News

ESSKA Society Membership category for Resident’s and PT’s. Lectures of the Porto Congress 2008 online.

Inside

• Scientific update: Treatment options for articular cartilage defects in sports medicine. By Henning Madry M.D.
• President’s Editorial By Lars Engebretsen M.D.
• 14th ESSKA Congress OSLO 2010
• ESSKA Integration committee. By Vojtech Havlas M.D.
• Pillars of ESSKA: Giancarlo Puddu Interview
• ESSKA Educational programmes at a glance
• Members meet Members: Scholarship reports
Dear member!

We are pleased to inform you herewith about the latest important news of the society:

Lectures of the Porto Congress 2008 online!!
The lectures of the Porto conference 2008 can be viewed on the ESSKA website under the following link:
http://www.esska.org/en/education/scientific-database

Attention!
The access is restricted to members only with personal identification.
In case of problems with log-in, please contact Ms. Brigitte Melchior-Dolenc (Dolenc.Brigitte@chl.lu) who will be pleased to assist.

We hope to see you numerous in Oslo 2010!
Your ESSKA Team
New Wonders!

Lars Engebretsen, ESSKA President

A few days before Easter I found myself in the OR attending to a 15 year old female ski jumper with a nasty knee dislocation. I happened to have three visitors with me that day, a New Zealander, an American and a Swede. Their questions reminded me that Sports Traumatology is an ever developing field. None of them had seen a knee loose enough to dislocate during testing in the OR. And they had not seen this type of injury treated acutely (5 days after the accident) with arthroscopic ACL and PCL reconstruction and anatomic medial and lateral side repair. None of them had seen female ski jumping and did not know that this is an emerging sport for Norwegian women. However, it is an emerging sport for females, much the same way as other new sports are being spread world wide. Granted, specific geographical areas have their specific sports; rugby is typical for New Zealand, American football for the US and indoor bandy for Sweden. But new sports are constantly emerging in all countries of the world necessitating educational efforts to understand the sport, epidemiology, diagnoses and treatments. The three visiting MDs from three different parts of the world with very different educational systems had one thing in common: they all wanted to learn about knee dislocations specifically, and sports traumatology in general. Their educational travel gave them the chance to increase their knowledge on new sports, diagnoses and treatment methods. Like these three visitors, all the fellows I have had over the years have learnt about Norwegian sports and sports medicine. They have brought knowledge to us and in return brought some home to their respective hospitals and clinics. ESSKA is in a perfect position to increase such opportunities for educational traveling. We count as members world class sports medicine doctors. Our partnership with AOSSM and APOSSM and soon with SLARD supported by our platinum sponsors with DJ as the leader, has enabled us to create the four week biannual traveling fellowships to the US, the Far East and now also South America. For many years already, Smith & Nephew has supported our goal to align the level of orthopaedic surgery between Eastern and Western Europe by offering 15 scholarship positions every year to young and motivated candidates. Inside Europe, a new partnership with Tornier will add new opportunities in the area of knee arthroplasty. And ESSKA itself each year sends numerous surgeons around Europe for a month visit. Read their reports and listen to their presentations. All the participants are marked for life with new knowledge and everlasting friends! Why don’t you give this chance to your best residents?

I cannot write an editorial without thanking our new KSSTA editors for their great efforts in making our journal remarkable. Ejnar Eriksson “made” the journal and the current impact factor mirrors his work. Rene Verdonk and Jon Karlsson are building on his efforts making gradual changes which will turn our journal into one of the “must have” in sports medicine. It is an ESSKA goal to develop joint journal partnerships with national and European international sports medicine societies. This will spread the message to even more readers and secure the business part of KSSTA. It is also an ESSKA goal to increase the quality of the journal website perhaps resulting in a larger web based journal and a smaller paper journal. The fact is that young residents get all their papers from the web whereas my generation still relies on bedside paper journal browsing! As a leading sports medicine journal we need to change with the times!

Finally, enjoy the summer! I myself am traveling the US as “the Godfather” for three talented residents from Europe (Gino KERKHOFFS, Netherlands; Elvire SERVIEN, France and Elizaveta KON, Italy) for 4 weeks in June and July.

Lars Engebretsen, ESSKA President
Welcome to Oslo and ESSKA 2010

The biannual ESSKA meetings attract the very best Orthopaedic sports physicians in Europe. In 2010 we will meet in OSLO, NORWAY, one of the finest cities in northern Europe. And in addition to the European ESSKA members, we welcome some of the best surgeons and sports scientists from all around the world. Of course, we hope to see the many participants from the last meetings, in Porto and Innsbruck, but also many more. In Porto there were more than 1800 participants, so why not 2000 this time? Without doubt not an unrealistic goal.

During the 2010 ESSKA meeting in Oslo, we will offer you the best of the scientific world from the ESSKA members and our guests from all around the world. The congress starts early Wednesday morning, June, 9 and terminates on Saturday, June, 12 at noon. Special one-day programme for nurses and two-day programme for physiotherapists are planned. The physiotherapist programme will be extended compared with previous meetings.

The main topics of the meeting will focus on good science and scientific methods and new surgical techniques. There will be focus on scientific and surgical pearls, with short lectures by some of the best scientists and surgeons, both ESSKA members and others.

We will focus more than previously on posters, with special poster sessions. Several of the best posters will be selected for short - 3 minutes - podium presentations, ending with award session, and prizes for the best posters. Live surgery, with four different procedures is being planned.

We welcome our special guests; Elizabeth Arendt (USA), Roald Bahr (Norway), Savio Woo (USA) and Jan Victor (Belgium), who will give us the latest news on basic science and current clinical and surgical methods. We also welcome the Ejnar Eriksson speaker; Werner Müller from Switzerland.

There will be 18 Instructional courses, starting Thursday, June, 10. Some of these courses will be focused on good scientific methods. A reviewer course, hosted by jointly the KSSTA and Arthroscopy journals will be among the lunch workshops.

We are planning several symposia on surgical techniques, and basic science in sports traumatology, with special focus on football, tennis and alpine skiing. New trends in minimally-invasive techniques, double-bundle ACL reconstructions, computer assisted techniques and tissue engineering will be highlighted. There will be several new topics and new scientists are invited. We are especially looking for new/young speakers and women, of course. As in previous meetings, Star Papers and National Awards sessions are among the highlights during the morning session.

