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## **Message from the president**

For the EACTS, 2014 promises to be an exciting year. In preparation of the Annual Meeting I recently had the privilege to visit Milan in the company of our Executive Director, Kathy McGree, and Karen Rogerson who is taking care of the local organisation.

ilan is a brilliant and sparkling city with a lot of opportunities, not only from a cultural point of view but also offering endless possibilities for outstanding eating, drinking and networking with colleagues. The different domains are working very hard to create an excellent programme, which will be finalised in May. The abstract submission deadline is April 30 and we hope we can select many outstanding abstracts in the different fields of cardiothoracic surgery to provide balanced and highquality sessions. As usual Techno College will present new and challenging procedures detailed by experts in the field. This year we also aim at increasing the number of interactive sessions with the audience to allow for in-depth discussions.

By recent measures we have improved the transparency of our association, which I hope will be appreciated by our members. Behind the scenes we try to improve the relations with our colleagues from related specialties e.g. cardiologists, but also sister organisations such as the European Society of Thoracic Surgeons (ESTS). For the first time in many years we will organise a common ESTS-FACTS session at the International Thymic

Malignancies Interest Group (ITMIG) meeting in Antwerp in September of this year.

Within the European Board of Thoracic Surgery (EBTS) where both societies are represented, we agreed that one common thoracic examination will be organised from 2015 at the new UEMS (Union Européenne des Médecins Spécialistes) headquarters in Brussels.

We continue to invest in our Academy, with a focus on both our fundamental and specialist courses. This year we have a wide range of stimulating high-level courses both in Windsor and outside the UK. We welcome the comments of the participants at the different courses to increase the scientific level of future events. In February we also participated in the congress of the Indian Association of Cardio-thoracic Surgery, which was highly appreciated.

Before the summer break we will further prepare our Annual Meeting, and I hope to welcome you all in Milan, the first EACTS Annual Meeting to be held in this magnificent city. I am guite convinced it will be a great and stimulating congress!

Paul Van Schil President EACTS



#### Improving Outcomes for Patients

### **Quality Improvement Programme**

Domenico Pagano Chai Elka Humphrys Project Manager

2014 HAS STARTED WELL for the Quality Improvement Programme (QUIP) with significant progress on the current projects. The Perfusion group have developed a dataset, and the group are now looking at options for developing a database for the collection of perfusion specific data; the Clinical Consensus and Guidelines Group are developing a methodology for producing EACTS guidelines and consensus documents; and the Education group are finalising their recommendations for developing a standard European Training Programme.

In addition to this, the Network for

Outcomes Research group has started recruiting hospitals across Europe for the OUIP Adult Cardiac Database. which will start data collection shortly. The Network will be a collaboration of individual cardiac surgical units across Europe aimed at encouraging a European wide culture of data collection for outcome analysis. The OUIP Adult Cardiac Database will create a European data registry by collecting good quality data from participating units via an initial upload of all retrospective data, and subsequent uploads of prospective data. The data will be used to develop and test new risk assessment and benchmarking tools, to enable each unit to analyse their own outcomes and compare their data to the

combined European dataset. The data collected will include surgical. and pre- and post-operative details for conventional adult cardiac cases. excluding transplants, GUCH, and TAVI. Basic patient information, such as age and gender will be collected, but specific identifiable information will not be requested for the patient or for the surgeon. A full list of data fields to be collected is available on the Network for Outcomes Research webpage on the FACTS website. www.eacts.org/quip/network.

Seventeen hospitals across Europe have already joined the Network, with participation growing each day. EACTS members are invited to collaborate in this important project. Your department should have at least one of the following: a dedicated Data Manager, an internal data validation process, the ability to submit data online, previous contributions to National and/or Regional governance initiatives. If



you fulfil the criteria and would be interested in finding out more, please nominate yourself for involvement via your EACTS User Account. The process for self-nomination involves selecting the area that you are interested in, and uploading a short CV and a covering letter. More information is available on the EACTS website: www.eacts.org/ association/self-nomination.

We thank all members contributing to QUIP projects, and we look forward to working with many more members in the future, both progressing with current projects, and expanding on other quality improvement initiatives across Europe.

## **EJCTS in 2013:** The Editor-in-Chief's top five articles

In 2013 the *European Journal of Cardio-Thoracic Surgery* (*EJCTS*) received 3,000+ article submissions; here the journal's Editor-in-Chief Professor Friedhelm Beyersdorf picks his top five articles of the year...

The FREEDOM trial: a definitive answer to coronary artery bypass grafting or stents in patients with diabetes and multivessel coronary artery disease

#### (Taggart DP; *Eur J Cardiothorac Surg*. 2013 Dec;44(6):978-9. Epub 2013 Sep 18.)

"The FREEDOM Trial is something that is extremely important for all cardiac specialists and in this paper the author provides a clear analysis of the trial and draws conclusions that are supported by the data from the trial. In the paper, Taggart explains clearly that patients with diabetes and multivessel coronary artery disease derive a significant benefit from surgery compared to percutaneous coronary intervention. This paper also demonstrates the importance of making sure the conclusions are backed up by the data in the study."

#### Near-infrared spectroscopy for neuromonitoring of unilateral cerebral perfusion.

Urbanski PP1, Lenos A, Kolowca M, Bougioukakis P, Keller G, Zacher M, Diegeler A; *Eur J Cardiothorac Surg.* 2013 Jun;43(6):1140-4. 2012 Oct 24.)

"This paper addresses a very important problem. If you have a patient with aortic arch disease it can be a very complicated and dangerous operation, primarily because the vessels originating in the aortic arch go to the brain. Up to now we only had a few parameters measuring perfusion of the brain during surgery; this paper demonstrated that near-infrared spectroscopy can give reliable data during surgery. This paper could have significant implications in the future."

**Research with impact** 

A coording to Beyersdorf, there are several factors that contribute to an excellent scientific paper. First, the hypothesis should be an important and timely one, so it should be relevant to everyday practice. Second, the hypothesis should be investigated with the correct statistical methods and correct parameters. Third, a paper should not only be powered sufficiently, but any conclusions should be supported by data from the study. Finally, the paper should be written so anyone from the cardiothoracic field can understand it, not just the experts.

"One of the most important aspects for the authors is to get their papers published as soon as possible," explained Beyersdorf. "In the last few years we made several changes to the submission process in order to improve the quality of papers that were submitted and increase the speed of publication. As a result, we have managed to reduce the time from first submission to first decision. Over 3,000 submissions is a huge amount of work, so I would like to thank the staff in our Editorial Office, the Associate Editors and the reviewers. Without them it would not be possible to publish such a high-quality journal."

#### Valve-preserving surgery on the bicuspid aortic valve

(Vohra HA, Whistance RN, De Kerchove L, Punjabi P, El Khoury G. *Eur J Cardiothorac Surg.* 2013 May;43(5):888-98. Epub 2013 Jan 4. Review.)

"This review paper was published by a group from Belgium and the UK. They describe the methods for valve-preserving surgery on the bicuspid aortic valve. The bicuspid aortic valve is the most frequent cause of aortic stenosis in patients younger than 60 years of age. There are many techniques used to repair both the tricuspid and bicuspid aortic valves. This paper is to my knowledge the first that gives an overview of a valve preserving techniques for the bicuspid aortic valve. As a result of this paper, I foresee that it will stimulate surgical repair of the bicuspid aortic valve, instead of replacement."



## Guideline for the surgical treatment of atrial fibrillation

(Dunning J, Nagendran M, Alfieri OR, Elia S, Kappetein AP, Lockowandt U, Sarris GE, Kolh PH; EACTS Clinical Guidelines Committee. *Eur J Cardiothorac Surg.* 2013 Nov;44(5):777-91. Epub 2013 Aug 16.)

