.



Sofia University St. Kliment Ohridski

Bulgaria



The Scientific Research Centre (NIS) at Sofia University “St. Kliment Ohridski” is the department responsible for administration and support of the research and project activities on a contract basis.

Annually, NIS administrates over 300 project contracts with a total value of about 10 Mio BGN. Projects are funded on a contract basis by the National Research Fund (60%), the EC programmes (30%) and by the industry. Over 500 researchers, mainly from the academic staff of Sofia University and 93 specialists from NIS take part in these activities.

The research activities carried out through the Scientific Research Centre range over almost all fields of natural and social science.

The main directions of scientific research are concentrated in: nanotechnologies and new materials, information and communication technologies, microbiology, quantum electronics and laser technology, thermodynamics of surface and disperse systems, ecology and environment protection, biology and biological resources, education and cultural heritage.

The Scientific Research Centre operates in the follows areas:

- Provides administrative and financial services of projects;
- Performs project financial management and reporting;
- Provides support in project proposal development;
- Provides information about funding opportunities;
- Supports Technology Transfer;
- Provides consultancy in IPR issues;
- Performs training in commercialization of research results;
- Maintains web sites and data bases about projects and results;
- Produces electronic monthly newsletter, on-line journal of academic research publications, Yearbook of research project results and promotional materials;
- Serves as a National Industry Liaison Office of CERN;
- Participates in international research and technology transfer networks.

At present, the Scientific and Research Centre is member of the Association of European Science & Technology Transfer Professionals and of the HEPTech Network.



Bojil Dobrev

Director of the Scientific Research Centre (NIS), Sofia University

Email: bojild@yahoo.de

Bojil Dobrev was born in 1949 in Sofia and he graduated from the Technical University of Sofia. He has 20 years experience in IT research, development and management, and 15 years experience in delivering an management of business education. He participates in several international projects including IST projects as EMunIS (2001-2003) as Regional Coordinator and e-Inclusion (2005), e-Business W@tch (2006) and Knowledge and Technology Transfer (2011) as National Correspondent and also in e-Government Strategy and Promotion in Bulgaria (2012).

Since 2009 he is the Director of the Scientific Research Centre (NIS) at Sofia University. Bojil is author of more than 60 publications and of the book "Guidelines for e-Government" (2005).



Eleonora Getsova

Head of Information Provision Unit at the NIS

Email: elor_66@abv.bg

Eleonora has a substantial experience in information and communication management, training and project work. She is involved in a large spectrum of publication activities at the NIS and in provision of relevant information to the research community at Sofia University.

She is the editor of an on-line journal (HORIZONTI) for academic publications, mainly project related, published twice a year and she also edits the Yearbook of research projects at Sofia University. Eleonora compiles and publishes a monthly bulletin with funding opportunities for students and researchers, events and publications.

Since July 2012 she also acts as an Industry Liaison Officer between CERN and Bulgarian industry at Sofia University.



Zlatina Karova

**Head of the Technology Transfer Office and
Project Activities Unit at the NIS**

Email: zlatina.karova@gmail.com

Zlatina Karova is a lawyer who specializes in international law and justice. She has a master's degree in European Public Administration from the Sofia University "St. Kliment Ohridski" and a number of certificates and completed training courses from prestigious international organisations like the World Bank, Swiss Agency for Development and Cooperation and the Federal Academy of Public Administration.

Zlatina Karova has many years of practical and teaching experience in public administration at central and local level. She has expertise and experience in the field of legal affairs, business analytics and as a local government consultant to government bodies and public associations.

At present, Zlatina Karova is Head of Unit, Centre for Technology Transfer and Project Work in the Research Sector of Sofia University "St. Kliment Ohridski", where she is responsible for the development, reporting, implementation, evaluation and sustainability of over 50 projects funded under FP7 EU funded research. Zlatina Karova is a member of the Council for Public Consultation of Parliament, member of the Association of Heads of Innovation, member of the Public Council at the "Youth" Ministry of Education, member of the "BAA" Foundation and a member of "Women in Industry".

In recent years Zlatina Karova established herself as a leading expert in the evaluation of programs and projects, the relationship between science, business, strategic human resource management, organizational development, consulting with stakeholders, project cycle management and public procurement orders.