We plan for 220 free papers, with podium presentations and more than 500 posters.

Not to forget all the social events, what about the midnight boat trip on the Oslo fjord?

Taken together – this is the congress that offers all the news you need to stay focused on sports traumatology.

And remember the Abstract deadline – October, 10, 2009.

Welcome to Oslo in 2010!

Jacques Menetrey
Programme Chair

Jon Karlsson
Programme Chair
The way to innovation is full of excitement

At Smith & Nephew, innovation is a vital part of who we are. Over the past year, we launched a host of new products and techniques that deliver significant advantages to clinicians and their patients. Contact us to learn more about our latest innovations. You’ll understand why arthroscopy just got a little more exciting, and why we’re always a jump ahead.

To learn more visit www.smith-nephew.com or call 1 978 749 1140
Dear ESSKA member,
it is my honor to share the most recent developments around
ESSKA Integration Committee activities.
Here are some details of the Committee structure, aims,
program and some other thoughts brought forward for
consideration.

Committee Members
HAVLAS Vojtech (Czech Republic) - chairman, TALLAY Andras
(Hungary) – vice chairman, DJIAN Patrick (France), NEMEC
Boris (Croatia), PREDESCU Vladimir (Romania), RAHU
Madis (Estonia), TIKHILOV Rashid (Russia), VESELKO Matjaz
(Slovenia), TRZASKA Tadeusz (Poland), BERKES Istvan
(Hungary)- past chair.

Aims and Targets of Integration Committee
The ESSKA Integration Committee has been established in
2002 to take a responsibility for facilitating cooperation of
National Societies across ESSKA with a particular focus at
support to the formal Eastern European countries.
The Committee has prepared a 2-year strategy and lecture
course timetable for the upcoming elective period of 2008-
2010. The Committee has been also invited to participate on a
Program Committee for Biennial Congress in Oslo 2010.
The Committee takes responsibility for initial evaluation
of applications for ESSKA Teaching Centers from Eastern
European countries via reviewing them and recommendation/
refusal for approval by ESSKA Board. The Committee can also
nominate centers for approval by Board. There is a separated
application process of evaluating candidates for ESSKA
Teaching Centers in place.
The Committee has worked out a 2-year plan for lecture
courses organized within the Committee. The Committee is
paralelly responsible for evaluation of official applications
for lecture courses organized by any European National
Society. There are three levels of courses recognized: ESSKA
Approved Courses; ESSKA Courses with Workshops (financial
contribution from ESSKA to be evaluated); ESSKA Sponsored
Courses (financial contribution from ESSKA). The majority of
courses are expected to be organized as type one or two as
above however.

The newly elected Committee members have agreed in Porto
2008 to organize thee lecture courses in Eastern European
countries within the upcoming 2 year elective period. The
selected target countries are Slovenia, Croatia and Poland.
Further courses are welcome for patronage!
The Committee has also proposed for a separated session
in Oslo 2010. Further details will be announced. Any
suggestions for topics and speakers are welcome for review
by the Committee members. The Committee has been, in
cooperation with ESSKA Board, exploring options for having
“Russian speaking corner” in Oslo 2010, as an increased
interest for such activity has been noticed. Further details are
to be announced.

Upcoming Courses
The committee has decided to organize two lecture courses
within the forthcoming period 2008-2010. Further courses are
organized by the local societies under ouspices of ESSKA.

*Ljubljana, Slovenia, 17-19 April 2009
The first meeting is held in Slovenia 17-19 April 2009 and is
organized by Dr Matjaz Veselko matjaz.veselko@kclj.si and Dr
Vladimir Senekovic vladimir.senekovic@kclj.si This course is
focusing on arthroscopic techniques and includes precisely
prepared cadaver sessions. The Slovenian meeting has been
organized as a joint event with the Upper Limb Committee of
ESSKA. There are still some places available.

*Opatia, Croatia, 9-10 October 2009
The second official meeting of ESSKA Integration Committee
will take place in Croatia 9-10 October 2009. This course will
be focusing on complex knee surgery from A to Z, including
arthroplasty. Further details will be announced, feel free
to contact the organizers – Dr Boris Nemec info@bolnica-
nemec.hr and Dr Miroslav Haspl miroslav.haspl@zg.t-com.hr
for further information.

*Prague, Czech Republic, 17-19 September 2009
This congress has been organized locally by a colleague of
mine Dr Milan Handl milan.handl@fmotol.cuni.cz and it is
a combined meeting of ISAKOS and ESSKA organized in
cooperation with the Czech Society for Sports Trauma and
Arthroscopy. The symposium is focusing on cartilage surgery
and related problems. Further places are still available, feel free
to contact the organizers or see following web site: http://www.
prague2009asc.cz:80/ or www.sstacz.cz

*Poland 2010
ESSKA Integration Committee agreed to participate on a
preparation of third course which will be organized at the
beginning of the next elective period in 2010 and will take
place in Poland. The topic of the course will be prevention
and treatment of knee osteoarthritis. Further details will be
announced in Oslo.
In conclusion, I and all members of ESSKA Integration
Committee would warmly welcome any initiative, comments,
suggestions or activity proposals towards the Committee
orientation. Contact details to all members are available on
ESSKA web site www.esska.org

Let me wish you all the best.

Vojtech Havlas
Prague, 30/3/2009
Pillars of ESSKA.

ESSKA likes to honour the men that have been the pillars of Sports Medicine in Europe. In this issue we will focus on Prof. Giancarlo Puddu, President of the ESSKA during May 1998 to September 2000.


INTERVIEW PROFESSOR GIANCARLO PUDDU

Interview done the 14th March 2009 by Pietro Randelli

PR: How did you get there?
GP: My dad was a good friend of the Chair of the cardiology department of Geneva, who was a good friend of M. Allgower. I was able to obtain a bursary for the AO Institute, where they did good ground level research.