"This was an important paper because there was a need to publish guidelines on the surgical treatment of this condition, which is becoming more prevalent. This paper includes all the necessary knowledge for those surgeons who are treating this condition by surgical means. The paper was very well received and the authors should be congratulated for producing such a well-written and timely paper."

## *Venn diagrams in cardiovascular disease: the Heart Team concept.*

Holmes DR Jr, Mohr F, Hamm CW, Mack MJ; *Eur J Cardiothorac Surg.* 2013 Feb;43(2):255-7. Epub 2013 Ian 11.)

"This editorial discussed the Heart Team concept and stated that cardiologists and cardiac surgeons should work closely together to achieve better patient outcomes. The authors included two surgeons and two cardiologists from Europe and the United States and it is a statement from both professions and from both sides of the Atlantic on why and how to organise a multidisciplinary heart specialist team."



### EUROPEAN JOURNAL OF CARDIO-THORACIC SURGERY

Torto Danas

Official Journal of the European Association for Cardio-Thoracic Surgery and the European Society of Thoracic Surgeons



OXFORD UNIVERSITY PRESS



## 28<sup>th</sup> EACTS Annual Meeting

ANO ADAR ANA

30 April 2014

Milan, Italy 11 - 15 October 2014 www.eacts.org Deadline for Abstracts

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Raising Standards through Education and Training

### Milan 2014: Preliminary Programme

## Acquired Cardiac Disease Domain: PostGraduate Course

#### John Pepper

Chair, Domain of Aquired Cardiac Disease

rom Good to Great is the title of our PostGraduate Course in Milan. We start with a general session which will explore new thinking in surgery where we need to use our ingenuity to get more from fewer resources, and work with industry and academic centres to develop new effective devices for our patients Alexandra Lansky, the Director of Interventional Cardiovascular research at Yale and Co-Director of the Yale Valve Program within the Yale School of Medicine, is well versed in taking ideas for devices, improving their quality and persuading industry to implement them.

In the Acquired Cardiac Domain we have sessions on: decision making in coronary artery disease, mitral valve problems – functional regurgitation and severe calcification, the rocky mitral valve, and a session on the aortic valve which embraces both valve repair and the asymptomatic patient with aortic stenosis. This year we are providing more time for discussion and more moderators to encourage questions and comments from the audience. We want this postgraduate session to be as interactive as possible, and in the end this depends on you to come bristling with questions!

In the afternoon we will have two TED sessions in which the pressing issues of the day will be discussed in a studio setting with three or four speakers with international reputations. The overriding aim of this Postgraduate session is for us to make better decisions so that our patients can enjoy better outcomes both in the short and long term.

# Acquired Cardiac Disease Domain

A s in recent years, we will have a mixture of three types of sessions on Monday 13 and Tuesday 14 October at the Annual Meeting in Milan. The Focus Sessions (90 minutes) drill down on controversial subjects and with the help of experts will draw out and discuss practical problems in areas such as extracorporeal support, arrhythmia surgery, aortic valve repair, chronic VAD support, and tips and tricks for urgent disasters in the operating room.

The Professional Challenges sessions run in two linked periods of 90 minutes and consist of a mixture of abstracts and keynote short 10 minute reviews to introduce the subject and to summarise at the end of the

session. We shall explore the percutaneous approach to the mitral valve, technical aspects of modern coronary revascularisation, TAVI and its problems, understanding the mitral valve, and also have a combined session with the Vascular Disease Domain on aortic arch interventions. All of these Professional Challenges sessions will contain short five minute live-in-a-box video sessions, and we have been careful to allow for plenty of discussion with an informed panel.

Abstract sessions on Monday and Tuesday will last for 90 minutes and will start with one or two short keynote talks followed by abstract presentations and a wrap-up summary. There will be demarcated time for discussion.

On Wednesday morning we have organised a range of highly practical sessions, including wet-labs under the over-arching title of "Advanced Techniques". These will include sessions on the configuration of coronary bypass grafts, problems of pacemaker lead extraction and cannulation, measuring graft patency in the operating room, and problems in transcatheter valve implantation.

In addition we will have two extra sessions. One will be Late-breaking Trials which will highlight PIVOTAL, CHOICE and the TCVT and German registries. The other will examine the new ESC/EACTS Guidelines on Coronary Artery Disease and new models for risk stratification in valve disease.

There should be plenty of interest for everyone in these two and a half days, and a chance to discuss with old friends and make new ones. Enjoy Milan in October!

## **Congenital Disease Domain**

#### William Brawn

Chair, Domain of Congenital Disease

t is quite difficult to devise a new programme for the Annual Meeting which is innovative and fresh for our membership. However, I think this year we have managed to create a very interesting programme for the five days of the meeting.

On Saturday, 11 October 2014, the meeting will commence with our Techno College, and this will cover all aspects of valve and conduit replacement in the right ventricular outflow tract. Also more difficult issues of reconstruction and repair of the distal pulmonary arteries, utilising different tissues and methods will be addressed. An international faculty including interventional Cardiologists will highlight the latest methods of reconstruction and look forward to possible new developments utilising stem cell research.

On Sunday, 12 October 2014, our Postgraduate day will follow on from the plenary session in the morning. First, we will cover all aspects of cardiac and venous anomalies, the diagnosis and management and long term issues, in particular relating to late vein stenosis. After lunch the problem of re-operations for residual or recurrent lesions of various anomalies will be covered in depth. Again, aspects of these re-interventions will be covered by our interventional cardiology colleagues. The day will finish with surgical films, five-minute presentations followed by five-minute discussions, these presentations have proved very popular in the past.

We then move on to the main body of the meeting from 13–15 October 2014. There will be two Focus Sessions, of 90 minutes duration each. The first Focus Session will cover non-invasive evaluation of congenital heart disease, looking at MRI evaluation, CT scanning and 3D echo reconstructions. We will also cover the virtual prediction of surgical techniques with 3D model reconstruction.

The second Focus Session will be on management of low birth weight babies, their physiology and management, as well as surgical and interventional possibilities to palliate or correct lesions.

Included in the main body of the meeting will be a Professional Challenge section of two 90 minute sessions. We aim to cover all aspects of atrioventricular septal defects, starting with the morphology, moving through to methods of septation and management of the non-septatable atrioventricular septal defect. There will be a session on re-operation of the AVSD in adults and tricks and tips on how to repair the abnormal leaking atrioventricular valve.

In addition to the above, there will be four separate Abstract Sessions with six abstracts



in each session and Chairs and discussants present to illuminate and criticise the papers.

On Wednesday, 15 October 2014 in the morning, the Advanced Techniques session will conclude with a wetlab for hands on techniques of the Ross procedure and venous shunts. The wetlab has proved very popular in the past and gives an opportunity for in depth discussion of techniques, tips and an ability to practice quite complex reconstructions.

I think the prgram that we are putting together, and I hope you will agree, will be stimulating and varied, and we are very much looking forward to welcoming you to Milan for the EACTS Annual Meeting.

## **Thoracic Disease Domain**

Franca Melfi Chair, Domain of Thoracic Disease

n recent years the EACTS has expanded its Annual Meeting programme thanks to the excellent work of their Domains that focus on the development of cardiothoracic surgery education. Following the tremendously successful 2013 meeting in Vienna, a similar outline will be used for the 2014 congress which will take place in Milan, October 11 to 15.

The Thoracic Disease Domain has been working to produce a wide range of educational formats to present the latest and the best information on new technologies and techniques in thoracic surgery. This year's thoracic programme will start on Saturday October 11 with a live satellite connection from Marmara University Hospital in Istanbul, as part of the Techno College Day. The focus will be on chest wall deformities, trauma, tumours, sternal complications, and biological sternal support. The participants will learn how to deal with chest wall deformities, trauma and tumours, and will gain knowledge of the different techniques for reconstruction and the specific indications.