Science & Technology Facilities Council

United Kingdom



Science & Technology
Facilities Council



“Daresbury Tower from the Bridgewater Canal” by David Jones

The Science and Technology Facilities Council (STFC) is one of Europe’s largest multidisciplinary research organisations. Our vision is to maximise the impact of our knowledge, skills, facilities and resources for the benefit of the UK. Our research has impact across a wide number of areas including: energy, security, healthcare and environment.

- Part of Research Councils UK, STFC is funded by the government to support world class science and technology by:
- Supporting researchers through grants, particularly in astronomy, particle physics, space science and nuclear physics;
- Providing access to world class scientific facilities in the UK at the Rutherford Appleton and Daresbury Laboratories, UK Astronomy Technology Centre and Chilbolton Observatory;
- Providing access to world class scientific facilities abroad, such as CERN, the Institute Laue Langevin (ILL), the European Synchrotron Radiation Facility and telescopes in Chile and Hawaii;
- Supporting scientific and technical expertise in the UK in areas ranging from microelectronics, alternative energy production and particle and nuclear physics, to space and ground based astronomy.

STFC’s investment in science and engineering generates ideas and technologies with a broad social and economic impact. Researchers are encouraged to create new businesses based on their discoveries and STFC helps established companies use its research to improve their products and services.



Ian Tracey

Secretary General of HEPtech

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Ian Tracey is the External Technology Transfer Group Leader at STFC. In this role Ian oversees external technology transfer and intellectual property stemming from the European Space Agency, CERN and HEPtech; managing the ESA incubator at Harwell Oxford and the CERN incubator at Scitech Daresbury. As part of his work supporting business creation, Ian identifies individuals with high growth start-up backgrounds, who can help take IP into new products and companies, becoming tomorrow's business leaders.

Ian is an experienced technology transfer and innovation professional and has created, managed and guided various STFC spinouts. These include TeraTech Components, Cella Energy, DSoFt, The Electrospinning Company Ltd and PowerPredict. Ian continues to sit on several of their boards as a Non-Executive Director. A firm believer in the value of entrepreneurship, Ian created the Harwell Oxford Technology Entrepreneur Forum in 2012 with the aim of making Harwell Oxford the technology entrepreneurial hub of the Oxfordshire and Thames Valley area. Ian's early career and educational background is in information systems engineering. He was sponsored by BT Research Labs through university, predicting the future telecommunications products 15 - 25 years ahead. Research topics included using Virtual Reality to enhance team working. He made the first transatlantic Voice over IP call, the first public broadband line was his home and he helped the fashion industry have a better understanding of demographic centric body profiles.



Antonio Pacheco

HEPtech Coordination Manager

Email: antonio.pacheco@cern.ch

Antonio de Valladares Pacheco works for the STFC (Science and Technologies Facilities Council) and is based at CERN as the HEPtech Coordination Manager. He coordinates the efforts of the Workgroups and relates the necessary links between all the activities of the Workgroups through the Network and with the Coordination. Antonio arrived at CERN when he joined CERN Knowledge Transfer Group in March 2012, as a part of the contribution of LIP to HEPtech, in collaboration with the Fundação de Ciência e Tecnologia from Portugal. Working as both a part of the Coordination of HEPtech and as a part of the KT Group, his responsibilities included the management of Technology Transfer Cases within the framework of a Technology Transfer Officer. During this first period, as a part of the Coordination Team, his responsibilities were with a wide range of activities from the administrative needs of the back office all the way with the involvement with all of the Workgroups activities, participating in the organisation of most of the events held in the past two years, and with the writing of grant proposals.

Antonio received his M.Sc. in Technological Physics Engineering at Instituto Superior Técnico of Universidade Técnica de Lisboa in 2011. He worked as a scholarship student in computational physics at Laboratório de Instrumentação e Física de Partículas (LIP) in the field of particle physics, with a thesis on the "Drell-Yan process simulation in hadronic interactions in the COMPASS experiment" at CERN, where he spent some time for shift and collaboration work. Working with GEANT3 and Pythia his work focused on the Monte Carlo simulation of the spectrometer for the future setup of the experiment and the analysis of the impact these changes would have on the future physics results.



Karen Lee

Marketing Manager STFC

Email: Karen.lee@stfc.ac.uk

Karen is working as part of the Business and Innovations directorate to increase the economic and societal benefit of STFC's research, innovation and skills by driving marketing strategies and activities targeted at industry. These include industry related projects such as the STFC CERN Business Incubation Centre and ESA Business Incubation Centre. Karen is also working with HEPTech to coordinate the marketing communications strategy for the network.

