

1/2019

INFORMATION FOR MEMBERS

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E D U C A T I O N

Portugal joins
the CIRSE family!

Insider info
from ET faculty

A bigger,
better EBIR!

Cardiovascular and Interventional Radiological Society of Europe

news

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accredited

tional Oncology

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**From curriculum
to career!**

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This year looks set to be one of CIRSE's busiest yet, and society President Robert Morgan talks us through the main highlights.

Dear colleagues,

The first quarter has been a busy one. In January, I travelled to Myanmar to hospitals in the cities of Yangon and Mandalay for the 4th MRS-APSCVIR Interventional Radiology Workshops as a part of APSCVIR's outreach programme. This worthwhile endeavour was a great opportunity to deliver training and education to poorly developed but enthusiastic IR communities (see page 8 for a full report). This outreach programme is certainly worthwhile, and I am keen for CIRSE to continue providing representation for future workshops. A few short weeks later, I found myself in Indonesia with several other CIRSE representatives for the APSCVIR Annual Meeting (page 17).

Our diverse community continues to grow, with Romania and Portugal recently joining the ranks of CIRSE membership. Before now, Portuguese IRs held group membership through SERVEI, but have recently opted to establish their own society – details on their plans for the future can be found on page 4.

Members, both individual and group, form the backbone of the society, and in order to provide them with the best possible access to information and resources, CIRSE has invested in overhauling the society website. This has resulted in a cleaner, more straightforward user experience, and the single sign-on process means that we can all now manage our personal information, register for congresses and courses (including the new CIRSE Academy modules), browse the journals *CVIR* and *CVIR Endovascular*, and access the new CIRSE Library with minimal effort!

In particular, I urge you to check out the CIRSE Academy, CIRSE's new online-learning platform. These CME-accredited educational courses span 14 IR topics (with more coming soon), including stroke, vertebroplasty and colorectal liver metastases. The modules cover everything from anatomy to outcomes and complication management. Each module takes 1–2 hours to complete. Congratulations to the many authors who have contributed to this excellent project; your expertise will be of great benefit to the whole IR community.

Of course, face-to-face education remains a priority for CIRSE, and our own congress season got off to a great start with the Interventional Radiological Olbert Symposium, the joint annual meeting of the German, Swiss and Austrian IR societies, organised

with the assistance of the CIRSE Office. This year saw over 850 people in attendance, and an exciting new interactive video-learning format was introduced into the scientific programme.

We also hosted two fully-booked ESIR courses: one in Dublin on DVT and PE; the other in Paris on PAE. During ECR 2019 in Vienna, we were delighted to welcome 300 guests to the CIRSE Members' Evening, and to meet many more at our information booth.

As we are early on in the year, there are many events in the forthcoming months. ECIO will take place in April in Amsterdam. This will be our tenth IO congress, and alongside the many scientific and educational sessions on offer, the meeting will be used to move our clinical IO registries forward (information on the colorectal metastases registries on pages 12–15) and to launch our new IO curriculum and syllabus (page 37). This important new venture, initiated by the Oncology Alliance Subcommittee and led by Thierry de Baère, sets important standards for clinical care and patient safety, and equips those completing it with a comprehensive set of skills and knowledge.

In June, our inaugural European Conference on Embolotherapy (ET 2019) will take place in Valencia. Pre-registration is showing a healthy interest in this unique event, and the congress is sure to offer plenty of opportunities to discuss state-of-the-art embolisation technologies and techniques.

Naturally, our flagship CIRSE congress is steaming ahead, with registration now open and the preliminary programme online in various useful formats! I strongly encourage you all to start planning your trip in advance and to make the most of our early-bird deals.

This year's meeting will offer a special PAD focus on the opening day, which will, amongst other important topics, attempt to bring some clarity on where we currently stand with paclitaxel-eluting devices. The meeting will also see the introduction of our new EBIR exam format – the move to a fully digital exam will greatly expand the number of seats available, and should help to shorten the waiting times for this sought-after qualification.

2019 offers no shortage of opportunities to meet – I hope to see as many of the CIRSE community as possible!



“Naturally, our flagship CIRSE congress is steaming ahead, with registration now open and the preliminary programme online in various useful formats!”

Interventional radiologists made up a substantial number of ECR 2019 delegates, reflecting the growing importance of this radiological subspecialty.

More IR than ever at ECR 2019



Congress delegates could pick up a copy of the CIRSE 2019 Preliminary Programme at a well-staffed info booth.

A record 30,000+ radiologists gathered for the 25th European Conference of Radiology (ECR) in Vienna from February 27 to March 3. As the largest radiology congress in Europe, ECR addresses a comprehensive array of topics each year. As in previous years, the congress highlighted interventional radiology on multiple platforms, and there were an abundance of IRs and CIRSE members in attendance.

At this year's opening ceremony, we were excited to witness former CIRSE President Prof. Anna-Maria Belli receive the ESR Gold Medal in recognition of her achievements in the field of interventional radiology. This not only increased attention to IR at the congress, but was also a testament to her impact and influence on the field as a whole. Among her many accomplishments, Prof. Belli is a professor of interventional radiology at St. George's Hospital in London, was the first female president of both BSIR and CIRSE, and led the Task Force which developed the *European Curriculum and Syllabus for IR*, a standardised guideline for training that covers an array of general IR topics and safety concepts with which a well-trained IR should be familiar.



During the congress, Scientific Sessions and Refresher Courses in the IR track included topics such as vascular interventions in visceral arteries and veins, vascular interventions in oncology and non-vascular musculoskeletal interventions. For the second year in a row, "The Cube" provided an innovative, interactive introduction to IR, offering expert-led sessions and hands-on learning experiences with a wide variety of simulators and devices. Each day at The Cube was devoted to a specific focus: peripheral, central, oncological and neurological IR. Due to the immense popularity of last year's version, this year's "Silicone Valley of IR education" was held in the imposing DC Tower, doubling the amount of space from last year's venue.

As in previous years, CIRSE's information booth provided interested delegates with relevant information about the society and an opportunity to pick up a copy of the CIRSE 2019 Preliminary Programme. CIRSE also participated in the *EuroSafe Imaging* poster session, which allowed attendees to read up on the latest initiatives promoting awareness and safety measures for radiation protection.



Many of these IRs joined us at the CIRSE Members' Evening to catch up with friends and colleagues from around the globe.



Alongside the interactive and educational sessions, ECR 2019 also provided an opportunity for 30 IRs to sit the EBIR exam. The next exam will take place in July at the IRSA congress in Australia.

Members' Evening

Continuing a now long-standing tradition, the CIRSE Members' Evening gave guests the chance to socialise and relax with colleagues and friends outside of the busy congress atmosphere. Located on the 35th floor of the Vienna Twin Towers, ThirtyFive once again provided a modern, luxurious space for the event with no shortage of views. Guests were greeted with refreshing cocktails and delicious appetisers as they mixed and mingled amongst the lively, international crowd.

Rounding off the cocktail hour, Robert Morgan delivered a few words to the guests, highlighting CIRSE's most recent accomplishments, such as the new website and the CIRSE Library, and giving



insight into what's to come. He warmly spoke of Prof. Belli as "one of our own," congratulating her on not only her most recent accomplishment at the ECR but also her long list of professional accolades. He additionally called attention to upcoming elections, reminding guests that subcommittee submissions were still open.

Highlighting an admirable new endeavour, Dr. Morgan discussed his recent involvement in global outreach in Myanmar (more info on page 8), remarking, "one of my missions as president has been to take IR to other parts of the world." Dr. Morgan stated that he hopes this is just the start of many future outreach opportunities conducted to broaden the potential of IR across the globe. He also mentioned that the EBIR exam held that week would be the last held in the traditional format in Europe – from September, the test will be moving into the digital age with a fully electronic version; an exciting new change for the future of the diploma! He rounded out his speech with an amusing anecdote, gearing everyone up for continued discussion and the start of the delectable flying buffet of tapas.

After such a satisfying evening of stimulating conversation, an excellent array of food and energising music, the CIRSE leadership are looking forward to welcoming you to more networking opportunities taking place at CIRSE 2019!

Elizabeth Wenzel and Emily Beaven, CIRSE Office



The Members' Evening gave guests the chance to socialise and relax with colleagues and friends outside of the busy congress atmosphere.

NEW MEMBERS

Portugal has recently joined CIRSE as a group member – we warmly welcome them to the fold!

Fishing for bigger things – The new Portuguese IR society



“We hope that APRI will help Portuguese IRs find support for their educational and scientific needs, and promote the development of IR practice.”

We sat down with Dr. Belarmino Gonçalves, president of the newly formed Portuguese Association of Interventional Radiology (APRI), to talk about IR in Portugal and the establishment of a Portuguese society.

CIRSE: Until recently, Portuguese doctors were represented by SERVEI. What has pushed Portuguese IRs to set up their own society?

Gonçalves: In recent years, interventional radiology has experienced an exponential growth of interest among Portuguese radiologists and the medical community. The number of interventional radiology departments, units and centres has increased all over the country in public and private hospitals, despite the lack of investment from government authorities and the out-of-date nomenclature of IR procedures.

The creation of an independent Portuguese IR organisation has been in the thoughts of IRs for some time, and we think this is the right time for its birth. A small group of us contacted several representative IRs from across the country and got majority support for the decision to have our own organisation. So, we created and launched APRI (Portuguese Association of Interventional Radiology).

We hope that APRI will help Portuguese IRs find support for their educational and scientific needs, promote the development of IR practice in a steady way and, above all, make the general public aware of who we are.

We will work in collaboration with the Portuguese College of Radiology (part of the Portuguese

Medical Association) in accordance with CIRSE principles and international standards to assure IR accreditation and the creation of an autonomous interventional radiology subspecialty.

CIRSE: APRI recently became a CIRSE Group Member. How would you like to work together in the future?

Gonçalves: We are very excited about our collaboration with CIRSE. I have been a CIRSE member since I started my radiology internship. CIRSE has been of great importance in my education and was instrumental in my choosing a career as a full IR. Likewise, many young Portuguese doctors attended CIRSE educational courses and have been accepted as participants in CIRSE-sponsored training programmes.

We are very much looking forward to working together with CIRSE on scientific programmes and educational initiatives by presenting and publishing scientific work. We also hope that this collaboration will enable trainees and medical students to get easier access to CIRSE educational tools and platforms.

I am sure that this collaboration will motivate us to follow the scientific path and that, in time, some of us may become CIRSE Fellows and participate in CIRSE committees and task forces.

CIRSE: What training scheme is used in Portugal for medical students or radiologists planning to become IRs?

Gonçalves: In Portugal, if a medical doctor wants to become an IR, he or she must first be accepted

NEW MEMBERS

Although Portuguese IRs have long been connected to CIRSE via SERVEI, this new independent society aims to boost IR development and practice within Portugal.

for a radiology residency. These residencies are accessed after graduation from medical school and a national exam, and are filled by order of choice according to the candidate's exam classification. The internship consists of four years of a common radiology trunk and a fifth year of differentiation. In the fifth year, the resident can choose a specific area, one option of which is interventional radiology. As for those radiologists who don't get this fifth-year option, after finishing a radiology residence they can become IRs through dedicated training in a certified IR department.

CIRSE: How are students encouraged to specialise in IR?

Gonçalves: There is a long way to go with encouraging students to specialise in IR, but we are already working on this goal by promoting information about IR procedures and innovations amongst students. We are also informing students about the CIRSE student programme, which is an excellent project and has raised a lot of interest from the students.

We are also considering a student member category for APRI. We are of the opinion that IR is becoming more and more clinical and that IR's profile is somewhat different from that of radiology, so we want the students to be aware of this subspecialty and how to obtain qualifications in it.

CIRSE: How many IRs are there in Portugal? How have the numbers changed in recent years?

Gonçalves: I don't know the exact number of IRs in Portugal. We estimate that there are around thirty individuals with a heterogeneous competence in vascular and non-vascular procedures. We know for sure that interest has increased exponentially, but fellowship programmes are still missing.

There are also an unknown number of radiologists that perform only non-vascular procedures in their daily medical practice. One of APRI's goals is to attract those colleagues and provide them with the tools to assure the quality of their IR practice.

CIRSE: How does Portugal inform patients about IR treatments?

Gonçalves: In Portugal doctors, be they general practitioners, oncologists or other specialists, inform patients about their treatment options and refer them to specialised hospitals for treatment. Also, there is a lot of treatment information that appears on social media in the form of advertising or interviews. It is becoming common for patients to search the internet for our treatment options. Therefore, private hospitals are more advanced in promoting IR procedures than public ones. This is also something that APRI might help redress.



S
S O C I E T Y

"A creative mind is inherent to Portuguese people – an attribute that makes us valuable team elements."



The APRI Executive Committee (l-r): João Oliveira, Pedro Sousa, Maria José Sousa, Belarmino Gonçalves and Tiago Pereira

NEW MEMBERS

Raising awareness amongst key demographical groups, such as medical students, hospital managers and patients, is a key aim of the new society.

> **CIRSE: What can be done to further promote the field? What are the biggest challenges?**

Gonçalves: We think that APRI can play a major role in enhancing IR visibility through public events, scientific participation in congresses and collaboration with other national organisations. We need to establish an organised fellowship programme, and this should lead to real work as an IR.

We also think that the union of Portuguese IRs will make us stronger, help us grow as a subspecialty and get recognition from other medical specialties and from patients.

One of our biggest challenges is the competition with other specialties, like gastroenterology, vascular surgery and others that are moving their practice into fields recognised as IR competencies. We are determined that IR techniques remain within our specialty. We are convinced that achieving recognition as a subspecialty is a step forward in defending our practice.

CIRSE: Portugal has a proud history of IR innovation – what do you think European IRs could learn from their Portuguese colleagues nowadays?

Gonçalves: We are very proud of our history in IR, especially the discoveries of Prof. Egas Moniz, who invented angiography. I think that a creative mind is a characteristic that is inherent to Portuguese people; this is an attribute that makes us valuable team elements.

We already have good experience of mutual exchange with Spanish IRs, and we hope to extend the collaboration to include other European countries. We are certain that being a CIRSE Group Member will strengthen this cooperation.

Elizabeth Wenzel, CIRSE Office



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CIRSE's new website offers a host of new features, including the CIRSE Academy and an updated myCIRSE portal, allowing easy access to all membership services with a single sign-on!

cirse.org – Your key to all membership services

CIRSE recently introduced its new website, sporting a fresh look and numerous new features. Additionally, all of CIRSE's membership benefits and services have been consolidated through an easily accessible one-time log-in.

The content on the new CIRSE website has been streamlined into five sections: Society, Events, Education, Research and Media. Additionally, the dedicated categories Trainees, Students and Patients allow for browsing according to user groups.