The Postgraduate Education Day, on Sunday 12, will be an interactive session with illustrative cases to encourage active participation. Topics to be reviewed are lung cancer staging, oligometastatic diseases, and intraoperative complications. The new guidelines for lung cancer staging and the

different available methods to stage the patients will be discussed. The appropriate treatment for every stage, how to deal with patients with oligometastatic diseases, and how to prevent and manage intraoperative



complications are the learning objective of this Postgraduate session.

Thoracic surgery is continually evolving. Currently it represents an integral part of multidisciplinary teams. This year the thoracic Focus Session will be organised in cooperation with Vascular Disease Domain. It will cover T4 involvement, and advanced techniques including the use of extracorporeal circulation and endovascular prosthesis.

Due to the extremely positive feedback last year, we are happy to be able to again offer a wetlab. The attendees will learn different surgical techniques of thoracic sympathectomy and vascular repairs. Practical demonstrations will be given and at the end of the session the participants will be able to perform the techniques. A drylab for Robotic and VATS approach will also be organised. This will allow participants to learn how to approach the chest in an ergonomic manner.

This, in summary, is the Thoracic Disease Domain programme. Active participation from all thoracic and cardiothoracic members is stimulated during these sessions. We hope that this year's programme will be an important step towards sharing experience and knowledge, enabling us to treat our patients to the very best of our ability.

## Vascular Disease Domain

Martin Czerny Chair, Domain of Vascular Disease

his year's Annual Meeting Programme focusses on surgical techniques and long-term outcome oriented conceptual strategies. The Postgraduate programme will start with analysing different patterns of bicuspid aortic valves associated with proximal aortopathy. We will learn whether to RESECT or RESPECT native aortic tissue according to morphological, functional, hemodynamic and genetic aspects

Sunday afternoon is highlighted by the EACTS/ STS aortic session where this year's focus is on controversies in treating the distal aorta with and without previous proximal repair - wire or knife. This combined scientific effort between the two major societies is experiencing increased attention and has previously attracted more than 900 participants. The best abstract will be rewarded with the EACTS/STS aortic prize; with the best general aortic abstract awarded the Hans Borst prize.

This year's professional challenge session together with the Acquired Cardiac Disease

Domain – will cover the entire spectrum of aortic arch interventions from surgery to total endovascular therapy. This will be followed by a video session on cannulation strategies in acute and chronic aortic pathology, sharing each and every important surgical detail with the audience.

Another highlight will be a Focus Session together with the Thoracic Disease Domain where we will link resection and reconstruction of intrathoracic organs with an oncologic as well as an infectious perspective

Our second Focus Session will highlight the current status of thoracoabdominal aortic replacement in light of many recent advancements, with particular regard to ischemic preconditioning and monitoring of spinal cord function.

On Wednesday we will have a wetlab together with the Acquired Cardiac Disease Domain where our focus will be on frozen elephant trunk implantation.

We are very proud again to be able to offer the pre-case planning Osirix course as well as TEVAR simulator training courses supported by Bolton, Medtronic and Mentice.



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## June 2014: Course in minimally-invasive techniques in adult cardiac surgery

Peyman Sardari Nia Course Director

#### Organiser EACTS STMP Committee

#### Course Director

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#### Dates

The course will run from 23-25 June 2014 at the MECC in Maastricht

Two drylabs will run from 26-27 June 2014 in Maastricht One wetlab will run from 26-27 June 2014 in Rotterdam **Course capacity** maximum 300 participants

 Orylab capacity
 maximum 300 participants

 Wetlab capacity
 maximum 30 participants

#### Course targeted audience

Cardiothoracic surgeons; Cardiologists; Cardiac anaesthesiologists; Perfusionists: Residents and Fellows

Drylab and wetlab targeted audience

Cardiothoracic surgeons, Residents and Fellows CME points Pending

edical speciality is evolving very rapidly with developments of new techniques and treatments. The implementation of the new developments and application of the new techniques vary tremendously among the different specialities. The difficulty in application of these new developments is most pronounced in cardiothoracic surgery. This is due to four major factors.

First of all cardiothoracic surgery is characterised by a long training period aimed at training surgeons performing the most difficult and sensitive surgical procedures during which any imperfection of surgical technique is directly associated with serious complications. This implies that successful implementation of the new techniques will depend on rigorously setting up training modules that compensate and reduce imperfections during the learning curve.

Secondly, the success of cardiothoracic surgery is due to the consistency and superiority of the results of conventional techniques that have been the subjects of decades of scientific scrutiny with known long-term results. This has resulted in some sort of rigidity of the cardiothoracic community to abandon the known for the unknown.

Thirdly, there is heterogeneity in cardiothoracic training



Peyman Sardari Nia

programmes across Europe whereby the training mostly occurs by diffusion or osmosis rather than a solid training programme with pre-set entry and exit criteria. Some programmes are totally separate from general surgery and some exist as a sub-speciality within general surgery. Most cardiac surgeons, for example, have no basic knowledge or training in thoracoscopic/endoscopic techniques as these techniques belong to the general surgical discipline. This has resulted in genuine anxiety to embrace the endoscopic techniques in cardiothoracic surgery due to the lack of basic training.

Lastly, cardiothoracic surgery is a very lucrative enterprise for hospitals. The new techniques attract more patients and new revenues. This has resulted in huge competition and protectionism of these new developments that remain in the hands of few senior surgeons.

The accumulation of the above factors has resulted in serious difficulties for centres, surgeons and most importantly for the young surgeons to learn and apply the new developments. The EACTS and STMP committee recognises the need for structural educational activities in minimal invasive techniques. Therefore, the MITACS was founded three years ago and has been one of the most popular courses of the EACTS.

The focus of the course is on technical aspects of different minimally-invasive procedures. The course is designed to provide the participants with a platform and a basis for starting the same programme at their own institute. The course is three days and is composed of seven parts, each dedicated to a specific technique. To emphasize the success of the teamwork approach, surgeons, cardiologists, perfusionists and anaesthesiologists will contribute through presentations and live-in-a-box videos in order to demonstrate the technical aspects of these new procedures. At the end of each part a live-in-a-box or live-surgery of the procedure will be shown. All the speakers have been given a set of learning goals and strict themes for their presentations, to enhance the quality of the course.

All the participants will need to complete a questionnaire before and after the course to objectively assess the educational value of the course. The questionnaires are based on the content of the talks provided by the speakers.

The course is a comprehensive compendium of the contemporary minimally-invasive techniques in adult cardiac surgery. The course is followed by three wet- and drylabs for those who would like to gain and practice specific skills needed for performing a minimally-invasive procedure.

The first drylab is dedicated to minimally-invasive mitral valve repair. This drylab is structured as such that participants will first practice and learn, under the supervision of experienced surgeons, all the available reconstructive techniques in mitral valve repair. Subsequently, the participants will practice and learn the basic minimallyinvasive techniques in thoracoscopic and endoscopic surgery, and will gain familiarity with all the instrumental necessities of minimally-invasive mitral valve surgery. After this the participants will practice and learn the endoscopic mitral valve repair on a novel developed minimally-invasive mitral simulator. This is a high-fidelity simulator that combines physical simulated videoscopic port-access with state of art software programming giving feedback about the quality of the stiches. This proto-type is being developed by a team of engineers, with improved attributes and new features, into a serial product.

The second drylab is dedicated to wire-skill training required for transcatheter and endovascular minimallyinvasive procedures. The participants will gain familiarity and knowledge of different guidewire diameter/curves, various catheter head shapes, and guidewire-catheter-sheath systems. Further the participants will be able to practice, on simulators, the wire-catheter manipulation and the use of endovascular tools in both non-anatomical and anatomical settings. The participants will also practice and gain knowledge in stenting and transcatheter aortic valve implantation principles.

