

EUROPEAN INSTITUTE
FOR BIOMEDICAL
IMAGING RESEARCH

**ANNUAL
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2014

ANNUAL REPORT 2014



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Editorial

Dear Network Members, Colleagues and Friends,

I am pleased to present the 2014 Annual Scientific Report of the European Institute for Biomedical Imaging Research (EIBIR). EIBIR is proud to look back on a very productive year of engaging with its members and partners. I sincerely hope you will enjoy reading this report and let yourself be inspired to become involved in EIBIR's activities in the field of biomedical imaging research.

Having been nominated to assume EIBIR's scientific leadership during the organisation's General Meeting held during the European Congress of Radiology 2014, I was delighted to take on the role of EIBIR's Scientific Director in March 2014. I would like to seize this opportunity to express my appreciation and sincere thanks to the former Scientific Director, Jürgen Hennig, for his hard work and dedication to EIBIR.

Over the course of 2014, EIBIR has continued work on the EU-funded projects Euro-BioImaging, VPH-PRISM, MITIGATE and VPH-DARE@IT and is honoured to have been involved in numerous project applications under Horizon 2020. The institute collaborated with over 155 project partners who relied on EIBIR's expertise and professional experience in proposal preparation and writing. The beginning of 2015 will be busy as EIBIR expects the evaluation results for various project proposals submitted under the highly competitive Horizon 2020 health calls and is looking forward to guiding the consortia invited to submit proposals to the second round through the final preparation phase.

Since EIBIR, as an organisation, relies on a high number of actively contributing Network Members, we are pleased to report that the number of EIBIR member institutions increased significantly over the course of 2014. There are currently 168 Network Members representing 24 countries, and the EIBIR Network continues to grow.

EIBIR's Scientific Advisory Board (SAB) also had a very active and fruitful year. The Board met three times in 2014 and successfully introduced the proposal review process, in which SAB members give their valuable input on Horizon 2020 proposals as well as determine the project's suitability to be supported by EIBIR. Moreover, the members of the SAB contributed to the Austrian Research Promotion Agency's and European Commission's stakeholder consultation requests and provided input for the development process of the Horizon 2020 Work Programme 2016-2017. EIBIR and its Scientific Advisory Board will continue to emphasise the importance of including biomedical imaging in future European research agendas, and keep members informed about its development and progress.

In addition, I am pleased to report that EIBIR has been able to further strengthen its partnership with industry. The industry-initiated investigational study on MRI (MIPA), as an initiative of EuroAIM, continues to pursue a successful path, and EIBIR has productively collaborated with its industry partners on numerous project proposals over the course of 2014.

Considering the importance of SME participation in the Horizon 2020 work programmes, EIBIR has recently put an emphasis on offering services especially targeted towards SMEs to support them in taking advantage of the new funding opportunities. As a result of these efforts, EIBIR is delighted to welcome six new SME partners to the EIBIR Industry Panel and anticipates fruitful future collaborations.

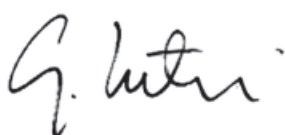
Looking towards 2015, EIBIR will continue its work on Horizon 2020, further extend its activities and keep promoting common initiatives and interoperability in the field of biomedical imaging. The achievements of 2014 are a step in the right direction for EIBIR to become, and to be recognised as, the most efficient and effective research support organisation for imaging-related research in Europe.

I would like to thank the European Society of Radiology, which once again provided significant funds to EIBIR over the past year, and am pleased to acknowledge the support of EIBIR's shareholder organisations. Moreover, EIBIR is thankful to its Network Members for their ongoing support and involvement in our activities. This year saw increased collaboration with our shareholders and industry members through participation in Horizon 2020 proposals. I encourage all members of the EIBIR Network to continue confirming their commitment to empowering the network via bottom-up initiatives and involvement in our activities.

In the following pages you will find a series of interviews and reports illustrating the activities of the EIBIR community including on-going research projects, an update on our joint initiatives, as well as an outlook into the future.

I look forward to engaging with you over the course of a productive year 2015!

Yours sincerely,



Gabriel Krestin
EIBIR Scientific Director



Gabriel Krestin
EIBIR Scientific Director

Highlights



Babak Ehteshami Bejnordi

"Participating in the VPH-PRISM project has given me a unique opportunity to collaborate with several scientific partners who are at the forefront of research in the breast imaging field. In addition, involvement in this project has given me a deeper insight into the field of medical imaging and breast cancer research."
(p. 13)



Carsten Hopf

"I am thoroughly impressed by EIBIR's very high level of professionalism in project management. This will be key to our success since the EIBIR team not only has a firm grasp of the biomedical topic and imaging technology but also of all administrative EU requirements... No doubt that I would be pleased to become part of another EIBIR-led EU project in the future."
(p. 15)



Marion Smits

"It is just really inspiring to interact with so many different experts in the field, both junior and more senior. I have massively expanded my professional network, which I think is ultimately beneficial both for my research and my clinical activities. Concretely, it has given me the opportunity to easily set up collaborations to apply for funding for a European study of ASL in dementia."
(p. 17)



Giovanni di Leo

"One of the most interesting results is that, after the opening of the call to participate in this study, we received 97 applications from all over the world. It means there are big expectations for this study. From these applications, we could really have a reliable depiction of breast MRI practice worldwide."
(p. 19)

EIBIR Events in 2014

EIBIR @ ECR 2014

At the 2014 European Congress of Radiology, EIBIR held three public sessions focusing on biomedical imaging.

The Biomedical Image Analysis Joint Initiative session **“Novel tools in neurodegenerative disease and breast cancer”** gave insight into two new projects: VPH-PRISM and VPH-Dare@IT. Additionally, participants were provided with an overview about biomedical imaging related research opportunities available in the Horizon 2020 funding programme.



After a general introduction to the MITIGATE concept, the session **“Molecular imaging and targeted-image guided therapy in gastrointestinal stromal tumours”** took a specific look at functional and molecular imaging and targeted endoradiotherapy, stereotactic radiofrequency ablation of liver tumours and tumour therapy response assessment.



“ENCITE based insights for molecular imaging in guidance of therapy” built upon the results achieved in the FP7 funded ENCITE project, reviewing the extensive developments taking place in the field of optical imaging, and non-invasive imaging of therapeutic cells. The session gave specific insight into MR imaging for pancreatic cell transplantation and into optical imaging in the clinic.



Scientific Advisory Board Brainstorming Meeting

From 3 – 4 April, 2014, members of EIBIR's Scientific Advisory Board met at the EIBIR office in Vienna, AT, to discuss strategic development of EIBIR and its activities. Members reviewed the structure of EIBIR, the services offered, current activities as well as future areas of interest. During the meeting, a number of action points were identified, and have since been implemented. The proposal review process for submission under the Horizon 2020 programme was clarified during the meeting, and has since proved extremely useful for evaluating projects and providing EIBIR members with feedback about their research idea.

MITIGATE Session

Closed-loop Molecular Environment for Minimally Invasive Treatment of Patients with Metastatic Gastrointestinal Stromal Tumours

From 4-5 September 2014 MITIGATE assembled its stakeholders for the joint scientific symposium “Advances in theranostics of rare cancer”. The focus of the meeting was to inform clinicians about the current state-of-the-art treatment options in neuroendocrine tumours, explain fundamental principles for targeted molecular imaging, elude mechanisms of resistance in GIST as well as show the value of multimodal treatment in oligometastatic disease.

More details are available on the **MITIGATE website** (www.mitigate-project.eu).



Scientific Advisory Board Brainstorming Meeting in Vienna, AT

EIBIR Member Services

EIBIR: A service organisation for scientists run by scientists.

Services provided for H2020 proposals

EIBIR is pleased to support its Network Members in developing project proposals for submission to the European Commission's various funding calls under the Horizon 2020 Framework. If you are looking for support in proposal preparation, finding the right consortium partners, or managing your project, EIBIR can provide all the help you need.

Proposal Preparation

Submitted proposals are initially reviewed for suitability by our Scientific Advisory Board (SAB), who additionally provide critical feedback on your project idea. Upon approval by the SAB, EIBIR can contribute to the project in a number of ways: Firstly, EIBIR offers assistance in consortium formation and can help with identifying suitable SME partners for your project. (see p. 40)

Secondly, for proposal writing, EIBIR provides call-specific templates with detailed descriptions of the required partner input. We also give advice on management and work package structure and complete the project management and dissemination sections.

EIBIR also offers financial management support during proposal preparation.

Once the proposal has been finalised, EIBIR takes responsibility for the submission of the document via the EC's online system.

All aspects of proposal preparation are done by a team of experienced scientific writers with knowledge of the European Commission requirements and the European research landscape.

Project Management

Upon successful evaluation of your proposal, EIBIR will guide you through all phases of contract negotiation and project management, relieving you of the time-consuming administrative burden.

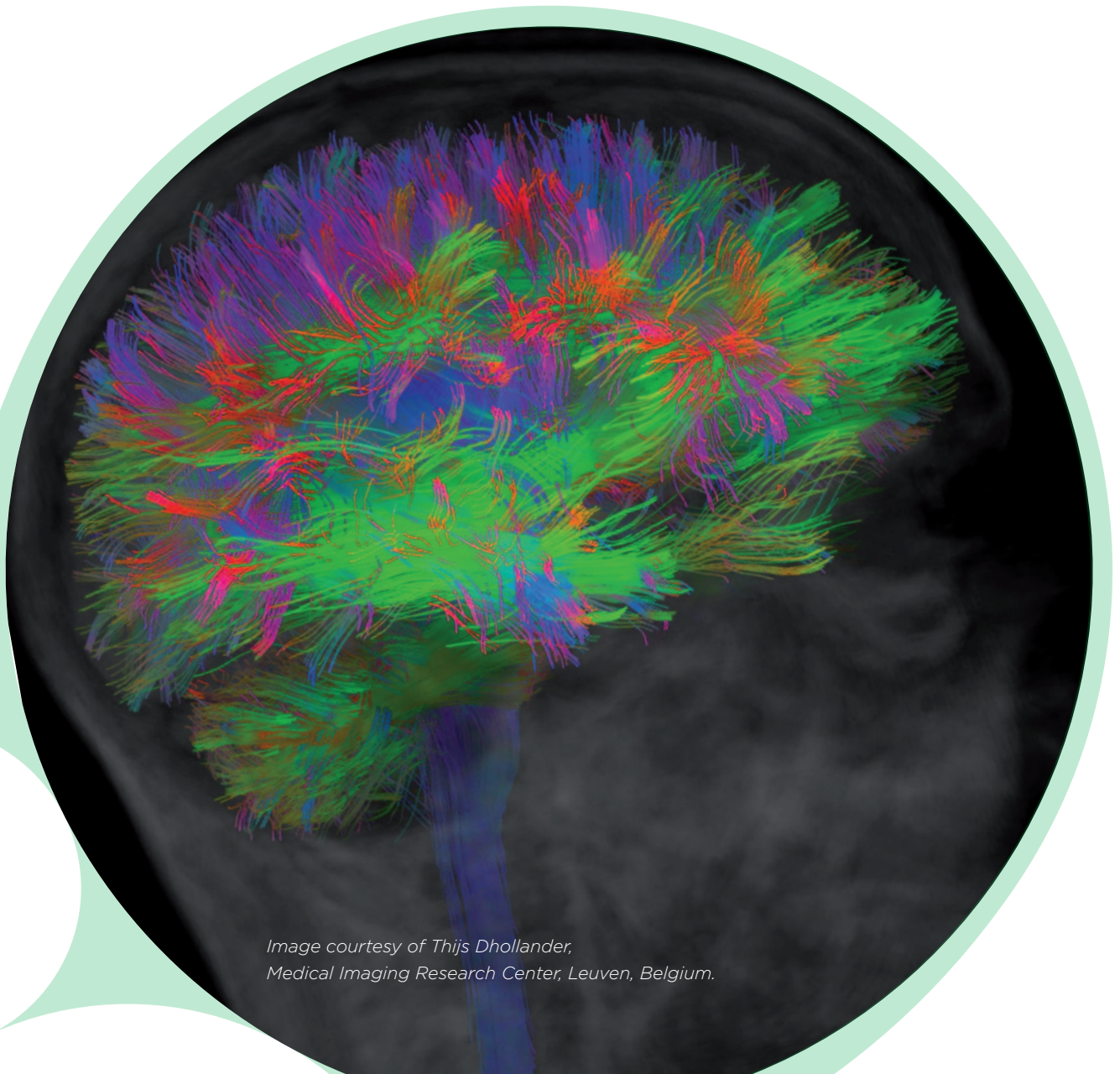
Project management services include:

- Coordinating reporting process
- Contractual management
- Financial management
- Day-to-day administrative tasks

Additionally, EIBIR can assume responsibility for dissemination and exploitation.

We are aware you already have many demands on your time. By assuming the responsibility of coordinating the proposal and report writing and day-to-day management, we relieve you of many time consuming administrative tasks, allowing you to focus on your research. You can trust us to know when we can make minor changes without having to trouble you, but also to know when changes require your consultation.