PR: What was the second step?
GP: The second most important step was in 1972. Prof. Perugia was invited to talk about tendon pathologies at a rheumatology congress in France. He couldn’t go and he sent a very young, me. I was fascinated with Dr. Tria. That year I went to Dr. Tria for 7 or 8 months, and there I learnt a lot. I worked on primary care in the trauma department. There I met Dr. Busquet and Dr. Chambat. In July 1973 the well known articles on Ligament pathologies were published in the JBJS by Jack Hughston and I was asked to translate these by the French. Tria said I should go to America. So during my honeymoon I went to see Jack Hughston, who interviewed me, and made me his fellow the following year. I stayed there for 8 months and I learnt a lot, I completed my knowledge about knee pathologies. Jimmy Andrews had just arrived too, so we did the first arthroscopies, we are talking about 1975. This was the third most important step for me, also because when I was there I became a member of the Herodicus Society, which had only just been founded at the time, I became a member of OSSM, (and as such I now am one of the oldest members), and this opened the door to the Anglo-Saxon world for me.

PR: So this is the time and place that your networking was established, the year you did your fellowship with Jack Hughston.
GP: My network was a mixture of all three “cards”. Still today I have excellent relationships, in particular with the Swiss, but also with the French and Spanish. I am half South American, Peruvian, so I speak Spanish well, and I do conferences in Spanish too.

PR: Who gave you the idea to travel for your studies? Your father?
GP: Yes, my father. My father was one who worked abroad a lot, and in this way more than any other he helped me, he always encouraged me to be away. Every summer I got a bursary and went somewhere, because at the time, the American Embassy…… well no one asked for anything, all you had to do was go to Via Veneto in Rome, fill in a request form, and they would give you a bursary immediately. In this way I was able to go away one month a year.

PR: According to you what do the Europeans have to offer more, or in what way are they different from the Americans?
GP: The most important difference, we can say, is that in America all is based on the formation of a career, on what is published at a high level, (because to publish at a low level doesn’t serve any purpose). Being published is part of a vicious circle that of getting grants. Those who have grants can do research, publish their research, and everything is based on this. Secondly, a Young Americans who want to create a medical career know their success depends on how much they are prepared to work. External factors do not count much. Instead in Europe, especially in the Latin countries, the situation is, as you well know, very different.

on animals with him, I learnt a lot about the growth of bones, how to do surgery, how to Cut pieces and to use Indian Ink. There I did a lot of scientific work, no clinical work.
So it is the mentality, the approach that is totally different. Then in America, they have a secretary that deals with day to day problems, here we have only ourselves.

**PR**: What are, in your opinion, the qualities that we have in Europe, from a technical point of view that could be our advantage when compared to North America?

**GP**: You know we can talk about navigation in knee surgery. Actually we can navigate more in Europe than in the United States.

**PR**: I’ve read from your CD that you have been published in AJSM, then in Arthroscopy when it came out in ’90 / ’91 and then mostly in the ESSKA Journal. I see that you have concentrated on these three publications, is because of their high standards of these 3 journals....or because they were specific to your work?

**GP**: I would say exactly that, because they meet my needs, because they are publications that I willingly read. I subscribe to them. It is also a question of my social network, because most articles are written by people I know, and so I can discuss the articles with them. At the end of the day you are part of a “family”. I feel less part of the Clinical Orthopedics Journals etc. I like a publication that is well focused on the topics that interest me.

**PR**: And so it was only within the last 10 years that ESSKA has revolutionized?

**GP**: There was a revolution in all the societies. ISAKOS from a practically failed society became very important. This change happened from when we began to have congresses that made money, and secondly, when we learnt to ask for grants from the big medical supplies companies. This is something that we learnt from the American companies.

**PR**: So you believe that it is important to always have a good relationship with companies, and that this is driven by the need for scientific research, as well as essential to the function of Scientific Societies?

**GP**: Absolutely, it is indispensable. These companies are part of a surgeon’s life, if he uses certain techniques – there is no getting away from that. The scandal of two years ago in the great American companies, had nothing to do with the people who worked with them (the companies), the people who used the products were involved. Yes, those that didn’t have the slightest involvement in developing the products, but were helped in some way by the industries to go around the world.

All my American friends live with this conflict of interest, they taught us this too.

**PR**: Then I wanted to ask about your relationship with your family, that is to say you had an intensive career and all of us young doctors that are in full swing with our careers have doubts that we could be losing out on something else the moment we are driven by our careers.

**GP**: I can answer in two ways. Firstly, I was lucky that my wife is half Sweden half Italian, and she speaks “all” the languages of the world, much better than I do. This made everything easier. My wife is very international, and so for the traveling, being abroad, inviting foreigners etc was very enjoyable for her. So, she helped me a lot, socially speaking. It’s obvious now that I have grandchildren, well I realize a lot... when I see my grandchildren.

I see them relatively little because they live in Lugano, but I realize that I have a relationship with my grandchildren that I never had with my children, because when I returned, (home), my children were sleeping. And when I went to work they were sleeping. All day I was away from home, and so I missed out on a lot of the pleasure that would have been the contact with my children.

**PR**: And with your Italian colleagues, with your colleagues in Europe and around the world, who do you hold in esteem as a person – from a technical point of view, a scientific one, who is there?

**GP**: You know we form part of a “club”, the club of the knee. This was formulated in 1987 / 88. From there a nucleus formed that has never been ruined. Not to name names, but there is Silvio Zanoli, and Vittorio Monteleone, and Mario Bianchi, all those that were involved, like Paolo Aglietti. And naturally that became a core Italian group that grew with the formation of the Italian arthroscopic society. Of course, each of us did courses and became elected.

Then abroad, my greatest triumph was being part of Herodicus Society from the beginning, and so meeting and becoming friends with all the then new members, Lonnie Paulos, Freddie Fu et al., who today have become the big names in America. Then I had the good fortune to always host the traveling fellows of the AOSSM, and at the time, these were the men I just mentioned. And so they came, accompanied of course, as...
young men to stay in my home, and so my home became a port of call for all those that did the knee from around the world, and this meant that I entered into a circle of friends that we can say will never end. Great friends, wherever I go I have friends. Recently I was a month in the United States. I started off in Naples Florida, where there was a small meeting at a very amusing society, called the Quickly Society, which was formed by Tom Quickly, who was, we can say, the first professor of sport medicine at Harvard. To become a member of this society you have to have, attended Harvard University, you have to have been a real athlete at Harvard, and be an orthopedic. There are only 25 members, and I was invited there to talk. Then I went to Baylor University in Huston. After that I went to Pittsburgh, not to Freddie Fu’s but to Patrick De Maio, he is an Italian Chair at another university. He is young, charming and going at full steam.