The wetlab is dedicated to conventional and minimallyinvasive treatment of atrial fibrillation. The participants will learn the functional and surgical anatomy of the thorax, heart and vascular systems, and gain both knowledge and practice in the use of instruments and basic skills in thoracoscopy. Further the participants will also practice the conventional and minimallyinvasive treatment of atrial fibrillation in human cadavers. One of the procedures that will be the focus of the cadaver training is bilateral thoracoscopic treatment of atrial fibrillation.

## July 2014: Two-day course on the univentricular heart

e are delighted to be able to offer a two-day course on the univentricular heart on the 8–9 July 2014 at EACTS House in Windsor, UK. In the great majority of paediatric congenital heart centres in North America and Europe, univentricular surgery has become a major component of their work over the last 20 years. This two-day course is aimed to provide a state of the art update on medical and surgical management of children with these complex conditions.

The first day will start with the morphology of hypoplastic left heart syndrome and complex univentricular heart. The conduction system in complex hearts will then be studied in detail, with these two sessions led by outstanding morphologists, Professor Robert Anderson and Dr Andrew Cook of London. Following this, antenatal diagnosis will be addressed along with the spectrum of the non-septatable heart and the difficulty of deciding when a heart is not septatable. Later in the first day there will be a session on peri-operative management and interstage care and we will finish with a hands-on morphology with morphologists, surgeons and physicians deciding on the possibilities for palliation or correction.

The second day will cover the classical approaches to palliation of the univentricular heart, the three-stage Norwood procedure with either a Blalock Taussig shunt or right ventricle to pulmonary artery conduit. We are then fortunate to welcome a surgeon leading in Europe on the hybrid procedure. The problems and complications associated with this complex surgery, in particular management of the aortic arch, AV valve and pulmonary artery problems will be dealt with in detail. Finally the long-term management and complications associated with the Fontan procedure will be discussed in detail.

Through the programme we hope to cover, in some depth, the total management in the 21st century of children with a univentricular heart, including the longer term management issues in particular with the Fontan procedure. The two days will finish with a surgical wetlab, at which the surgeons



present will help to demonstrate the hemi-Fontan procedure, the lateral tunnel Fontan and the RV-PA conduit.

At the end of the two-day course we would expect that the participants would

have a comprehensive understanding of the management of children with a univentricular heart and be able to formulate their own questions and concerns about the future management of these complex patients. CARPENTIER-EDWARDS PERIMOUNT

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## **Fundamentals in Cardiac Surgery Part 1**

In February this year, Fundamentals in Cardiac Surgery Part 1 was held at EACTS House, Windsor, UK, and attended by a record number of trainees from Europe, as well as Saudi Arabia and Nigeria. We talked to the Course Co-ordinator, Professor John Pepper, about the aims and evolution of the course...



ow in its third year, the Fundamentals Course is one of the most popular courses on the EACTS Academy events calendar and this year had 40 residents attending Part 1 of the course.

"The aim of the course is two-fold," explained Pepper. "Firstly, to attract trainees from the 29 countries of Europe and introduce them to the important concepts and principles underlying the practice of modern cardiac surgery."

For example, the course outlines the basic problems concerned with cardio-pulmonary bypass, hypothermia, protection of the heart, through to fairly fundamental aspects of how to approach the heart, the principles of valve surgery, coronary surgery, and then at the end of the week there is a highly-supervised wetlab experience.

"Secondly, the course also allows trainees to network and engage with the lecturers on the course, and establish professional relationships that could last their lifetime in .

According to Pepper, developing such relationships is very important for people who are somewhat isolated, particularly in the small cardiac units in Eastern European states. These people need to develop friendships so they can talk to people on the telephone, via email and Skype etc.

#### **Course design**

cardiac surgery."

The course is designed to be very different from the format of international meetings, and incorporates a structure that encourages delegate participation, and interaction with the speakers and other delegates.

"We really feel that discussion is one of the key elements of the course, and the discussions form the bedrock of understanding," he added. "You always find that people are a little hesitant to speak out but by lunch time on the first day

the sessions are full of questions, comment and debate."

The course has evolved over the years, and has been enhanced by the introduction of wetlabs, giving delegates hands-on practice with the ability to ask the advice of experts all in one setting.

"When we first started the course we only had lectures and then last year we introduced wetlabs, as it is important that we teach and discuss the theory and then let the

#### Attendee feedback

#### Frank Schaagen, The Netherlands

n Holland it is part of the new residency training programme that we must attend the four basic courses of the EACTS. The course covers all the basic elements and the wetlab is very enjoyable. The course is attended by fellow residents from Europe and beyond, and it is interesting talking to them and hearing how training differs from country to country. I think all residents in Europe from years one-to-three should attend these courses.

attendees put theory into practice," said Pepper. "This type of course, especially one which includes a wetlab, cannot have more than 40 attendees as you are unable to give sufficient supervision and advice beyond that number. Looking forward, we will probably incorporate another session of wetlabs into the course in 2015."

#### Part 2

In June 2014, Windsor will host the second part of the Fundamentals in Cardiac Surgery Course, which has a greater depth and scope than Part 1. It is assumed attendees have a

#### Attendee feedback

#### John Fitzpatrick, Ireland

spoke to one of my colleagues about the course and he recommended that I attend. I really enjoyed the intensive care unit sessions, the depth of the lectures I thought was excellent. For example, they discussed right heart dysfunction, the one thing we really don't think about. I also thought Andrew Parry's talks on paediatric

surgery were very, very good, and he explained a complex subject very concisely.

I think the small number of attendees on the course helps it to be more interactive. It also means there aren't huge numbers of people all asking questions at once. The wetlabs were very enjoyable – as a trainee you don't really have the opportunity to perform aortic root replacements – so to



actually go through the procedure and have experts offer one-to-one advice was fantastic.

higher level of basic knowledge so the presentations focus in more detail on the repair of complex congenital heart defects and arterial switch operations.

In addition, acquired heart disease sessions concentrate on complex mitral repair, as well as focusing on the aorta and the repair of dissections, arch replacements, the preservation of the brain and spinal cord. The course also examines the surgical aspects of heart failure such as extracorporeal membrane oxygenation (ECMO), ventricular assist devices and transplantation.

"One of the most important aspects of the course is that it should be seen as a road map that allows trainees to understand all the different aspects of cardiac surgery, to inform them of areas they were not aware of, such as the right ventricle, and provide them with a thorough understanding about the foundations of cardiac surgery," Pepper concluded. "If we can establish high standards of practice and training in Europe, we can be a flagship for the rest of the world – this is one of the key aims of the EACTS Academy."

## Louai Alkhalaf, Saudi Arabia

saw the course on the EACTS website and I was attracted by the programme which covers all the aspects of cardiac surgery. I think the format of the course is excellent. although I think they should split the wetlabs over two days if possible. I am already looking forward to the second Fundamentals in Cardiac Surgery Course in June and I would recommend the course for all cardiac surgery residents

Attendee feedback



## **Fundamentals Illustrated**



















## EACTS Academy 2014 Specialist Course Focus

Pleuropulmonary Infections and Nonmalignant Disorders

ᡖ 8-10 May 🌐 Belgrade, Serbia



Aimed at surgeons and pulmonary physicians and covering the role of surgery in the treatment of complex pleuropulmonary infections, as well as new techniques and the emerging role of VATS, particularly in pleural infections and the increasing incidence of tuberculosis in developed countries.

A combination of high level lectures delivering theoretical knowledge and interactive discussion will provide the latest information regarding indications and optimal timing for surgery across the different types of infections.