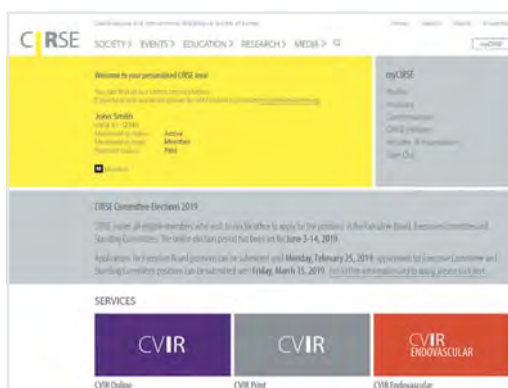
The CIRSE Academy – From Curriculum to Career

Education takes centre stage on cirse.org, featuring an enhanced CIRSE Library, the brand-new CIRSE Academy and extensive information on the EBIR examination. Through the CIRSE Academy, interested physicians can now take online courses on the entire spectrum of IR topics. Customised by leading experts in IR to focus on material outlined in the *European Curriculum and Syllabus for Interventional Radiology*, these courses are ideal for EBIR preparation.

All courses include a combination of informative texts, graphics, videos and an interactive multiple-choice quiz to evaluate learning progress. The quiz questions are revised by members of the EBIR writing team to ensure they follow the single-best-answer MCQ style of the EBIR exam. All courses take around 1-2 hours to complete and are fully CME-accredited by the UEMS. CIRSE members are eligible for a reduced fee.

CIRSE Library 2.0

The CIRSE Library continues to offer access to all CIRSE conference lectures and presentations from 2014 to date, and now features a new and improved search engine and easy navigation for the more than 7,000 titles available. The presentations can be retrieved either individually or as part of topic packages that are put together by leading experts in the field, allowing for quick and easy access to all necessary information. CIRSE members continue to browse for free!



Catering for all stake-holders

In striving to provide relevant information to all groups involved in and impacted by interventional radiology, CIRSE has dedicated key sections of the new website to its many initiatives for students interested in pursuing a career in IR and for IRs-in-training. In addition, the website features a whole host of pages informing patients about IR procedures and their benefits.

myCIRSE – the only place you need for all things CIRSE

The new myCIRSE area allows members to access all CIRSE membership benefits and services with just one sign-on. Members can now simply use their CIRSE ID to access the CIRSE Library, take CIRSE Academy courses, register for a CIRSE event, browse CVIR, and much more.

Petra Mann, CIRSE Office

Log into the myCIRSE area to

- register for CIRSE congresses
- register for ESIR courses
- browse the CIRSE Library
- access the CIRSE Academy
- read CVIR articles
- register for the EBIR exam
- access members-only information
- order CVIR print copies
- change your profile
- access your invoices



The new website aims to streamline our member services and provide an improved user experience!

As part of group member ASPCVIR's outreach programme, CIRSE President Rob Morgan travelled to Myanmar to participate in a series of educational workshops.

Inter-Society Educational Outreach Workshops in Myanmar 2019



"The vast majority of the IR staff at these hospitals had never had the opportunity to attend a major IR congress."

This January, I travelled to Myanmar to represent CIRSE and participate in two interventional radiology educational outreach workshops organised by senior members of the Asia Pacific Society of Interventional Radiology (APSCVIR). This was the fourth such workshop that had been organised by APSCVIR in Myanmar. The organising committee consisted of Tan Bien-Soo (a Distinguished Fellow of CIRSE from Singapore), Yasuaki Arai (a Distinguished Fellow of CIRSE from Japan), Joseph Kim (South Korea) and Colonel Kyaw Zaya (Myanmar), who was also the local host organiser. The other faculty members were Anne Roberts (representing SIR), Yozo Sato (JSIR) and Je Hwan Won (KSIR).

Myanmar (previously known as Burma) is located between Bangladesh, Thailand, India and China. It has a population of 51 million and has very varied topography, including a long coastline, mountains, jungle and plains. Its main industry is agriculture, and Buddhism is the main religion. After a long period of relative withdrawal from the rest of the world, Myanmar is now gradually opening up to the outside world and is encouraging external investment and tourism.

Two IR workshops were held in Myanmar from January 13-18. The first workshop took place in Yangon (previously known as Rangoon) over two days. The second workshop was a one-day course in Mandalay, an hour's flight time to the north of Yangon. Both hospitals are of moderately large size with over 500 beds each. Each of the radiology departments are well equipped, with two or more CT scanners, at least one MRI scanner, ultrasound and general radiographic facilities. Each department has a relatively new ceiling-mounted angiography machine; there is a Siemens Artis Zee

in Yangon Specialist Hospital and a Philips Allura machine in Mandalay General Hospital.

Each radiology department has academic chairs in radiology with staff engaged in research including interventional radiology topics. There are close links at both hospitals with Professors Tan Bien-Soo's, Joseph Kim's and Yasuaki Arai's departments in Singapore, Seoul and Tokyo, respectively.

The majority of the IR work carried out at these hospitals involves TACE and RFA of liver tumours. Although of small volume, other IR procedures that are performed include nephrostomy and nephroureteral stenting, biliary drainage and stenting, embolisation for haemorrhage and some lower limb angioplasty procedures.

Interventional radiology in Myanmar is not well developed and one of the main reasons for this is the cost of consumables and equipment. IR devices are relatively expensive in Myanmar and as a result, the costs of IR procedures are more expensive than equivalent surgical procedures. However, in addition to the relatively high device costs, other clinical specialties and hospital managers fail to take into account the (well-known to us) overall reduced costs of IR procedures when reduced hospital stay and the potential for day-case procedures are taken into account.

The vast majority of the IR staff at these hospitals had never had the opportunity to attend a major IR congress, such as APSCVIR, CIRSE or SIR. We were struck by the great enthusiasm of the IR staff to learn more about IR and it was evident that they were highly appreciative of being taught by our international faculty.



International and local faculty arriving at Mandalay airport for the Workshop at Mandalay General Hospital.

CIRSE was proud to support this worthy initiative, which embodies many of the key goals of our society.

The scientific programme at both workshops covered the whole range of IR procedures including TACE, RFA of liver tumours, UFE, haemodialysis interventions, central venous access, lower limb arterial interventions, urological interventions, hepatobiliary interventions and abscess drainage. The scientific programme consisted of lectures and live cases performed by the faculty. I had the privilege of performing an endovascular procedure for an SFA occlusion on an elderly female patient with CLI, which I am pleased to say was successful and complication-free.



The Live Case IR team assemble after the case performed by Rob Morgan.

Clinicians from other clinical specialties had been contacted beforehand and were strongly encouraged to attend the specific lectures and live cases that were relevant to their practice. Lecture topics were grouped into sections to facilitate this.

During the discussions after each lecture, each speaker emphasised that the IR procedures were an effective and safe alternative to conventional treatments and encouraged the clinicians to refer and discuss patients with their local IR colleagues. The local IRs had also been asked beforehand to join in with the discussion with their clinical colleagues to improve the chances of future collaboration. One of the focal points of these discussions was informing the clinicians of the range of IR procedures that their local IRs could actually provide for them. As a neutral participant from outside Myanmar, I could see that this approach was likely to be very effective in promoting IR within these hospitals, and I would anticipate that referrals for IR procedures, including IR procedures that had not hitherto been requested, will increase.

Both workshops were well supported by industry representation. Although IR in Myanmar does not

currently play a significant part in their regional income and expenditure portfolios, the industry representatives that I spoke to seemed most enthusiastic to help the local IRs to promote interventional radiology practice in Myanmar.

The local IR host, Col. Kyaw Zaya, made sure that we were well looked after. I can highly recommend the local cuisine of Myanmar and we were also able to view some of the splendid cultural sights in Yangon and Mandalay, including the Shwedagon Pagoda in Yangon.

Myanmar is not very close to the UK, taking 20 hours including flight connections to travel from London. The week was hard work, with 10-hour days in the workshops spent enduring the effects of jet lag and limited sleep. However, the week passed by very quickly and it was not long before I was making the long trip back to the UK. I was sad to take my leave of the workshop faculty and the new friends that I had made in Myanmar.

Looking back on the week, I would say that that this was one of the most worthwhile endeavours that I have been involved with as a teacher of IR. Although I am a confirmed advocate of the benefits of the conventional model of teaching at large IR congresses, this model of taking the teaching of IR to individual departments had specific benefits, including: a) enabling enthusiastic interventional radiologists with the appropriate capital equipment facilities (CT, angiography equipment) but without the financial resources to attend IR congresses, to receive a programme of IR education tailored to their specific requirements and surroundings, and b) the faculty was able to bring together the clinical colleagues from other specialties and the local IRs to facilitate future collaborations. I really feel that we made a difference to those doctors in Myanmar, and following on from that, their patients.

Plans are already underway for the organisation of similar educational outreach programmes in South-East Asia in 2020 by our IR colleagues in APSCVIR. I am proud that CIRSE was involved in this valuable educational outreach programme. I hope and anticipate that CIRSE will be involved in future similar educational endeavours with our partner IR societies.

Robert Morgan, CIRSE President



SOCIETY

“...the faculty was able to bring together the clinical colleagues from other specialties and the local IRs to facilitate future collaborations.”

CIRSE ELECTIONS

The biennial committee elections are approaching – make sure to cast your vote!

CIRSE Committee Elections 2019 – Make your voice heard!



Earlier this year, CIRSE Members were invited to submit nominations for Executive Committee and Standing Committee members. The submission period has just closed, and now the many nominations must be carefully compiled.

A full catalogue of candidates will be ready for publication in mid-May, and will be accessible through the CIRSE website. All Europe-based members will be invited to cast their votes from June 3-14, and will receive an email notification before the election period begins.

In order to ensure that the committees best reflect the views and wishes of our membership, we strongly encourage all eligible members to cast their votes. It is important to note that only members in good standing are able to vote, so we advise any members who have yet to pay their membership dues for 2019 to settle these in good time.



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A new decade brings new opportunities for the official CIRSE journal.

Mid-life climax – CVIR reaches new heights in its 40s

Like a fine wine, CVIR is improving with age. As it turns 40, the number of submissions continues to rise, increasing from 1,029 to 1,067 in 2019. Mirroring previous years, the most common submission type was clinical investigations. Thanks to the scrupulous work of CVIR's Editor of Public Affairs, Miltiadis Krokidis, CVIR articles continue to increase in visibility among the IR community, especially on social media. Additionally, the CVIR editorship diligently guide manuscripts through the peer-review process without compromising the review quality – the current total processing times from article submission to the editor's first decision is 26 days.

An IO special supplement

As IR becomes ever more complex, it can be increasingly difficult for general IRs to keep up with advances in specialist areas such as interventional oncology. To counter this, CVIR will be releasing a special IO supplement. The articles, commissioned by the Section Editor for Oncological Interventions Thierry de Baère, will provide the field's leading experts with the opportunity to share interesting, timely information on one of IR's most prominent topics.

The series will be divided into two parts discussing both essential information that IRs need to know about IO as well as oncology-specific procedures on targeted organs. Articles written with the latter focus will be co-authored by at least one interventional radiologist and either a medical oncologist, surgeon or radiation therapist, ensuring multidisciplinary perspectives on such complex information.

"Interventional oncology is a fast-growing area in interventional radiology. Building on CVIR's excellent reputation, this special issue aims to bring the basic knowledge and latest developments in the field to the forefront, deepening the IR community's knowledge of contemporary topics relevant to the future of interventional radiology as we know it."

Thierry de Baère

CVIR hopes this will be the first of many special topic supplements that CVIR's editors would like to publish in future, and which will highlight hot topics in the field, increasing attention and further enhancing the journal's impact on the field of IR.

Accessing CVIR online

CVIR's publisher Springer decided to cancel the CVIR app as of February 2019, but the CVIR can still easily be read online and in print.

Two simple options exist:

- Option 1: Access CVIR with your personal computer or device through your CIRSE membership. For this option, simply log in to myCIRSE using your personal membership log-in information. Then scroll down to the "Services" section and click on CVIR. This will send you straight to CVIR's page on Springer's website, giving you immediate and direct access to the journal.
- Option 2: If your hospital has an institutional subscription for CVIR, you can access their journals directly from your work computer. Your hospital's IP address should log you in automatically. However, if you are asked for a password to access the articles, ask your institution administration for the log-in information that you need.

A global audience for your research

After more than 40 years of publication, CVIR enjoys a vast international readership. In addition to its association with CIRSE, CVIR is also an official organ of various societies representing over 20 countries. Submit your articles to CVIR to ensure they reach the largest and most targeted audience possible!

Emily Beaven, CIRSE Office



A special IO supplement will be launched to provide insights into oncology-specific procedures.

CVIR

Since 2013, CIRSE has been acting as the independent scientific sponsor of pan-European observational studies.

CIRSE clinical research endeavours in mCRC: The CIREL and CIEMAR studies explained



Clinical evidence is vital to increasing our understanding of image-guided, minimally invasive procedures and supporting their development and dissemination as oncological therapies. In order to meet these goals, CIRSE has shifted its role from a pure disseminator of knowledge to now include the collection of data and creation of evidence for minimally invasive treatments in interventional radiology. Since 2013, the society has been acting as the independent scientific sponsor of pan-European observational studies. By utilising synergies between the research interests of interventional radiologists and the data collection needs of medical device manufacturers, CIRSE has set up three industry-funded, independent observational studies looking at loco-regional treatments for primary hepatocellular carcinoma (HCC) and liver-metastatic colorectal cancer (mCRC). These studies aim to increase the evidence-base of the respective therapies by collecting data on the real-life use of the therapies in the context of patients' entire cancer treatment.

The two projects exclusively observing patients with mCRC are the CIRSE Registry for LifePearl Microspheres (CIREL) and the CIRSE Emprint Microwave Ablation Registry (CIEMAR).

Although mortality has dramatically decreased in the last 20 years following the introduction of new systemic treatments, treating patients with metastases of colorectal cancer is still a major challenge. Surgical resection and thermal ablation are currently the only curative options. Thermal ablation is an established procedure in the treatment plan of colorectal cancer that has demonstrated safety and efficacy in multiple controlled trials and is recommended in the current ESMO guidelines. Yet, despite having been in use for 15 years, there is a dearth of large-scale multinational data available on this treatment.

CIEMAR aims to fill this gap by gathering observational data on the real-life application of microwave ablation of colorectal liver metastases in a multi-centre, 1,000-patient European cohort. Local tumour control in the liver at 12 months will serve as the primary endpoint to assess the effectiveness of microwave ablation in the liver in routine clinical practice in Europe. In order to deepen our understanding of thermal ablation

of liver metastases, CIEMAR will collect extensive data on safety and toxicity, quality of life, survival and economic aspects of the treatment. CIEMAR is still in the design phase and aims to start data collection in January 2020. For detailed information regarding the status quo of CIEMAR, please go to page 15.

While ablation and resection are curative options, only about 20% of CRC patients that present with liver metastases are eligible for these treatments. Techniques such as transarterial chemoembolisation (TACE), with small beads delivering the chemotherapeutic drug to the tumour site, have been developed over the past ten years and show promising efficacy in a limited number of clinical studies. However, larger-scale cohorts representing real-life clinical data are still lacking. This is precisely what CIREL aims to address.