For the first calls under Horizon 2020 in 2014, EIBIR was involved in 22 proposals (coordinating partner in 15 proposals). In these proposals, EIBIR has collaborated with 155 different partners, including 23 SMEs, from 20 European and 2 North American countries.



*Image courtesy of Thijs Dhollander,
Medical Imaging Research Center, Leuven, Belgium.*

EIBIR Team

Under Managing Director Peter Baierl, the EIBIR office in Vienna is a team of 5 professionals with extensive knowledge about the field of biomedical imaging research funding and significant experience in the requirements and expectations for European Commission projects.



Monika Hierath

Monika holds a master's degree in interpreting for English and French and has additional training in business administration. She acts as EIBIR's Executive Manager and has 9 years of experience in coordinating and managing international projects and recruiting centres for consortia of excellence (FP6, FP7, COST, EC Tender Projects). She is in charge of running the EIBIR head office in Vienna.

She has contributed to the establishment of EIBIR and coordinated a pan-European data collection effort of biomedical imaging research expertise.

She enjoys working with EIBIR's motivated and resourceful team that jointly rises to the challenges of supporting Europe's biomedical imaging researchers. She finds the multi-disciplinary and multi-cultural setting of EIBIR's projects and services particularly enriching and enjoyable.

Since 2007, Monika has headed the European Society of Radiology (ESR) department of European and International Affairs. In addition, she acts as an international relations advisor to the International Society of Radiology (ISR) and co-manages the International Society for Strategic Studies in Radiology (IS3R) together with colleagues from the American College of Radiology, which has allowed her to build a considerable network of contacts to political stakeholders, related professional organisations, patient organisations, as well as medical industry at European and international level.



Pamela Zolda

Pamela studied Ecology in Vienna and, after completing her PhD, worked as Assistant Professor at the University of Vienna. At the university, she managed scientific projects on a national and international level and was also involved in student education. In June 2009, she joined the EIBIR team and has since acted as European research and project manager in the science, imaging

infrastructure and training management domains. Since 2009, Pamela has supported the preparation of several European projects that were successful under the 7th Framework of the European Commission.

In the preparatory phase of the ESFRI project Euro-Biolmaging (European Research Infrastructure for Imaging Technologies in Biological and Biomedical Imaging) Pamela was in charge of coordination, management, networking and communication activities and currently supports the Euro-Biolmaging Interim Board in the implementation of the infrastructure. Pamela also acts as the RAMIRI (Realizing and Managing International Research Infrastructures) training class representative and is responsible for sustaining the communication with the alumni network. In addition, she manages the MITIGATE consortium and acts as EIBIR's Steering Committee member of the VPH-PRISM project.



Alena Morrison

Alena was a project manager at EIBIR from 2012-2014. After completing a bachelor's degree in science and political science and a master's degree in Healthcare Administration in Canada, she moved to Austria.

With previous experience in preparing and managing projects funded under the Framework Programme 7, Alena's motivation to work at EIBIR was to further develop her capacity as a project manager, while utilising her background expertise in the health/healthcare field, in an international environment with the top researchers in the field.

At EIBIR, Alena was project manager of the VPH-PRISM project, led EIBIR's contribution to VPH-DARE@IT as well as coordinated the industry-sponsored MIPA study. She enjoyed the opportunity to work with EIBIR's collaborators, supporting the development and realisation of their research ideas in diverse and multidisciplinary environments. She would like to thank both her colleagues in the Vienna office, and EIBIR collaborators for the honour of being able to work in such a dedicated and professional team.



Peter Gordebeke

Peter is a project manager at EIBIR, mainly focusing on the Horizon 2020 framework.

He holds a master's degree in Medical Biology from the Radboud University Nijmegen, Netherlands. During his education, internships, and in his work at the Max F. Perutz Laboratories in Vienna, Austria, he focused on the molecular biology and biochemistry of RNA-related mechanisms and diseases.

After academia, Peter switched to molecular-biological plasma analytics in the pharmaceutical industry. Here, he was also involved in shaping and validating the transition from a manual to a fully automated analysis process.

Peter's main motivation to work for EIBIR is the ability to be at the forefront of cutting-edge, biomedical imaging research and work closely together with the top researchers in the field in an international, collaborative environment. He enjoys collaborating with scientists on interdisciplinary projects and translating their ideas into the best possible proposals and projects.



Katharina Krischak

Katharina joined the EIBIR Team as a team assistant in August 2014. In her role, she supports the team in all organisational and administrative matters. Katharina studied English, German Philology and Celtic Studies at the University of Vienna, where she is currently pursuing a PhD in English and American Studies.

She gained first work experience at the European Commission in Brussels and at the Council of Europe in Strasbourg, and was involved in a linguistic research project at the University of Vienna.

With a strong passion for research, Katharina finds working for EIBIR to be both exciting and rewarding. She takes delight in providing EIBIR members with the best possible environment for excellence in science and enjoys collaborating with scientists on an international level.

EIBIR Projects

As part of its long-term scientific strategy, EIBIR facilitates international state-of-the-art research in biomedical imaging across disciplines. In addition to the commitment EIBIR dedicated to preparing proposals under the first calls of **Horizon 2020** in 2014, work continued on three European Union funded collaborative projects, **VPH-PRISM**, **VPH-DARE@IT** and **MITIGATE**. **Euro-Biolmaging** has entered the transition phase, bridging the Preparatory and Construction Phases. The industry sponsored MIPA study continues to collect patient data on pre-operative breast MRI while both COST Actions continue to enhance the networking activities in their fields.



Euro-Biolmaging - Research infrastructure for imaging technologies in biological and biomedical sciences

Signature of Memorandum of Understanding and launch of Interim Board

On March 31, 2014 twelve interested European Member States and one intergovernmental organisation enacted the Euro-Biolmaging Interim Board by signing a Memorandum of Understanding (MoU) - thereby stating their intent to take the necessary steps towards the construction and operation of Euro-Biolmaging. The Board has elected Rowan McKibbin (Head of Strategy for Genomics, Data and Technologies, BBSRC, UK) as its chair and Marcin Ciuk (Head of the Neurobiology Centre, Nencki Institute of the Polish Academy of Science, PL) as the vice-chair. Interim Board members acknowledged EIBIR's work and experience gained through the Preparatory Phase Project by electing representatives to further support the work of the board in the forthcoming year.

MoU signed between National Imaging Facility, Australia and Euro-Biolmaging, advancing imaging science

On the 8 of May 2014, Euro-Biolmaging and the National Imaging Facility, Australia jointly signed a Memorandum of Understanding that recognises the desire of both research infrastructures to enter a mutually beneficial alliance in supporting the advancement of scientific research. Oliver Speck and Pamela Zolda (EIBIR) attended the event on behalf of the Euro-Biolmaging Preparatory Phase consortium.

As formal dignitaries for the establishment of this collaboration, Ms Nicola Gordon-Smith, Deputy Head of Mission, Australian Embassy to Belgium and Luxembourg and Mission to the European Union and NATO, and Dr Octavi Quintana-Trias, Principal Adviser, Directorate-General for Research and Innovation, were present at the signing ceremony.

The signing ceremony of this Memorandum of Understanding was held at the Australian Embassy, as part of the 'Connecting Global Research Infrastructure - European Union-Australia Healthy Aging Workshop'. The workshop aimed at maintaining continued dialog between large scale research infrastructures in both Australia and Europe, focusing on scientific management, training of expertise, and access and preservation of large and complex data.

Next Steps

Having agreed on an ERIC (European Research Infrastructure Consortium) to become the legal framework for Euro-Biolmaging, the Interim Board will now work towards its establishment, as well as towards the identification of the hub hosting country and the establishment of the first set of Euro-Biolmaging Nodes.

Visit the project website (www.eurobioimaging.eu) for more information.

Title:

Euro-Biolmaging: European Research Infrastructure for Imaging Technologies in Biological and Biomedical Sciences

Funding Source:

European Union FP7

Funding level:

€5 198 244.00

Current Status:

Interim Phase (Preparatory Phase: December 2010 - May 2014)

Website:

www.eurobioimaging.eu

Consortium:

- » European Molecular Biology Laboratory, DE
- » EIBIR, AT
- » Abo Akademi, FI
- » Aarhus Universitetshospital, Skejby, DK
- » Biotechnology and Biological Sciences Research Council, UK
- » Agència d'Informació, Avaluació i Qualitat en Salut, ES
- » Commissariat à l'Energie Atomique, FR
- » Consiglio nazionale delle Ricerche, IT
- » Centre National de la Recherche Scientifique, FR
- » Fundació Privada Centre de Regulació Genòmica, ES
- » Deutsche Forschungsgemeinschaft, DE
- » Erasmus Universitair Medisch Centrum Rotterdam, NL
- » European Organisation for Research and Treatment of Cancer, BE
- » Ecole Polytechnique Fédérale de Lausanne, CH
- » Eidgenössische Technische Hochschule Zürich, CH
- » Fundació Privada Clínic per a la Recerca Biomèdica, ES
- » Novartis Forschungsförderung, Zweigniederlassung Friedrich Miescher Institute for Biomedical Research, CH
- » Fraunhofer-Gesellschaft zur Förderung der Angewandten Forschung, DE
- » Hermann von Helmholtz-Gemeinschaft Deutscher Forschungszentren, DE
- » Instituto Europeo di Oncologia, IT
- » Institute of Molecular Genetics- Academy of Sciences of the Czech Republic, CZ
- » Imperial College of Science, Technology and Medicine, UK
- » Institut National de Recherche en Informatique et en Automatique, FR
- » Institut National de la Santé et de la Recherche Médicale, FR
- » Ludwig Maximilians-Universität München, DE
- » Max Planck Gesellschaft zur Förderung der Wissenschaften, DE
- » Instytut Biologii Doświadczalnej im. M. Nenckiego Polskiej Akademii Nauk, PL
- » Nederlandse Organisatie voor Wetenschappelijk Onderzoek, NL
- » Otto-Von-Guericke-Universität Magdeburg, DE
- » Ruprecht-Karls Universität Heidelberg, DE
- » Universitätsklinikum Freiburg, DE
- » Universitair Medisch Centrum Utrecht, NL
- » Università degli Studi di Torino, IT
- » University of Dundee, UK
- » Universitat Pompeu Fabra, ES
- » Uppsala Universitet, SE
- » Weizmann Institute of Science, IL
- » Westfälische Wilhelms-Universität Münster, DE
- » The Netherlands Organisation of Health Research and Development, NL



Colleen Bailey

Organisation: University College

London

Country: United Kingdom



Virtual Physiological Human: Personalised Predictive Breast Cancer Therapy Through Integrated Tissue Micro-Structure Modeling (VPH-PRISM)

Researchers in the VPH-PRISM project are developing new procedures to improve treatment of breast cancer using multidisciplinary image data. Eight research partners, coordinated by EIBIR, are developing novel software systems that intelligently connect medical data sets to allow innovative assistive functions. The researchers plan to combine image data generated by various diagnostic procedures (X-ray, MRI, tissue histology) for display in a single software application. Additionally, a database to connect images with other relevant information, such as a patient's risk of hereditary disease and environmental factors is anticipated. Having successfully completed the first year project review by independent evaluators, year two moved forward with data collection and database planning. The overall project goal is improved breast cancer therapy selection and outcome prediction, as well as surgery planning.

Two young researchers contributing to the VPH-PRISM project, Colleen Baily and Babak Ehteshami Bejnordi, discuss their involvement with the project and how it has impacted their professional development.

Colleen, what is the specific focus of your research and how does it contribute to the overall goal of the VPH-PRISM project?

I am working to develop a model of breast tissue that characterises the diffusion signal from MRI. We know that cell size, cell density and the microvasculature will produce changes in water diffusion that will be reflected in the intensities we see in our images, but the way we do diffusion MRI now doesn't allow us to figure out how much each component contributes. The idea of my work is to acquire more detailed diffusion images and fit a model of the tissue estimates of these microstructural features. These will be part of all of the imaging, pathological and patient information we will be exploring in VPH-PRISM as ways to guide treatment decisions.

Once the analysis is complete, we should know a lot more about what diffusion is capable of telling us and what it isn't. Then we can go back and design better, shorter diffusion protocols that can be applied more widely.

How have you benefitted by becoming part of the VPH-PRISM consortium?

It has been really useful to have such great access to the radiologists and pathologists. Having worked more on the basic science side before, I didn't have much knowledge about the way that patients are screened, diagnosed or treated. VPH-PRISM has given me the opportunity to better understand how clinicians actually use the MRI data as a part of all the rest of the data to decide how to treat patients.

What aspects of the project have you enjoyed the most?

I have enjoyed looking at the data as it has been coming in. To answer the questions we have posed, we need more detailed diffusion MRI than what is done clinically and that means scanning patients for a long time, so this sort of data is rare and requires clinical partners who are committed to getting patients comfortable in the scanner.