Minimally Invasive Techniques in Adult Cardiac Surgery

😸 23-25 June 🜐 Maastricht, The Netherlands



#### Plus drylab and wetlab training, 26-27 June, Maastricht and Rotterdam, The Netherlands.

Focusing on the technical aspects of different minimally invasive procedures, this important course is designed to provide delegates with a platform for starting a programme at their own institutes.

Emphasizing the success of the teamwork approach, cardiologists, perfusionists and anaesthesiologists will demonstrate the technical aspects of these new procedures through live surgery, live-in-a box video cases and invited presentations.

The course will be followed by a 2 day hands-on drylab and wetlab programme at EM-TRAC in Maastricht and the ERCATHAN Skills Lab in Rotterdam.

Target Audience: cardiothoracic surgeons, cardiologists, cardiac anaesthesiologists, perfusionists, residents and fellows.

#### Early registration is essential for this popular course!

### **Raising Standards through Education and Training**



### Advanced Aortic and Mitral Valve Reconstructive Surgery

H 4-5 July



Gain a better understanding of the advanced techniques of the surgical aspects of aortic valve and root disease and mitral valve repair:

- Aortic valve and root diseases
- Technical aspects of valve preservation and repair
- ECHO assessment and clinical outcomes
- Mitral valve repair degenerative, Barlows, ischaemic, infective, rheumatic, calcification
- "Tips and Slips" Live-in-a-box case discussion
- Debate: Pro's and con's
- Minimal access discussion
- Case study presentations from delegates

### Univentricular Heart and Hypoplastic Left Heart Syndrome

8-9 July



The management of Hypoplastic Left Heart Syndrome and its complex palliation has evolved dramatically over the last twenty years since Professor Bill Norwood conceptualised, and was successful in introducing, a three stage Norwood repair. Aimed at surgeons and physicians involved in congential heart surgery, this two day programme will provide an understanding of the morphology of a whole range of conditions in which the heart is not able to be septated, because of the small size of the left ventricle.

Our international faculty of experts will cover the current Norwood procedures, the Hybrid procedures and the possibilities of transplantation.

The second day's programme will include a surgical wetlab focusing on the Hemi Fontan, Lateral Tunnel Fontan and the Right Ventricle to Pulmonary Artery Conduit.

Do not miss out on these exciting opportunities! Further information and registration: www.eacts.org/academy/2014-programme

## Advanced Module Open and Endovascular Aortic Therapy, March 2014

The 'Advanced Module on Open and Endovascular Aortic Therapy' is aimed at those who aspire to be aortic specialists, EACTS News looks at what the course can offer both the resident and consultant.

his course is designed to provide a thorough overview and detailed understanding of the open, endovascular and medical therapy available from the aortic root to aortic bifurcation. The course has a modular-based learning structure starting with a very basic knowledge and builds up to specialist knowledge.

"The course is designed for trainees in the latter years of their residency or consultants who are, or want to become, aortic specialists," said Dr Martin Czerny, one of the Course Directors. "We look to provide participants with training on how, when, and when not to treat acute and chronic thoracic aortic pathology.

This year's course began with a review of the ESC-EACTS aortic guidelines, giving delegates an understanding of the treatment modalities available for each aortic pathology. The programme then follows a journey through the entire aorta from the aortic valve, through the aortic arch to the descending aorta, and in to the abdomen until the aortic bifurcation.

"We start with a detailed discussion about perfusion and circulatory issues because the manual aspect of aortic surgery and the choices we make, such as how to perform circulatory arrest or antegrade brain perfusion, impacts how successful the treatment can be" he added.

The module examines the conventional surgical approaches to replacing the thoracic arch, as well as the total endovascular procedures including branches, and the combined procedures such as the hybrid approach. At each stage the attendees are provided with the conceptual, as well as the surgical details of

#### Attendee feedback

#### Antonio Tomas, Lisboa, Portugal

was here two years ago for the Fundamentals

in Cardiac Surgery Course Part 2 and really liked it, so I was looking on the EACTS website for another course to attend and, as I really like aortic pathology, I decided to attend this one. In

particular, I thought the Osirix Course was excellent, as well as the lecture of David V valve-sparing technique. I think the course is well balanced between theoretical sessions and hands-on practice

#### Attendee feedback

#### Samier Ahad, Stuttgart, Germany

y Chief attended the course a few years ago and recommended it to me. I have really enjoyed the sessions on aortic root repair, which covered all aspects from valve-sparing to

thoracoabdominal aortic replacement. I also found the video sessions

particularly interesting and would encourage the organisers to incorporate more of these

into the theoretical discussions. I would recommend that residents nearing the end of their term or consultants in the first few years of the post should attend the course.

thoraco-abdominal aortic surgery.

The course also includes video sessions. in which presenters show a video on their subject of expertise. The video sessions really emphasize the specific steps of each procedure and the delegates or presenters have the opportunity to stop the video, ask questions, discuss the options or make comments. This is what makes the module very different from the sessions at the FACTS Annual Meeting, as there is the opportunity to interrupt and interact at any time.

#### **OsiriX** Course

The module includes an OsiriX course, which teaches delegates how to obtain measurements from CT scans for thoracicaortic pathology. According to Czerny the course allows delegates to examine, interpret and discuss digital cases by providing them with a radiological basis of estimating what, where, and how to plan a procedure.

"Normally it is the radiologist who interprets and explains the images to the surgeon. OsiriX allows the surgeons to develop specialist knowledge giving them a degree of independence from the radiologists," he explained. "OsiriX gives us detailed information on vessels, angulation, tortuosity, and landing zones in order to have a safe deployment of an endovascular prosthesis."

In addition to the OsiriX course, delegates were also given the opportunity to practice their newly-gained knowledge during simulator training sessions where they can assess their guidewire and



Martin Czerny

#### catheter skills.

"Delegates attend the course with the desire to learn and leave with the ability to make their own decisions and potentially perform - with an experienced operator some endovascular procedures. They also leave with some of the knowledge needed to develop an endovascular programme in their own institutions," said Czerny.

The wetlab on the final day of the module offers hands-on practice and the opportunity for delegates to ask guestions to half a dozen experts from around the world as they perform one the following procedures:

- David V
- Arch re-routing (sparing, replacement) Bio Bentall
- Ross
- Valsalva root repair
- Frozen elephant trunk
- Patient-tailored root repair

"This year we made a conscious decision to reduce the number of presentations to facilitate more discussions and allow more time for wetlab and simulator training sessions," concluded Czerny. "We will listen to all the comments and feedback from delegates who attended this year's module, so we can modify next year's sessions so that delegates can get the maximum benefit from attending."

#### **Industry** feedback

#### John McKenna (Vascutek Ltd.), Inchinnan, UK

think, being part of a company, you can become quite myopic. I am one of the trainers in our company and we thought we should attend to see what the trainees are thinking and to listen to the expert presentations. The formula of the course is quite different from when one attends a congress. It is more relaxed so you witness the speakers giving frank and honest exchanges, it is peers talking to peers and trainees talking to peers so it is a very good mix and allows for some excellent discussions.

I think, in the future, we may send engineers to these courses. Sometimes they do get caught up in the essential minutiae of developing a product. This will help them have a deeper focus on the patient and in aiding the surgeon. So although they might not be able to contribute much in

terms of the discussions, I think they would find it valuable in terms of the practicalities of the discussions and how it relates to their specialised area





surgeons here!