CIREL observes TACE using LifePearl Microspheres loaded with irinotecan and aims to create data on how these drug-eluting microspheres are administered to colorectal cancer patients with liver metastatic disease as part of routine treatment across Europe and the associated clinical outcomes. From this, the investigators hope to draw conclusions about when TACE using LifePearl Microspheres loaded with irinotecan may be most effective and which patients may benefit from this treatment the most. For more information regarding the current status of CIREL, please read on.

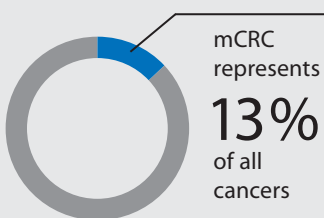
CIREL explained

CIREL is a single-arm, observational cohort study that gathers data on transarterial chemoembolisation (TACE) using LifePearl Microspheres loaded with irinotecan in patients suffering from colorectal cancer with liver metastatic disease (mCRC).

Co-chaired by Prof. Phillipe Pereira (SLK Kliniken Heilbronn GmbH, Heilbronn, Germany) and Prof. Julien Taieb (Hôpital Européen Georges-Pompidou, Paris, France), the multidisciplinary CIREL Steering Committee is comprised of experts from the fields of interventional radiology, oncology, hepatology and surgery from seven different European countries.

Liver metastases in colorectal cancer

2 Second most frequently diagnosed cancer in Europe



Up to **70%** of patients develop **liver metastases** – which are a leading cause of death in this cohort.

The two most recent studies examine IR's effectiveness in treating liver-metastatic colorectal cancer.

The registry enrolled the first patient in February 2018, and current efforts are focused on data collection in eight European countries as well as promoting CIREL amongst all involved specialties. CIREL spans the continent and will enrol up to 500 patients over an initial period of three years and, with a minimum follow-up of 12 months, is projected to end in February 2022. Since the beginning of 2019, CIREL has already been actively promoted at two European congresses.

Dr. Roberto Iezzi, a member of the CIREL Steering Committee and the course director of the annual Mediterranean Interventional Oncology (Mio-Live) congress in Rome, kindly invited the CIREL project manager to attend the congress in order to promote the CIREL registry. The congress, which focused on liver-directed treatment and included many live cases, was attended by 250-300 delegates from various medical specialties (with interventional radiologists representing the majority). At a Lunch & Learn symposium focused on *Evidence in Interventional Oncology*, Dr. Iezzi presented on CIREL alongside presentations of the Collision Trial (Martijn Meijerink) and the SORAMIC Trial (Jens Ricke).



CIREL
@ Mio-Live in Rome

Roberto Iezzi
Policlinico Universitario
Agostino Gemelli,
Rome, Italy

Member of the CIREL
Steering Committee
since May 2018

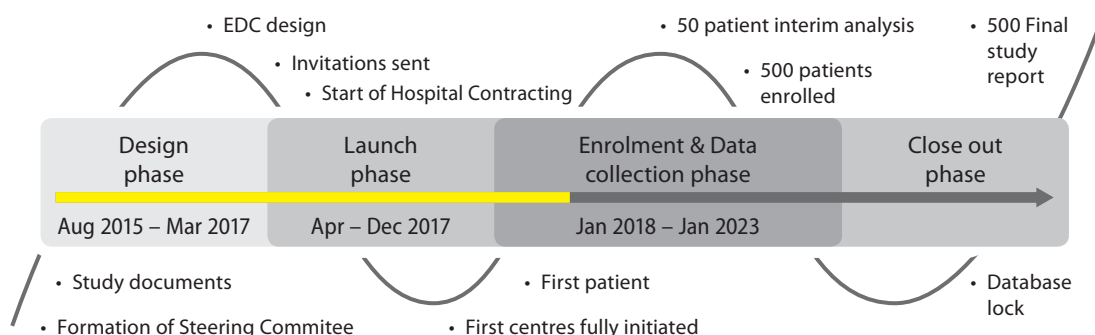
Attending Mio-Live in Rome not only helped establish contact to investigators that are interested in participating in CIREL, it also provided a great platform to catch up with investigators already involved in the study.

Roberto Iezzi on the importance of featuring CIREL at the Mio-Live congress:

"Registries are an essential part of our work in interventional radiology, as they allow us to show what we do in practice and produce scientific evidence at the same time. The data we provide supports the development of guidelines and helps foster multidisciplinary interaction with other medical and surgical specialties. Furthermore, many clinicians in Italy are shifting from conventional TACE and have started to use DEB-TACE loaded with irinotecan (DEB-IRI) to treat metastatic liver tumours – so, I have great expectations for patient enrolment in Italy."



"Despite having been in wide use for 15 years, there is a dearth of large-scale multinational data available on thermal ablation."



CIREL
Timeline

The hope is that the CIREL registry will not only produce quality scientific data, but also that it may stimulate further research into interventional oncological procedures.



The primary objective of CIREL is to improve our understanding of the real-life clinical application of TACE with LifePearl Microspheres loaded with irinotecan.



> CIREL promotion continued in Lisbon, with Prof. Philippe Pereira, Co-Chairperson of the CIREL Steering Committee, attending the 9th European Multidisciplinary Colorectal Cancer Congress (EMCCC). EMCCC is organised by the Dutch Colorectal Cancer Group and hopes to provide a platform for in-depth multidisciplinary interaction among the various medical disciplines involved in colorectal cancer care. Returning to Lisbon Congress Centre (scene of a successful Steering Committee meeting at CIRSE 2018), Prof. Pereira presented CIREL in a session providing insights into ongoing research projects.

CIREL Objectives

The primary objective of the research project is to improve our understanding of the real-life clinical application of TACE with LifePearl Microspheres

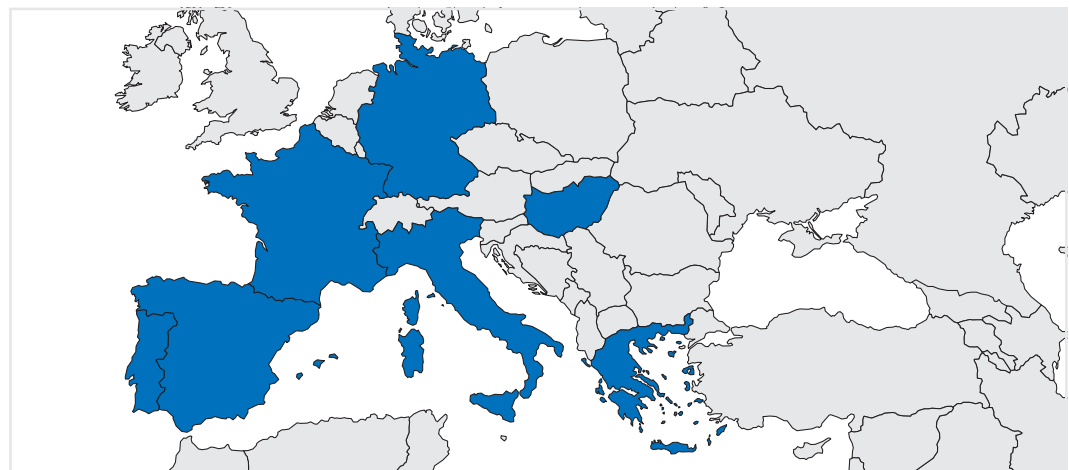
loaded with irinotecan by prospectively collecting data on treatments and clinical follow-up to ultimately determine at which stage of the cancer treatment TACE is being used and with which intent (e.g. down-staging for surgical or ablative treatment). The secondary objectives of CIREL are to assess the observed treatment outcomes in terms of safety and efficacy as well as to explore predictive response factors.

Project Outlook

The Steering Committee agrees that this registry will not only create an important dataset that could greatly impact patient selection in TACE, but if successful, may stimulate further research into interventional oncological procedures. Interventional radiology is growing fast as a clinical discipline, and CIRSE continuously strives to support its evidence-based approach in every possible way.

If you are interested in participating in CIREL or would like to receive further information on the research project, please contact:

Nathalie Kaufmann
CIRSE Office
+43 1 904 2003 53
kaufmann@cirse.org
or visit clinicaltrials.gov
(ID: NCT03086096)
via the QR code.



The CIEMAR study will investigate the use of microwave ablation in colorectal liver metastases, and patient enrollment is due to begin in January 2020.

CIEMAR explained

Following the CIRSE Clinical Research principles, the CIRSE Emprint Microwave Ablation Registry (CIEMAR) plans on collecting high-quality data on microwave ablation using the Emprint Microwave Ablation System. CIEMAR plans to capture data on MWA for colorectal liver metastases in a large multinational cohort. Design of the outcome measures was completed following CIRSE 2018, and the database is currently being implemented by the CIRSE Clinical Research Department using the OpenClinica data capturing system. With a target enrolment of 1,000 patients, CIEMAR will be one of the largest data collections on MWA worldwide and may impact oncologic guidelines. Although the observational design of CIEMAR is limited compared to a fully randomised, controlled trial in terms of its explanatory power, the investigators are confident that the open, real-world design will enable the observation of a cohort of unprecedented size and geographical reach to allow assessment of the therapy's effectiveness outside the ideal conditions created in controlled trials. Ideally, this will produce sub-sets of patients large enough to provide meaningful sub-group analysis as well as exploration on how variability of treatment delivery in routine practice may affect outcomes.

Project Outlook

The final version of the CIEMAR study protocol is planned to be ratified at the CIEMAR Steering Committee Meeting during ECIO 2019 in Amsterdam. Co-chaired by Prof. Phillipe Pereira (SLK Kliniken Heilbronn GmbH, Heilbronn,

Germany) and Prof. Thierry de Baère (Gustave Roussy Cancer Centre, Villejuif, France), the CIEMAR Steering Committee is comprised of experts in the field of interventional radiology and oncologic surgery from seven different countries. Following ratification, CIEMAR will be launched and contract negotiations will commence with centres that fulfil the selection criteria. Centres deemed suitable for participation were contacted in October 2018 to establish initial interest in the study and make contracting more efficient once the study protocol was ratified. Before the start of patient enrolment in January 2020, the CIEMAR Steering Committee will finalise the CRF and the statistical analysis plan, exploring the possibility of including a cost-effectiveness analysis in the scope of CIEMAR. Patient enrolment is planned to last for two years with a follow-up period of three years.

The study is sponsored by the CIRSE Society and independently managed by the CIRSE Clinical Research Department in conjunction with the CIEMAR Steering Committee. The study is funded by a research grant provided by Medtronic, the manufacturer of the Emprint Microwave Ablation System. The project is scheduled to run until 2025.

For further information on the research project, please contact:

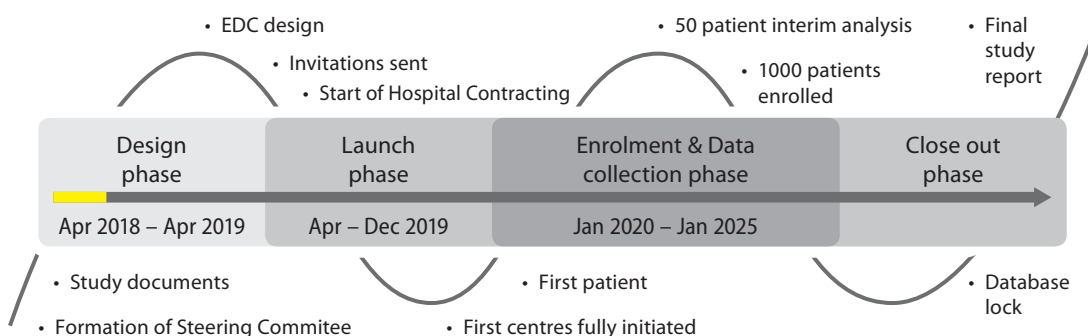
Martin Hajek
CIRSE Office
+43 1 904 2003 54
hajek@cirse.org
or visit clinicaltrials.gov
(ID: NCT03775980)
via the QR code.



S O C I E T Y

The final version of the CIEMAR study protocol is planned to be ratified during ECIO 2019 in Amsterdam.

CIEMAR
Timeline

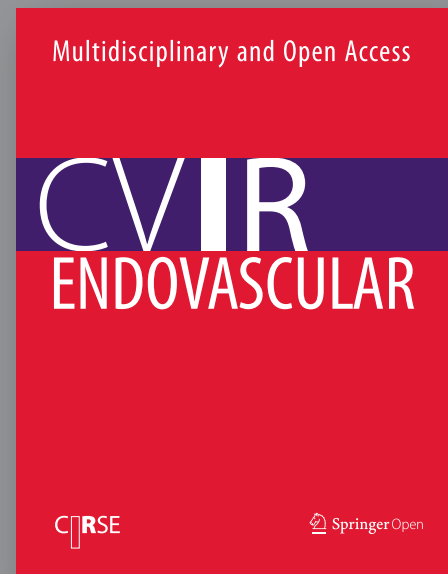


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* CVIR Endovascular is CIRSE's online, open access journal created for fast communication between peers. It publishes research beneficial for daily IR practice and is intended for all specialists working in the field of endovascular treatment.



www.cvirendovascular.org

CIRSE representatives took part in the annual meeting of the Asia Pacific Society of Cardiovascular and Interventional Radiology this February.

APSCVIR – IR goes to Bali

CIRSE was happy to once again support and participate in this year's meeting of the Asia Pacific Society of Cardiovascular and Interventional Radiology (APSCVIR). Back for the first time as an annual event, rather than a biennial one, more than 2,000 delegates attended the conference in Bali from February 21-24.



This event, a collaboration between 16 member societies in the Asia-Pacific, is held in diverse spots around the region every year. The 2019 iteration was the first to be held in Indonesia – the Indonesian Society of Interventional Radiology (ISIR) co-hosted the event at the Bali International Convention Centre in Nusa Dua, located in idyllic tropical surroundings just metres from the beach. Under the motto “Art Innovation Beyond Limit”, their 14th scientific meeting, also endorsed by the Indonesian Radiology Society (IRS), worked towards the goal of promoting research and practice of IR in the Asia-Pacific region.

CIRSE has historically participated in the programme in various ways, sending current and former CIRSE Executive Committee members as faculty, and hosting the EBIR in collaboration with IRSA at the 2018 meeting in New Zealand.

The 2019 meeting was no different, with CIRSE showing a stronger-than-ever presence. In addition to several lectures from notable CIRSE members throughout the meeting, APSCVIR President Andrew Holden and CIRSE President Robert Morgan moderated an “APSCVIR meets CIRSE” session, with Executive Director Daniel Waigl giving an introductory talk. Dr. Morgan, Vice-President Afshin Gangi and Scientific

Programme Committee Chair Fabrizio Fanelli all spoke on a variety of pressing topics in IR, including aneurysm management, mechanical thrombectomy, kidney cancer ablation and drug-eluting balloons. CVIR Editor-in-Chief Klaus Hausegger spoke on publishing in CVIR, and held a manuscript-writing workshop together with the Editor-in-Chief of JVIR Zim Haskal on the following day.