Karen is working with other joint venture partners to drive the development of the UK's two national science and innovation campuses at Sci-Tech Daresbury and Harwell, Oxford. She also interacts with other STFC departments and centres to support their engagement with industry.

Karen is an experienced and enthusiastic marketing and communications manager who has worked across sectors including science and technology, innovation, charity, children's social care and education.



Charlotte Thompson

STFC CERN Business Incubation Manager

Email: charlotte.thompson@stfc.ac.uk

Charlotte Thompson is part of the Entrepreneurship team at STFC. Charlotte has essentially contributed to coordinate the STFC CERN Business Incubation Centre (BIC). The STFC CERN BIC is focused on developing new products and services using technologies originally developed for use in high energy physics research. There is £40,000 funding available, business support and technical assistance from both STFC and CERN to help small high-tech companies grow from technical concept to market reality.

Charlotte has also had an active role in implementing the business support package at the STFC Harwell Oxford campus and Scitech Daresbury campus as part of the Technology Strategy Board's Launchpad competition. She is the main contact point for the implementation of the scheme at the Scitech Daresbury campus, paying a key role in enabling several million pounds of investment into the campus companies over the next 18 months.

Charlotte previously studied at the University of Manchester with a Bachelors in Economics and a Masters in Enterprise. Her Masters looked at the commercial potential of a resource valuation and optimisation model. During her education Charlotte pursued the dream of being an Olympic rower and has now joined STFC to follow another passion, working with SMEs to help them flourish and grow.

Weizmann Institute of Science

Israel



The Weizmann Institute of Science is one of the world's leading multidisciplinary research institutions. Hundreds of scientists, laboratory technicians and research students working on its lushly landscaped campus embark daily on fascinating journeys into the unknown, seeking to improve our understanding of nature and our place within it.

It is the spirit of inquiry so characteristic of human race, which guides the scientists. It is this spirit that propelled humans upward along the evolutionary ladder, helping them reach their utmost heights. It prompted humankind to pursue agriculture, learn to build lodgings,

invent writing, harness electricity to power emerging technologies, observe distant galaxies, design drugs to combat various diseases, develop new materials and decipher the genetic code embedded in all the plants and animals on Earth.

The quest to maintain this increasing momentum compels Weizmann Institute scientists to seek out places that have not yet been reached by the human mind. What awaits us in these places? No one has the answer to this question. But one thing is certain – the journey fired by curiosity will lead onward to a better future. Groundbreaking medical and technological applications that have emerged from basic research conducted by Weizmann Institute scientists include:

- Amniocentesis, a prenatal diagnostic test for the fetus
- Sophisticated laser systems for high precision diamond cutting
- A method for growing hybrid seeds that prevents the transmission of disease from one generation to the next and helps protect edible plants from pests
- Affinity chromatography, a key tool for purifying biological materials in the biotechnology industry
- Living polymerization, one of the most fundamental techniques of the modern polymer industry

For solving the structure of the ribosome, the cell's protein factory, and revealing its means of action, the Institute's Prof. Ada Yonath was awarded a Nobel Prize in Chemistry. Her research should speed the development of antibiotic drugs that are more efficient, especially against antibiotic resistant strains.



George Mikenberg

Weizmann Institute of Science

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George was born in Argentina on 15th of July 1947. When he finished High School in Nicaragua in 1964, he started university studies at Hebrew University in Jerusalem (1965). In 1967 he moved to Chile, where he completed his Licenciante Degree at Pontifical Universidad Catolica de Chile (1969). Afterwards he completed his MSc and PhD at the Weizmann Institute (1974). During his Post-Doc at Fermilab (1974-1977) he measured the size of the π , K, P and their anti-particles; designed, constructed and commissioned the first particle detector using optical fibers.

In 1997 he joined the Weizmann Institute staff and was sent to DESY in Hamburg (1997-1982), where he designed, constructed and commissioned the second calorimeter in the world using wavelength shifters and did the analysis to confirm the discovery of the gluon using neutral energy; measured the QED process $e^+e^- \rightarrow \gamma\gamma$ to obtain limits in contact interactions.