Attendee feedback

Martinez,

Francisco Gomera

Valencia, Spain

highly experienced surgeons. The talks

on closure devices and catheters and guidewires were very informative as I have not performed these procedures. I would like to encourage more Spanish surgeons to attend these excellent courses. It is the second time I have attended and there have been no Spanish

## EACTS Academy Programme 2014



	Course Title	EACTS Domain	Course Director(s)	Dates / Location
	Fundamentals in Cardiac Surgery: Part II	Acquired Cardiac Disease & Congenital Heart Disease	J Pepper, London	2-6 June Windsor, UK
	Advanced Module: Congenital Surgery	Congenital Heart Disease	W Brawn, Birmingham & T Ebels, Groningen	27-31 October Windsor, UK
	Advanced Module: Heart Failure: State of the Art and Future Perspectives	Acquired Cardiac Disease	G Gerosa, Padua & M Morshuis, Bad Oeynhausen	10-14 November Windsor, UK
	Thoracic Surgery Part II	Thoracic Disease	P Rajesh, Birmingham	2-5 December Windsor, UK
	Pleuropulmonary Infections and Nonmalignant Disorders - Course endorsed by ERS	Thoracic Disease	D Subotic, Belgrade G Rohde, Bohum R Schmid, Bern	8-10 May, Belgrade, Serbia
	Minimally Invasive Techniques in Cardiac Surgery	Acquired Cardiac Disease	P Sardari Nia, Maastricht	23-27 June, Maastricht & Rotterdam, The Netherlands
	Advanced Aortic and Mitral Valve Reconstructive Surgery	Acquired Cardiac Disease	P Punjabi, London	4-5 July Windsor, UK
	Univentricular Heart and Hypoplastic Left Heart Syndrome	Congenital Heart Disease	W Brawn, Birmingham	8-9 July Windsor, UK
	Hypertrophic Cardiomyopathy and Pulmonary Endarterectomy	Acquired Cardiac Disease	C McGregor, London, D Jenkins, Cambridge	5-6 September Windsor, UK
	Extra Corporeal Membrane Oxygenation	Acquired Cardiac Disease	J Cordingley & S Finney, London	20-21 October Windsor, UK
	Valve Sparing Aortic Root Replacement and Aortic Valve Repair	Acquired Cardiac Disease	E Lansac, Paris J Sádaba, Pamplona	28-29 November Windsor, UK
	4th EACTS Meeting on Cardiac and Pulmonary Regeneration and Stem Cell Technology	Thoracic Disease	R Schmid, Bern H Ankersmit, Vienna	12-13 December, Bern, Switzerland
	Cardiac Pathology: Surgery and Interventions	Acquired Cardiac Disease	M Turina, Zurich L Bockeria, Moscow	16-17 May, Moscow, Russia
	2nd European Training Symposium (ETS) for Junior Heart Failure Cardiologists and Cardiac Surgeons	Acquired Cardiac Disease	P Mohacsi, Bern R Hetzer, Berlin T Carrel, Bern	27-28 June, Bern, Switzerland

Foundation Courses

Specialist Courses Co-Branded Educational Activities

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## EACTS Academy Specialist Courses Chest Wall Diseases

The Chest Wall Diseases Course of the EACTS Academy was held on 27–29 November 2013, at the EACTS House in Windsor, UK. Eleven invited faculty, all experts in the field of chest wall diseases, presented their work and shared their experience with the 20 participants from nine countries. Ten sessions were held over three days, including six sessions for congenital chest wall deformities, a single session each for chest wall resection – reconstruction for the sternum and chest trauma, and two sessions for various challenging case (video) presentations.

he first day of the course focused on the treatment of pectus deformities, introduced by Professor Mustafa Yuksel, the coordinator of the course. Sessions discussed the Nuss procedure, minimally-invasive techniques for the correction of pectus excavatum, surgical repair of pectus carinatum, and the role of the Abramson procedure. During the final sessions of the day, open surgery for pectus carinatum using Lactosorb was discussed, along with the Vacuum Bell therapy for pectus excavatum, and "Bar removal and brace therapy", where participants were taught how and when to remove the bars in the Nuss and Abramson procedures.

The second day began with a session on the "Treatment of complex deformities". The first two talks debated the age limitations on the minimally-invasive repair of pectus excavatum, with Dr Turial discussing the difficulties experienced with older patients, whilst Dr Park argued that minimally-invasive repair could be done on any age. As the day progressed, the surgical management of Poland's syndrome and of sternal cleft was covered, along with the management of Jeune's syndrome, and a talk on scoliosis and pectus deformities. After lunch, video presentations were given on complex cases, which the invited faculty and the participants were encouraged to discuss.

A session on chest wall resection and reconstruction opened the last day of the course, focusing on materials used to reconstruct the chest, and a video presentation on a case reconstructed using Stratos. This session led on to discussions around the sternum and chest trauma, including the use of vacuum assisted closure (VAC) in sternal dehiscence. For the final session of the course, complex cases were again shared through video presentations,

with the faculty and participants actively

discussing each case. The three-day specialist course included high level academic content and invited complex academic debates. Professor Yuksel would like to thank the EACTS for their flawless organisation, and also the invited faculty and course attendees for their participation, providing a stimulating learning environment.



Clockwise from above: Jose Ribas Milanez de Campos, Vladimir Kuzmichev, Maria Pia Torro, Invited faculty and the participants of the chest wall diseases course, Mustafa Yuksel and Hyung Park





## Functional Mitral and Tricuspid Regurgitation Course

Kok Meng John Chan Sarawak General Hospital Heart Center, Kuching, Malaysia Imperial College, London, UK

he Functional Mitral and Tricuspid Regurgitation Course was held in February at EACTS House, Windsor, UK. Course Director, Professor Kok Meng John Chan, discussed the aims of the course and the difficulties of the subject.

"The topic of functional mitral and tricuspid regurgitation is often not fullyunderstood by many surgeons," said Chan. "Although it is a disease affecting the mitral and tricuspid valves, it is not actually a disease of the valve but more a disease of the ventricle."

Therefore the course, which was targeted towards senior residents and consultants, was designed not only to include the surgical techniques employed to repair the mitral and tricuspid valves, but also to cover the pathophysiology of the condition. In addition, to give attendees a basic understanding of how to assess and treat this complex condition, the invited faculty included both experienced cardiologists and cardiac surgeons.

Functional mitral regurgitation

Chan explained that functional regurgitation is quite different from organic regurgitation

"The topic of functional mitral and tricuspid regurgitation is often not fully-understood by many surgeons," said Chan. "Although it is a disease affecting the mitral and tricuspid valves, it is not actually a disease of the valve but more a disease of the ventricle."

and many surgeons do not really appreciate that even moderate severity of the condition

The Functional Mitral and Tricuspid Regurgitation Course will return in February 2015, please look out for further announcements on the EACTS website.



Kok Meng John Chan

has an impact on survival and the quality of life. As a result, the course began by looking at the natural history of functional mitral regurgitation and how the condition is assessed

> "For many years the technique of repairing mitral valves was to insert a ring around the annulus. More recently there have been new developments, so we also covered these new approaches," he said. Experienced surgeons

described the indications, approaches and techniques for non-ischaemic and ischaemic functional mitral regurgitation, as well as examining papillary muscle, leaflet and chordal, and valve implantation techniques. Following the presentations, there were in-depth discussions on the outcomes and results from percutaneous techniques.

"Percutaneous techniques for treating functional mitral regurgitation are a long way from being the gold standard because the results of percutaneous mitral repair do not eradicate mitral regurgitation completely, they only reduce it. Nevertheless, percutaneous techniques for treating functional mitral regurgitation are performed on very sick patients, a group that is deemed too highrisk for surgery. In this group of patients percutaneous techniques are a reasonable alternative."

#### Tricuspid

The Tricuspid sessions were also designed to provide a basic understanding of tricuspid valve disease, and how to assess the condition and the pathophysiology. The faculty covered the indications, techniques and discussed long-term results for tricuspid valve repair for functional tricuspid regurgitation. In addition, delegates examined the role, techniques and results of suture annuloplasty.