CIRSE also hosted an info booth, where attendees were able to pick up recent editions of CIRSE publications, information on the EBIR exam and preliminary programmes for ECIO and ET 2019. Former CIRSE President and CVIR Endovascular Editor-in-Chief Prof. Jim Reekers gave several lectures throughout the event on topics including perfusion angiography, below-the-knee interventions and the treatment of venous malformations. At the closing event, he was presented with APSCVIR honorary membership in recognition of his contributions to the field and his support of APSCVIR.



Following the awards ceremony, guests were treated to a colourful, uniquely Balinese celebration featuring food, music, dancing and lights.

This was an inspiring opportunity for CIRSE to be represented in the Asia-Pacific, and to exchange ideas and strengthen ties with the region. CIRSE is already looking forward to continued cooperation and conversations at the 2020 APSCVIR meeting in Taipei, Taiwan from March 6-9.

Elizabeth Wenzel, CIRSE Office



The CIRSE delegation had the honour of hosting the congress' official opening session.

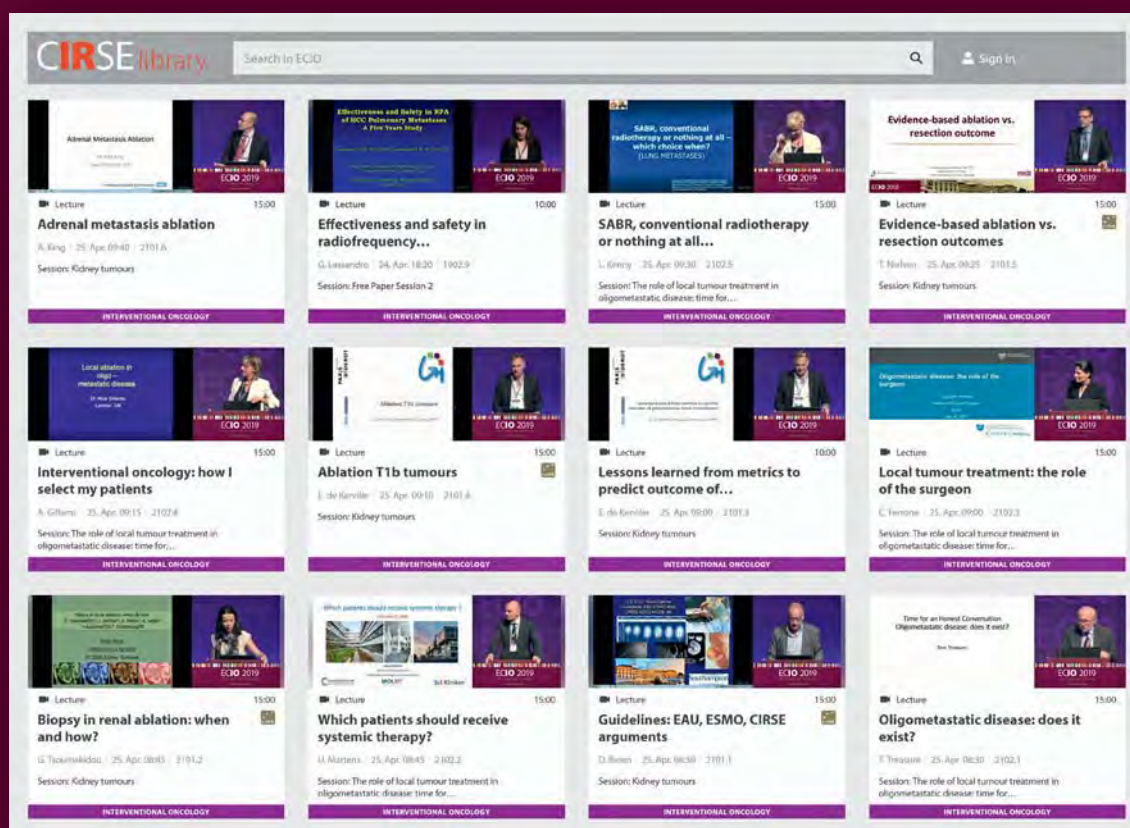


APSCVIR
Asia Pacific Society of Cardiovascular
& Interventional Radiology

LEADERS IN ONCOLOGIC INTERVENTIONS

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The CIRSE Library is the largest online presentation database for interventional radiology, featuring slides and webcasts from past CIRSE meetings. CIRSE members have year-round free access to all live congresses and webcast recordings. Find out more about our various access options for non-members at cirse.org/library/access.

Cardiovascular and Interventional Radiological Society of Europe

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1. Pech M, Kraetich A, Wiesner G, et al. Embolization of the Gastrointestinal Artery Tubercle: selective Internal Radiation Therapy. A prospectively Randomized Trial Comparing Platinum Covered Microcatheters with the AMPLATZER Vascular Plug II. CVIR 2009;32(3):455-61.

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3. Tests performed by and data on file at Abbott.

4. Jackson J, Hart J, Aldin Z, et al. Embolization of pulmonary arteriovenous malformations using the AMPLATZER vascular plug: successful treatment of 69 consecutive patients. Eur Radiol 2010;20(11):2663-70.

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M E E T I N G

IROS 2019: An exciting start to the interventional year

From January 10-12, this year's Interventional Radiology Olbert Symposium welcomed more than 800 German-speaking IRs to Berlin.

This annual event brings together interventional radiologists from Germany, Austria and Switzerland.

The Interventional Radiology Olbert Symposium has become an integral meeting for IR in central Europe. Better known as IROS, this annual event brings together interventional radiologists from Germany, Austria and Switzerland for the year's IR highlight of the German-speaking world. This year, IROS returned for a fourth time to Berlin, and the Berlin Congress Centre once again provided an excellent setting, offering plenty of space for meetings, sessions and discussion.



The 38th annual meeting featured more than 150 presentations on topics spanning the entire scope of IR. The programme planning committee, headed by Maria Schoder and Patrick Knüsel, offered old favourites as well as exciting new sessions for the 857 delegates in attendance, presented in various multifaceted formats.

In addition to tried-and-true formats, such as Basic Courses leading up to IR certification, and "A case that wouldn't let me sleep", Focus Courses were introduced, replacing the Refresher Courses of previous years. The topic of patient

management was featured in particular, as seen in the Focus Course on emergencies in interventional radiology. The course, moderated by Werner Jaschke and Patrick Knüsel, addressed carotid and vertebral artery dissection, haemorrhage embolisation in parenchymatous organs, and traumatic and non-traumatic haemorrhage in the pelvis and soft tissue.

Several Live-In-Box presentations were a highpoint of this year's symposium. In seven video-based Focus Courses, a pre-recorded interventional procedure was shown, while the interventionist who had performed the procedure commented on its technical and clinical aspects. Before each video, the patient history was described and the relevant products were shown. After seeing the procedure, participants had the opportunity to ask questions and debate its various aspects. The procedures covered many different parts of the interventional spectrum, including fibroid and prostate embolisation, venous recanalisation, and pain management and palliative procedures in oncology.





The event also saw ÖGIR and DeGIR giving awards to deserving innovators, and the Honorary Lecture being delivered by Prof. Gerhard Schroth.

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The perennially popular Simulation Training sessions once again offered participants the opportunity to widen their knowledge and fine-tune their practical skills. Angiography sessions were held focusing on stroke and carotid stenting, as well as on embolisation for pelvic haemorrhage, uterine fibroids and benign prostate hyperplasia. These sessions allowed IRs to refine their technical knowledge under the guidance of experts with an angiographic simulator, learning indications, contradictions, outcomes and possible complications on a case-by-case basis.

Introduced last year, "The Hot Seat" sessions returned for 2019. These sessions featured controversial topics discussed by an interdisciplinary board, weighing the pros and cons of new procedures while putting emphasis on a cooperative approach across the various specialities. This year saw discussions on long femoral closure in chronic ischaemia and attempted to answer if it's time for a changed approach in treatment of benign prostate hyperplasia.

At the Opening and Award Ceremony, trail-blazer Prof. Gerd Nöldge, part of the team that carried out the first successful TIPS procedure in 1988, was awarded an honorary ÖGIR membership. Prof. Rolf W. Günther, prolific researcher, innovator and founder of an eponymous foundation that supports young radiologists, was awarded honorary membership of DeGIR.

Named after the German radiologist who performed the first percutaneous transluminal angioplasty in Europe, the Eberhard Zeitler medal has been awarded to exemplary interventional

radiologists since 2013. This year, the medal was awarded to Prof. Hans H. Schild for his outstanding achievements in the field.

The 2019 Honorary Lecture was given by Prof. Gerhard Schroth of the Inselspital in Bern. Demonstrating his points with the aid of illustrated data from several studies, Prof. Schroth spoke eloquently on quality control of various recanalisation techniques in stroke. "We usually only have to remove the thrombus from the vessel – like the cork from a bottle", he concluded.

After this exciting beginning of the interventional year, the IROS programme planning committee is already looking forward to and preparing for the 39th IROS symposium, taking place in Salzburg from January 16-18, 2020.

Log onto library.cirse.org to view all sessions from IROS 2019!

Elizabeth Wenzel, CIRSE Office



Seven
pre-recorded
video cases were
moderated by the
performing IR,
with questions
and debate
afterwards.

The new European Conference on Embolotherapy takes place in June; faculty members share their personal insights on the congress.



Educational and timely – The new ET meeting

Emily Beaven, CIRSE Office



“Having a congress on embolotherapy is unique and outstanding.”

CIRSE: Given that this is its first year, in what ways do you envision ET 2019 benefitting CIRSE and the field of IR as a whole?

Inoue: Embolotherapy covers a wide range within the field of IR. As the target of embolotherapy includes wide variety of diseases, it is often very hard to grasp the full picture. Accordingly, ET 2019 will have an important role in developing a more clear, holistic point of view of the specialty.

Müller-Hülsbeck: The ET congress closes a gap and is the connecting link between the ECIO, CIRSE and IDEAS conferences. Having a congress on embolotherapy is unique and outstanding. It's more than just an additional meeting; it's a chance to inform and discuss the latest developments in embolotherapy with already proven and developed concepts. The organisers are well known and established, and the sessions are presented in a wide range of formats, making the event worthwhile for interested IRs worldwide.

CIRSE: What are you personally most excited for in ET 2019?

Prevoo: I'm excited to meet experts in the field of ET, find new ways of treatment, and get updates on how to apply new materials and imaging methods.

Müller-Hülsbeck: I am excited to attend to a conference dedicated to embolotherapy, as it will enable me to learn about the latest advances and expanding indications in the field of embolisation as well as to have the opportunity to discuss and exchange information with many IR experts. I am very proud to have been involved in the development of this congress from the beginning.

CIRSE: Dr. Prevoo, do you think that expertise in lymphography diminished as a result of the introduction of cross-sectional imaging techniques? If so, what do you think patients miss out on as a result?

Prevoo: Cross-sectional imaging really took over the role of lymphography evaluating lymph nodes and lymphatic diseases. Apart from the thoracic duct, the lymphatic system is not as simple and straightforward as the main vascular systems. It is possible to distinguish the thoracic duct on CT (if you know where to look) and with MR lymphography. However, imaging the widespread lymphatic vessel system in the limbs, pelvis and abdomen is difficult. In fact, only a lymphogram can show this chaotic lymphatic anatomy. So, we may miss out on rare diseases like Noonan's, Gorham's, Behcet's or lymphangiomyomatosis. Lymphography still has its value evaluating the whole lymphatic system in cases treating chyle leakage. Although leakage is a relatively rare complication, it is still important to know the basic techniques of how to perform lymphography and how to embolise.

CIRSE: Prof. Müller-Hülsbeck, how do you think the role of interventional radiology in trauma, particularly for haemodynamically unstable patients, has evolved in recent years?

Müller-Hülsbeck: During the last years, the role of IR for treatment of haemodynamically unstable patients was well established in large trauma centres. However, again and again, radiology and IR need to sharpen awareness of IR services in this patient population with life-threatening diseases. This starts with the routine evaluation of the CT trauma scan by a radiologist. She or he needs to make an immediate



We spoke with faculty members Stefan Müller-Hülsbeck, Warner Prevoo and Masanori Inoue about this new congress, as well as the presentation topics they will be discussing.

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decision about whether it's an option to control and stop bleeding through endovascular means, and if she or he is uncertain, the IR on duty needs to get involved immediately, without any delay. Offering these services 24/7 is quite challenging; however referring the patient to the IR unit and blocking arterial flow within minutes may save a patient's life. It is therefore desirable that these IR services are provided readily and are made available at both large trauma centres and referring centres.

CIRSE: Dr. Inoue, what are some of the main challenges of conducting retrograde thoracic duct catheterisation and how do you combat them?

Inoue: Identifying the thoracic duct entry is usually difficult. Lymphangiography can visualise its entry; however, the precise location of the entry is hard to recognise in many cases. Another important issue is that the thoracic duct cannot be visualised on venography, because there is a valve at the entry. Therefore, we must cannulate the thoracic duct based on lymphangiography information and advance a guidewire to the invisible thoracic duct. Recently, MR thoracic ductography has been able to clearly visualise the thoracic duct, which can give us useful information before the procedure.

CIRSE: Since IR is ever-evolving and innovating, how do you ensure that you and your team keep abreast of the latest developments within your area of specialisation?

Müller-Hülsbeck: Keeping up to date on the latest developments in IR is rather challenging, because the field of IR is growing at a rapid pace. Personally,

I focus primarily on reading (articles, serving as journal reviewer or even journal editor and using e-learning platforms like the CIRSE Academy); listening (attending conferences, including live and on-demand options offered in the CIRSE Library, serving as lecturer); and practicing (daily work in the cath lab, training and establishing new skills).

Inoue: Of course, it is very important to read papers; however, the things which are written in papers are not always accurate. Therefore, it is very useful to attend congresses like ET 2019 to hear presentations and then have the opportunity to ask the doctors follow-up questions.

CIRSE: What is the most rewarding part of your work? What sustains you, both personally and professionally?

Müller-Hülsbeck: There is only one short answer: the patient's smile and her or his thankfulness after completing an IR procedure. Receiving this immediate feedback sustains me during exhausting periods of time, which nowadays appear more often due to economic challenges and restrictions.

Inoue: I work not only for a living, but also for fulfillment. I feel especially happy when patients thank me.

Prevoo: Most of all, happy patients and happy co-workers. Furthermore, successful treatments; low complication rates; good teamwork with motivated colleagues, techs and nurses; full access to innovation; and applying new procedures. Personally, travelling with my son and sailing to far and exotic destinations keeps me running.

Reduced
registration rates
are available
until May 16!