Title:

Virtual Physiological Human: Personalised Predictive Breast Cancer Therapy Through Integrated Tissue Micro-Structure Modeling

Funding Source:

European Union FP7

Funding Level:

€3 720 000.00

Current Status:

Active (March 2013-2016)

Website:

www.vph-prism.eu

Consortium:

- » EIBIR, AT
- » Fraunhofer MEVIS, DE
- » Radboud University Medical Centre, NL
- » University College London, UK
- » Philips Technologie GmbH, DE
- » The University of Chicago, US
- » University of Dundee, UK
- » Medizinische Universität Wien, AT
- » Boca Raton Regional Hospital, INC., US

Babak, what is the specific focus of your research, and how does it contribute to the overall goal of the VPH-PRISM project?

One of the main scientific objectives of the VPH-PRISM consortium is integration of radiology and histopathology for better phenotyping of breast cancer. The specific focus of my research is development of image analysis techniques to detect and characterise breast cancer in whole slide histopathology images of breast tissue. We will design histopathology image analysis tools that enable assessment of tumour aggressiveness and prediction of potential patient outcomes. Ultimately, combining our local findings in digital pathology into regional characterisations provided by radiology will contribute to better understanding of the underlying tissue characteristics in radiological imaging. This, in turn, has a strong impact on improved breast cancer phenotyping.

So far we had two important scientific contributions to the project. The first was development of a whole slide image standardisation algorithm which significantly reduces the staining variations in histopathological images. Our second contribution was development of a technique to automatically detect and segment potential regions of interest in breast tissue.

How have you benefited by becoming a part of the VPH-PRISM consortium?

The VPH-PRISM project is ambitious and challenging, but it has a great potential to improve breast cancer treatment outcomes. Scientific partners of the project have a continuing deep commitment to collaborative research and development to fulfil this goal. Participating in VPH-PRISM project has given me a unique opportunity to collaborate with several scientific partners who are at the forefront of research in the breast imaging field. In addition, involvement in this project has given me a deeper insight into the field of medical imaging and breast cancer research.

Has the project impacted your future career?

The experience of working in a multidisciplinary research project has provided me with unique opportunities for scientific cooperation and advancing my knowledge in the field. I believe my involvement in the VPH-PRISM project was a contributing factor in helping me decide that I want to be a research scientist.



Babak Ehteshami Bejnordi

Organisation: Radboud University

Medical Centre

Country: Netherlands

Closed-loop Molecular Environment for Minimally Invasive Treatment of Patients with Metastatic Gastrointestinal Stromal Tumours (MITIGATE)

Gastrointestinal stromal tumour (GIST) is a rare disease frequently affecting young patients and often resulting in a short life expectancy (<3 years). Currently, there is only one class of effective medications, but often tumours develop drug resistance after a few years.

MITIGATE's overall objective is to develop and validate an integrated closed-loop process for effective treatment of metastatic GIST patients resistant to the currently available class of medication, the Tyrosine Kinase Inhibitor.

This envisaged personalised treatment concept combines innovative strategies for biopsy, tissue analysis, molecular tumour characterisation, novel markers for drug-resistance, theranostics by imaging technologies (PET and MRI) and companion radiopharmaceuticals and measurement of therapeutic effectiveness.

The project is currently in its second year and during the first year several achievements have been made:

- An endoscopic biopsy system, with innovative cutting and transport mechanisms, was developed during the first project year. Mass spectrometry of biopsies of imatinib-responsive and non-responsive cells revealed that these can be distinguished and that these are distinct from other types of cancer.
- The synthesis and first in vitro evaluations of precursor tracers targeting GIST are also in progress; a novel procedure for radio-labelling of peptides with high affinity for somatostatine and bombesin receptors was developed.

This strategy was already applied to the peptides DOTA-TATE and an antagonist of bombesin receptors. The procedure obtained good results in terms of yield and purity and meets the European Pharmacopoeia criteria.

- MRI protocols for tumour micro-environment characterisation have been established. ²³Na/¹H dual-tuned abdominal coils were developed and optimised. Using these protocols, dedicated blood-pool contrast agents for MR imaging were tested in mice.

In September 2014, a joint scientific symposium on "Advances in Theranostics of Rare Cancer" was held at the Medical University Innsbruck to inform MITIGATE stakeholders about current state-of-the-art treatment options in neuroendocrine tumours, explain fundamental principles for targeted molecular imaging, detail the mechanisms of resistance in GIST as well as show the value of multimodal treatment in oligometastatic disease.

A clinical trial in patients with drug-resistant GIST tumours is being prepared, which will take advantage of the aforementioned achievements. The trial will provide data on GIST tumour visualisation, characterisation and dosimetry of novel radiopharmaceuticals.

Prof. Dr. Carsten Hopf from Mannheim University of Applied Sciences (MUAS), DE, is one of the scientists involved in MITIGATE. He is part of Work Package 3, which, in general, deals with the biopsy of GIST, as well as the preparation and molecular analysis of tumour cells.

Title:

Closed-loop Molecular Environment for Minimally Invasive Treatment of Patients with Metastatic Gastrointestinal Stromal Tumours

Funding Source:

European Union FP7

Funding Level:

€4 494 253.00

Current Status:

Active (October 2013-2016)

Website:

www.mitigate-project.eu

Consortium:

- » Ruprecht-Karls-Universität Heidelberg, DE
- » EIBIR, AT
- » Medizinische Universität Innsbruck, AT
- » Università Degli Studi di Torino, IT
- » Fraunhofer Gesellschaft zur Förderung der Angewandten Forschung E.V, DE
- » Cage Chemicals SRL, IT
- » Advanced Accelerator Applications, FR
- » Rapid Biomedical GmbH, DE
- » Stemcell Technologies SARL, FR
- » Hochschule Mannheim, DE

Prof. Hopf discusses his involvement in and experiences with the MITIGATE project:

What is your role in the MITIGATE project?

My team is responsible for IT-driven analysis of biopsies from GIST patients using mass spectrometry fingerprinting methods that we continue to develop. The underlying idea is that different subtypes of GIST, such as those that may respond to one endoradiotherapy but not another, can be classified and thus distinguished based on the pattern of biomolecules that they contain, which in turn can be assessed by mass spectrometry. Our goal is to deliver clinical applications of modern mass spectrometry imaging (MSI) and fingerprinting, but also a knowledge base and prediction models that should enable trustworthy recommendations of the best molecularly targeted therapy available for individual patients. Furthermore, my goal is to advocate MSI in the wider biomolecular imaging community, as MSI, despite the drawback of being an ex vivo method, can reveal molecular details that other methods cannot.

Could you describe the challenges you and the project will be facing next year?

The challenge for my team next year will be three-fold: First, we will work with the clinical partners to secure as many biopsies as possible to build a sensible knowledgebase. This requires that all samples be obtained and handled in a highly standardised fashion, in order to conserve the biomolecule patterns. Second, we need to fine-tune our MSI and fingerprinting methods and the classification algorithms we use, in order to derive better therapy prediction models.

Finally, we want to build a database that will facilitate data analysis as more and more biopsy samples are being analysed.

I have to say, that I am very impressed by how much added value for my team's work there has already been after such a short period of time, e.g. in a collaboration with the University of Torino. This clearly speaks for a good selection of partners for this consortium and excellent project management.

Based on your experiences with the MITIGATE consortium and EIBIR, would you consider taking part in an EU project in the future?

It is very exciting to work in this international and interdisciplinary consortium of excellent scientists, engineers and physicians. I firmly believe that "think big" tasks, such as the multidisciplinary tasks in this project, can only be successfully completed in a consortium like MITIGATE. I am thoroughly impressed by EIBIR's very high level of professionalism in project management. This will be key to our success since the EIBIR team not only has a firm grasp of the biomedical topic and imaging technology but also of all administrative EU requirements as well as everything else from website design, conference organisation to networking with patient interest groups. No doubt that I would be pleased to become part of another EIBIR-led EU project in the future.



Carsten Hopf

Organisation: Mannheim
University of Applied Sciences
Country: Germany



Virtual Physiological Human: DementiA Research Enabled by IT (VPH-DARE@IT)



Matthew Henry

Organisation: University of
Sheffield

Country: United Kingdom



Title:

Virtual Physiological Human:
DementiA Research Enabled
by IT

Funding Source:

European Union FP7

Funding Level:

€13 393 565.00

Current Status:

Active (April 2013-2017)

Website:

www.vph-dare.eu

Consortium:

- » University of Sheffield, UK
- » EIBIR, AT
- » University College London, UK
- » VTT Technical Research Centre, FI
- » Universitat Pompeu Fabra, ES
- » Engineering Systems International S.A., FR
- » ASD Advanced Simulation & Design GmbH, DE
- » empirica Gesellschaft für Kommunikations- und Technologieforschung GmbH, DE
- » University of Oslo, NO
- » Erasmus MC, NL
- » Hirslanden Klinik, CH
- » Philips Medical Systems BV, NL
- » ETH Zurich, CH
- » INSERM U773 Paris, FR
- » Philips Technologie GmbH Innovative Technologies, DE
- » Sheffield Teaching Hospital Trust, UK
- » University College London, UK
- » University of Eastern Finland, FI
- » University of Maastricht, NL
- » Tomorrow Options Microelectronics S.A., PT
- » Imperial College London, UK

VPH-DARE@IT aims to provide a systematic, multifactorial and multi-scale modelling approach to understanding dementia onset and progression. It will explore the lifestyle and environmental factors that predispose its development, and will deliver more objective and accurate differential diagnosis than what is available thus far in Europe, by shortening the current average 20-month time lapse between the onset of cognitive and memory deficits and its specific clinical diagnosis.

Dr. Matthew Henry took over as project manager for the VPH-DARE@IT project in July of 2014. As a relative newcomer to the project that started in April 2013, Dr. Henry shared his impressions and outlook for the next year.

How will patients benefit from the work done during VPH-DARE@IT?

The ultimate goal of VPH-DARE@IT is to be able to enable patients to receive a more accurate, differential diagnosis of dementia in an earlier disease stage. This will help individual patients to receive the best treatment, as their care can be personalised to the specific type of dementia and their needs. The work done in VPH-DARE@IT provides an intermediate step between treatment and research into the underlying causes of dementia and will provide a number of tools to help researchers access data and imaging more rapidly. The project will also support further research in other areas, such as neuroscience and psychology.

During the project's second year, what were the main scientific achievements?

The first year of the project involved a lot of initiation work – creating teams, establishing procedures and getting work started. In the second year, we are starting to see the different strands of work coming together and stronger links developed between the Work Packages. For instance, Work Package 7 *Biomedical research Platform for Disease Modelling and Model Personalisation* is becoming more integrated with Work Package 3 and Work Package 5, which are both focused on different aspects of modelling, as well as the Work Packages involved in more clinical work. Additionally, the research platforms created in Work Packages 7 and 8 are starting to take shape and the versions are in development.

What results are you most looking forward to in the next year?

From the scientific perspective, I am most looking forward to the initial version of the clinical platform, a software tool that can be used to support early differential diagnosis of dementias from a desktop computer. I am interested and curious about people's reactions to it when they realise the potential it offers and the power of what it provides.

Personally, as Project Manager I am simultaneously daunted by and eagerly anticipating the review in year 2! There is a lot of effort that goes into preparation for the review, but VPH-DARE@IT is doing great, ambitious science, and has a lot to be proud of and the review provides an opportunity to demonstrate everything we have achieved. However, my opinion might change if you ask me again closer to the review!

COST Action - Arterial Spin Labelling Initiative in Dementia (AID)

The COST Action AID project aims to coordinate the development of an alternative and cost-effective tool based on an MRI technique, Arterial Spin Labelling (ASL), to obtain reproducible brain perfusion measurements in dementia patients. In addition to two major meetings held this past year in Milan, IT, and Dubrovnik, HR, the group produced a white paper on "Recommended implementation of arterial spin-labelled perfusion MRI for clinical applications: A consensus of the ISMRM perfusion study group and the European consortium for ASL in dementia". Marion Smits, co-author on the paper, shares her experiences as a member of the Action.

Why were you interested in becoming a member of the COST Action?

I had been working with ASL in dementia for several years, but noticed that it had not really made its way into clinical practice. Clinical implementation of functional imaging techniques, such as ASL, is a key objective of my research line. My aims for becoming a member were therefore twofold: 1) Meet experts in this field to set up potential collaborations, and 2) Participate in efforts to implement ASL in clinical practice.

How are you involved in the Action?

I lectured at the ASL summer school for physicists (Toulouse 2013); I contributed to the white paper on the recommendations for implementing ASL in clinical practice; I share my knowledge and research activities with the COST members; I co-applied for a Horizon2020 grant; and finally I invited COST members to participate in a multicentre study on assessing the clinical value and utility of ASL in dementia, for which I am currently applying for funding.

What are the greatest benefits of being a member of the COST Action?

First of all, it is just really inspiring to interact with so many different experts in the field, both junior and more senior. I have massively expanded my professional network, which I think is ultimately beneficial both for my research and my clinical activities. Concretely, it has given me the opportunity to easily set up collaborations to apply for funding for a European study of ASL in dementia.