"The course also included an interesting update on percutaneous approaches to functional tricuspid regurgitation," said Chan. "This technique is still very much cutting edge with the first-in-man procedure only performed recently."

www.eacts.org



# Euromacs: Increasing the availability of data, and the benchmarking programme in development

Theo De By Euromacs Managing Director

#### Growth of the Database

wo years from its inception, the Euromacs registry of patients with mechanical circulatory support (MCS) is gaining momentum. The number of cases in the database is now approaching 900, and the statistics and different parameters about the clinical follow-up of implanted devices will be published and sent to the members shortly.

The quantity and the quality of data will enable clinicians and researchers to analyse outcomes with a higher probability.

The quantity of data finds its origin in the contribution of the Euromacs members. Euromacs has 50 institutional members in 15 countries, and as any member of the EACTS can join Euromacs without additional costs, this number is increasing. While 23 centres are actually contributing to the database, the others are in the process of signing the standard agreement. This agreement has been designed in order to ensure the safety of the data by the Euromacs registry, while on the part of the hospitals that contribute data, they commit themselves to provide these data accurately and timely.

In order to safeguard the quality of the database, Euromacs has joined the EACTS Quality Improvement Programme (QUIP). QUIP has been established by the EACTS to encourage the improvement of clinical outcomes for patients and to promote the



Date of implantation / Month and year



importance of integrating quality improvement initiatives in to daily clinical practice.

Also, QUIP aims to advance current EACTS database projects and develop global benchmarking for local quality improvement initiatives.

#### Benchmarking of Centre Outcomes

One of the advantages of having a multi-centre database is that surgeons and cardiologists can compare the data of their own centre with statistics generated from the entire Euromacs database. Thus they can see the relative values of the local centre. The sample screen shown below provides a comparison of age categories between "My Hospital" and the total Euromacs registry. In red, the data of "My Hospital" show that patients over 69 years of age are over-represented as compared to all other centres in Euromacs (blue).

Within the next few months, the hospitals that contribute data to the Euromacs database will be offered more possibilities to benchmark their own data. The planned comparison will include patient distribution according to therapy strategy: "(possible) bridge to transplant", "rescue", or "destination" and others. The development plans include comparisons of adverse events, Intermacs profiles and actuarial survival graphics in different age and therapy categories. Furthermore, any clinician or scientist can contact Euromacs to ask for (downloads of) anonymous data for scientific research.



The Euromacs Registry has been designed to collect procedural and outcomes data for patients receiving mechanical circulatory support.

> To register your interest, please visit: euromacs.org email info@euromacs.org or phone +49 (0) 30-45 93 2000/2001

## **Register NOW**



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Executive Chairman (EUROMAC)

## CARDIAC SURGERY DATABASE SOFTWARE FOR HOSPITALS AND NATIONAL REGISTRIES

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- Track all cardiac surgery procedures
- Automated op notes/discharge summaries
- Integrated risk modelling EuroScore II
- CUSUM, VLAD and Funnel Plot analysis
- Unlimited longitudinal follow-up
- Export to national registries

## **Reveal** • Interpret • Improve





**Gregor J Kocher** Division of Thoracic Surgery, Inselspital, University Hospital Bern, Bern, Switzerland

S ince my main interest during the prize year was to learn more about minimally-invasive techniques in the treatment of lung cancer, I spent my fellowship not only in Odense, Denmark (focus on VATS) under the supervision of Professor Peter Licht, but also in Pisa, Italy (focus on RATS), supervised by Dr Franca Melfi.

I graduated from Medical School at the University of Zurich, Switzerland in 2005 and then started my training in general surgery in the region of Zurich. After being certified as a general surgeon I could finally start my education as a thoracic surgeon at the University Hospital of Bern. As I was already very much interested in minimallyinvasive surgical techniques whilst working as a general surgeon, this particular interest continued throughout my further surgical activities.

Since we ourselves do have some very renowned thoracic surgery centres in Europe, I planned to spend a fellowship at the dedicated "centre of excellence" for VATS-Lobectomies in Odense, Denmark under the guidance of Professor Peter Licht. Furthermore I wanted to evolve my skills in robotic surgery and therefore also applied for a fellowship at the Thoracic Department of the Multidisciplinary Centre for Robotic Surgery in Pisa, Italy, guided by Dr Franca Melfi. By receiving the Thoracic Prize / Francis Fontan Prize, I could finally make my plans come true.

In June 2013 I started my fellowship in Odense, and under flawless instruction by a very experienced team of surgeons I rapidly learned to perform their particular technique for thoracoscopic Lobectomies. I took part in most thoracic operations and also learned a lot of different surgical tips and tricks in open surgery. Furthermore I had the chance to teach some thoracic surgical procedures such as thoracoscopic atypical resections and open lobectomies to the younger residents, which gave me the opportunity to improve my teaching skills at the same time.

In addition, I was able to take part in some selected clinical research projects, and even had the possibility of starting a clinical investigation project on my own, focusing on the importance of ipsilateral phrenic nerve function in pneumonectomy patients. I am very thankful to Professor Peter Licht as well as Gert Lerbjerg (Head of the Department of Cardiothoracic and Vascular Surgery) and their great team, for making this an amazing and absolutely unforgettable experience for me – not only on a professional, but also on a personal level.

After this very instructive time in Denmark, I then travelled to Pisa, Italy to start the second part of my fellowship in February 2014. Even though I already had some experience in robotic surgery beforehand, under the guidance of Dr Franca Melfi, who has herself more than 10 years of experience with robotic procedures in thoracic surgery, I was able to significantly increase my knowledge and skills in robotic surgery.

Working in a dedicated robotic centre, which comprises not only a Da Vinci skills simulator, but also a second console in the operating theatre, seemed to make the improvement of robotic skills so much easier. Not least thanks to the fact that Dr Melfi is a very good and patient teacher. Also in Pisa I could follow most non-robotic thoracic surgical procedures besides RATS, and learn from the skills of Professor Alfredo Mussi and his team. In addition to the surgical part, we also started some research projects, cooperating with my "home-hospital" in Bern. I am very grateful to Dr Franca Melfi, Professor Alfredo Mussi and their team for this great opportunity of working together and learning from such experienced thoracic surgeons.

At the time of writing, I am in fact still working in Italy, but before this one year period ends, I plan to spend my last month at the Department of Thoracic Surgery at Marmara University in Istanbul, Turkey. There I intend to learn from Professor Mustafa Yüksel and his team all there is to know about the minimally-invasive repair of pectus carinatum.

In summary, my whole fellowship year covers almost all aspects of minimallyinvasive thoracic surgery and I am deeply grateful to the EACTS for awarding me the Prize in order to make my above mentioned professional plans come true. I did not only gain a lot of new insights in the field of thoracic surgery by working with, and learning from different, experienced thoracic surgeons, but I also got to know some quite different and interesting cultures (including their languages), which I see as a great personal enrichment.

I can only recommend to any of my colleagues, to go abroad for a fellowship whenever the opportunity arises, since it is not only a great professional, but also an invaluable personal experience!

## **Visiting Fellowship Report**

**Balazs Gasz** Zala County Hospital, Zalaegerszeg, Hungary

n 2013 I was awarded a visiting fellowship award by the EACTS to develop my knowledge and experience in specialist cardiac surgical

techniques, and patient management. The fellowship gave me the opportunity to visit four European centres to learn about two very different techniques in cardiac surgery, and to apply this knowledge within my home department.

The techniques of interest were minimally invasive cardiac surgery, and the surgical treatment, postoperative management and preoperative assessment and selection of patient with chronic thromboembolic pulmonary hypertension (CTEPH). Four centres were identified for their excellence in these areas:

- Papworth Hospital, Cambridge, UK The leading centre in pulmonary endarterectomy, performing the highest number of cases between 2012–2013.
- Kerckhoff Clinic, Bad Nauheim, Germany The leading centre for the management

of CTEPH patients in German speaking countries

- Sana Cardiac Surgery Center, Stuttgart, Germany
- Extensive profile of minimally invasive mitral valve surgery, Mini-Maze procedure
- and aortic valve repair/aortic surgery.
  Universitätsklinikum Innsbruck, Innsbruck, Austria The leading centre for minimally invasive

mitral, aortic surgery and MIDCAB procedure.