Then I went to St.Louis, where I went to Washington University, then I went to Missouri University in Columbia, then to Minneapolis to E. Harner and Robert LaPrade, then to Buffalo New York. After Buffalo New York there was Cleveland, which was a wonderful experience. One could loose ones head over Cleveland’s clinic. Apart from the fact that they have 49 thousand employees, it is the second biggest industry in Ohio, and the research centre is a huge building, all research is done in the same building. From cellular research to how to hit a nail with a hammer, to NASA research and so on. And it works this way. You have a grant like everyone, to do research. So they ask what research you want to do? “On Fibre Plastics? Laboratory... no problem!” And they say to you, you can start in 20 days and it will cost you €20.000. At that point you can do whatever research you want because you pay. You give the institute your grant to be able to do your research. And another fascinating point, is that if you have an idea for developing a surgical instrument, they will make it for you at a cost of “x” after 15 days. If you pay double, you can have it in 24 hours.

PR: And for a hobby, what do you do? I know you also travel for your hobby, antique cars. Where did you go?

GP: Yes, I did Malaysia, Thailand, Cambodia, Laos, Vietnam, the whole peninsular. Very Beautiful. No surgery, no arthroscopy. I was the only Italian; the others were almost all English. It’s an English sport, if it can be called a sport.

ESSKA basic Science committee notice.

We are planning two initiatives for Oslo 2010, and wish to invite collaboration from the ESSKA members - we would be delighted if you wish to help, or know someone who you wish to recommend for their special knowledge.

1 A scientific session at the Oslo meeting: Basic science of growth factors for accelerated tissue healing. This is being organised by Francois Kellberine (fkellberine@me.com).

We would welcome any offers for speakers who could tell some basic information, so please contact Francois!

2 A session on the Anatomy of the foot and ankle. This is being organised by Andrew Amis (a.amis@imperial.ac.uk) and Niek van Dijk (c.n.vandijk@amc.uva.nl). We plan to have a pre-meeting in London in November 2009, to produce a set of papers for a special edition of the KSSTA journal (to be published before we go to Oslo), and to produce a CD to be distributed to the members of ESSKA in Oslo. Please let us know if you wish to take part in this!

I would be pleased to hear of any ideas from the ESSKA members for basic science work which would be of wide interest across the ESSKA membership.

Andrew Amis
Chairman of the ESSKA Basic Science Committee.

E-mail: a.amis@imperial.ac.uk – +44 20 7994 7062.

International Fellowship

AT ISTITUTO ORTOPEDICO RIZZOLI, BOLOGNA – ITALY

The Istituto Ortopedico Rizzoli (Rizzoli Orthopaedic Institute) is the main Italian institute concerning orthopaedics and traumatology, due to its high level of healthcare in orthopedics and traumatology it reached the status of a Scientific Research Hospital. The institute’s strength lies in the close integration between healthcare (about 150’000 patients examined and over 18’000 orthopedic operations every year) and scientific research, which is carried out in 9 laboratories employing a staff of 250 including doctors, biologists and technicians, for a total amount of 1’350 working people.

The Laboratorio di Biomeccanica (Biomechanics Lab) is specifically a multidisciplinary lab, including in its staff medical doctors, mathematicians, engineers, physicists, computer scientists and doctors in exercise and sport sciences. The Lab holds a prominent position concerning the computer-aided surgery (CAS), the biotechnologies, the analysis of total knee replacement and biomechanics of the human musculo-skeletal systems.

The main research objectives involved in the Lab’s policy are:
• clinical biomechanics;
• Roentgen Stereophotogrammetric Analysis (RSA);
• computer and robotic assisted surgery;
• biotechnology;
• sport biomechanics.

The mission of the proposed call is to enable students and fellows to practice an international experience and to facilitate broad cross-cultural training, giving the possibility of working in a lab with strongly integration between clinicians, surgeons, physiology experts and engineers.

The fellow will assist the research work focusing primarily on computer-aided surgery and knee biomechanics, with a particular orthopaedic interest towards total and unicompartmental knee replacement and cruciate ligament reconstruction.

The specific responsibilities for this position include: data acquisition, data processing, data analysis and management, specimen preparation, intra-operative set-up definition, manuscript writing.

The candidate should be a highly motivated individual, capable of working both independently and as part of the Lab research team. The admitted fellows need to have breadth of vision and experience, a distinct interest in biomechanics and orthopaedics or related fields. A minimum of a BS in biomedical engineering or closely related field is required, a masters degree is desired. The candidate should communicate well in English or in Italian language. Experience with MATLAB or programming languages is a plus.

The candidate is expected to spend approximately from 6 months until 1 year full-time working in the Lab.

To apply for this position, please submit a cover letter including references and a curriculum vitae to:

Stefano Zaffagnini, M.D.
Orthopaedic Surgeon
Assistant Professor (Lecturer)

Istituto Ortopedico Rizzoli
Laboratorio di Biomeccanica
da di Barbiano 1/10, 40136-Bologna (Italy)
e-mail: s.zaffagnini@biomec.ior.it

Further details about the Laboratory and the Institute are available on www.ior.it/biomec
TREATMENT OPTIONS FOR ARTICULAR CARTILAGE DEFECTS IN SPORTS MEDICINE

Henning Madry, M.D.
Department of Orthopaedic Surgery, Saarland University Medical Center, Homburg, Germany

1. Overview
Articular cartilage defects in athletes resulting from trauma, for example during high-impact sport activities, do not heal. If untreated, these focal articular cartilage defects may limit the participation in competitive sports and lead to secondary osteoarthritis.

Ideally, any articular cartilage repair technique should result in articular cartilage regeneration. Cartilage regeneration leads to a cartilaginous tissue which is indistinguishable in structure and function from the normal hyaline articular cartilage. Articular cartilage repair, instead, refers to the creation of a new tissue that shares similarities with the original hyaline articular cartilage, but is not identical. Articular cartilage repair in sports medicine requires the restoration of the articular joint surface that can withstand the stresses affecting the articular cartilage during competitive athletic activity. The past two decades have seen substantial progress in our understanding of the basic science of articular cartilage repair. Likewise, an increasing body of clinical data has allowed us to better judge on the success of each technique and to establish improved criteria for patient selection and surgical treatment. Surgical techniques may be categorised as cell-based or tissue-based techniques (Table 1). Cell-based techniques are employing the activity of either marrow-derived stem cells or articular chondrocytes. Marrow-derived stem cells can get access to the cartilage defect after a communication with the bone marrow has been surgically established using microfracturing (1), Pridie drilling (2) or abrasion arthroplasty (3). Autologous articular chondrocytes can be implanted into the articular cartilage defect without (4) or with a supportive biodegradable matrix (5). Tissue-based techniques rely on the autologous or allogeneic transplantation of a preformed tissue such as single (6) or multiple (7) osteochondral autografts or periosteal and perichondral transplants. A clinically useful approach for selecting the optimal procedure according to the size of the lesion is given in Table 2.