Marion Smits

Organisation: Erasmus MC
Country: Netherlands



COST Meeting Dubrovnik, HR - Photo courtesy of Marion Smits

Title:
Arterial Spin Labelling Initiative in Dementia (AID)

Funding Source:
COST Action

Current Status:
Active (2011 – 2015)



Silvio Aime

Organisation: Department of Chemistry and Molecular Imaging Center, University of Torino
Country: Italy



COST Action - Theranostics Imaging and Therapy: An Action to Develop Novel Nanosized Systems for Imaging-Guided Drug Delivery

The Annual Meeting of the COST Action TD1004 "Theranostics Imaging and Therapy: An Action to Develop Novel Nanosized Systems for Imaging-Guided Drug Delivery" was held in Istanbul, Turkey, from October 3-4, 2014.

In total, 113 participants attended the meeting. The scientific program of the meeting spanned two full days and included 1 invited lecture, 47 poster presentations and 41 oral presentations.

One of the main priorities of the COST Action TD1004 is the establishment of networks among the different research groups within each Working Group, and among the different Working Groups of the Action. Most of the work presented at this Annual Meeting is the result of collaborations which have been established among different teams and a large percentage of the collaborations have resulted from the Short-Term Scientific Mission which took place during 2013-2014.

The results from the research activities carried out in the COST Action TD1004 during this year are mostly focused on the design and testing of new carriers for the development of innovative "theranostic" agents. Both active and passive targeting procedures have been considered. The role of Imaging (PET/SPECT, MRI, Optical Imaging, etc) has been shown to play an outstanding tool in the elucidation of drug delivery and release.

Title:
Theranostics Imaging and Therapy: An Action to Develop Novel Nanosized Systems for Imaging-Guided Drug Delivery

Funding Source:
COST Action

Current Status:
Active (2011 - 2015)

Preoperative Breast MRI in Clinical Practice: Multicenter International Prospective Meta-Analysis of Individual Data (MIPA)

In order to address the uncertainty surrounding its use, the MIPA project, sponsored by Bayer, is conducting a systematic evaluation of preoperative breast MRI, examining individual patient data in a multicenter, international setting. EIBIR is delighted that Bayer has agreed to provide essential support for a study that will be crucial in increasing knowledge about the clinical use of contrast-enhanced breast MRI.

From the nearly 100 applicants across the world, 35 centres from Europe, America and Australia were chosen to participate. Since kicking off in March 2013, the centres have taken the necessary steps to begin collecting patient data and are at various stages of data collection. To date, almost 1800 patients have been enrolled in the study.

Dr. Giovanni di Leo, general coordinator of the MIPA study describes his role in the study and the results achieved so far.

What is your role in the MIPA project?

This huge project needed a person dedicated to the coordination and management of the different local regulations and clinical practices. I have been in charge of the coordination of the MIPA study thanks to Professor Francesco Sardanelli, the study's principal investigator and director of EuroAIM (see p. 21). Communication and information exchange were my main duties - achieving ethics committee approval and signature of the legal agreement with EIBIR required significant effort from both the steering committee and EIBIR staff. Additionally, in cooperation with the project's IT service provider, I have established a password-protected online database allowing to each local investigator to enter patient data.

Can you describe the project progress to date?

Almost all centres are actively enrolling patients and to date, almost 1800 patients have been enrolled. This means a huge amount of data is already available for analysis. A very preliminary part of these results will be presented at the ECR 2015.

Are there any interesting results available so far?

For sure, one of the most interesting results is that, after the opening of the call to participate in this study, we received 97 applications from all over the world. It means there are big expectations for this study. From these applications, we could really have a reliable depiction of breast MRI practice worldwide. For example, we noticed that 15/97 (16%) of applicants owned a 3.0-T unit and that the imaging protocol is mostly at the state-of-the art. Moreover, many of these centres have a large workflow, with more than 1000 patients per year.

What are the main challenges of organising a study such as this one?

The main challenge is the number and variety of the 30+ participating centres! If we consider that each centre has 2 - 4 local investigators and assistants, different regulations and laws, different languages.... In some cases we had to translate the study protocol and related documents into other languages, in other cases we had to communicate with the lawyers and so on...

Are there benefits that will be realised through this type of study that would not otherwise be possible?

The major benefit of this study is the results we will achieve, with input worldwide, with a minimum of funding. This study is sponsored with a grant that is relatively small for the study size. As a matter of fact, centres participate on a voluntarily basis with a quite symbolic reimbursement. Because this is an observational study, without randomisation, patient participation consists of giving permission to use her data for analysis, no additional examinations are required. Other than the reimbursement for centres, some "live costs" do exist (e.g. the development of the online database from a software house, registration of the study protocol, etc.) for third parties that necessarily require a formal sponsorship.



Giovanni di Leo

Organisation: IRCCS Policlinico
San Donato, Milan
Country: Italy

MIPA
Pre-op Breast MRI

EIBIR | EUROPEAN INSTITUTE
FOR BIOMEDICAL
IMAGING RESEARCH

EUSOBI 
european society of breast imaging

 **Bayer HealthCare**

Title:
Arterial Preoperative Breast
MRI in Clinical Practice:
Multicenter International
Prospective Meta-Analysis
(MIPA) of Individual Woman
Data

Funding Source:
Industry Sponsored (Bayer
healthcare-Medical Care-
Radiology and Interventional)

Current Status:
Active (Summer 2012 - 2017)

Joint Initiatives

EIBIR's seven joint initiatives represent interdisciplinary groups working towards a common bioimaging-focused research goal. Each initiative undertakes activities best suited to realising their individual objectives.

EIBIR is delighted to welcome the directors of two new Initiatives started in 2014: Karen Rosendahl from Haukeland University Hospital / University of Bergen (NO) became director of the Paediatric Radiology Joint Initiative while Vincenzo Valentini from Policlinico Universitario A. Gemelli / Università Cattolica S.Cuore (IT) assumed leadership of the Joint Initiative in Image Guided Radiotherapy. Reports about the initial activities undertaken in the first year complements updates from EIBIR's long-standing Joint Initiatives.



Silvio Aime
Director of the
Chemistry Platform

Chemistry Platform

At the basis of EIBIR's aims is the concept that the progress in medical imaging science relies on the constant scientific exchange among many disciplinary fields. Therefore EIBIR decided to support initiatives aimed at developing research projects in the field of chemistry for Imaging. One of these initiatives has led to the COST Action TD1004 on "Theranostics". The Action proceeds very well (113 participants at the Annual Workshop in Istanbul, 3-4 October, 2014) with an increasing number of inter-laboratory collaborations. Moreover the legacy of the EU ENCITE Project "European Network for Cell Imaging and Tracking Expertise" has led to the multi-sited cluster initiative for training in the field of visualisation of cell tracking and cell therapy. The links generated in EIBIR Chemistry Platform have been exploited to prepare dedicated sessions devoted to "Chemistry for Imaging" at the major European Chemistry Conference (EuChem 2014) as well as participation in multiple proposals submitted under the Horizon 2020 Framework Programme.

Biomedical Image Analysis Platform

The Biomedical Image Analysis platform fosters collaboration in the field of biomedical image analysis and image-guided interventions in Europe. The Biomedical Image Analysis Platform actively contributed to the ESFRI project Euro-BioImaging, which in 2014 concluded its preparatory phase. A main result of this preparatory phase was establishing a road map for image data storage and analysis to support biomedical imaging research in Europe. An important component of this roadmap is to establish an IT infrastructure to enable the standardised evaluation of image analysis algorithms. By establishing such an infrastructure, the platform seeks to contribute to more standardisation, objective evaluation, and improved accessibility of evaluated and standardised image analysis tools for researchers within Europe. This should lead to the development of new quantitative imaging biomarkers to be used in biomedical research, clinical research, and clinical practice.

Currently, two European projects are running, with EIBIR involved in management and/or dissemination. VPH-PRISM (see p. 12-13) concerns improved breast cancer diagnostics, and VPH-DARE@IT (see p. 16) aims to develop methods for early and differential diagnosis and management of dementia. EIBIR is actively supporting new research projects in the field of medical image analysis and imaging biomarker development, and in Horizon 2020 was involved in a number of new project proposals.



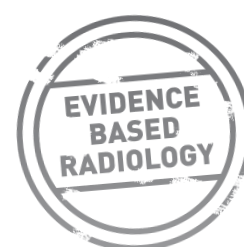
Wiro Niessen
*Director of the Biomedical
Image Analysis Platform*

European Network for the Assessment of Imaging in Medicine (EuroAIM)

In 2014, EuroAIM published a systematic review evaluating the role of radiologists and nuclear physicians (imaging specialists) as authors of systematic reviews and meta-analyses on diagnostic and interventional imaging procedures published from 2001 to 2010. This study showed that only 38% of such systematic reviews included imaging specialists in the authorship. Importantly, a significant reduction in scientific quality of papers (as per the AMSTAR checklist) when imaging specialists were not included among authors was revealed [Radiology 2014;272(2):533-40]. EuroAIM is now discussing the need for analysis of the quality of guidelines on imaging. Questions will be posed to subspecialty societies about identification of clinically relevant topics on which multiple guidelines have been published that differ in key recommendations. The quality of different existing guidelines on the same topic will be quantified according to standardised methods, also considering the medical or institutional bodies issuing each guideline and whether imaging specialists were included on the panel or not. The impact on Radiology practice will also be evaluated. Potential effects of this work are the adoption of already existing high-quality evidence-based guidelines, proposals for their modifications, or drawing up new guidelines.



Francesco Sardanelli
Director of EuroAIM





Nandita deSouza
*Director of the Cancer
Imaging Working Group*

Cancer Imaging Working Group

Over the last year, the Cancer Initiative has focused on forging networks to apply for funding through the EU Horizon 2020 programme. Two calls of interest were identified and a strategic alliance formed with the EORTC to prepare applications, with each organisation leading one proposal and contributing to the other. The EIBIR led application, with Scientific Coordinator Laure Fournier (FR), was submitted to PHC-3 Understanding common mechanisms of diseases and their relevance in co-morbidities. The EORTC led application under PHC-11 Development of new diagnostic tools and technologies: in vivo medical imaging technologies was coordinated scientifically by Nandita deSouza (UK). Initiative members actively participated in both proposals, representing a number of European countries including BE, DE, ES, FR, IL, IT, NL, and UK.

Having formed these key liaisons, positively evaluated proposals will focus our joint efforts in the next years on delivering the science outlined. If unsuccessful, we will identify new appropriate funding streams.



Michal Neeman
*Director of the Cell
Imaging Network*

Cell Imaging Network

Over the last year significant progress was made in the development of alternative multimodal tools for cellular imaging. These include nanoparticle and small molecule probes for cell labelling. Notable progress includes innovative gold particles and fluorine based markers for optical, CT and MRI respectively. Further progress included novel reporter genes. Steps made towards clinical translation are encouraging. In view of the significant potential of cellular imaging in providing unique information, not accessible by anatomical or functional imaging, the EIBIR Cell Imaging Network hopes to raise funding for development of this field within Horizon 2020.

Paediatric Radiology

A multinational project on Juvenile Idiopathic Arthritis (JIA), the Euro-Im-JIA, was launched during 2013/14. The study addresses the current lack of imaging markers for JIA through developing precise and valid, child-specific imaging biomarkers and scoring systems to allow for evidence-based clinical practice as well as for robust drug trials. The project is founded on collaborative work between several, already established, research groups across Europe, including highly experienced and well-known paediatric rheumatologists, radiologists, dentists, oral surgeons as well as medical physicists and mathematicians. Part of the project has already been funded, and enrolment of patients for the sub-study on the temporomandibular joints will start during December 2014. A component of the project was also submitted under the Horizon 2020 PHC-18 call Establishing effectiveness of health care interventions in the paediatric population. Group members met in Amsterdam during November 2013 and 2014 to discuss issues on a MR-scoring system for active wrist-arthritis, and a meeting on hip-involvement in JIA is planned during spring 2015.

Further, the initiative on Paediatric Radiology is involved in a second Horizon 2020 proposal termed “A holistic approach to evidence-based effective paediatric imaging, HAPI-EFFECT”, coordinated by EIBIR, aiming at examining the effectiveness, efficacy and safety of paediatric imaging at three junctures: referral, examination and examination reporting.

Image Guided Radiotherapy

In 2014, the Image Guided Radiotherapy Joint Initiative created a cohesive group representing all the professionals involved in the delivery of radiation oncology: physicists, radiotherapists, radiobiologists, radiation oncologists.

The group deepened its knowledge of EIBIR and its modus operandi, investigating the possible areas of research where the collaboration between radiation oncology and radiology is imperative.

Keeping in mind the areas the initiative wanted to focus on initially – targeting, delivering, monitoring – the Image Guided Radiotherapy Joint Initiative wants to be the promoter and facilitator of research proposals connecting radiation oncology and radiology. In addition to the role of research promoter, communication and orientation of decision makers needs to be paramount.