#### Minimally invasive cardiac surgery

Through the fellowship I gained experience in a range of techniques for minimally invasive cardiac surgery. My placements at the Universitätsklinikum Innsbruck, the Sana Cardiac Surgery Center, and the Kerckhoff Clinic taught me several techniques for aortic valve replacement through partial sternotomy; and minimally invasive mitral surgery, CABG, and Maze procedure.

Since the fellowship, my home institution has started using minimally invasive aortic surgery on a few cases, and I have also had the opportunity to start with an Atrial Septal Defect (ASD) case. In the coming months we hope to initiate a project focusing on Minimally Invasive Direct Coronary Artery Bypass (MIDCAB), and to establish the use of the Maze procedure within the department.

#### Pulmonary endarterectomy

Whilst visiting the Papworth Hospital, and the Kerckhoff Clinic I had the opportunity to experience the pre-, intra- and post-operative management of CTEPH patients. Establishing the procedure in my home institution is now a key target in the near future, and we have started the process of selecting patients who are eligible for the operation.

#### Conventional cardiac surgery

In addition to learning about minimally invasive cardiac surgery and pulmonary endarterectomy, I also gained experience in several other routinely applied procedures, and patient management. The fellowship was useful for comparing the use of different techniques in procedures such as CABG, aortic surgery, VAD, and ECMO management; and comparing the protocols used within the wards, ICU and the management of the centres.

The fellowship gave me the opportunity to benefit from specialist knowledge and to network with colleagues and specialists. This has greatly assisted in establishing projects in my home department, and I would like to thank the following specialists who gave their time during my fellowship: D. David Jenkin and Dr John Dunning (Papworth Hospital); Professor Eckhart Mayer (Kerckhoff Clinic); Professor Nicolas Doll, Professor Wolfgang Hemmer, Dr Markus Czesla, and Dr Timo Weimar (Sana Cardiac Surgery Center); Professor Ludwig Müller, Professor Herbert Hangler, and Professor Nicolaos Bonaros (Universitätsklinikum Innsbruck).

#### **Financial statement**

The fellowship was mainly spent on accommodation and travel costs. As an example to others considering a fellowship, the costs can be broken down as follows.

	Travel	Hotels
Papworth Hospital	€250	€350
Kerckhoff Clinic	€300	€750
Sana Cardiac Surgery Center	€300	€850
Universitätsklinikum Innsbruck	€150	€700

I would like to take the opportunity to thank the EACTS for supporting me in learning more about minimally invasive cardiac surgery and pulmonary endarterectomy, and for funding my fellowship. I would also like to extend my thanks to host departments and those who have shared their experiences with me, and taught me the techniques described above. I aimed to seize the opportunity to increase my knowledge, and I will do my best to apply it in my practice.

## **Experience as a Francis Fontan Fellow**

Sowmya Ramanan Frontier Lifeline Hospital, Chennai, India

had the wonderful opportunity to apply for the Francis Fontan Award whilst training in paediatric cardiac surgery in the Frontier Lifeline Hospital (Dr. K.M. Cherian Heart Foundation) in Chennai India. During my tenure, and in addition to the clinical training, I was given an introduction to scientific research, a field which is often overlooked and under stressed during medical training in India. It was a privilege to be associated in a small way with India's first ever science park, the Frontier Mediville.

It was a dream come true to be on the same stage and to receive an award from Professor Francis Fontan himself during the EACTS Annual Meeting in Vienna. However, the reality of being awarded a prestigious fellowship and an award in the name of one of the greatest cardiac surgeons ever in the history of cardiac surgery comes with a lot of responsibility.

The aim of my application was to have the opportunity to study the use of RVOT conduits and also management strategies in Tetralogy of Fallot. I chose to split my fellowship year between the Hannover Medical School (MHH) and the Centre Hospitalier Universitaire (CHU) in Bordeaux.

On the 10 October 2013 I joined the Department of Angeborne Herzfehler at the MHH, headed by Dr. Alexander Horke. As is well known, the MHH is currently working on the use of decellularised homograft conduits in pulmonary and aortic positions. My personal experience at the Frontier Lifeline Hospital, India, with the decellularised xenograft tissue was the reason for my interest in the work being conducted in Hannover. At the MHH I was immediately received with great warmth and friendliness and made a part of the Paediatric Cardiac Surgical team.

One of the highlights of the six month placement at the MHH was the chance to work in animal labs and perform animal experiments with my colleagues. I had the opportunity to try techniques for reconstruction and creation of neo-leaflets in bicuspid pulmonary valves in Tetralogy of Fallot in explanted bovine hearts; a continuation of the work I was involved with in India. I also had the opportunity to visit the Congenital Cardiac Surgery departments at the University Hospital of Zurich headed by Dr Michael Hubler, and to spend a month working with the department headed by Dr Emre Belli in the Center Chirurgical Marie Lannelongue in Paris. Interaction with both of these teams was interesting and informative.

On 1 April I joined the cardiac surgery department at the CHU, headed by Dr. Xavier Roques, and I am now working with



Sowmya Ramanan with her family after receiving the Francis Fontan Award at EACTS 2013

Dr Francois Roubertie in the Congenital Cardiac Surgical team. Training at the MHH and my current placement at the

Training at the MHH and my current placement at the CHU has given me an opportunity to consolidate and 'put in to perspective' the data and experience that I have from working at various centres in India. A major obstacle to quality health care in my country is affordability. The existing system depends on patients paying for their own medical treatment, often with no efficient insurance coverage and resulting in major scientific decisions being altered because of financial limitations. Visiting European centres has been an opportunity to analyse challenging clinical situations and make the best possible decisions for each patients independent of financial considerations.

The fellowship has also allowed me to take initial steps towards the realisation of an additional project to evaluate the use of conduits. The idea that has fascinated me is an age and disease matched multicentre comparison of non-homograft RVOT conduits to help derive useful recommendations for the choice of conduit in a particular pathology. With the concurrence and guidance of the heads of the departments of some major European cardiac centres I have started compiling data regarding the various conduits. Most of the hitherto published literature describes single centre studies; I feel that a multicentre analysis will eliminate institutional bias and provide better scientific basis for choice of conduit in a particular pathology. Dr Dietmar Boethig from the MHH is my guide in this project.

There is of course a personal side to the whole

experience. While I write this report halfway through the fellowship year, I have to admit that some of the interesting and challenging aspects of the fellowship have been to learn two languages, meet new people, make new friends and learn several new things from them. To think about the physiology of complex congenital heart diseases during discussions in German and French is undeniably a hard task but not a totally impossible one. As a woman, it has been an uphill task to become a cardiac surgeon. Senior colleagues (especially Dr. K M Cherian) and my family have been an unfailing source of support and encouragement. Most of all, I recognise the sacrifice made by my six-yearold daughter, who has been staying away from me for the duration of this fellowship.

To be awarded this fellowship has been a great personal encouragement for me. I hope live up to the expectations placed on me by the EACTS having selected me for this fellowship.



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Reference: 1. As presented at the American College of Cardiology's (ACC) 60th Annual Scientific Session & Expo in April 2011. Data on file. For professional use. See instructions for use for full prescribing information, including indications, contraindications, warnings, precautions and adverse events. Edwards, Edwards Lifesciences, the stylized E logo, Edwards SAPIEN, SAPIEN and PARTNER are trademarks of Edwards Lifesciences Corporation. © 2011 Edwards Lifesciences Corporation. All rights reserved. E2335/09-11/THV



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