George started an Israeli group (Tel-Aviv, Technion, Weizmann) participation in the OPAL experiment at the Large e^+e^- Collider (LEP at CERN) (1982-1996). He developed the construction technique for a new type of gaseous detector (TGC) and was responsible for the construction, commissioning and running of the Hadron Pole Tip Calorimeter of the OPAL Experiment.

He was OPAL Experiment Physics Coordinator during the preparatory phase (1986-1989) and during the exploitation phase of the Experiment (1992-1994).

He drafted the first agreement with CERN for Israel to become the first Paying Observer Country to the CERN Council (1991). He became the Industrial Liaison Officer for Israel (1992-now) and managed to bring orders by CERN for Israeli High Tech products exceeding a total of 30M US\$.

In 1992 he became a member of the High Energy Physics Division of the European Physical Society. He brought the large EPS conference to Jerusalem (1997); became the Secretary of the Division (1997-1999) and its Chair (1999-2001), introducing major changes to its conferences and prizes.

In 1994 George started the Israeli Collaboration that participates in the ATLAS Experiment at Large Hadron Collider at CERN. He coordinated the construction of the MUON Trigger System. From 1999 to 2008 he was the Project Leader of the ATLAS MUON Spectrometer.

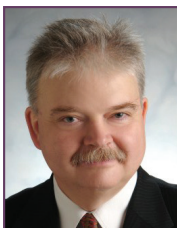
During 2003-2011 he has been a member of the Restricted European Committee for Future Accelerators that evaluates the HEP situation in all European Countries.

Wigner Research Centre for Physics

Hungary



The Wigner Research Centre for Physics (Wigner RCP) is one of the largest research institutes of the Hungarian Academy of Sciences. It is located in Budapest and 350 researchers and engineers are working in it. The mission of the Wigner RCP is to perform basic research in the fields of particle and nuclear physics, plasma physics, space science and technology, solid state physics, neutron physics, optics and information technology. The Wigner RCP is willing to increase its activities on knowledge and technology transfer and to apply the collected results in other fields of physics, engineering and industry. The Wigner RCP joined to HEPTECH in 2013 to increase these TT activities and learn different methods of innovation. Recently an expert group has been established to help this innovation activity. The researchers of the Wigner RCP are looking forward to participate in different HORIZON 2020 projects in order to explore the opportunities of technology transfer during the next years.



Peter Levai

**Director General of MTA Wigner
Research Centre for Physics**

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Peter Levai is the Director General of the MTA Wigner Research Centre for Physics since 2012. He is corresponding member of MTA (Hungarian Academy of Sciences). He obtained his Master degree in Physics in 1986 and his PhD in high energy nuclear physics in 1989 at the Eötvös University, Budapest.

He has continued his research activity in the United States, as a post-doc. He returned home to the KFKI Research Institute for Particle and Nuclear Physics (KFKI RMKI) - the predecessor of the Wigner RCP - in 1992, but continued collaborating with his USA colleagues working in universities and national laboratories, spending half of his time in foreign countries. He received the degree Doctor of Science at MTA and his habilitation at Eötvös University in 2000. He became the head of the Theoretical Physics Department at the KFKI RMKI in 2002.

From 2005 he has been a group leader and coordinator of a Hungarian research group at ALICE in CERN, and from 2010 Hungary's representative at CERN Council. He was elected in 2010 as the corresponding member of MTA and supports Hungarian participation in big scientific cooperations.



Zsuzsanna Tandí

**Innovation Advisor
HEPTech Representative of MTA Wigner RCP**

Email: tandi.zsuzsanna@wigner.mta.hu

Zsuzsanna Tandí joined Wigner Research Centre for Physics as an innovation adviser at the beginning of 2013. Her job is to build up the Technology Transfer Office aimed at implementing the organisation's innovation policy and establishing its international relations network.

Zsuzsanna has a degree in telecommunication engineering and a degree as a Certified Foreign Affairs Specialist.

She has an extensive experimental background in development of the commercialisation of research results and caring for all aspects of R&D, Technology Transfer, intellectual property, spin-off creation and contact with the industry.

Zsuzsanna is also responsible for developing and maintaining relations between industry and Wigner, an activity, the most important aspect of which is to connect the distance between research motivated innovation and its applications in the industrial world.

She is a keen organiser trying to extend cooperation between the Hungarian Academy of Sciences and its business partners.

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