Prof. Valentini, chair of the joint initiative, notes that “investigation on imaging will be crucial for improving tumour control”.



Karen Rosendahl
*Director of the Paediatric
Radiology Platform*



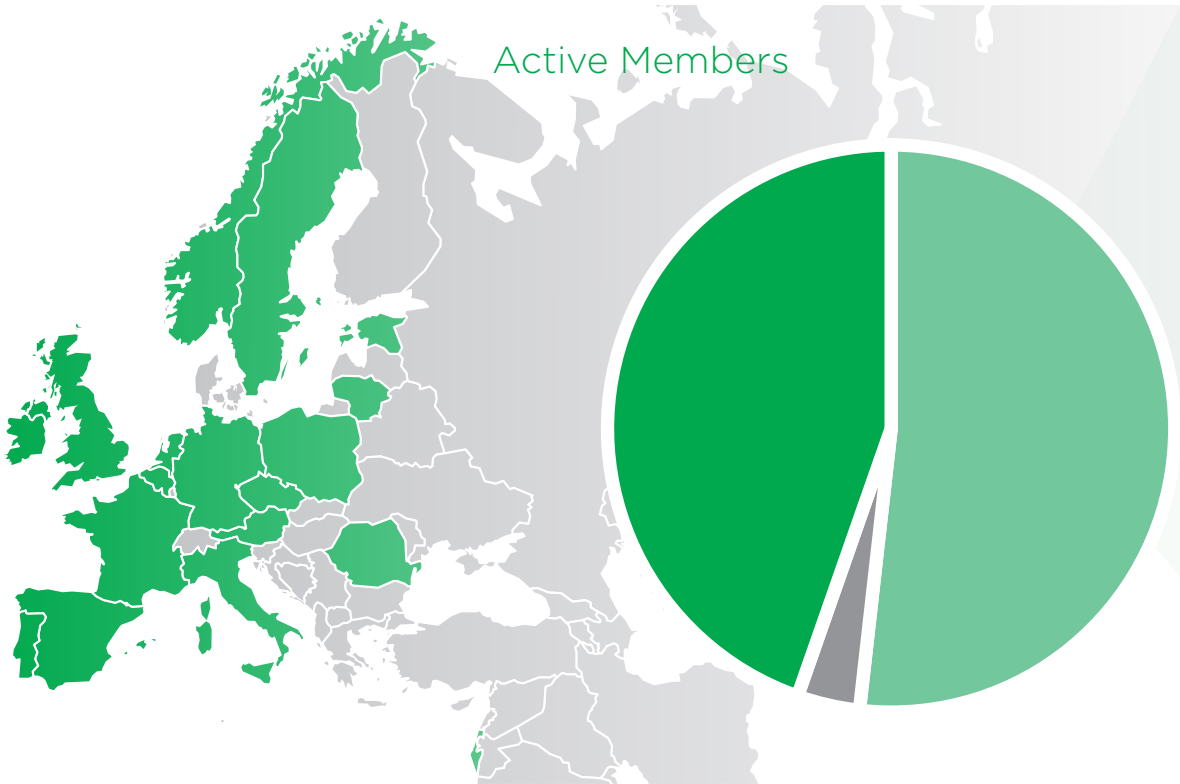
Vincenzo Valentini
*Director of the Image Guided
Radiotherapy Platform*

EIBIR Network Members

Open to all disciplines with an interest in biomedical imaging, the EIBIR Network has established itself as a vital link for the participating organisations.

The 168 Network Members represent a variety of different imaging focuses and more than 110 institutions in 23 countries within Europe. Members are classified as active, regular and associate, depending on the level of EIBIR service required and the type of membership package enrolled in.

The Network is built upon the strength of its members and EIBIR would like to thank all those organisations and individuals who have recognised the importance of becoming involved.



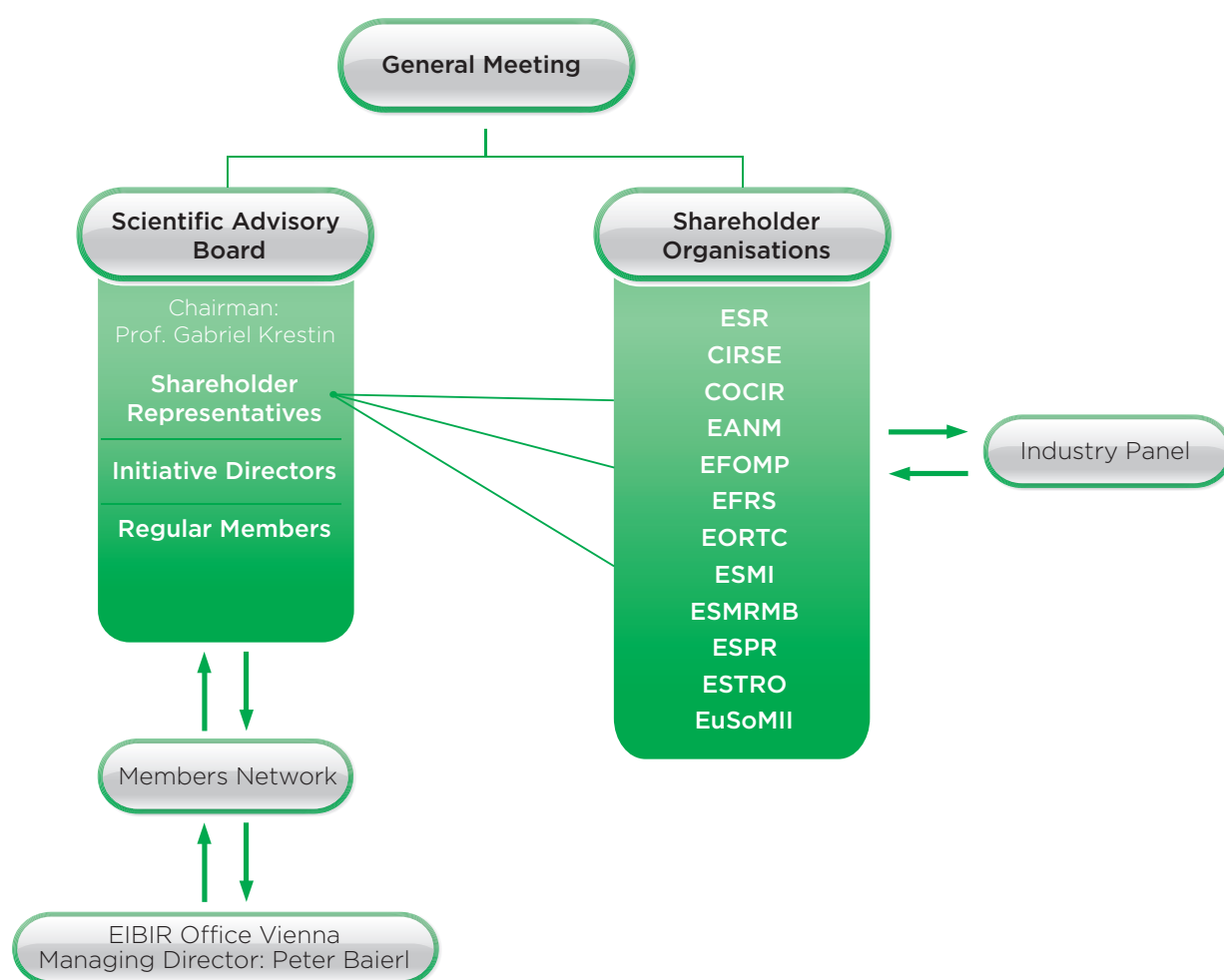
EIBIR Network Members as per December 31, 2014

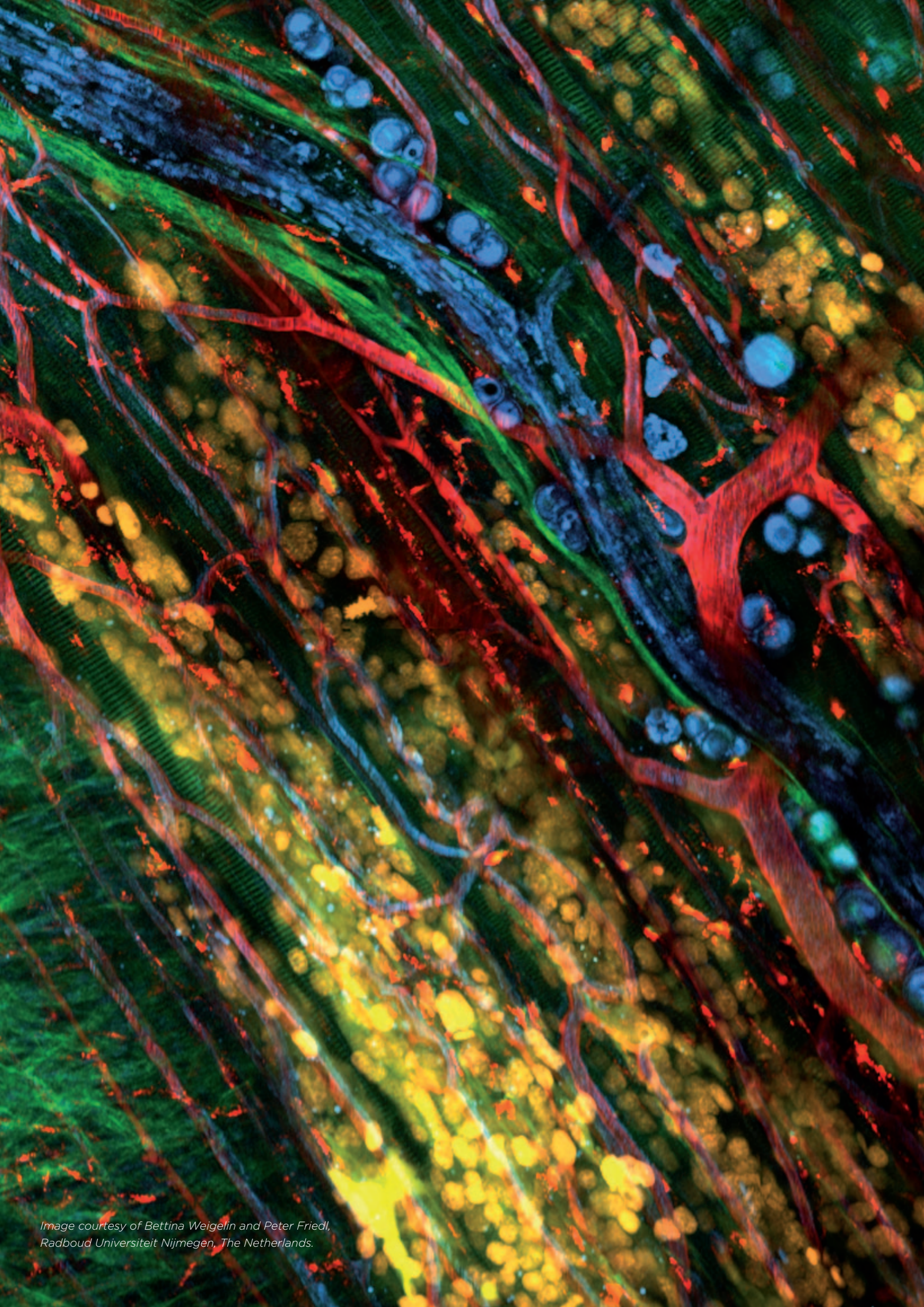
Category of service package	including related departments
Active Service Package	75
Regular Service Package	87
Associate Service Package	6
TOTAL	168

EIBIR Decision Making and Guidance

Combining the expertise of the Scientific Advisory Board, advice from the multi-disciplinary shareholder groups, input from the European Society of Radiology Research Committee and recommendations from the Industry Panel, EIBIR benefits from the guidance and support of a multi-faceted organisational structure that ensures EIBIR and biomedical imaging are at the forefront of research activities in Europe.

Organisational chart 2014





*Image courtesy of Bettina Weigelin and Peter Friedl,
Radboud Universiteit Nijmegen, The Netherlands.*

Scientific Advisory Board

The heart of EIBIR is the Scientific Advisory Board, led by Gabriel Krestin, which guides the long-term scientific strategies of the organisation, decides on the implementation of specific activities and provides advice to members about their research ideas.

Chairman



Gabriel Krestin / NL

Gabriel P. Krestin is Full Professor of Radiology and Chairman of the Department of Radiology at Erasmus MC, University Medical Center Rotterdam, the Netherlands. His main areas of research are: imaging of abdominal organs and of cardio-vascular diseases, molecular imaging and population imaging. His research is supported by numerous grants from European and national research organizations, charities and industry. He is a member of the recently established Scientific Panel for Health of the European Commission and member of the scientific advisory boards of Erasmus MC, Technion University and the LMU in Munich.