ET 2019

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June 26-29 | Valencia | Spain

MASTERING EMBOLISATION

Some highlights from the ET 2019 programme

Special Topic Sessions

Examining the current evidence on new or controversial developments in embolotherapy

Technical Focus Sessions

Highlighting the latest trends in specific embolic materials, delivery systems and advanced guidance modalities

Case Remedy Sessions

Featuring case discussions including therapy options, technical aspects, outcome and follow-up

Morbidity and Mortality Conferences

Looking at the "bad days" as well as the "good days" in the angiosuite

www.ETconference.org

Cardiovascular and Interventional Radiological Society of Europe

CIRSE

*The Preliminary Programme is now available online,
as is congress registration!*

CIRSE 2019 – Where the world of IR meets

Once again, preparations are underway for the largest IR meeting of the year: CIRSE 2019. This year we return to sunny Barcelona, to the spacious and well-appointed CCIB: an ideal venue for the wealth of hands-on and face-to-face experiences CIRSE offers!

Returning to the traditional 4.5 day set-up, the programme committee has chosen to structure the comprehensive programme along eight clinical tracks, helping delegates to easily select the sessions most relevant to their daily practice.

The comprehensive arterial track will feature some particular highlights in 2019, notably a new PAD micro-track to be held on the opening day of the congress. This will hone in on technical and safety issues in PAD, and includes First@CIRSE, a platform for the release of the latest evidence from trials and studies on peripheral arterial disease (PAD). More information can be found on page 28!

Meanwhile, the venous programme will offer an excitingly diverse range of sessions, including a Clinical Evaluation Course entitled “ilio-femoral venous stenting masterclass” and a Hot Topic Symposium on the implications of the ATTRACT trial for DVT management.

Once again, the aortic programme will be hosted as the IDEAS symposium, a successful congress-within-a-congress that encourages non-IR aortic experts to learn and debate alongside their IR colleagues.

Interventional oncology, perhaps the fastest-growing branch of IR, will be prominently featured, with a multitude of sessions examining immunotherapy, colorectal metastases of the liver and lung, renal cell carcinoma, cholangio-carcinoma, and, naturally, HCC, with a Focus Session presenting the 20 most important studies on HCC. A Hot Topic Symposium will ask if renal tumour ablation is ready for prime time.

Embolotherapy, another rapidly evolving field, will also be given ample coverage, investigating trauma, benign prostate hyperplasia, and fibroids and adenomyosis, with Case-Based Discussions on AVMs and lymphatics, and IR in gynaecological emergencies, respectively.

A highlight of the neurointerventions track will be the Expert Round Table on controversies in endovascular thrombectomy, which will complement the Fundamental Courses, Focus Sessions, Clinical Evaluation Courses and Video Learning Sessions dedicated to stroke therapy. Those wishing to refine their knowledge of non-vascular interventions can choose from a range of events, not least a Case-Based Discussion on IR salvage for abdominal surgical disasters, and an Expert Round Table showing that vertebral augmentation is alive and kicking.

Pain management won't just be addressed in the non-vascular track, however: CIRSE's clinical management track will be bringing delegates up to speed on the best anaesthesia options, as well as looking at building an evidence base, and artificial intelligence, machine learning and robotics in IR.

Registration

Registration is already live, and early-bird deals are available until June 6! CIRSE Members (whether full, corresponding, junior or nurse/radiographer) all benefit from additional discounts.

Travel and Accommodation

Hotel accommodation at the official congress hotels has been reserved by our trusted housing bureau, Kuoni Congress, while discounts on flights have been agreed with Lufthansa Group Partner Airlines. Visit page 32 for details and more practical information on planning your trip.

Other activities

The congress will once again cater not only for different clinical interests, but also for different levels of clinical knowledge, with special programmes for medical students and IR trainees – details can be found on pages 30 and 31.

The congress is also an ideal time for peer-to-peer interaction, awards and celebration, and further details of these opportunities will be announced throughout the summer. Stay tuned!



Be sure
to register
by June 6
to get the
best deals!

The joint sessions offer a fantastic opportunity to learn about how colleagues from distant lands face challenges both unique to their countries and more universal.

A glimpse into IR in Canada – CIRSE meets CAIR



“We are very lucky to have so many Canadian IRs dedicated to furthering our field!”

In 2017, CIRSE was excited to welcome the Canadian Association for Interventional Radiology (CAIR) to the CIRSE family. In order to strengthen this connection and highlight the innovative work currently conducted in Canada, the CIRSE 2019 Scientific Programme will feature CAIR in one of its notable “CIRSE meets” sessions.

We had the opportunity to speak with current Board Member and past CAIR President, Dr. Robert Abraham, to gain his perspective on interventional radiology in Canada and gear up for the “CIRSE meets CAIR” session. Dr. Abraham is just one of the distinguished presenters for this CIRSE 2019 session.

CIRSE: The last couple of years have brought a lot of exciting new changes to CAIR! Is there anything in particular you would like to highlight?

Abraham: IR’s subspecialty recognition in Canada has helped us bring IR to the forefront. Not so long ago, only few disciplines in our hospital would have known or understood what interventional radiology was and how IR could help in patient management. That is quite different now. Subspecialty status has put us on the map, and helped to bring awareness on how IR can make a difference in the management of patients.

The transition from CIRA to CAIR and the initiatives led by our new Executive Director, Daniel Lapointe, will leverage this. Daniel shares the CAIR Board’s vision for the future of Canadian IR, and he will ensure we meet our key goals, which will focus on patient-centred care and the demonstration of the positive impact IR has on patient outcome and quality of life. This includes supporting our members who are taking leading roles in the management of their patients. CAIR will also be very busy on the education front as we support the accreditation of Royal College IR Fellowship programmes across the country. We are also considering additional CME events similar to CAIR’s Lake Louise M&M Course that Jason Wong, our current President, has worked hard to establish. Jason’s vision plus the great efforts to attract outstanding speakers to such a fabulous venue has resulted in a very successful and highly popular event.

CIRSE: After one year of CIRSE Group Membership, how do you envision the future of this inter-society collaboration?

Abraham: CIRSE Group Membership has brought significant value to our members. We now have access to all the benefits of CIRSE membership, including the outstanding education available through the CIRSE Library. Going forward, it gives both organisations an opportunity to learn from each other. In addition to having been asked to speak at the “CIRSE meets...” session at CIRSE 2019, we are very fortunate to have CIRSE President, Professor Robert Morgan, as a guest lecturer at our meeting in Toronto at the end of May. I am really looking forward to his talks and to getting a chance to know him better. Hopefully Rob will find time to enjoy the charms of our great country!

Collaboratively addressing our common challenges and creating unified, coherent and well thought-out action plans will no doubt result in positive results for IR globally. I am also excited to have CAIR participate in additional outreach opportunities. In the past, CAIR has been involved in helping IRs in other countries pioneer their own societies and those connections were initiated through CIRSE. I would like to see this type of mentorship and guidance continue in the future. CAIR, as an organisation, has learned a lot during our journey from inception to where we are now, and we are happy to share that knowledge, particularly as it helps IR on a global scale.

CIRSE: What are some factors that you think are unique to IR practice in Canada?

Abraham: Geographically we are a very large country, but we have a relatively small number of IRs spread across our vast expanse of land. One of the benefits of this has been the development of great collegiality! We are a small but close group, and CAIR has given us a great forum to come together to share, discuss our experiences and learn from each other.

Another unique – and challenging – aspect is that healthcare in Canada is publicly funded through a single-payer system. Short-sighted and siloed hospital budgets have hindered adoption

This year, Dr. Bob Abraham and his Canadian colleagues will discuss the evolution of IR in Canada and their approach to stroke care.

of IR procedures as they have been considered “expensive” due to the higher upfront costs of the technologies being used. The fact that IR can be a cost saver for the overall system in the long term is often not recognised or understood. As a result, decisions such as the use of group purchasing companies to acquire IR devices are being made more often in order to reduce IR costs and budgets. It is imperative that IRs are included in these decisions in order to ensure that we continue to have access to the best and most appropriate tools when treating our patients. We also need to continue to work hard to demonstrate how the minimally invasive treatments we perform are better for our patients and health centres in the long run!

CIRSE: What are the main areas of IR research being conducted in Canada?

Abraham: There is quite a wide variety of IR research being conducted throughout Canada. Research on resorbable embolics, chemoembolisation, ablation, aortic and peripheral vascular intervention and much more is in the mix, including my own work on next generation radiopaque ⁹⁰Y radioembolic microspheres and delivery systems. There is also strong involvement with industry-sponsored multi-centre clinical trials across the country.

We are very lucky to have so many Canadian IRs dedicated to furthering our field!

A longer-term goal for CAIR is to support and promote research which is fundamental to improving patient care. I am currently working on tracking the research being conducted across the country and plan to establish a CAIR-based forum for IRs performing research, to facilitate communication and promote greater collaboration. I hope sharing my own experiences in innovation will encourage more Canadian IRs to innovate in our field.

CIRSE: What are your current professional interests; what are you excited for at CIRSE 2019?

Abraham: My clinical practice encompasses virtually all areas of IR. The CIRSE congress provides a great opportunity to meet and speak with the leaders in our field and to keep up with the latest research studies and practice advances related to the treatments we employ. I have attended numerous CIRSE congresses, and there is no question I have enjoyed and benefited from each and every one. It is indeed a favourite venue for many IRs!

Emily Beaven, CIRSE Office



Faculty at the Grand Slams and Catastrophes M&M Course 2019



M E E T I N G

“Collaboratively addressing the challenges and creating unified, coherent and well thought-out action plans will no doubt result in positive results for IR globally.”



The opening day of the congress will see the arterial track hone in on PAD.

A full-day focus: PAD Day at CIRSE 2019



New technologies have allowed IRs to improve patency rates by nearly 70% at five-year follow-up.

CIRSE 2019's Scientific Programme includes a wide variety of interesting sessions, novel formats and innovative research, delivered by the world's leading experts in the field. As in previous years, this year's programme consists of eight thematic tracks: arterial, aortic, venous, interventional oncology, embolisation, non-vascular, neuro-interventions and IR management. As an exciting new addition to CIRSE 2019, the arterial track will dedicate the Saturday of its programme to focusing on the treatment of peripheral artery disease (PAD). As PAD remains a wide-spread condition across the globe, this day-long micro-track will feature sessions and a symposium based on a multidisciplinary, multinational discussion by a team of top experts. As a whole, the PAD Day programme will shed more light on the current technologies, real-world applications and controversies in PAD management.

Why PAD?

PAD impacts more than 200 million people worldwide each year while remaining the third leading cause of atherosclerotic vascular morbidity¹. The disease primarily results from diabetes or atherosclerosis, which damages and reduces blood flow to the peripheral arteries, most commonly affecting the lower limbs. Patients with a history of smoking or diabetes are at an increased risk for developing PAD². Age is also risk factor, as prevalence increases by 15-20% in persons over the age of 70. The clinical presentation of PAD varies from patient to patient. Although some remain asymptomatic, around 10-20% of patients will experience intermittent claudication (IC), especially in the calf muscle, and more than half will experience some form of abnormal limb symptoms.

Interventional radiologists remain on the front lines of combating the debilitating symptoms and potentially dire consequences of this disease. In recent years, the introduction of new technologies, such as drug-eluting stents (DES), drug-coated balloons and atherectomy, has allowed IRs to manage the most critical and complex cases as well as improve patency rates by nearly 70% at five-year follow-up. Moreover, the use of drug-coated balloons has reduced the use of stents, with Level I evidence for their use in the femoropopliteal region as first-line therapy, creating significant advantages to patients. The fundamental role

of these technologies is especially impactful for patients experiencing IC, who are often young and therefore have a long life expectancy.

Lack of consensus remains about patient selection as well as when and how to treat PAD, particularly heavily calcified lesions, with some evidence supporting the use of DES not only as a bail-out procedure, but also as a primary therapy.

Taking a Comprehensive Look

The PAD Focus Sessions will discuss the evolution of and open questions surrounding practice guidelines and determinations for using the current technologies and devices. These sessions will also take an in-depth look at the indications for endovascular management for patients with intermittent claudication as well as for those experiencing critical limb ischaemia. Both the possibilities and uncertainties regarding procedures and clinical management, including alternative options for patients with difficult cases and options beyond drug-eluting devices, will be discussed in these invigorating sessions.

.....
"Attending the PAD symposium will give participants the opportunity to dive deep into discussion of the most important concepts surrounding the femoropopliteal and BTK areas. At the end of the day, you will most certainly have improved your knowledge and expertise in this ever-important field."

Prof. Fabrizio Fanelli

Scrutinising the Latest Developments

The PAD Hot Topic Symposium features prominent speakers who will utilise session-style presentations to address open questions in PAD, most notably Dr. Katsanos' recent paper revealing safety concerns about paclitaxel-coated balloons and stents. Other key lecturers will explore the complexity of the current debate, examining both the current realities and ambiguities in research and clinical practice for IR treatments of PAD. This important and timely discussion is sure to provide a valuable opportunity for IRs of all specialities to delve into the current evidence and outstanding questions in the field.

Emily Beaven, CIRSE Office

Unresolved questions, such as treatment of heavily calcified lesions and dissections, will be addressed during the day.

PAD Day Programme

Saturday, September 7, 08:30-09:30

FS 101 Technologies and techniques: evolution and outstanding questions

- 101.1 Practice guidelines across societies: status and critical review
J.A. Kaufman (Portland, OR/US)
- 101.2 Calcium solutions: which calcium needs treatment and how?
K. Rocha-Singh (Springfield, IL/US)
- 101.3 Overcoming angiography limitations: rationale for IVUS-guided revascularisation
F. Fanelli (Florence/IT)
- 101.4 Drugs, doses and excipients: DCBs under the spotlight
G. Tepe (Rosenheim/DE)
- 101.5 Distinguishing between class effect and device/brand-specific features: how to decide what deserves adoption?
M. Brodmann (Graz/AT)
- 101.6 Dissections: do they matter and how can they be managed?
T. Zeller (Bad Krozingen/DE)

Saturday, September 7, 10:00-11:00

HTS 201 Hot debates on drug-eluting technologies

- 201.1 RCTs, registries and the real world: what evidence is needed? What is doable and what is utopian?
W. Gray (New York, NY/US)
- 201.2 Is safety a real issue for drug-eluting devices in peripheral arterial disease?
K.N. Katsanos (Patras/GR)
- 201.3 Meta-analysis: critical review of the methods to be announced
P. Jüni (Toronto/CA)
- 201.4 Where do we stand? Overview of current positions
F. Fanelli (Florence/IT)
- 201.5 Round-Table Discussion
M. Lee (Dublin/IE) and T. Zeller (Bad Krozingen/DE)

Saturday, September 7, 11:30-12:30

FS 301 Real-world endovascular management of claudication

- 301.1 How to treat long CTOs
Y. Gouëffic (Nantes/FR)
- 301.2 CTO crossing: true lumen or subintimal?
C. Hohl (Köln/DE)
- 301.3 Is vessel preparation required for all lesions?
E. Blessing (Karlsbad/DE)
- 301.4 Role of debulking: lumen gain or more than that?
R. Sachar (Raleigh, NC/US)
- 301.5 Drug-eluting technologies in long, real-world fem-pop segments: review of evidence
M. Razavi (Orange, CA/US)
- 301.6 DCB, DES or BMS?
K. Deloose (Dendermonde/BE)

Saturday, September 7, 17:30-18:30

FS 701 Management of real-world critical limb ischaemia

- 701.1 Foot perfusion assessment: the emerging role of imaging
J.A. Reekers (Amsterdam/NL)
- 701.2 Angiosome re-interpretation: which vessel to open, when to insist and when to stop
S. Kum (Singapore/SG)
- 701.3 The resurgence of DCB in BTK
J.H. Rundback (Teaneck, NJ/US)
- 701.4 Indications and prerequisites for intervening below the ankle
M.G. Manzi (Albano Terme/IT)
- 701.5 Managing the "desert foot": new options for no-option patients?
R. Ferraresi (Bergamo/IT)
- 701.6 Beyond drug-eluting devices
A. Holden (Auckland/NZ)



A Hot Topic Symposium will address safety issues, including Dr. Katsanos' recent paper on drug-coated devices.