Prior to the implementation of these measures, a possible axial malalignment (greater than 5° varus or valgus) or knee joint instability need to be corrected. Other (general) contraindications include obesity, arthritis, and an apparent lack of patient compliance with regard to the rehabilitation program (8). The postoperative rehabilitation protocol is a very important part of each articular cartilage repair technique. It usually includes continuous passive motion (9) together with a reduced weightbearing for a certain period of time.

2. Osteochondral transplants
Osteochondral autografting involves the removal of one or more (mosaicplasty) osteochondral cylinders from lesser weightbearing areas of the joint and their transplantation into a cartilage defect in a load-bearing area. Osteochondral transplantation is the only technique that results, by definition, in the filling of a cartilage defect with hyaline cartilage. Indications are traumatic chondral and, in particular, osteochondral lesions (since a defect of the subchondral bone can be simultaneously treated), failed marrow-stimulating techniques and osteochondritis dissecans. The articular cartilage in the cylindrical transplant is connected to the neighbouring articular cartilage with a circular zone of fibrocartilage, while osseointegration takes place in the subchondral bone. Single osteochondral transplants are generally used for defects in femoral condyles that are not larger than 1.0 – 1.5 cm. The donor cylinder can be removed and transplanted arthroscopically or via a mini-arthrotomy in the previously prepared recipient site. When removing the graft and preparing the recipient site, it is important to maintain the instruments strictly perpendicular to the articular cartilage surface to ensure a matching of the contour of the surrounding joint surface. The advantages of autologous compared with allogeneic transplants are not only its lower costs but also the lack of risk of disease transmission and lack of immunological reactions. The limited availability of autologous material is a disadvantage. Good to very good medium-term results have been reported after osteochondral transplantation in approximately 80 to 90% of the cases. Clinical results are superior when lesions of the femoral condyles and tibial plateau have been treated, compared with lesions of the femoropatellar joint. A prospective randomised clinical study showed better clinical results when symptomatic cartilage lesions with a mean surface area of 2.8 cm² in the knee joints of athletes (surface area ranging from 1.0 – 4.0 cm²) were treated with mosaicplasty compared to microfracture (10). Autologous transfer of the posterior femoral condyle, reported by Imhoff (11), is an interesting therapeutic option as a salvage procedure for young patients with very large osteochondral defects in the weight-bearing zone of the femoral condyles. The posterior femoral condyle is prepared as an autologous graft and transferred to the cartilage defect in the equilateral condyle. Medium-term results are good (11).

3. Marrow-stimulating techniques
Marrow-stimulating procedures establish a connection between the subchondral bone marrow and the cartilage defect. The principle of microfracturing and Pridie drilling is to create small connecting canals; when abrasion arthroplasty is performed, such a connection is established by removing the upper layer of the subchondral bone in the lesion along. It is important to establish a vertical wall of intact adjacent normal articular cartilage with stable edges. The zone of calcified cartilage, i.e. the mineralised region of articular cartilage at the bottom of the defect, must always be removed. Fibrocartilage of variable quality results from these procedures. Marrow-stimulating techniques are indicated for articular cartilage defects of less than 2 cm² (Table 2). Marrow-stimulating procedures may be also options for temporary pain relief in unicompartamental osteoarthritis prior to unicompartamental knee arthroplasty.

Microfracturing
The subchondral bone is penetrated with awls or picks resulting in holes that are 3 - 4 mm apart and that should not be interconnected, as subchondral fractures may result. The depth of perforation is sufficient when blood and marrow fat droplets appear after lowering the arthroscopic pump pressure. Clinical results after microfracture in the knee are age dependent: active patients less than 40 years old with small and isolated traumatic lesions located on the femoral condyles have the best long-term results (12). The deterioration of the clinical results begins after 18 – 24 months and is significantly more pronounced in older patients with defects of the femoropatellar joint and tibia. Gobbi et al.
found less pain in 70% of athletes after treating full-thickness chondral lesions of the knee with microfracture, however, 80% showed a decline in sport activity levels over time (13). The fibrocartilaginous nature of the repair tissue (Figure 1), partially incomplete defect filling and possible functional deterioration are limitations of this method (14). In conclusion, microfracture provides effective short-term functional improvement of knee function but insufficient data are available on the long-term results.

**Pridie drilling**

This technique which was initially described by Kenneth Pridie from Bristol (2) is performed by drilling several prograde holes into the defect using Kirschner wires (1.5, 1.8 or 2.0 mm diameter) or a 3.2 mm drill. The use of Kirschner wires reduces the risk of a torsion fracture of the drill bit. Patients often note postoperatively a reduction in pain (15), whose cause is not known. Although Pridie drilling has been carried out for about fifty years, randomised prospective studies with adequate negative control groups are still missing.

**Abrasion arthroplasty**

In subchondral abrasion arthroplasty, the damaged articular cartilage and the underlying, often sclerotic bone is removed with a ball burr to a depth of about 1.0 - 1.5 mm into the subchondral bone until bleeding from the bone marrow occurs. Abrasion arthroplasty must not be confused with débridement (which refers to the removal of superficial and loose cartilage fragments). Often, however, subchondral abrasion arthroplasty is performed together with débridement of fibrillated cartilage (16). Spongiosation, as described by Ficat (17) corresponds to a complete removal of the subchondral bone plate into the cancellous bone. Care has to be taken to avoid an excessive thinning of the subchondral bone, which can result in subchondral fractures. A retrospective study reported better results when arthroscopic débridement was performed alone compared with abrasion arthroplasty plus arthroscopic débridement in patients with unicompartmental osteoarthritis (18). Data from prospective randomised trials are not available. The usefulness of abrasion arthroplasty for very large defects has never been evidenced.