Shareholder Representatives



Hans-Ulrich Kauczor (ESR) / DE

Hans-Ulrich Kauczor is Full Professor and Chairman of Radiology at the University of Heidelberg and acts as the Medical Director of the Department of Diagnostic and Interventional Radiology. The main focus of his scientific work is on the field of CT & MRI of the "Chest" and "Oncology" with special interest in functional imaging, imaging biomarker, quantitative analysis and computer-assisted detection and diagnosis.



Philippe Pereira (CIRSE) / DE

Philippe L. Pereira has been Professor of Radiology and has acted as Chairman of the Department of Radiology, Minimally-Invasive Therapies and Nuclear Medicine of the SLK-Clinics, an Academic Hospital of the University of Heidelberg, since 1 October 2008. Professor Pereira is senior consultant for Medicine Products and Technologies, has experience with clinical trials, and is MPG and GCP certified. He is a consultant and advisory board member of several industrial partners and societies in the fields of interventional oncology and magnetic resonance guided interventions.

Shareholder Representatives



Casper Garos (COCIR) / NL

Casper Garos is Senior Director External Partnerships at Philips Healthcare. In this position, he is responsible for public-private partnerships for the various businesses of Philips Healthcare, with a focus on enabling new innovations, collaborations and networks. At present, Philips Healthcare cooperates with more than 200 partners in the R&D area. Casper Garos studied at the University of Leiden, Netherlands and Dalhousie University, Canada, and holds a MA in law/international economics. In 1986, he joined Royal Philips as trade policy expert. He then fulfilled global leadership functions in product management at Philips' Components and Lighting divisions, both the Netherlands and the USA.



Kristoff Muylle (EANM) / BE

Dr. Kristoff Muylle graduated from the Free University Brussels (VUB) in 1999 (Medicine) and as Nuclear medicine physician in 2004. He is Senior Staff Member of the Department of Nuclear Medicine at the Jules Bordet Institute in Brussels and Head of Department of Nuclear Medicine at Sint-Jan Brugge-Oostende AV, Campus Henri Serruys in Ostend.

Dr. Muylle is President Elect (2015-2016) of the European Association of Nuclear Medicine (EANM) and President of the Belgian Society of Nuclear Medicine (Belnuc). His fields of expertise and research interest are nuclear medicine applications in hemato-oncology, in particular FDG-PET, immuno-PET and radioimmunotherapy.



Stephen Evans (EFOMP) / UK

Stephen Evans is an Officer of the European Federation of Organisations for Medical Physics (EFOMP) and current Projects Committee chair. He is a certified Radiation Protection Adviser (RPA) and an RPA assessor for RPA2000. Previous professional activities include: committee member of the Society for Radiological Protection (SRP) and trustee and director of the Institute of Physics and Engineering in Medicine (IPEM). Stephen Evans has published scientific papers on x-ray digital imaging, small angle x-ray scattering and diffraction enhanced x-ray imaging and on various radiological protection matters and has published texts and reports on radiological protection and on the medical physics expert.


Graciano Paulo (EFRS) / PT

Prof. Graciano Paulo is Vice President of the Coimbra Health School (CHS) and Chair of the Scientific Board of Medical Imaging and Radiotherapy of CHS. Prof. Paulo's main research areas include radiation protection of patients and staff, optimisation of medical imaging procedures such as CR and DR systems with regard to adult and paediatric imaging, interventional imaging, and fluoroscopy-guided procedures. His other research interests include health management and the organisation of higher education systems.


Yan Liu (EORTC) / BE

Dr. Yan Liu graduated with an MD from the Shanghai Jiaotong University College of Medicine in China, specialising in Image Diagnosis, and obtained a doctor degree (PhD) in medical science at Université libre de Bruxelles. Dr. Liu joined EORTC in 2011 and was appointed Head of the Translational Research, Radiotherapy, and Imaging Department in 2012. Her responsibility is to integrate translational research and imaging more fluidly into EORTC clinical trials. Yan is a core member of the RECIST Committee and the project co-coordinator of the IMI QuIC-ConCePT. Her key research interest is imaging biomarker validation and qualification.


Fabian Kiessling (ESMI) / DE

Fabian Kiessling is leading the Institute for Experimental Molecular Imaging at the Helmholtz Institute for Biomedical Engineering of the RWTH-University in Aachen. The aim of his research is the development of novel diagnostic probes and imaging tools for a disease specific diagnosis and therapy monitoring. In this context, the main focus is on the elucidation of angiogenesis related processes, in particular in oncology. Another research focus is on the development and application of nanomedicines and nanotheranostics and the implementation of image-guided therapies. In this context, multimodal imaging is applied comprising (PET-) MRI, μ CT, optical imaging, ultrasound, photoacoustic imaging and magnetic particle imaging.


Elna-Marie Larsson (ESMRMB) / SE

Elna-Marie Larsson, MD, PhD, is professor of neuroradiology and staff neuroradiologist at Uppsala University/Uppsala University Hospital, Sweden. In addition, she is visiting professor at Linköping University, Sweden and past president of the European Society of Magnetic Resonance in Medicine and Biology (ESMRMB). Ongoing research is focused on advanced MR imaging of the brain with applications in dementia, brain tumours and other diseases. Her clinical activity includes CT and MRI of the brain, spine and ear, nose and throat (ENT).

Shareholder Representatives



Karen Rosendahl (ESPR) / NO

Cross appointed as director of the Paediatric Radiology Joint Initiative

Karen Rosendahl, MD, PhD has been a consultant paediatric radiologist since 1990, and professor at the University of Bergen since 2003. She has published widely on hip-dysplasia in newborns and infants and on Juvenile Idiopathic Arthritis. Her group is currently evaluating the genetic influence on expression of traits associated with hip-dysplasia together with associates in London, and potential scoring systems for active and chronic change in JIA. She chairs the ESPR task force group on musculoskeletal imaging and is co-president for IPR 2016 in Chicago.



Vincenzo Valentini (ESTRO) / IT

Cross appointed as director of the Image Guided Radiotherapy Joint Initiative

Vincenzo Valentini is Professor and Chairman of the Radiation Oncology Department at the Università Cattolica S.Cuore in Rome, Italy and Past-President of the European Society for Radiotherapy and Oncology. He is a strenuous supporter of the ESTRO vision: every cancer patient in Europe will have access to state of the art radiation therapy, as part of a multidisciplinary approach where treatment is individualised for the specific patient's cancer, taking account of the patient's personal circumstances. Prof. Valentini's main research interests include imaging techniques for the definition of target volume delineation guidelines, integration between radiotherapy and surgery in the pre-operative and intra-operative programs, integration between radiotherapy and chemotherapy, in GI, GU, Lung and H&N, and large data base data mining and Radiomics.



Emanuele Neri (EuSoMII) / IT

Emanuele Neri is Associate Professor of Radiology at Diagnostic and Interventional Radiology, Department of Traslational Research and New Technologies in Medicine and Surgery, University of Pisa, Italy. His fields of research includes imaging informatics, GI tract, cardiovascular and head and neck imaging as well as management in radiology. Prof. Neri is president of the European Society of Medical Imaging Informatics and the author of 5 books and more than 100 papers in the fields of imaging informatics, gastrointestinal, cardiovascular and head and neck imaging.

Joint Initiative Directors



Michal Neeman (Cell Imaging Network) / IL

Prof. Michal Neeman from the Weizmann Institute, serves as the Dean of the Faculty of Biology, Director of the Clore Center for Biological Physics and head of the Krentler Institute for Bioimaging & Genomics. Prof. Neeman's research focuses on elucidating the mechanisms that regulate angiogenesis, using magnetic resonance and optical imaging. She is particularly interested in ovarian cancer and has demonstrated that the hormonal changes that accompany menopause indirectly promote the growth of dormant tumors and the spread of ovarian cancer by inducing tumor angiogenesis. Her lab developed a method for tracking blood and lymphatic vessels.



Nandita deSouza (Cancer Imaging Group) / UK

Nandita M deSouza is Professor of Translational Imaging and Co-Director of the MRI Unit at The Institute of Cancer Research, UK. Her main research interests include oncological imaging with particular emphasis on gynaecological, prostate and breast tumours, using functional imaging techniques to understand biology, improve staging and monitor treatment response. Nandita deSouza holds a Cancer Research UK Imaging Centre grant in MRI as Co-Principal Investigator and has several project and studentship grants. She currently chairs the EORTC Imaging Group. Publications: ~130 peer-reviewed articles, several book chapters and editor of a multi-author book on Endocavitary MRI of the pelvis.



Wiro Niessen (Biomedical Image Analysis Platform) / NL

Wiro Niessen is Full Professor of Biomedical Image Analysis at Erasmus MC, Rotterdam where he leads the Biomedical Imaging Group Rotterdam (www.bigr.nl) and at Delft University of Technology. His research interest is in the development, validation and implementation of quantitative imaging biomarkers in clinical practice and biomedical research. Focus areas are neurodegenerative disease, atherosclerosis, and oncology. His research group is active in biological image analysis and improved image guidance in minimally invasive interventions. He is chief scientific officer of Quantib BV, which develops quantitative medical image analysis techniques to support diagnosis and therapy of neurological and cardiovascular diseases.

Joint Initiative Directors



Francesco Sardanelli (EuroAIM) / IT

Francesco Sardanelli is Professor at the University of Milan, Department of Radiology, IRCCS Policlinico San Donato, Milan Italy. His main areas of research include: Research methodology - application of evidence-based medicine to radiology; biostatistics for radiology, including methods for evaluating reproducibility of qualitative and quantitative imaging results. Gadolinium-based contrast materials for MR imaging - dose and protocol optimization. Breast imaging - Screening mammography, interval cancers and overdiagnosis; breast MR, including high-risk screening, diagnostic and preoperative imaging, proton MR spectroscopy. Cardiac MR - morphologic, functional, and contrast-enhanced studies as well as proton and phosphorus MR spectroscopy. Vascular CT and MR with special attention to plaque characterisation and unenhanced MR imaging.



Oliver Speck (Euro-Biolmaging) / DE

Prof. Speck is Director of the Dept. Biomedical Magnetic Resonance at the Otto von Guericke University in Magdeburg and affiliated with the Leibniz Institute for Neurobiology and the German Center for Neurodegenerative Disease (DZNE). Trained as a physicist with long-time experience in MRI, he is an expert in method development and research applications of MRI with particular interests in high-field MR, interventional MRI and fMRI.



Silvio Aime (Chemistry Platform) / IT

Silvio Aime is Professor of General and Inorganic Chemistry at the Department of Molecular Biotechnology and Health Sciences of the University of Torino, Italy, and has considerable experience in the field of probe chemistry. Historically, such experience was developed in the chemistry of paramagnetic ion chelates as relaxation enhancers and para-CEST agents for Magnetic Resonance Imaging. Since the very beginning of the molecular imaging era, his team has synthesized a number of responsive probes (for pH, temperature, biochemical microenvironment, enzymes or receptors) and probes for cellular imaging and cell tracking. More recently, nano-sized carriers have been also considered to exploit their therapeutic and active targeting capabilities and to proof concepts within unconventional imaging modalities (such as CEST-MRI), "theranostic" implementations and multi-modality imaging.

Karen Rosendahl (Paediatric Radiology)

Cross appointed as a Shareholder representative.

Vincenzo Valentini (Image Guided Radiotherapy)

Cross appointed as a Shareholder representative.

Regular Members



Hakan Ahlström / SE

Professor Håkan Ahlström is Chairman at the Department of Radiology, Oncology and Radiation Sciences at the University Hospital, Uppsala, Sweden. The overarching goal of his research has been to integrate MRI and PET in studies of metabolic, cardiovascular and oncological diseases. Professor Ahlström has been involved in developing in vivo imaging methods, both whole-body and local, to characterise and quantitate various parts of human metabolism such as adipose tissue distribution, brown adipose tissue, ectopic lipid levels, beta cell imaging techniques and in oncology for detection, staging and therapy. In parallel, Professor Ahlström has been involved in the development of Imiomics, a novel imaging concept for objective and automated analysis of whole body PET-MRI data which also allows statistical integration of non-imaging parameters.



Carlo Catalano / IT

Carlo Catalano is Full Professor and Chairman of the Department of Radiology at Policlinico Umberto I, Sapienza University of Rome, Italy. His main research interests include cardio-vascular imaging, abdominal imaging, oncology imaging, high field MR imaging, image guided therapy and MR guided focused US. A prolific author and researcher, Prof. Catalano has authored 6 books and over 200 publications. In addition to this, he has delivered more than 180 invited lectures at national and international conferences.



Michael Fuchsjäger / AT

Michael Fuchsjäger is Professor of Radiology and Division Head of General Radiology at the Medical University of Graz, Austria. His research is focused on breast imaging, cancer research and cardiac imaging. His main field of expertise is oncologic imaging. Current and past research activities focus on MRI of the breast including multiparametric imaging with diffusion, perfusion and spectroscopy, breast interventional imaging, breast molecular imaging as well as MRI and molecular imaging of the prostate. Michael Fuchsjäger is co-investigator of MIPA, a European multicentre trial on the value of preoperative MRI in breast cancer. Recent research activities in cardiac imaging are focused on emerging cardiac MRI techniques for morphological, functional, and metabolic evaluation of the heart as well as non-invasive in-vivo assessment of hemodynamic parameters by cardiac MRI velocity mapping (i.e. characterisation of pulmonary hypertension).