¹ Fowkes FGR et al. Comparison of global estimates of prevalence and risk factors for peripheral artery disease in 2000 and 2010: a systematic review and analysis. *Lancet*. October 2013; 382: 1329-40.

² Norgren et al. Inter-Society Consensus for the Management of Peripheral Arterial Disease (TASC II). *Journal of Vascular Surgery*. January 2007; 45 (1): S5A-S67A.

The Award of Excellence and Innovation in IR



Innovative Spirit

In 2018, Maxim Itkin was chosen for his development of new imaging and intervention techniques of the lymphatic system.

Development

The continuous development and refinement of new agents, devices and techniques by resourceful interventional radiologists will further expand the remarkable spectrum of treatments offered by our specialty.

Recognition

Many patients are grateful for the wide range of minimally invasive alternatives to open surgery from which they can now benefit. Furthermore, CIRSE also wishes to honour your dedication and excellence in IR and present your innovation to the IR community during the opening ceremony of CIRSE 2019.

Recipients of this distinction will be awarded with a certificate of merit for their contributions to the field, as well as a cash prize of €6,000.

How to apply

Send us your groundbreaking research results, details of a novel technique you developed or the cutting-edge equipment you have just patented. Our board of reviewers welcomes all your innovations and looks forward to the advances they may bring to IR!

R.W. Günther Foundation

We warmly thank the R.W. Günther Foundation for kindly sponsoring the award. The Foundation is based in Aachen, Germany, and aims to promote science and research, especially in the fields of radiological sciences, and diagnostic and interventional radiology; as well as to support the national and international co-operation.



Please note that all applications must be submitted with a relevant CV or, in the case of research groups, a description of the members involved.

All applications must be submitted by May 10 to scientific@cirse.org. For more information, please visit the CIRSE website.

Back for a fifth year, the Interdisciplinary Endovascular Aortic Symposium promises an innovating and informative programme.

IDEAS: Aortic Interventions

The growing interest in endovascular treatment for various aortic pathologies, and the continuing evolution of devices to facilitate it, have led to an increased demand for data and discussion, and not just among interventional radiologists – aortic interventions require a multidisciplinary approach and strong teamwork from a variety of specialists. Vascular surgeons and cardiologists are also increasingly attracted to minimally invasive ways of treating their patients, and endovascular options offer much promise. Definitive treatment strategies are, however, far from agreed upon, and there is still much discussion to be had.



To this end, CIRSE will once again host the popular Interdisciplinary Endovascular Aortic Symposium (IDEAS). Now in its fifth year, this “congress within a congress” will offer a forum for all interested medical practitioners to explore and discuss the current status of various aortic interventions and to evaluate where the field is headed. Those attending CIRSE 2019 will have unrestricted access to this exciting scientific stream which, along with the arterial and venous tracks, makes up a comprehensive endovascular programme at this year’s congress.

The NICE Guidelines

The UK’s National Institute for Health and Care Excellence (NICE) publishes guidelines for the use of health technologies, clinical practice and social care services. Recently, NICE drafted a guideline about the diagnosis and management of abdominal aortic aneurysms (AAA). To the surprise and dismay of the IR community, the guidelines suggest that patients who are suitable for surgical repair should not be offered EVAR, claiming that EVAR is comparatively too expensive and is associated with more long-term complications, though acknowledging it is associated with fewer peri-operative deaths. As EVAR is a popular procedure, the ramifications of this could be far-reaching.

In a focus session, entitled “The NICE guidelines: nice or not so nice?” leading practitioners will take an in-depth look at the guidelines, their problems and their implications for the future of EVAR.

Durability and EVAR

The Hot Topic Symposia are an ideal platform for examining controversial treatment issues, and this year’s symposium on aortic interventions will be no different. Four leading experts will each give a detailed overview of the current status of EVAR durability before opening the floor to a panel discussion.

Historically, endoleak development and graft migration have been problematic for EVAR. Current information, however, suggests that some of the concerns on this subject may be based on old data or outdated devices. This year’s session, *Durability: the Achilles heel of EVAR* will provide a place for discussion and debate on different options and new technology, and will attempt to answer how IR can reduce stent graft migration and improve long-term outcomes.

More information can be found in the CIRSE 2019 Preliminary Programme, or on the dedicated IDEAS website: www.aorticideas.org

Elizabeth Wenzel, CIRSE Office



A session of particular interest will address the recent NICE guidelines on AAA.

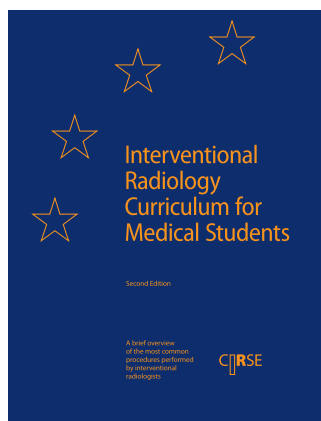


M E E T I N G

InspIRation for all ages...

Undergraduate medical students from across Europe are invited to take part in the CIRSE Student Programme!

A revised edition of the IR Curriculum for Medical Students will soon be published, incorporating videos based on real IR cases.



Since 2010, CIRSE has catered for undergraduate medical students who are considering IR as their future career and, through the **be inspirEd** student programme, aims to provide them with as much information about this innovative medical subspecialty as possible. The CIRSE Student Programme is held at CIRSE Annual Meetings and invites all undergraduate European medical students to attend the congress for free and learn more about the field through engaging and fun IR-related sessions and events tailored especially to students' needs.

We are happy to announce that the number of students attending CIRSE Annual Meetings is rising every year, and since the Student Programme was launched, more than **1,550 students** have taken advantage of this great initiative. The Student Programme enables students to learn about IR and its applications by attending **recommended scientific sessions**, taking part in **hands-on device training and simulation sessions**, or joining learning-centre workshops, which are coordinated by CIRSE's industry partners. Furthermore, students are also invited to join the **mentoring event**, where they can chat with mentors – professional IRs – from their own countries and discuss what it takes and what has to be followed in order to become an IR in their home country. Students also get the chance to show their knowledge of IR when taking part in the **Students' Quiz** at the end of the congress or gathering at a social event in a cosy bar.

New at CIRSE 2019: Many motivated students submitted outstanding educational or research papers as an abstract for CIRSE 2018, with the best submissions being included in the e-poster

section. To engage students even more, this year, the authors of high-quality abstract submissions will be given the chance to present their work in the News On Stage area. An impressive 74 papers were submitted, and the winners will be announced in May.

Good news for medical students!

As of 2019, undergraduate medical students can also join the CIRSE family and benefit from free access to the CIRSE Library and *CVIR* journal. All students with an interest in cardiovascular and/or interventional radiology, who started their first university degree programme no longer than eight years ago and are still enrolled in this programme, are eligible to become CIRSE Junior Members and stay connected with CIRSE throughout the whole year.

Revised IR Curriculum for medical students to be published soon

Prof. Christoph Binkert, current CIRSE Treasurer, is working together with his task force on the revision of the *IR Curriculum for Medical Students*, which was initially published in 2012 and addresses both common acute clinical problems and rare clinical conditions in the main IR fields. The final version of the curriculum will be supplemented by engaging videos based on real IR cases.

We strongly encourage all CIRSE Members who are involved in training the next generation to spread the word about the Student Programme – it's an opportunity for the students and the specialty alike!

Romana Šumpichová, CIRSE Office



The ETF Subcommittee at CIRSE 2017 (from left to right: K. Pyra, C. Gonzales Junyent, D. Putzer, F. Sakhinia, G. Makris, H. Moriarty, L. Novosel, G. M. Jørgensen, M. Polovínčák, L. Spelt, J. J. Janssen, M. Tsitskari, N. Vasco Costa)

Engaging Trainees, Residents and Young IRs!

An active programme awaits all residents and IRs-in-training at CIRSE 2019, thanks to the ongoing exertions of the European Trainee Forum!

M E E T I N G

Since 2015, the CIRSE European Trainee Forum Subcommittee has become the voice of young European IRs-in-training, who provide important input on IR training pathways across the continent. Having this crucial feedback from different European countries enables the Subcommittee to adjust the European Trainee Forum activities accordingly and highlight what might be beneficial for the next IR generation.

The European Trainee Forum (ETF) is an open forum, aiming to enhance the participation of young physicians in international scientific and educational activities. One of the primary goals of the ETF is to bring together all young IRs-in-training and build a European network within CIRSE, offering several opportunities which would help to further their careers. The ETF activities are planned and executed exclusively at CIRSE's Annual Meeting. However, an informal networking event is also scheduled at ECIO 2019 in Amsterdam.

What can young IRs expect at CIRSE 2019?

As in previous years, the ETF Subcommittee has been very active and has prepared a wide-ranging programme for the upcoming annual meeting, including both educational sessions and fun networking events. Trainees and residents can once again look forward to popular ETF Short Talks and IR Trainee Sessions focusing on future IR technologies, building an IR career, clinical practice or topics related to IR innovations. Moreover, all trainees and residents will again have a chance to informally network with their peers at the ETF Brunch and prove their knowledge gained at CIRSE 2019 by taking part in the ETF Quiz!

Attending CIRSE 2019 free of charge

Due to its success in 2018, where over 170 Junior Members submitted an abstract and benefitted from free congress registration, the IR Trainee Support Programme is back for CIRSE 2019. This means that all CIRSE Junior Members who submitted an abstract for CIRSE 2019 were able to apply for the IR Trainee Support Programme and have, therefore, a chance to attend CIRSE 2019 free of charge. We hope that this programme, which is kindly supported by Guerbet, will help CIRSE once again welcome a large number of trainees and residents from all over the world to the biggest IR meeting in Europe!

CIRSE Junior Membership

Help CIRSE spread the word among all young IRs! CIRSE Junior Membership gives all trainees and residents (who have finished their undergraduate medical training no longer than eight years ago and are currently enrolled in postgraduate training) the possibility to become CIRSE Junior Members. Current CIRSE Full Members, who meet the above-mentioned criteria, can update their membership status and enjoy extra benefits such as reduced membership and congress registration fees as well as the possibility to apply for CIRSE grants and support programmes. Feel free to visit www.cirse.org/trainees for further information!

Romana Šumpichová, CIRSE Office

Junior Membership offers significant benefits, and existing members who meet the criteria can easily update their status.

ETF

CIRSE 2019 will feature four and a half days of science and education in the beautiful city of Barcelona.

Welcome to Barcelona...



Situated on the picturesque east coast of Spain, the Catalan city of Barcelona stands as one of the most vibrant and international cities in Europe. Named 2014's European Capital of Innovation and a UNESCO City of Literature since 2015, the city provides an exciting backdrop for visitors of all sorts.

Culturally colourful, historically significant and innovatively minded, this sunny seaside location will be an inspiring host for our 34th Annual Meeting, where the most recent advances in IR technologies and techniques will be presented alongside the latest clinical data.



Flights

CIRSE is delighted to be cooperating with Lufthansa Group Partner Airlines to offer discounted flights to participants of CIRSE 2019. To make a reservation and find out more details, please visit www.cirse.org/cirse-2019/flights. When following the booking instructions, please provide the following access code: **ATZQYLN**

Getting to Barcelona

As one of the most popular cities in Europe, Barcelona is well connected to the world by three nearby airports. The largest airport, El Prat, is a mere 13 km southwest of the city centre and can be reached by the RENFE airport train in 25 minutes. A single ticket, which should be purchased before boarding the train, costs €4.20. At the same price, the newly opened metro line L9 also stops at the airport, though the airport train may provide a more convenient connection if you are heading towards the city centre.



Taxis are available and plentiful at the exits of both terminals, and the 20-minute ride to the city costs €30-35, plus an airport surcharge.

The Areobus service connects you directly to the city centre (Plaça Catalunya) and runs every five to ten minutes between 05:30 and 1:00 (from the airport) and between 5:00 and 0:30 (to the airport). A single ticket can be purchased for €5.90, or a return ticket for €10.20. Tickets may be purchased in the terminals or on the bus (cash only).

CIRSE is teaming up with Lufthansa Group Partner Airlines to offer discounted flights...

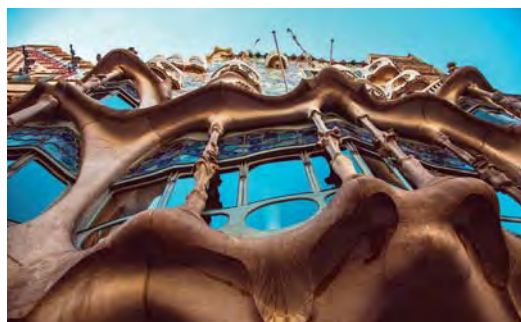
DESTINATION BARCELONA

This year's congress will once again be held in the generously appointed CCIB centre in the modern Diagonal Mar area.

The Girona and Reus Airports, both just over 100 km away from Barcelona to the north-east and south, are served by budget airline Ryanair and offer bus and taxi connections to the city centre.

Venue

With its excellent infrastructure and visitor services, Barcelona is a perennially popular congress location, hosting up to 300,000 congress participants per year. CIRSE is delighted to be returning to the city for a fifth time in 2019.



This year's meeting will once again be held in the Centre de Convencions Internacional de Barcelona (CCIB). This airy, vast design of José Luís Mateo, conveniently located directly on the seafront in the modern Diagonal Mar area, will provide an excellent space for meeting, discussing and learning.

The CCIB is accessible by many different means of transport. Metro line 4 and tram line 4 will both bring you to the nearby El Maresme/Forum stop, as will buses 136, B20 and V31. Bus line 7 will also bring you to the CCIB (stop 16: Forum station.)