4. **Autologous chondrocyte transplantation**

Autologous chondrocyte transplantation (ACT), as initially described by Brittberg and Peterson (4), involves autologous chondrocytes that are enzymatically isolated after arthroscopically removing cartilage fragments from lesser weightbearing areas of the knee joint, propagated in cell culture, and transplanted into the cartilage defect as a cell suspension. The defect needs to be carefully prepared: it should be surrounded by a stable wall of healthy articular cartilage, the calcified zone has to be removed and it needs to be covered with a periosteal flap which is additionally sealed with fibrin glue. First animal experiments were published in 1971 (19), and the first clinical application was performed in 1987 (4). Second-generation matrix-associated ACT procedures are based on three-dimensional biodegradable matrices in which the articular chondrocytes are seeded prior to implantation (Figure 2) (20). Symptomatic full-thickness chondral and osteochondral defects in young patients that are located in the medial or lateral femoral condyle, trochlea, or patella and that range in surface area from 3 - 10 cm² (maximal 15 cm²) as well as defects of the ventral talus are indications for ACT. Another indication are cartilage defects for which previous operative measures have failed. It has been shown, however, that marrow stimulation techniques may have a negative effect on the outcome of a subsequently performed ACT (21). Osteoarthritis and kissing lesions are contraindications. Complications include an atraumatic delamination and hypertrophy of the periosteal flap (22). In ACT, the transplanted chondrocytes may play a dual role: they are the cells forming the repair tissue and they are also having the capacity of stimulating chondrogenesis in a paracrine fashion of bone marrow-derived cells that may also populate the defect (e.g. from the subchondral bone). Although the repair tissue has been characterised as hyaline-like, a complete articular cartilage regeneration has not been achieved to date. A recent study showed a superior repair tissue after ACT with a periosteal flap compared to that after microfracture after one year (23). Better clinical and histological results for ACT were reported when compared with mosaicplasty (24). A randomised trial that compared ACT with microfracture demonstrated no significant difference in the clinical and radiographic results between the treatment groups and no correlation between the histological findings and the clinical outcome at five years (25). Kon et al. reported better clinical results and sport activity resumption in patients treated with second-generation ACT compared to microfracture (20).

5. **Conclusion**

Improvements in the basic science of articular cartilage defects and the advent of novel technologies like tissue engineering have led to improved articular cartilage repair. It remains to be seen if new techniques, such as the application of bone marrow-derived mesenchymal stem cells, will lead to enhanced articular cartilage repair. Long-term studies are needed to evaluate the durability of the repair tissue and to determine the effect of each procedure on the development of osteoarthritis, in particular in the high demanding athlete population in sports medicine.

![Figure 1](image_url)  
Histological result 8 months after microfracture of a defect in the medial femoral condyle performed in a 59-year old woman. Representative serial histologic sections of the defect illustrating the area of integration between the repair tissue (right side of each picture) with the adjacent articular cartilage (left side of each picture) stained with safranin O (A), hematoxylin and eosin (B), a monoclonal mouse anti-human type-II collagen IgG (C) and a monoclonal mouse anti-human
type-I collagen IgG (D). The staining of the repair tissue with safranin O (A) and hematoxylin-eosin (B) has a similar pattern than the adjacent articular cartilage. Immunoreactivity to type II collagen is similar in the adjacent articular cartilage and in the repair tissue (C). However, immunoreactivity to type-I collagen is absent in the adjacent articular cartilage while present in the repair tissue, indicating its fibrocartilaginous nature (D). Photomicrographs were obtained using standardised photographic parameters, including light intensity. Original magnifications ×20 (A – D).

**Table 1**: Overview of articular cartilage repair techniques.

<table>
<thead>
<tr>
<th>Category</th>
<th>Principle</th>
<th>Technique</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell-based techniques</td>
<td>Marrow-stimulation</td>
<td>Abrasion arthroplasty</td>
</tr>
<tr>
<td></td>
<td>(cell type: marrow-derived stem cells)</td>
<td>Pridie drilling</td>
</tr>
<tr>
<td></td>
<td>Transplantation of articular chondrocytes</td>
<td>Microfracturing</td>
</tr>
<tr>
<td></td>
<td>(cell type: articular chondrocytes)</td>
<td>Autologous chondrocyte transplantation (ACT)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(cell suspension with periosteal flap)</td>
</tr>
<tr>
<td></td>
<td>Matrix-associated ACT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(cells attached to a biodegradable matrix)</td>
<td></td>
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<tr>
<td>Tissue-based techniques</td>
<td>Removal of fibrillated cartilage fragments</td>
<td>Débridement</td>
</tr>
<tr>
<td></td>
<td>Transplantation of osteochondral tissue</td>
<td>Autologous osteochondral transplants</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(single cylinders)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mosaicplasty (multiple cylinders)</td>
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<tr>
<td></td>
<td></td>
<td>Autologous transfer of the posterior femoral condy</td>
</tr>
<tr>
<td></td>
<td>Transplantation of periosteal tissue</td>
<td>Periosteal transplants</td>
</tr>
<tr>
<td></td>
<td>Periosteal transplants</td>
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</tbody>
</table>

**Table 2**: Indication for articular cartilage repair techniques based on the surface area of the lesion.

<table>
<thead>
<tr>
<th>Lesion surface area</th>
<th>Articular cartilage repair technique</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1.0 cm²</td>
<td>Osteochondral transplants</td>
</tr>
<tr>
<td>0.5 – 2.0 cm²</td>
<td>Marrow-stimulating techniques</td>
</tr>
<tr>
<td>&gt; 2.0 – 3.0 cm²</td>
<td>Autologous chondrocyte transplantation</td>
</tr>
</tbody>
</table>

Second-generation matrix-associated ACT procedure applied to an osteochondral defect in the femoral condyle. After meticulous preparation, the defect is covered with a three-dimensional biodegradable matrix in which the articular chondrocytes have been seeded some days prior to implantation (A). Histologic section of the same matrix that was applied in (A) composed of type I and III collagen with clusters of articular chondrocytes attached to the biomaterial stained with hematoxylin and eosin (B). Original magnification ×200 (B).

**References**


**Figure 2**
From April 16th to 18th, international course of arthroscopic techniques took place in Ljubljana, capital of Slovenia. Already sixth international course with cadaver workshop, traditionally organized by Slovenian Society for Arthroscopic Surgery and Sports traumatology, was this year organized together with ESSKA Integration Committee and Upper Limb Committee, with excellent international faculty from 14 European countries and Israel. 32 attendants were from Austria, Bosnia, Croatia, Israel, Macedonia, Serbia, Slovenia and Romania.

The first day, during 7 hours of lectures, basic knowledge on arthroscopic knee, shoulder, elbow, wrist, hip and ankle pathology and treatment, was presented and during lunch break a hand on course on meniscus suturing and knots.

Second and third day, 3 hours cadaveric workshop in the morning and 3 hours in the afternoon was accompanied by 1 hour special topics lectures. 32 attendees performed arthroscopies on 16 arthroscopic stations, two per station, each pair under guidance of the instructor. Diagnostic arthroscopy, meniscus suturing, ACL and PCL, single or double bundle was performed on the knee, and subacromial decompression, rotator cuff repair and Bankart repair were performed on the shoulder by all attendants.

It was three days of hard work, but all, attendants and instructors, agreed it was worth the effort, and that we might meet again in Ljubljana. Our 7th course will be held next year, April 15 – 17.

Prof. Matjaž Veselko, M.D. PhD

News from SIGASCOT

SIGASCOT is organizing in Milan:

• on October 22 – 23, 2009 at IC Humanitas in Rozzano (Milan) a “Live Surgery Meeting (13 procedures)” on “From theory to practice: rationale of shoulder surgery-new surgery techniques and biological aspect” with the following topics: shoulder instability, shoulder rotator cuff surgery, shoulder arthrosis

See you in Milan!

Alex Castagna & Pietro Randelli

• on January 22 – 23, 2010 at the Milan Marriott Hotel a “Current Concept on TKR”, with the following topics: biomechanics, materials, anatomy, high tibial osteotomy, resurfacing, unicompartmental, TKR, controversies, revision surgery

See you in Milan!

Matteo Denti

The meniscus: from cradle to rocker


Dear ESSKA Friend Welcome to Gent!

www.meniscus2010.be

Confronting customized concepts in the diagnosis and treatment of meniscal pathology, this meeting will focus on the state of the art in the field of the ‘semilunar cartilages’ as they were once called in older textbooks. Philippe Beaufils and I would be honoured to welcome you as our guests to medieval Gent. You will be fascinated by the combination of a modern university city and old town centre with picturesque canals and you will get a taste of exquisite food and great Belgian beers. In addition, the top researchers and experienced clinicians will share their knowledge to bring you the best of both worlds and provide you with new insights and developments in this emerging field of the menisci. See you in Gent in 2010!

René Verdonk & Philippe Beaufils
"ESSKA–Tornier Knee Arthroplasty Fellowship 2008" Fellowship Report by Dr. Deepak Goyal, India

A professional body supporting highest standards of teaching & clinical activities, its members with huge dedication for research & teaching; that is the impression of ESSKA for me.

I departed from Ahmedabad, India on 18th October 2008 evening. My program was to fly from Ahmedabad to Barcelona via Mumbai and Brussels. I reached Barcelona on 19th October. Next day at 7:30 am, our host Prof. Ferran Montserrat was at hotel parking to receive us as per program. He is so meticulous in his planning that he had sent whole week’s schedule to us well in advance. We reached Hospital de l’Esperanza and were introduced to other colleagues of Orthopedic Department. Dr. Pedro Hinarejos and Dr. Joan Leal were other surgeons in the team. The Knee team at Barcelona had selected a wide variety of Knee Arthroplasty cases, like Valgus knee, Varus knee, Revision Knee Case, Infected Knee for Revision, Knee with Lower End Femur Deformity, Arthroplasty using local and International brand Implants. We also saw couple of ACL Reconstructions.

Dr. Pedro Hinarejos demonstrated three Navigated Knee Joint Replacements. His step by step approach of Navigation was very precise. His concept that Navigation is important for beginners to avoid major mistakes was thought stimulating. The Knee Team had selected a very nice location for fellowship dinner at La Venta Restaurant. We were received by local Tornier Manager at the Restaurant. As Tornier is not present in India, he gave me first insight about the company. Friday afternoon, I presented my paper on “Use of Superficial Slip of Quadriceps Tendon for MPFL Reconstruction”. We had a very interesting and lengthy discussion on this topic. One important point that emerged from our discussion was, “are we over-treating MPFLs?”

We flew to Brussels and than took train to reach Bruges. Someone has rightly described Belgium as Dark North of Europe. The weather was extremely cold and dark. But our hosts were extremely warm and cheerful. Hotel Montanus staff was best compare to other hotels. I must thank Dr. Francois Hardeman, a resident doctor with Dr. Jan Victor, who came daily to our hotel to pick us for the Hospital. St. Lucas is a big hospital where Dr. Jan Victor works with his team. Jan Victor demonstrated us different variety of Total Knee systems and Unicondylar Knee Systems. We discussed the development concept of ‘Journey Bi-cruciate stabilized Knee system’ of Smith & Nephew, along with its more anatomic structure. Advantage of Journey BCS system over conventional knee for active lifestyle patients was also discussed. Tuesday was a relatively free day, when we best utilized our time walking along the streets of Bruges. The artistic and architectural culture was evident on each step. This UN heritage city, with its beautiful tunnels reminded us of medieval times.

Sunday, we started our journey for final leg of our fellowship. We travel by train to Brussels, from where we took TGV for Lyon. Having heard of great surgeons and legacy of Lyon, it was a dream come true for me to visit Lyon. Dr. James Bruderer was there at Lyon Part Dieu to receive us. He took us to Hotel Des Artestes. Lyon is a beautiful city at the confluence of Rivers Saône and Rhône. A welcome kit was there at the hotel room, containing Lyon City Map, detailed schedule for the week etc. Kit also had a book “Le Genou et le Sport-Du Ligament a La Prothese” having informative articles. Dinner with resident & fellows on Sunday evening reminded me of my Orthopedic Residency, Elvire, Sebastien, James and Guillaume; all were friendly & quite experienced.

Our Knee fellowship started at Mermoz Hospital. Dr Pierre Chambat was veryclear in his principles about ACL Reconstructions and Total Knee Replacements. His step by step approach to each surgery impressed us. He has tremendous experience in Ski Sportsman with ACL injuries using BTB grafts. He showed us a different method, where BTB graft is inserted thru femoral tunnel in the joint and pulled out from Tibial tunnel. He also did an additional Fixation at Tibial Tuberosity.

Torqni had planned our visit to company at Grenoble in Rhône-Alpes region on Monday evening. We visited their corporate office, factory and research lab along with Dr Ph. Henin. We also visited their custom made prosthetics division. Philosophy of Tornier, and company profile impressed us. Dr. Michel Bonnin is a great surgeon and enthusiastic person. He enjoys teaching during surgery. Dr. Gills Walch & Dr. L. Nove-Josserand, are shoulder surgeons at Mermoz Hospital with huge dedication towards their work. It was a truly international dinner at Gills Walch residence in the evening. Apart from ESSKA fellows, there were other fellows from Brazil, Japan, USA and Italy with him. We had a good and lengthy discussion on various international topics and politics.

We visited Prof. Philippe Neyret at Centre Albert Trillat on Thursday morning. He introduced us about the group called Association Lyonnaise de Restauration Motrice. He also informed us about history of Center Albert Trillat in brief. Prof Philippe Neyret demonstrated atornier Total Knee & Unicondylar knee. He also put his points in favour of Unicondylar knee, as compare to HTO. He also showed a novel method of tightening a loose ACL with ‘Bone Cylinder Pull’ method. The method is in its infancy but looked interesting. We also witnessed a revision Knee case.

We visited Dr David DeJour at Clinique de la Savegarde on 7th November. De Jour had very good tips for various surgeries which he demonstrated to us. It was interesting to discuss, influence of posterior slope on ACL Rehabilitation. He also demonstrated us Meniscus Repair techniques. His method of doing double bundle ACL was very unique. He uses Semi T and Gracillis graft, passes thru one femoral tunnel, loops it around femur and brings back in the knee joint thru another femoral tunnel. He pulls out another end thru same Tibial Tunnel. For the evening, Lyon team invited us for Fellowship Dinner at Le Boudoir. This was the time when we exchanged gifts and invited our hosts to our respective countries. With fellowship coming to an end, it was a mixed feeling; joy of reaching home mixed with sorrow of fellowship completion.

8th November was a free day to visit Lyon city and we were on our toes again. I reached Brussels on Sunday evening and took flight back to Mumbai on 10th morning.

From the perspective of advance fellowship, it was important to learn more than basics. ESSKA Tornier Knee Arthroplasty Fellowship did exactly that for us.

To summarize, what I achieved was a new insight to Knee Arthroplasty, few good friends and association with a great professional body called, ESSKA.

With Warm Regards,

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DR. YEAP’S REPORT ON HIS ESSKA SCHOLARSHIP IN PRAGUE

The inside cover of the Aircast product catalog led me halfway around the world. It was there that I learnt of the ESSKA Travelling Scholarship. From there, a quick Google search brought me to the ESSKA website. This was way back in the 2nd half of 2005. It was a long shot for me but apply I did for the Smith & Nephew ESSKA scholarship. Little did I know that eventually I would be awarded the scholarship for 2008.

When I received the email from Ms Brigitte Melchior-Dolenc, I was doing a fellowship in New York, and could only confirm the dates for February 2009. My host, Dr. Vojtech Havlas from the Czech Republic was a bit surprised that a tropical sun worshipper would want to visit Prague in winter, but there is always first for everything.

It was very easy to arrange things with the internet. Visas were not required between our countries. The designated teaching center was Fakultni Nemonice Motol, which was 7km from the center of Prague. It is part of the 2nd Medical School of Charles University which is the oldest university in Europe, established in 1348. Motol Hospital is also the largest hospital in the Czech Republic. I was able to secure a nice studio apartment right in the New Town quarter of Prague. Dr. Havlas vetted my choice, which was very central, yet given the availability of an excellent public transport system that comprises of trams, metro and buses very accessible to the hospital.

My family and I flew into Prague on the 2nd of February via Amsterdam. It had snowed recently as the ground was covered with snow as we exited the airport. I met up for a drink with Dr. Havlas that night to discuss my programme for the next 4 weeks. Given the fact that my command of the Czech language was only to say “hello”, it was decided that I was to stay in the operating theatre for the entire duration.

The next day, I journeyed via underground and bus, and reached the hospital in 30 minutes. Thereafter, every morning my day started with the morning meeting at 7.30am where pre-operative and post-operative cases were discussed. Then it was to the OT for me. In 4 weeks, the number of cases in the operating theatres was numerous. They ranged from Bankart repairs and SLAP lesions in the shoulder and elbow scopes for the upper limb. Difficult pelvic osteotomies were tackled with aplomb. Hip surgeries were varied with the normal total hip replacement in the supine position and lateral approach, anterior MIS approach to difficult primary hips which had acetabular defects, post fracture deformities, peri-prosthetic fractures and revision cases.

Knees were commonly operated as well, with the usual, total knee replacement, navigation and revisions to ACL reconstruction, revision ACL and ACIs. I had the chance to participate in foot surgeries with severe hallux valgus too.

The interesting part about the hospital was that it had a large children’s wing, and so there were cases such as proximal femoral focal deficiencies and other congenital deformities.

I learnt many tips and tricks in many of the surgeries as I had the chance to observe and assist many of the surgeons there. They had to work within a certain budget and it is the same in my country, so many innovations and improvisations were applicable to my own patients.

But all work and no play makes an orthopaed dull and boring. So it was playing tourist during the weekends and Prague is arguably the most picturesque European city that I have ever been to. Prague Castle and Charles Bridge were the more touristy places that we visited. The small lanes and cobblestone streets were filled with restaurants and pubs which yielded unassuming and yet delicious Czech cuisine together with their world renowned beer. Black light theatres, ballets, concerts and opera, Prague has it all.

All too soon, it had to end but not before I enjoyed the hospitality of Dr. Havlas and his wife who took us out for a scrumptious lunch and also hosted us at their home for tea. I am greatly indebted to him and all of his accommodative colleagues, like Prof. Trc, Prof. Handl, Dr. Chladek, Dr. Teysler and last but not least Dr. Frei.

It was a once in a lifetime experience, both professionally and personally. I look forward to renewing these friendships in the future, who knows, perhaps at an ESSKA conference.