Regular Members



Vicky Goh / UK

Prof. Vicky Goh holds the post as the Chair of Clinical Cancer Imaging at King's College, London, UK. In her research, she focuses on multimodality functional imaging of colorectal, lung and renal cell cancer, multi-parametric, multi-modality imaging biomarker development and assessment of tumour heterogeneity, and the development of novel functional imaging methods to improve assessment of cancer. In addition, Prof. Goh is involved in various aspects of multicenter clinical trials such as provision of central imaging review, independent data monitoring and trial steering, and is Chief Investigator of PROSPeCT.



Xavier Golay /UK

Xavier Golay is a Professor of MR Neurophysics and Translational Neuroscience at the UCL Institute of Neurology in London, UK. His research interests lie at the intersection of many disciplines, such as NMR physics, chemistry, physiology and neuroscience. They include the development of MRI as a translational tool for neurological diseases, measuring identical image-based biomarkers from mouse to human, and from the laboratory to the clinical settings. As translation has many meanings, parts of Prof. Golay's most important research interests include the development of MRI techniques to be used as image-based outcome measures or biomarkers in the same way in animal model of diseases or in human patients.



Jürgen Hennig / DE

Prof. Dr. Jürgen Hennig is Co-chairman and scientific director of the Department of Radiology of the University Medical Center Freiburg. His group of 80+ scientists works on the development of new methods and technologies for magnetic resonance imaging and its application in preclinical and clinical research as well as in clinical application. Key areas of application include neurology and neuroscience, oncology, cardiovascular and metabolic disease. Research activities cover all scales from MR-microscopy to small animal imaging to MRI in humans. Prof. Hennig received numerous awards including the Max Planck Award 2003 and the Gold medal of the Society for Magnetic Resonance.



Myriam Hunink / NL

Prof. Myriam Hunink currently directs the Assessment of Radiological Technology (ART) program and the division of Clinical Epidemiology, and she holds the position of Professor of Clinical Epidemiology and Radiology at the Erasmus University Medical Center, Rotterdam, the Netherlands. She is also Adjunct Professor of Health Decision Sciences at Harvard School of Public Health, Harvard University, Boston, USA. Prof. Hunink's research focuses on comparative effectiveness research and health technology assessment studies of diagnostic and prognostic imaging tests (biomarkers) and image-guided therapies, in particular for cardiovascular disease. Her other research interests include integrated diagnostics, computerised decision support for evidence-based use of imaging tests, and (imaging to measure) the effectiveness of lifestyle interventions.



Luis Martí-Bonmatí / ES

Luis Martí-Bonmatí has been Director of the Medical Imaging Department at La Fe University and Polytechnic Hospital since 2010, and Chief of the Radiology Department at Hospital Quirón, both in Valencia, since 1997. His special areas of interest are imaging biomarkers and image processing, imaging biobanks, abdominal imaging, and management in radiology. He leads the Research Group on Biomedical Imaging (GIBI230) within La Fe Health Research Center, an institution belonging to the Spanish Research Network (Ministry of Science and Technology). The group focuses on preclinical animal imaging experiments. He is also co-founder of Quibim, a spin-off SME related to imaging biomarkers.



Klaas Nicolay / NL

Klaas Nicolay, PhD, is Professor of Biomedical NMR in the Department of Biomedical Engineering at Eindhoven University of Technology. His prime research interest is in the use of MR imaging (MRI) and spectroscopy (MRS) to address questions that are of biomedical and biological importance. Presently, his team focuses on the development of versatile combinations of MRI and MRS to improve the diagnosis and therapeutic interventions of cardiovascular diseases (including heart failure and atherosclerosis), metabolic disorders (such type 2 diabetes) and cancer. Most of Prof. Klaas' research is carried out in small animal models. However, he also strives to translate promising methods from the pre-clinical to the clinical setting for use in human studies.

Regular Members



Konstantin Nikolaou / DE

Prof. Konstantin Nikolaou is a radiologist, with a clinical and research focus on multiparametric, multimodality and translational oncologic imaging, using state-of-the-art CT and MRI imaging techniques as well as hybrid imaging technologies. These modalities include Dynamic-contrast-enhanced MRI and CT (DCE-MRI/-CT), Diffusion-weighted MRI (DWI), Dual Energy CT (DECT), PET-CT and MR-PET. Research questions to be answered are the validation, reproducibility, quantification and added value of multiple oncologic imaging parameters, for various tumour entities. Also, he is a specialist in cardiovascular imaging, including magnetic resonance angiography, CT angiography, cardiac CT and MR, and vessel wall imaging.



Anders Persson / SE

Anders Persson MD, PhD, Professor and Director for Center for Medical Image Science and Visualization (CMIV) at Linköping University, Sweden. Prof. Persson has a solid clinical background as a radiologist and an internationally recognised pioneer in medical imaging. He has published more than 160 journal and conference papers (2003-2013), given over 400 invited talks and written 8 book chapters. Prof. Persson achieved several international and national awards, such as the RSNA Cum Laude, the Lennart Nilsson Award, the Athena Award for Best Medical Research in Sweden and the Royal Photographic Society Combined Royal Colleges Medal 2013.



Markus Schwaiger / DE

Prof. Markus Schwaiger has been Director of Nuclear Medicine at Technische Universität München's rechts der Isar clinic since 1993. His major research interest is molecular multi-modality imaging. Using tracer approaches in combination with high resolution imaging, methods for quantification of molecular tissue signals for early detection of disease as well as monitoring of therapeutic interventions will be developed in his laboratory. These imaging technologies will be applied, especially in patients with cancer as well as cardiovascular disease, supporting the focus on "translational research" at the Technische Universität München.

**Siegfried Trattnig / AT**

Siegfried Trattnig is Full Professor of Radiology and Head of the High Field MR Center at the Department of Biomedical Imaging and Image-guided Therapy, Medical University of Vienna, AT. Prof. Trattnig is a pioneer in the field of multiparametric or biochemical imaging of MSK structures MR sequence and method development on the basis of translational research, i.e. clinically oriented research. With the implementation of a 7 Tesla MR system in 2008, Vienna has become a worldwide reference center for 7 Tesla clinical applications. His global expertise is reflected in many functions in international societies and reviewer work for renowned scientific journals and research funds, including the National Institute of Health (NIH).

**Valérie Vilgrain / FR**

Dr. Valérie Vilgrain is Chair of the Department of Radiology at the University Beaujon Hospital and Professor of Radiology at the Université Paris Diderot, Sorbonne Paris Cité, France. Her major research interests are diagnostic and interventional imaging of the liver, pancreas and bile ducts with a special interest in multidetector CT and MR imaging and contrast-enhanced ultrasound, functional imaging (CT perfusion, dynamic contrast-enhanced MR imaging, diffusion-weighted MR imaging).

Shareholders

EIBIR's shareholder organisations exemplify the importance of a multi-disciplinary approach in biomedical imaging research. EIBIR is honoured to introduce the European Federation of Radiographer Societies (EFRS) as its newest shareholder, further diversifying and complementing the expertise of EIBIR's decision making and strategic bodies.



EFRS – European Federation of Radiographer Societies

The European Federation of Radiographer Societies (EFRS) was established in 2007 to represent, promote and develop the profession of radiography in Europe. Since then, membership has grown to include 35 radiographer societies from 31 countries within Europe as full members, one trade union as an affiliate member and 43 universities as affiliate members under the EFRS education wing.

www.efrs.eu

Mission: Represent, promote and develop the profession of radiography in Europe, within the whole range of medical imaging, nuclear medicine and radiotherapy and moreover everything that is directly or indirectly related or beneficial to this role.

MISSION

To develop and validate
imaging technologies
and multimodality imaging
biomarkers in the life sciences and
the use of innovative imaging methods
to support basic and clinical research.

EFRS will be joining a group of distinguished organisations already Shareholders of EIBIR:



ESR
European Society of Radiology
www.myesr.org



CIRSE
Cardiovascular and Interventional Radiological Society of Europe
www.cirse.org



COCIR
European Coordination Committee of the Radiological,
Electromedical and Healthcare IT Industry
www.cocir.org



EANM
European Association of Nuclear Medicine
www.eanm.org



EFOMP
European Federation of Organisations in Medical Physics
www.efomp.org



EORTC
European Organisation for Research and Treatment of Cancer
www.eortc.be



ESMI
European Society for Molecular Imaging
www.e-smi.eu



ESMRMB
European Society for Magnetic Resonance in Medicine and Biology
www.esmrmb.org



ESPR
European Society of Paediatric Radiology
www.espr.org



ESTRO
European Society for Radiotherapy and Oncology
www.estro.org



EuSoMII
European Society of Medical Imaging Informatics
www.eusomii.org

Industry Panel

The Industry Panel is an important occasion for EIBIR and its member industry organisations to identify shared interests and opportunities for collaboration. Exemplified by the MIPA project (p. 19), follow-up to the roadmap developed during the Industry Workshop in 2013 has lead the way for proposals for collaborative projects between industry partners, EIBIR and EIBIR member organisations to be developed under Horizon 2020.

In response to the update to the EIBIR Industry Packages made in 2013, which allowed SMEs to take advantage of a package specifically designed to meet their needs, EIBIR is pleased to announce that 6 SMEs representing 6 different countries have joined as industry partners in 2014. The cost for membership packages range from €10,000 for Gold, € 5,000 for Silver and €1,000 for SMEs.

EIBIR thanks the Industry Partners for their commitment and looks forward to enhanced cooperation in the coming years.

GOLD partners



GE Healthcare



SIEMENS

PHILIPS

SILVER partners



SME partners



EIBIR's Gold Partners have been invited to contribute to the EIBIR annual scientific report. The editorial articles received are included in the following pages.

GE Healthcare, one of the largest companies in the healthcare industry, unifies a comprehensive set of solutions, combining expertise in imaging, diagnostics, information technologies with in-house capabilities in engineering, chemistry and molecular biology, to help manage the entire continuum of diseases from genomics to advanced diagnostics and information management.

Our "healthymagination" vision for the future invites research partners to join us to develop innovations focused on lowering the cost of care and improving the quality of outcomes for more people.

GE Healthcare engages in research collaborations with external partners to: discover new technologies, support regulatory clearance, generate evidence for clinical use, and to expand the indications for use for our products. GE Healthcare is committed to innovation and research and performs scouting of projects of mutual interest to achieve the best possible healthcare solutions in collaboration with worldwide partners. This includes sponsoring, collaborating in and supporting high quality research around the world.

GE Healthcare embraces the concept of open innovation where new ideas may come not only from the company itself but also from collaboration partners who propose innovative solutions, leveraging their proximity to the actual delivery of healthcare and, in particular, to their close contact with patients. Innovative ideas can be proposed at each step of the value chain, from the concept phase to post-market studies.

GE Healthcare



Bracco is an international Group active in the healthcare sector through Bracco Imaging (diagnostic imaging), Pharma (prescription and over the counter drugs), Acist Medical Systems (medical devices and advanced imaging agents injection systems), and the Centro Diagnostico Italiano.

Originally established as a pharmaceutical company in 1927, over the years Bracco has intensified its commitment to innovative specialist research in imaging agents for diagnostic medicine.

Its subsidiary, Bracco Imaging, is one of the world's leading companies in the diagnostic imaging.

Bracco Imaging offers a products, injectors and solutions portfolio for all diagnostic applications:

X-Ray Imaging (including Computed Tomography-CT), Magnetic Resonance Imaging (MRI), Contrast Enhanced Ultrasound, and Nuclear Medicine.

Bracco Imaging is an innovative R&D player with a track record of innovation in the diagnostic imaging industry. R&D activities are managed in the Research Centers located in Colliertto Giacosa (Italy) and Geneva (Switzerland). Each Research Center possesses highly specialised expertise in diverse diagnostic imaging modalities and techniques. Additional development expertise and support functions exist in Milan (Italy), Beijing (China), Konstanz (Germany), Montreal (Canada) and Tokyo (Japan). Bracco Imaging also has a number of research collaboration agreements for early-discovery, pre-clinical research and clinical research with university departments, hospital-based research centers and biotech companies in various parts of the world.



The Bracco diagnostic imaging portfolio is completed by several medical devices and advanced administration systems for contrast imaging products in the fields of cardiology and radiology, developed by Acist Medical Systems (Minneapolis, USA).

Another important area of activity of the Bracco Group concerns the healthcare services provided by the Centro Diagnostico Italiano (CDI), a poly-specialistic outpatient service based in Milan. CDI offers different services of prevention, diagnosis, rehabilitation and personalised treatment, with a focus on radio-surgery and on day surgery. With 30 years of experience, it offers a wide range of services totaling 150.000 diagnostic procedures per year in 50 clinical specialisations and 4 million analysis for 500 types of exams. Equipped with the very latest technological systems (such as the Cyberknife radiosurgery robot and the Ikonyscope microscope for oncologic diagnostics), the CDI is an accredited body of the Joint Commission International.

Since its foundation, Bracco has been a socially responsible company in each area of activity – in business as in every other context. The company is strongly committed to social, educational, environmental and cultural improvement and in the promotion of gender equality.

For further Information please visit <http://www.bracco.com>

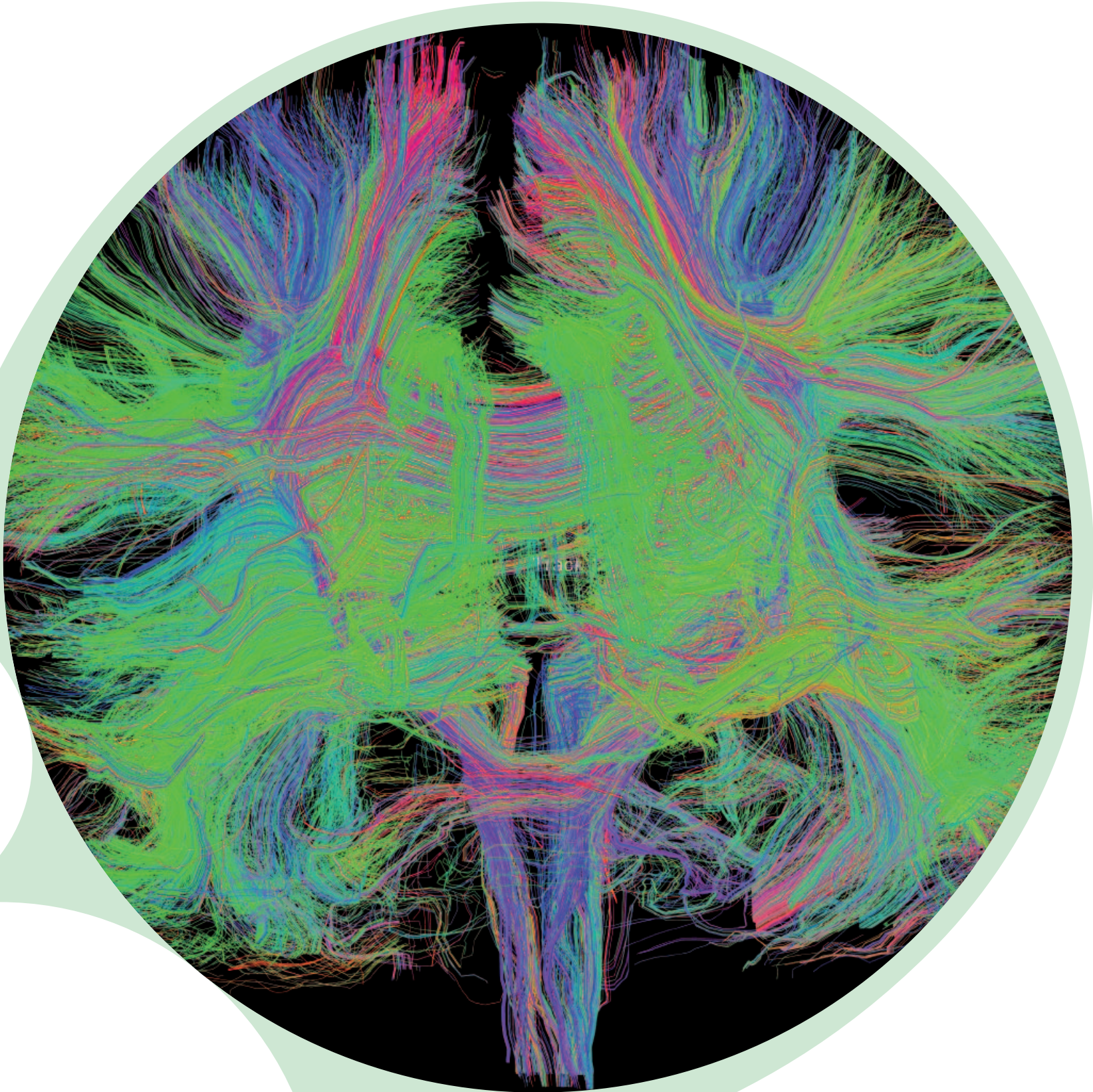
SME Platform

Recently, EIBIR introduced a new feature on its homepage to benefit its Network Members, SME's and prospective consortia - the SME Platform.

The SME Platform enables EIBIR's SME Members to showcase their expertise and provide information on what they can offer to consortium and project proposals.

With the added emphasis on SME participation under the Horizon 2020 Framework, EIBIR is certain that its SME Platform simplifies and facilitates finding SME partners, thereby increasing the strength and diversity of consortia.

The SME Platform can be viewed at www.eibir.org/members/industry-partners/sme-platform/.



*Image courtesy of Mark Bastin,
Brain Research Imaging Centre,
University of Edinburgh, UK*

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*Images courtesy of Lotfi Senhadji,
University of Rennes, France.*

EIBIR Financial Report

EIBIR's activities are financed by a number of sources, including Network Member service fees, Industry Panel service package fees, support from the European Society of Radiology (ESR) and the shareholder organisations as well as EC funding for European research projects coordinated or supported by EIBIR.

The ESR continues to provide significant financial support to EIBIR, ensuring the maintenance of office infrastructure, allowing for the set-up of new initiatives and supporting the application and grant-writing processes for new projects.

The amount of support provided by the ESR is determined every year according to need and, in recent years, has been between € 80,000 and €150,000.

A detailed annual financial report is presented to and approved by the shareholder organisations at the annual General Meeting, usually held on the occasion of the European Congress of Radiology in Vienna.

At the EIBIR General Meeting 2014 held at ECR 2014, the financial report 2013 was approved, indicating a projected profit for the fiscal year 2013 of EUR 91,000 (total expenditure EUR 649,000, total income EUR 740,000), leading to a total equity as of 1 January 2014 of EUR 607,544.

Horizon 2020

The future of European Union research funding

Horizon 2020 is the current funding programme from the European Commission and integrates the European framework programme, the programme for the competitiveness of enterprises and SMEs (COSME), as well as the European Institute of Innovation and Technology (EIT).

Running from 2014 until 2020, the overall budget is almost €80 billion which is divided between three distinct, yet mutually reinforcing, priorities:

- » Excellent Science
- » Industrial Leadership
- » Societal Challenges

Of the total Horizon 2020 budget, €8 billion have been committed to fund “Health, demographic change and wellbeing” research which is one of the six challenges under the Societal Challenges priority.

First Calls

The initial calls under the Health Programme opened in December of 2013, with deadlines for first stage submission set for 3 months later in March, 2014. Over the course of the year, additional calls were opened and EIBIR has been very active promoting relevant calls to the biomedical imaging community, contributing and leading proposal preparation, as well as providing feedback for the next “Health, demographic change and wellbeing” Work Programme 2016-2017 set to open in December 2015.

Changes from FP7

A number of structural, funding and control strategy updates have been included in the new research programme. The updates are intended to reduce administrative burden and costs, speed up all processes and reduce the financial error rate. An example of some of the updates:

- » for R&D projects the EU contribution can be up to 100% of the eligible costs, in cases of projects closer to the market up to 70% of the costs can be covered
- » indirect costs will be covered by a flat rate of 25% of the direct costs
- » grants and amendments will be accepted with electronic signatures
- » a reduction in the number of certificates on the financial statements required
- » a single set of participation rules applying across the entire scope of Horizon 2020
- » the time between submission of a proposal and signature of the grant agreement reduced to 8 months.

Focus on SMEs

In addition, a number of dedicated instruments have been implemented to ensure that SMEs make up 20% participation in the programme. Specific calls have been dedicated only to SMEs, for example PHC-12 Clinical research for the validation of biomarkers and/or diagnostic medical devices; or have required “Growth of the European diagnostic sector, in particular for SMEs” as outlined in PHC-11 Development of new diagnostic tools and technologies: in vivo medical imaging technologies. SMEs in the imaging field have recognised these opportunities and have been actively leading and participating in proposal submissions. Reflecting this increased involvement, EIBIR has been honoured to welcome a number of new SME Industry Partners and looks forward to supporting their successful participation during the course of Horizon 2020.

Emphasising the importance of Biomedical Imaging Research

EIBIR has been very committed to emphasising the importance of adequate funding levels for scientific health research.

EIBIR Scientific Advisory Board members responded to requests issued by the Austrian Research Promotion Agency as well as from the European Commission for consultation for the next “Health, demographic change and wellbeing” Work Programme.

The feedback will be considered when shaping the topics for the 2015 calls, and EIBIR has provided strong reasoning for continued funding dedicated to biomedical imaging topics.

At the ECR 2014, EIBIR had the pleasure of welcoming Dr. Jean-Luc Sanne, from DG Research Innovation to discuss the opportunities presented by Horizon 2020 to the biomedical imaging community. The presentation initiated an informative discussion about the possibilities for future research funding and demonstrated the enthusiasm of our community members to be educated and successful applicants under Horizon 2020.

EIBIR Support

EIBIR's expert team is able to support preparation of your Horizon 2020 project proposal from start to finish: helping you to find the right partners, facilitating proposal writing and budget completion, submission to the European Commission and project negotiation upon successful evaluation.

Proposal preparation services are provided as part of our service package to all EIBIR Active Network Members. Organisations not part of the EIBIR network are also able to take advantage of our proposal preparation services. For details please visit EIBIR website (www.eibir.org).

Events in 2014



EIBIR Session

What's new in Biomedical Imaging Research: an Update of EIBIR Activities ECR 2015

Date: Friday, March 6, 10:30-12:00
Venue: Austria Conference Center Vienna/AT
Room: Lounge 1

The session, chaired by Prof. Gabriel Krestin, will provide insights into the current activities and future outlook in the field of Biomedical Imaging Research. Presentations will focus on paediatric radiology, biomedical image analysis, image guided radiotherapy and the Euro-BioImaging research infrastructure. Research funding opportunities under Horizon 2020 will be presented by a representative from the European Commission.

www.eibir.org

VPH-PRISM Session

The complexity of personalised breast care ECR 2015

Date: Thursday, March 5, 14:00-15:30
Venue: Austria Conference Center Vienna/AT
Room: Lounge 1

Moderated by Prof. Thomas Helbich, the session presented by the VPH-PRISM project will take a holistic look at personalised breast cancer care. A keynote presentation by Prof. Isabel dos Santos Silva will provide a life-course approach to understanding breast cancer genesis, connecting epidemiology, genetics and pathology. Additional presentations will exam the importance of stroma in predicting therapy response, using multi-modal, multi-disciplinary data to make personalised treatment decisions and how the VPH-PRISM project will aid therapy decision making through quantitative evaluation of personal, imaging and non-imaging data.

www.eibir.org

www.vph-prism.eu

MITIGATE Session

MITIGATE Consortium: State-of-the-Art Imaging and Therapy in GIST ECR 2015

Date: Friday, March 6, 14:00-15:30
Venue: Austria Conference Center Vienna/AT
Room: Lounge 1

The MITIGATE session during the ECR, moderated by Prof. Dr. Stefan Schönberg and Prof. Dr. Irene Virgolini, will cover state of the art imaging and therapy in GIST; Prof. Dr. Steffen Diehl will provide insights into selective internal radiotherapy in GIST patients and the latest developments in multimodal imaging in the context of GIST will be detailed by Dr. Dario Longo. The Principles of X-nuclei MR imaging will be presented by Prof. Dr. Lothar Schad, indicating what radiologists should know about this technique.

www.eibir.org

www.mitigate-project.eu



VPH-PRISM & VPH-PICTURE MAP Breast Summer School

Multidisciplinary Advances in Personalised Breast Cancer Surgery

Date: July 13-17, 2015

Venue: INESC TEC, Porto, PT

MAP Breast Summer School focuses on computer-supported methods to solve clinical problems of soft-tissue surgery through image analysis and biophysical or statistical modelling with an emphasis on applications in breast surgery and breast reconstruction. The Summer School objective is to bring together researchers in an early stage of their career with well-known experts in their field. Covering topics from multiple disciplines, including computer science, mathematics, radiology, and surgery, the event will provide an excellent opportunity for interdisciplinary scientific exchange and mutual learning, connecting experts in the field and students of all specialties and experience.

Application deadline:

14 March 2015

Contact:

mapbreast@inescporto.pt

Further information:

<http://mapbreast.inescporto.pt>

EIBIR Summer School 2015 on Neurology Imaging

Date: August 24-28, 2015

Venue: Center for Advanced
Academic Studies,
Dubrovnik, HR

The EIBIR Summer School on Neurology Imaging is a multidisciplinary summer school, uniting 50 young researchers coming from a variety of backgrounds. The high scientific level and the relaxed atmosphere invite a close and fruitful interaction between all attendees, both participants and staff.

Program details and registration information are available on the EIBIR website
(**www.eibir.org/summerschool**).

Contact:

office@eibir.org

www.eibir.org