Getting around

Barcelona is well connected by metro, bus (TMB), trams, urban rail (FGC) and regional rail, making getting to the venue and around the city quite simple.

The most economical option is the T10 transport ticket, which costs €10.20 and gets you 10 journeys on any form of transport within Zone 1, including the regional train to El Prat Airport. For unlimited journeys, the HolaBCN card is also available in two- to five-day versions and can be purchased in advance.

Taxis can be booked on BarnaTaxi or Radiotaxi-barcelona. Uber and Cabify also available throughout the city via their respective apps.

Accommodation

CIRSE's official travel partner, Kuoni Congress, has secured a great number of hotel rooms around Barcelona for the benefit of congress participants.

Online hotel reservation for individual bookings is now available at www.cirse.org/cirse-2019/accommodation. Please be wary of fraudulent companies; use our link when you make your booking. For multiple bookings, please contact Kuoni Congress at cirse2019@ch.kuoni.com.

Food

Barcelona is home to a vibrant and modern dining scene. During the day, the food court of the Diagonal Mar shopping centre across from the CCIB is a convenient spot to grab a quick bite. In the evening, relax with tapas (small plates of food meant for sharing) or pincho (individual bites of food served on a toothpick). Alternatively, stop by one of the city's plentiful seafood restaurants for a classic paella, made with fresh fish straight from the Mediterranean.



Lunch is usually consumed between 13:30 and 15:30, while dinner is normally between 21:00 and 23:30. Many restaurants close in the late afternoon (generally 16:00 to 20:00), and remain open anywhere from midnight until 03:00 Mondays-Saturdays. Many places are closed or close early on Sundays.

Elizabeth Wenzel, CIRSE Office



**...and with
Kuoni Congress
to secure you
the best hotel
rooms!**

VECTORIO®

cTACE Mixing & Injection System

Vectorio® efficacy & safety for improved cTACE mixing & delivery



UNBREAKABLE | USER-FRIENDLY | SHARP

Guerbet |

LIPIODOL® ULTRA-FLUID. Composition: Ethyl esters of iodized fatty acids of poppy seed oil 10 mL, corresponding to an iodine content of 480 mg/mL. **Indications (**):** In diagnostic radiology - Hysterosalpingography - Ascending urethrography - Lymphography - Sialography - Fistulography and exploration of abscesses - Exploration of frontal sinuses - Pre and post-operative cholangiography. In interventional radiology - Visualisation and localization [by selective intra-arterial use during CT] of liver lesions in adults with known or suspected hepatocellular carcinoma - Visualisation, localisation and vectorisation during Trans-Arterial Chemo-Embolization (TACE) of hepatocellular carcinoma at intermediate stage, in adults - Selective embolization in combination with Histoacryl glue (particularly for arteriovenous malformation or aneurysms) - Selective injections of LIPIODOL ULTRA-FLUID into the hepatic artery for diagnostic purposes where a spiral CT scan is not practical. In endocrinology - Prevention of severe cases of iodine deficiency. **Posology and method of administration (**):** have to be adapted according to the type of examination, the territories explored, the age and weight of the patient. The volume to be administered depends on the particular requirements of the technique and the size of the patient. **Contraindications:** Hypersensitivity to LIPIODOL ULTRA-FLUID - Confirmed hyperthyroidism - Patients with traumatic injuries, recent haemorrhage or bleeding - Hysterosalpingography during pregnancy or acute pelvic inflammation - Bronchography. In interventional radiology [Trans-Arterial Chemo-Embolization], Administration in liver areas with dilated bile ducts unless drainage has been performed. **Special warnings and special precautions for use (**):** There is a risk of hypersensitivity regardless of the dose administered. Lymphography: Pulmonary embolism may occur immediately or after few hours to days from inadvertent systemic vascular injection or intravasation of LIPIODOL ULTRA-FLUID: Perform radiological monitoring during LIPIODOL ULTRA-FLUID injection and avoid use in patients with severely impaired lung function, cardiorespiratory failure or right-sided cardiac overload. Hypersensitivity: all iodinated contrast agents can lead to minor or major hypersensitivity reactions, which can be life-threatening. These hypersensitivity reactions are of an allergic nature (known as anaphylactic reactions if they are serious) or a non-allergic nature. They can be immediate (occurring within 60 min) or delayed (not occurring until up to 7 days later). Anaphylactic reactions are immediate and can be fatal. They are dose-independent, can occur right from the first administration of the product, and are often unpredictable: avoid use in patients with a history of sensitivity to other iodinated contrast agents, bronchial asthma or allergic disorders because of an increased risk of a hypersensitivity reaction to LIPIODOL ULTRA-FLUID. Thyroid: can cause hyperthyroidism in predisposed patients. Lymphography saturates the thyroid with iodine for several months and thyroid exploration should be performed before radiological examination. Chemo-Embolization: Trans-Arterial Chemo-Embolization is not recommended in patients with decompensated liver cirrhosis [Child-Pugh ≥8], advanced liver dysfunction, macroscopic invasion and/or extra-hepatic spread of the tumour. Renal insufficiency must be prevented by correct rehydration before and after the procedure. Oesophageal varices must be carefully monitored. Hepatic intra-arterial treatment can progressively cause an irreversible liver insufficiency in patients with serious liver malfunction and/or undergoing close multiple sessions. The risk of superinfection in the treated area is normally prevented by administration of antibiotics. Embolization with glue: An early polymerisation reaction may exceptionally occur between LIPIODOL ULTRA-FLUID and certain surgical glues, or even certain batches of glue. Before using new batches of LIPIODOL ULTRA-FLUID or surgical glue, the compatibility of LIPIODOL ULTRA-FLUID and the glue must be tested in vitro. **Interaction with other medicinal products and other forms of interaction (**):** Metformin, Beta blockers, vasoactive substances, angiotensin-converting enzyme inhibitors, angiotensin-receptor antagonists, Diuretics, Interleukin II. **Fertility, pregnancy and lactation (**):** LIPIODOL ULTRA-FLUID must only be used in pregnant women if absolutely necessary and under strict medical supervision. Breastfeeding should be discontinued if LIPIODOL ULTRA-FLUID must be used - **Effects on ability to drive and use machines:** The effects on ability to drive and to use machines have not been investigated - **Undesirable effects (**):** Most adverse effects are dose-related and dosage should therefore be kept as low as possible: hypersensitivity, anaphylactic reaction, anaphylactoid reaction, vomiting, diarrhea, nausea, fever, pain, dyspnea, cough, hypothyroidism, hyperthyroidism, thyroiditis, pulmonary embolism, cerebral embolism, retinal vein thrombosis, lymphoedema aggravation, hepatic vein thrombosis, granuloma. **Overdose (**):** The total dose of LIPIODOL ULTRA-FLUID administered must not exceed 20 mL - **Pharmacodynamic properties (**):** Pharmacotherapeutic group: X-ray contrast media, iodinated; ATC code: V08A D01. Water-insoluble iodinated contrast medium. **Presentation (**):** 10 mL glass ampoule. **Marketing authorization holder (**):** Guerbet - BP 57400 - F-95943 Roissy CdG cedex - FRANCE. Information: tel: 33 (0) 1 45 91 30 00. **Revision:** April 24th, 2018.

(*) For complete information please refer to the local Summary of Product Characteristics (SPC).

(**) Indications, volumes and presentations may differ from country to country.

Reporting of suspected adverse reactions is important as it helps to continuously assess the benefit-risk balance. Therefore, Guerbet encourages you to report any adverse reactions to your health authorities or to our local Guerbet representative.

VECTORIO® is a medical device of Class II (CE 0459) intended to be used by healthcare professionals only. Manufacturer: Medex, a Guerbet Group company. **Intended use: Lipiodol® Resistant Mixing & Injection System for conventional Trans-Arterial Chemo-Embolization (cTACE).**

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For a copy of the SPC/ IFU, please contact a member of Guerbet.

Interventional oncology is a unique field within IR, utilising high-end technologies and requiring intimate cooperation with non-radiology colleagues. A new training document aims to reflect that.

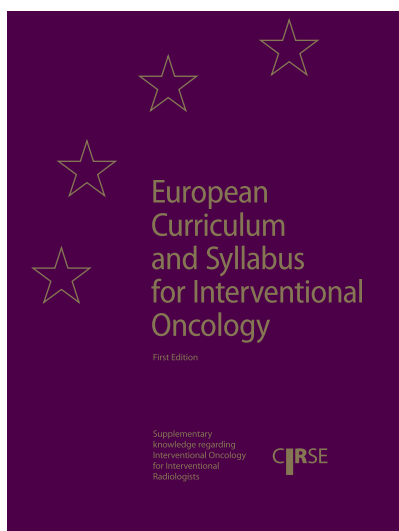
Robust training in a fast-moving field: The IO Curriculum and Syllabus

There are few who would question the value of a comprehensive curriculum and syllabus for IR training, but a mere six years ago, the first edition of this milestone document was just being published.

An initiative spearheaded by then-incoming-President Anna Belli, the first *European Curriculum and Syllabus for IR* was released to wide acclaim, and proved invaluable in refining and stratifying the newly emerging EBIR examinations.

But IR is a discipline where the march of progress is even more starkly visible than other fields, and in 2017, a second, revised edition was published.

Now, less than two years later, another curriculum and syllabus is ready to be launched at ECIO 2019. This is far from a matter of convenient timing: this new document is dedicated entirely to interventional oncology.



Why IO?

The field of interventional oncology has expanded exponentially in recent years and doesn't appear to be slowing down anytime soon. It has already established itself as the fourth pillar in modern cancer care and has become critical in every aspect of oncology from cancer diagnosis through treatment to palliative care. Although the official *European Curriculum and Syllabus for IR* remains the

foundation upon which IR training and education is built, it was felt that a supplementary curriculum dedicated specifically to IO would provide guidance regarding the required competence for interventional oncologists to practice safely and effectively, and in setting exacting standards.

An additional challenge that interventional oncologists face is that a thorough knowledge of technical and clinical IR/IO skills are only the beginning of what is required. In order to evaluate an appropriate treatment route for oncology patients and be their primary caregivers, it is necessary to have a solid working knowledge of cancer biology and aetiology, as well as the available cancer treatments. The curriculum strives to address these aspects too.

The curriculum includes recommendations and guidelines for the knowledge, skills and competencies essential to attaining proficiency in IO. The syllabus consists of three sections that make up the critical foundations for providing optimal IO care to cancer patients: Fundamentals in Oncology, Fundamentals in Interventional Oncology and Organ Site-Specific Oncology.

The goals of this new curriculum are three-fold. First, this offers a great opportunity for IRs to expand their knowledge in the clinical management of oncology patients, and should help further reinforce the well-deserved reputation that IO has gained in the field of cancer therapeutics.

Secondly, as with any emerging therapy options, it is important to raise awareness. This is especially important with interventional oncology, as typical cancer therapy can expose patients to high amounts of radiation and have serious side effects.

Lastly, by providing standardised guidelines for training and practice in Europe, patients have the assurance that their provider has the knowledge and competence to provide a safe, high-quality service.

The European Curriculum and Syllabus for Interventional Oncology will be available in hard copy at the ECIO 2019 meeting and online thereafter:
www.cirse.org/education/european-curricula



A new
IO curriculum
and syllabus
will be launched
at ECIO 2019.

This autumn sees the launch of a new exam format that will drastically increase the numbers who can sit the exam while preserving the assessment of clinical decision making.

An inside look at the new format EBIR examination



“An important element that differentiates the EBIR is the ability to examine candidates based on their capacity to deal with real-life clinical scenarios.”

The rapid advancements in IR and examination technology have enabled the European Board of Interventional Radiology (EBIR) to steadily progress since its launch in 2010. The next step in this evolution will begin in autumn 2019 with the inauguration of a brand-new examination format! We sat down with EBIR Examination Council Chairperson Otto van Delden and Deputy Chairperson Raman Uberoi to find out more.

CIRSE: Can you please tell us how the examination format will change in autumn 2019?

van Delden: In their new format, examinations will be completely digital and divided into two sections. The first section is a Clinical Case Scenario Examination, which will present candidates with a logical series of questions that reflect the decisions faced by IRs when handling a clinical case. This will replace the current oral component of the examination. The second part will be a General Clinical Practice Examination, which is similar to the multiple-choice examination we currently hold.

Uberoi: In their new format, examinations can be attended by significantly more candidates, at least 70-80 per sitting, and will now be held over the course of one day rather than two. This will give the candidates more time to attend the conferences that the EBIR is scheduled around. The new examinations will also assess candidates using an updated question format based on the latest examination methodologies, to test knowledge of the key clinical and technical skills necessary to deliver safe and efficient IR care.

CIRSE: Can you tell us what inspired the new examination structure?

van Delden: The EBIR has been steadily growing and the demand for seats has exceeded the capacity of the current examination, which can only accommodate 30 candidates per sitting. This resulted in the development of long waiting lists for the examination, which was undesirable. It was widely acknowledged among the EBIR Examination Committee and Council that the capacity of the examination needed to be expanded with this increasing demand.

Uberoi: In addition to the logistical requirements that come with popularity, the EBIR is also striving for innovation and excellence. We have keenly watched the new developments in examination technology based on the most recent research, to assess how they could benefit the EBIR examination. After much preparation, we now feel that the time is right to modernise the examination format and delivery to further enhance the quality of our examination using these latest methods.

CIRSE: You mentioned that the new format has in part been necessitated by growing numbers of applications. What do you think has caused the examination to expand at this pace?

Uberoi: This expansion can partly be attributed to the reputation of the examination itself. The EBIR is known for being a fair examination with rigorous quality control processes. This ensures the development of high-quality questions based on a world-class curriculum and an examination experience which is second to none. This recognition has also been reinforced by the overall expansion of IR, and the emphasis placed on competence in IR practice has enabled the EBIR to determine a verifiable standard in a field which lacks international systematic testing.

van Delden: The EBIR also appeals to a wide audience, whether it be young IRs seeking to boost their career and certify the knowledge that they gained throughout their training, or established IRs who want to prove their understanding of the newest procedures and techniques in IR.

CIRSE: As with any big change, there has to be a significant amount of planning and deliberation behind the scenes. Can you talk us through how it was decided that this style of examination would be the best fit?

van Delden: The decision was made after extensive consultation with our educationalist. As our main aim was to maintain the validity of the examination while also admitting more candidates per sitting, the possibility of holding a written examination was discussed from the very beginning. We were initially hesitant to remove the oral component of the examination;

This should radically decrease waiting times for the exams, which are highly sought after.



however, we were quickly convinced by the latest scientific literature on the subject which proved that the higher cognitive function of candidates, that is currently tested with the oral part of the examination, could be equally well tested using a written format.

Uberoi: Throughout the process, we also wanted to ensure that what differentiates the EBIR from other examinations remained intact. An important element of this was the ability to examine candidates based on their capacity to deal with real-life clinical scenarios. After extensive review of the latest innovations in examination technology and delivery, we have created an examination which tests candidates on a broad range of knowledge and experience necessary for general IR practice, as well as their ability to independently deal with the majority of IR cases, as set out in the most recent syllabus.

CIRSE: Recently, CIRSE has also launched new online tools intended to aid candidates in their preparation for the examination. How do these developments benefit the growing number of IRs registering for the examination?

Uberoi: An important part of developing the range of study supports available to candidates was the launch of the CIRSE Academy. Each online course is focused on a different topic contained in the European Curriculum and Syllabus for IR. They utilise a combination of informative texts, graphics and videos to impart knowledge about the key areas of IR. They also feature self-assessment quizzes that have been developed in cooperation with members of the EBIR writing team to fit the single-best-answer MCQ style of the examination. As an added bonus, all the courses are CME-accredited.

van Delden: We dedicated time and effort to improving the resources available to candidates so they could expand their knowledge of IR and the latest procedures that are covered during the examinations but may not be performed in their IR facility. To achieve this aim, the CIRSE Library was also updated to include an area dedicated to EBIR preparation. The recommended lectures contained within this section were specifically

chosen by members of the EBIR Examination Council to aid candidates during their revision for the examination.

CIRSE: During your respective tenures you have overseen many changes to the EBIR. How do you envision the future of this prestigious certification?

van Delden: As I enter my final months as EBIR Chairperson, I am proud of the many changes and improvements that the EBIR has undergone, and I am certain that it will continue to grow and prosper under Raman's leadership. The future of the EBIR is linked to that of IR in general. As we strive for recognition of this speciality in radiology, the EBIR and the *European Curriculum and Syllabus for IR* that it is based on will play an important role in pushing and supporting the harmonisation of training programmes throughout Europe.

Uberoi: From the very beginning, the EBIR's goal has been to make the examination as beneficial to IRs as possible, and enhance their careers by making the EBIR highly professional and credible. This has enabled it to grow in significance and become highly respected around the world. In the future we intend to build on this foundation and remain adaptable and responsive to the international IR situation. In addition, we would like to focus on expanding the resources of the examination. This includes increasing the number of EBIR holders who go on to help shape the future of the EBIR by becoming part of the examination team.

Visit the CIRSE website at www.cirse.org/ebir to submit your application for an upcoming examination scheduled on the occasion of:

- IRSA 2019
- ECR 2020
- CIRSE 2020

Megan Leahy, CIRSE Office



"The new format examinations can be attended by significantly more candidates, and will now be held over the course of one day rather than two."

EDUCATION

The newly introduced CIRSE Academy aims to provide comprehensive knowledge on IR procedures through online courses based on the *European Curriculum and Syllabus for IR*. Courses include a theoretical part, sample cases and teaching videos, and are all peer-reviewed by experts. All CIRSE Academy courses are CME-certified and end with an interactive quiz to test your knowledge on the respective procedure.

Currently, there are 14 courses available on oncology, embolisation, arterial, venous and non-vascular interventions, with another series of 13 awaiting CME accreditation, and further courses in the production phase.

Each course takes 1-2 hours to complete and has been designed around the European Curriculum and Syllabus for Interventional Radiology, making the CIRSE Academy the perfect tool to help you prepare for the EBIR exam. Ninety-day access can be bought for each course; CIRSE members are eligible for a reduced fee.

The courses have been carefully compiled by leaders in the field, with over fifty well-respected interventional experts contributing their time and knowledge to this momentous project. We spoke to two of them to find out more about their experiences of working on the Academy, and why their respective courses are attracting such interest.

Dr. Maria Tsitskari, an interventional radiology consultant based in Nicosia, Cyprus, has contributed to two published Academy courses, including the most downloaded. She also serves on CIRSE Patient Information Brochure Task Force and the European Trainee Forum.

CIRSE: At the time of writing, the *Biliary drainage and stenting* course ranks as the Academy's top download – does this surprise you?

Tsitskari: Actually, it does not, since biliary procedures constitute one of the most common and basic IR procedures, and play an important

part in the management of patients with both benign and malignant biliary obstruction. Despite this, biliary interventions can still present some of the most demanding and complex problems in interventional radiology, and it makes perfect sense that the IR community is looking to read up on the latest information.

CIRSE: What aspects of biliary drainage and stenting do you think are particularly important to consider?

Tsitskari: I think one important aspect of biliary drainage and stenting is proper and careful pre-procedural imaging evaluation. Pre-procedural imaging provides valuable information about the extent of biliary obstruction and dilatation, the level of obstruction and presence of any variations in biliary anatomy. Understanding the anatomy of the liver and the biliary tree is also essential when performing biliary interventions. Different variants in the bile duct anatomy exist that can have a profound effect on planning a biliary drainage procedure.

CIRSE: You have worked on two courses – how have you found the experience?

Tsitskari: I admit that the work was hard and demanding, but it was a great experience. I learned a lot through this process. Reading and, at the same time, working together with other experts in this field to compile these modules was a great opportunity to refresh and reinforce my knowledge.



These CME-accredited courses have been compiled by a diverse group of clinical experts, and are particularly suited for EBIR preparation.



CIRSE: Who do you think can benefit most from the CIRSE Academy modules?

Tsitskari: The courses are ideal for IR trainees aiming to gain fundamental knowledge of a topic, particularly when preparing to sit the EBIR exam. Moreover, since education is a life-long process, experts will also find the courses a useful tool for helping to expand their knowledge of different interventional topics. Advanced courses are also planned for the near future, which is a very exciting move!



Dr. Heather Moriarty currently works at The Alfred Hospital, Melbourne, Australia. She co-authored the course on SVC stenting for treatment of malignant obstruction with Dr. Andreas Mahnken. Dr. Moriarty is an active member of the European Trainee Forum.

CIRSE: SVC stenting for treatment of malignant obstruction seems a somewhat obscure topic – how many of these cases do you see? What difference does IR make to these patients?

Moriarty: With improved multidisciplinary treatment of many tumours and prolonged patient survival, the management of oncological patients is becoming ever more complex. Interventional radiology has a central role to play in disease diagnosis, stratification and management.

Interventional radiology has become one of the cornerstones in the multidisciplinary team of cancer care delivery, adjuncts to treatment, palliation, and improving patient comfort and quality of life through symptom relief. The placement of an SVC stent is a procedure which can make a huge impact on patient care, allowing very rapid relief of symptoms, which untreated are frequently distressing and treatment-limiting for our patients. The benefit to patients is what makes treating those with symptomatic SVC syndrome rewarding, and the efficacy of SVC stenting for the treatment of malignant obstruction is excellent, commonly allowing patients to progress onto their systemic treatment.

CIRSE: How did you find the experience of writing a CIRSE Academy module?

Moriarty: As in all disciplines of medicine, research and patient care improvements, international collaboration is paramount. The CIRSE Academy course was interesting and enjoyable for me to contribute to, but most importantly, it highlighted how accessible and available our international interventional radiology community really is! I enjoyed seeing the module to completion, with the tireless help of the CIRSE team.

CIRSE: What, for you, is the best thing about the CIRSE Academy? Why did you volunteer your time?

Moriarty: The CIRSE Academy is a fantastic resource, both to refresh and extend one's knowledge, in particular for young interventional radiologists intending to sit the EBIR exam. The variety of topics covered is excellent and the format is engaging. I volunteered for this initiative as I value and enjoy research and teaching; CIRSE as a platform for these activities allows us to advance as clinicians and as a subspecialty through the promotion of quality academic material and the availability of up-to-date resources in our dynamic medical specialty.



“Since education is a life-long process, experts will also find the courses a useful tool for helping to expand their knowledge...”

CIRSEacademy

Pioneering IR Prof. Reto Bale talks to us about his clinical work and what to expect from December's tumour ablation course.



High-end technologies high in the Alps: the pinnacle of tumour ablation

E D U C A T I O N

"The costs of the infrastructure, equipment and staff are clearly justified by the additional benefit of sophisticated guidance and fusion methods for our patients."

CIRSE: You are well known as an expert in tumour ablation – can you describe what your current practice looks like?

Bale: My team consists of three interventional radiologists and six radiation technicians. We have a CT with sliding gantry and treat patients simultaneously in two rooms next to each other. One room is dedicated to complex stereotactic interventions and the other room is mainly used for diagnostic scans and standard interventions, including periradicular and facet joint infiltrations, biopsies, drainages, etc. For sophisticated stereotactic interventions we have two 3D navigation systems and one robot available.

Per year, we currently perform approximately 250 complex thermal ablations (SRFA) of primary and secondary liver tumours and approximately 80 thermal ablations of tumours in other organs including lungs, kidneys, bone, lymph node and soft tissue. In addition, we use radiofrequency ablation for the treatment of trigeminal neuralgia and other neuropathic disorders. All of our patients are treated under general anaesthesia.

CIRSE: What guidance are you using and how do you ensure accurate burn zones?

Bale: All thermal ablations are performed under stereotactic guidance with image fusion. The 3D navigation system is used for 3D planning of the ablation zone, precise positioning of the ablation probes and verification of the ablation result. Intra-operative verification of the result by fusion of the contrast-enhanced CT immediately after probe retraction with the planning CT (before

ablation) is key for reliable thermal ablation. If the required ablation margin of at least 0.5 cm is not achieved, the thermal ablation procedure is continued by placement of additional probes in the same session.

CIRSE: Your work in robotics and stereotaxy is clearly not "standard" in an IR setting. Where do you source your equipment from?

Bale: In 1994, I started as a student with 3D navigation in ENT (for videoendoscopic surgery). In 1996 we founded the SIP Lab (Stereotaxy, Intervention and Planning) at the Department of Radiology in Innsbruck (under Director Werner Jaschke). The navigation system was used for stereotactic punctures at our department but we also provided our "navigation service" to other departments including radiotherapy (for stereotactic brachytherapy), neurosurgery (for stereotactic brain tumour surgery and biopsy), craniomaxillofacial surgery (for complex 3D-navigated reconstructive surgery) and orthopaedic and trauma surgery (for 3D-navigated spine fixation, percutaneous pelvic fracture fixation, etc.). Initially the interdisciplinary use of the navigation system justified the investment in this relatively expensive equipment for the hospital administration. In the meantime, most departments have their own navigation systems and their trained teams, and we are now focusing on interventional oncology only. The costs of the infrastructure, equipment and staff are clearly justified by the additional benefit of sophisticated guidance and fusion methods for our patients, as compared to standard US- or CT-guidance.



Sign up for Reliability in Percutaneous Tumour Ablation and other courses on www.cirse.org/esir – early bird fees are available until 8 weeks before each course begins!



E D U C A T I O N

CIRSE: A set-up such as this is clearly costly – what are the benefits of investing so much in IR up front?

Bale: In my opinion more than 90% of liver resections may be replaced by minimally invasive stereotactic thermal ablations with at least comparable results but at lower costs. The cost of the SRFA procedure itself is comparable to liver resection. However, it is associated with shorter hospital stay and intensive care stay, shorter patient regeneration time and fewer complications.

If a complete ablation (A0 in analogy to R0, as confirmed by image fusion) can be achieved, thermal ablation should be the first-line treatment, even in resectable patients.

CIRSE: What kind of outcomes do you achieve?

Bale: We performed the first stereotactic radiofrequency ablation (SRFA) in 2001. Since then, our team has successfully treated more than 1,000 patients with 4,000 liver tumours. Every intervention (and every single tumour) is documented in a detailed database, which is directly integrated in the hospital information system. With a few mouse clicks, the actual relevant data including local recurrence, survival and complications can be extracted.

In a recent paper in *Hepatology*, we demonstrated that even large hepatocellular carcinomas can be completely devitalised (A0 in analogy to R0) by thermal ablation only, as confirmed by histopathologic examination. Complete pathological response in explanted liver specimens

after liver transplantation was achieved in 183 of 188 nodules (97.3%) and 91 of 96 patients (94.8%), respectively. In lesions ≥ 3 cm, complete tumour cell death was achieved in 50 of 52 nodules (96.2%). Residual tumour did not correlate with tumour size. Therefore, SRFA challenges resection as first-line treatment not only in small lesions, but also in lesions > 3 cm. Moreover, the combination therapy (thermal ablation and TACE) can be replaced by SRFA only, with excellent results. Due to the application of highly effective thermal ablation, liver transplantation may be replaced or at least postponed in patients with normal liver function.

Long-term data after SRFA of patients with colorectal liver metastases, melanoma liver metastases, breast cancer liver metastases and intrahepatic cholangiocellular carcinoma showed at least comparable survival data as compared to surgical resection.

CIRSE: What are the current trends in tumour ablation – what imaging systems are most routinely used? Are they, in your view, “reliable” enough?

Bale: Most thermal ablation procedures are still performed under conventional ultrasound or CT guidance. However, upcoming results justify the use of more sophisticated (and also more expensive) techniques in order to improve the results of thermal ablation.

Unfortunately, the results after conventional US- and CT-guided thermal ablation in large lesions are still poor. The reason therefore is

“In my opinion more than 90% of liver resections may be replaced by minimal invasive stereotactic thermal ablations with at least comparable results but at lower costs.”





E D U C A T I O N

“For most lesions, multiple overlapping ablation zones are required, which is very difficult to achieve with conventional US- and CT-guidance.”

> obvious: it is essential to ablate the lesion including a sufficient safety margin. The short diameter of the ablation zone with one RFA or MWA probe depends on the ablation technology and probe design. Even with the latest generation of MWA probes, only a maximum diameter of 4 cm can be achieved with one probe position. Thus, for most lesions, multiple overlapping ablation zones are required, which is very difficult to achieve with conventional US- and CT-guidance. In my opinion, these techniques are not reliable enough to compete with surgical resection in liver tumours larger than 1–2 cm. For this reason, at least, image fusion for immediate verification of the ablation result should be mandatory.

CIRSE: Will the December course focus on widely-used technologies or also novel devices?

Bale: The course will mostly focus on novel technology and the combination of already widely used technologies and devices. Our faculty will share multiple interesting patient cases, which will stimulate interesting and controversial discussions.

We are planning hands-on training in the latest image fusion, sono-navigation, cone-beam CT guidance and stereotactic CT-guidance techniques.

CIRSE: What are you most looking forward to at December's course?

Bale: I am looking forward to exciting discussions between our distinguished international faculty and the participants. It's a key ingredient in sparking new ideas and refining existing practice, and one that should not be underestimated.

CIRSE: Why should IRs travel to Innsbruck for this course?

Bale: IRs will learn the essentials for reliable treatment of tumours. An internationally distinguished faculty will train the participants in sophisticated planning, guidance and image fusion. We are very grateful that the most relevant companies in the field will give the participants the opportunity to gain experience with their latest and most sophisticated devices. I guarantee that everybody, including the faculty and myself, will learn a lot from the theoretical introductions, the case discussions and the hands-on workshops.

Watch Innsbruck Medical University's video about Prof. Bale's work in tumour ablation:



...or read the open-access paper in *Hepatology*:



