



# Kinanthreport



Issue XXIV December 2009 | Edited by Dr Carmel Nottle

## KINANTHREPORT 2009 - 3

Newsletter of the International Society for the Advancement of Kinanthropometry

### Contents

President's Corner .....	3
Secretary General's Side .....	5
Member Profiles .....	7
Recent Honours and Achievements.....	9
Publications and Resources .....	11
Where are the Level 3 and 4 Anthropometrists? .....	12
2009 Course Photos .....	17
ISAK Conference – Lisbon 2010 .....	18
ISAK Office Bearers 2009 .....	19
From the Editor .....	20

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## PRESIDENT'S CORNER

Dear ISAK Member

It is a lovely summer here in South Africa and in the past few weeks we have experienced a few thunderstorms accompanied by fabulous rain. On a personal matter my eldest daughter Elé has completed her matric exams and she is currently away on her matric vacation on the east coast of South Africa, in the Durban area. She will be studying pharmacy next year. Our son, De Wet, is finished with grade 9 and will be going to grade 10 next year and Maret our youngest will be in grade 7 next year.



It was ISAK's pleasure to send each of the members an electronic pdf copy of Kinanthropometry XI, the proceedings of the 2008 Pre-Olympic Congress anthropometry research presented at Guangzhou, China in August 2008. I would like to thank and congratulate its two editors, Professor Patria Hume and Dr Arthur Stewart, for all their efforts in compiling and editing these proceedings, and all of the contributing authors for their research, their presentations at Guangzhou and their write up for publication.

It was a full and busy year at ISAK. We were unbelievably busy with various ISAK activities and as I look back over the year, I can almost not believe all that we were involved in. I would also like to make use of the opportunity to thank our Secretary-General, Mike Marfell-Jones, for all his hard work in this regard. Furthermore my thanks also to Arthur Stewart, our Vice-President as well as the executive council for their hard work and input that has made ISAK a success. As mentioned in my previous president's corner I am doing my best to address all ISAK matters and emails at least once a week. Therefore, if I do not react immediately to your requests, enquiries, etc., please be patient. I will eventually attend to it.

With regard to our ISAK conference to be held in November 2011 in Lisbon, Portugal, our colleague Isabel Fragoso is hard at work and the First Announcement of the conference will occur soon. May I again ask that you, as members, fully support Isabel and her team to help them make the 2010 conference extremely successful. Thank you to Isabel and her team for the hard word that lays ahead and we hope to see you all in Portugal in November next year.

I would also like to take this opportunity to congratulate Guillermina de Leon of Mexico on her level 4 status. ISAK has formally designated Guillermina as Level 4, Criterion Anthropometrists, effective from 2 December 2009. The designation of Criterion Anthropometrists is an honour that ISAK does not bestow lightly, so it is particularly pleasing to see our colleague from Mexico achieve this recognition at a point in her career when she still has so much to offer to the organization, its members and its students.

I would like to thank you as members for the year that has past. It was a very good and fruitful year for ISAK and we are thankful that so many activities were completed successfully. I would like to wish you all a blessed Christmas and a prosperous 2010. May you all have a well deserved rest and spend time with your families at this special time of year. Remember to make time for yourself and remember "We, as ISAK anthropometrists, lead by example".

Warmest regards from South Africa

Hans de Ridder

President

## SECRETARY GENERAL'S SIDE



Estimados colegas / Beste Kollegas/ Dear Colleagues

Although it is only 19 days to the longest day here, today has been more like winter than summer in Wellington, New Zealand, though since I have spent most of the day so far at my keyboard, it hasn't affected me too much. I hope the majority of you are enjoying far better weather.

On the Secretariat front, we have made significant progress on ISAK's new website, but are experiencing eleventh hour challenges which are as frustrating as they are embarrassing. Some of you will have noticed that the website has been down at times during the past two weeks and is still not imaging correctly as I write. I shan't bore you with the reasons, but do apologise for it and any inconvenience it has caused you. When the new website is "up" there will be some significant changes to the way that course approvals are applied for and certificate names sent to me, as it is our intention that these will be web-based functions very shortly. I shall inform all Level 3's and 4's how that will work just as soon as it is fully operational.

Since August this year, a further 502 Level 1, 125 Level 2 and 6 Level 3 certificates have been issued to organizers, giving a total of 636 who have passed their on-course practical exams. These bring the totals for the first eleven months of 2009 to 1357 Level 1, 366 Level 2, 37 Level 3 and 2 Level 4 for a grand total of 1762 – no mean achievement and a credit to those of our Level 3's and 4's who are offering courses and, just as importantly, to those candidates who are taking and passing them.

You will have all recently received an electronic copy of Kinanthropometry XI (the proceedings of papers presented in August last year, at our Guangzhou, China conference), thanks to the generosity of its editors, Prof Patria Hume and Dr Arthur Stewart, who made the decision to allow ISAK to send it out to all members free of charge. [It will be available to non-members for a fee.] Prof Hume and Dr Stewart are to be congratulated on their editing efforts and all the authors (which include both editors) thanked for their contributions.

To all of those who send me emails – and there are many – please don't forget to put an appropriate subject heading on your email (so that I can clearly see what it relates to if I need to refer back to it) and please also remember to put your email underneath your sign-off. I ask this, in particular, because if emails

are forwarded and you do not have your email address in the body of the letter, there may be no way for me to respond to you.

It is my pleasure to announce the appointment of Professor Lidia Guillermina De León Fierro of the University of Chihuahua, Mexico, as ISAK's newest Level 4, Criterion Anthropometrist. Prof De León becomes only the second current Level 4 in North America, (after Lindsay Carter) and will now be able to play an increasing role for ISAK, not only in Mexico, but also in the southern United States and northern parts of South America. The ISAK Council offers Prof De León its sincere congratulations on this promotion. [A more significant article about Prof De León will appear in the next edition of Kinanthreport.]

I hope that all of you will be getting a rest over the Christmas/New Year period, or shortly thereafter, if you don't celebrate these particular events at this time. I look forward to on-going communication with you in 2009 and, hopefully, a worldwide economic upturn. We certainly need it.

Mike Marfell-Jones

Secretary-General

## MEMBER PROFILES

### Introducing Associate Professor Emine Kultay, Turkey

My name is Assoc. Prof. Emine Kutlay. I am currently working as an instructor in the School of Physical Education and Sports at the Ege University in İzmir, Turkey. Obesity in the population is increasing day-by-day, especially in children. I believe that we must give them or their parents a document about themselves. My aim is to create an awareness. I and my friends started working in 2000 in this subject. We took some physical characteristic data from children (which included anthropometric measurements) and then we gave it to their parents.



Ben Yrd. Doç. Dr. Emine Kutlay. Ege Üniversitesi Beden Eğitimi ve Spor Yüksekokulu'nda öğretim üyesiyim İzmir, Türkiye. Şişmanlık toplumda, özellikle çocuklarda giderek artıyor. Çocuklara veya ailelerine bir belge verilmesinin gerekliliğine inanıyorum. Amacım bir farkındalık yaratmak. Ben ve arkadaşlarım 2000 yılında bu konuda çalışmaya başladık. Bazı fiziksel özelliklere (antropometrik ölçümler içeren) ilişkin veriler alıp, ailelerine ilettik.

With this work in mind, in June this year, I participated in an ISAK Level 1 Course organized in Ankara. This was the first ISAK Course in Turkey. I wanted to learn new approaches, new equations, new measurement techniques/methods and their practice, as well look at inexpensive measurement equipment. This course was organized by Assoc. Prof. Hayri ERTAN who is working as an instructor in the School of Physical Education and Sports at the Anadolu Üniversitesi in Eskişehir, at Hacettepe Üniversitesi, School of Sport Sciences and Technology, in Ankara.

Bu düşünceyle bu yıl Haziranda Ankara'da organize edilen ISAK 1. Seviye kursuna katıldım. Bu ISAK'ın Türkiye'de yaptığı ilk kurstu. Ben yeni yaklaşımları, yeni formülleri, yeni ölçüm teknik/yöntemlerini, bunların uygulamalarını, pahalı olmayan ölçüm araçlarını öğrenmek istedim. Bu kurs Ankara'da Hacettepe Üniversitesi, Spor Bilimleri ve Teknolojisi Yüksekokulu'nda, Eskişehir Anadolu Üniversitesi Beden Eğitimi ve Spor Yüksekokulu'nda öğretim üyesi olan Yrd. Doç. Dr. Hayri ERTAN tarafından organize edildi.

At the course, I was very pleased to meet Prof. Dr. Jordi PORTA MANZANIDO. Although I had had similar lessons in my graduate student and Ph D programs, we learnt a great deal from his high-quality lessons with his motivation and academic leadership. Many thanks to Mr. PORTA and ISAK for this contributions. These theoretical and practical lessons were very useful for every participant and, as a result, I have decided to supervise a number of student research projects that will involve different aspects of Anthropometry in the future. We look forward to an ISAK Level 2 Course.

Bu kursta, Prof. Dr. Jordi PORTA MANZANIDO ile tanışmaktan çok mutlu oldum. Yüksek lisans ve doktora programlarımda benzer dersleri görmüş olmama rağmen, biz onun yüksek kalitede işlediği derslerinden onun motivasyonu ve akademik liderliği ile çok şey öğrendik. Sayın PORTA ve ISAK'ın katkılarına çok teşekkür ediyoruz. Bu teorik ve uygulamalı dersler tüm katılımcılar için çok yararlı oldu ve sonuç olarak gelecekte Antropometrinin farklı konularını içerecek birçok öğrencinin araştırma projelerinin yürütülmesinde destek olmaya karar verdim. ISAK'ın 2. Seviye kursunu bekliyoruz.

At the Ege University, my specialities within the School of Physical Education and Sports are Sports Nutrition, Rhythmic Gymnastics (I am the Turkish Gymnastics Federation RG TC President and also an FIG-International RG Judge), Aesthetics Group Gymnastics (where I am an IFAGG-International Judge), Rhythm Education and Dance (where I am a Latin Dance National Judge), Fitness (new approach-ex., pilates, etc.) and General Gymnastics. In addition within the Ege University Faculty of Medicine, I am working in Special Populations-exercises (obesity, diabetes mellitus, hypertension and osteoporosis).

Ege Üniversitesi Beden eğitimi ve Spor Yüksekokulu'nda okuttuğum dersler, Sporcu Beslenmesi, Ritmik Cimnastik (Türkiye Cimnastik Federasyon'u Teknik Kurul Başkanı ve aynı zamanda bu spor dalının FIG-Uluslararası Hakemiyim), Estetik Cimnastik (IFAGG-Uluslararası Hakemiyim), Ritim Eğitimi ve Dans (Latin Dansları Ulusal Hakemiyim), Fitness (yeni yaklaşımlar-pilates vb.) ve Genel Cimnastik. Ayrıca Ege Üniversitesi Tıp Fakültesi'nde, şişmanlık, şeker, yüksek tansiyon ve kemik erimesi olan bireylerle de çalışıyorum.



## RECENT HONOURS AND ACHIEVEMENTS

### PhD completions in the field of anthropometry

Laura Sutton recently completed her PhD in the field of anthropometry at the Liverpool John Moore University. Laura completed her PhD with the late Tom Reilly and would like to share the following summary of the findings of her thesis with ISAK readers.

### **'Total and regional body composition analysis in distinct populations determined by dual-energy x-ray absorptiometry (DXA)'**

The broad aims of this thesis were to assess various methods of body composition analysis, conduct cross-sectional analyses using a variety of groups and determine factors that may exert an influence on body composition status. Firstly, assessments were conducted to determine the validity and reliability of our particular DXA instrument (Hologic QDR Series Discovery A, Massachusetts, USA). Porcine carcasses were assessed by DXA, then dissected and ashed. The DXA-derived total body mass and bone mineral values were compared with scale weight and bone ash weight, respectively. There was no significant bias, high agreement and strong correlation between measurements. The comparison between the 'fat' and 'lean' values reported by DXA and the corresponding anatomical adipose and adipose-free tissue masses revealed excellent correlations ( $r > 0.9$ ). Test-retest, intra-investigator and inter-investigator measurement errors were quantified using repeat scans, all revealing high reliability ( $CV < 6\%$ ,  $ICC \geq 0.8$ ).

After having ascertained the efficacy of DXA, it was used to provide reference values for the assessment of other methods of body composition analysis: hydrodensitometry, bioelectric impedance analysis and anthropometry. Each method produced significantly different percent body fat values compared to DXA criterion values in healthy participants. Consistency in the method used is essential for longitudinal studies. For field-based assessments it was recommended that the sum-of-skinfold values be used, as this method demonstrated the strongest correlations with DXA-derived body fat and any additional error induced by the application of an equation for the prediction of percent body fat is removed.

Comparisons of body composition were made between workers in different physically-demanding occupations, including army soldiers, firefighters and professional athletes, and between amateur athletes participating in different football codes. Sedentary reference groups were recruited for comparative purposes. Total-body and segmental differences were evident between groups, according to differences in daily activity and lifestyle. Professional soccer players demonstrated the highest bone mineral density (BMD) and lean-to-fat mass ratios, followed by the army soldiers. Participation in impact loading sports such as soccer and Gaelic football was associated with significantly higher lower-body and total BMD than reference values.

The focus then shifted to elite athletes, in particular professional soccer players and Paralympic athletes. In the case of some wheelchair athletes, the higher upper-body BMD and lean-to-fat mass ratio associated with their athletic training and lifestyle seemed to 'compensate' for the bone demineralisation and muscle atrophy evident in the paralysed limbs when assessing the body as a whole. Generalised anthropometric

formulae tended to produce inaccurate predictions of body fat in the athletes. It was advised that population-specific equations be generated, or that the sum-of-skinfold values be used in place of generalised equations for the prediction of percent body fat.

In the general population, different predictions of health risks and adiposity were produced by different measurement techniques. It was recommended that methods take into account fat patterning in addition to the prediction of total adiposity. Circumference and skinfold measurements at the waist and thigh sites explained the highest variance in percent body fat. Summed skinfold values incorporating one or more sites from the lower body demonstrated consistently high correlations with DXA-derived body fat values ( $r > 0.8$ ), and are recommended instead of the body mass index where feasible. Exercise variables, in particular the amount of resistance training, were significant predictors of body composition variables, highlighting the importance of physical activity in the manipulation of body composition.

Laura Sutton, PhD. (June 2009)



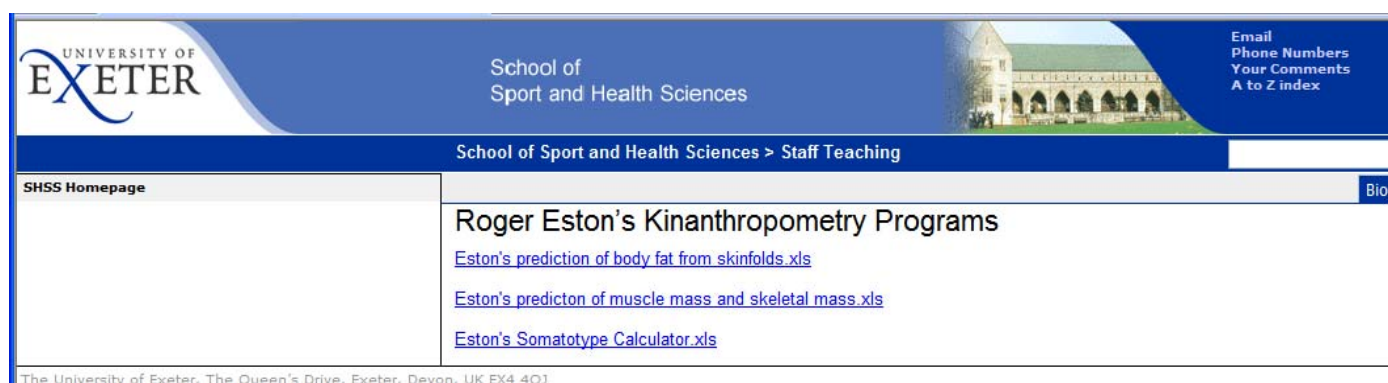
Laura Sutton with Professor Tim Cable of Liverpool John Moore University, and Arthur Stewart of Robert Gordon University. Arthur is the current Vice-President of ISAK and was an external examiner for Laura's thesis defence.

## PUBLICATIONS AND RESOURCES

### Anthropometry Resources

Professor Roger Eston from the School of Sport and Health at the University of Exeter, would like to make people aware of some excel files that he has developed for his teaching. There files contain programs for the prediction of body fat from skinfold, the prediction of muscle mass and skeletal mass, and somatotype calculations. These files can be accessed by anyone from the University of Exeter website, at the following link:

[http://sshs.exeter.ac.uk/staffprofiles/eston\\_t.htm](http://sshs.exeter.ac.uk/staffprofiles/eston_t.htm)



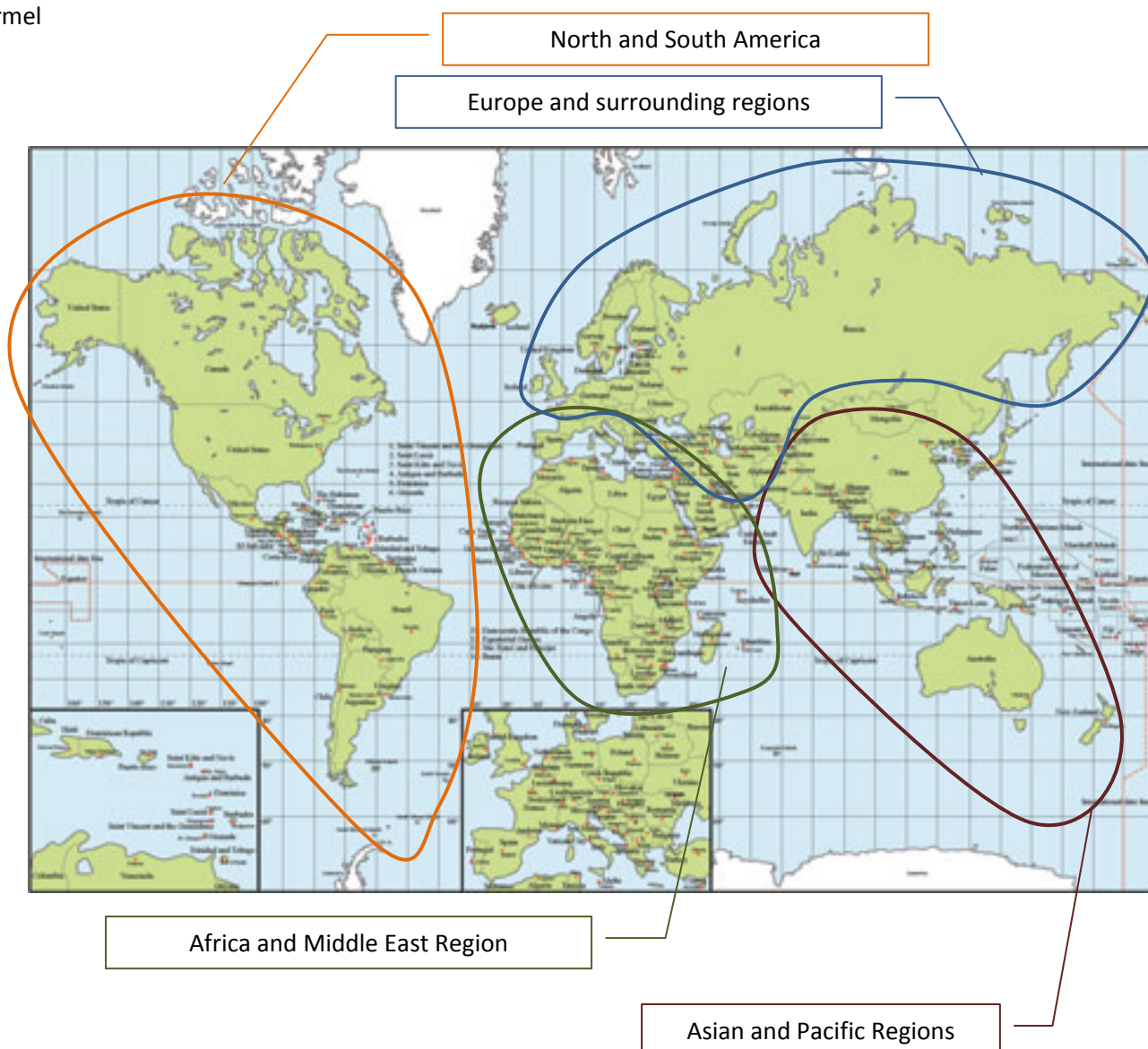
The screenshot shows the University of Exeter website. The header includes the University of Exeter logo, the School of Sport and Health Sciences name, and a navigation menu with links for Email, Phone Numbers, Your Comments, and A to Z index. Below the header, a blue banner reads "School of Sport and Health Sciences > Staff Teaching". The main content area is titled "Roger Eston's Kinanthropometry Programs" and lists three Excel files for download: "Eston's prediction of body fat from skinfolds.xls", "Eston's prediction of muscle mass and skeletal mass.xls", and "Eston's Somatotype Calculator.xls". A sidebar on the left contains a link to the "SHSS Homepage". The footer of the website states: "The University of Exeter, The Queen's Drive, Exeter, Devon, UK EX4 4QJ".

## WHERE ARE THE LEVEL 3 AND 4 ANTHROPOMETRISTS?

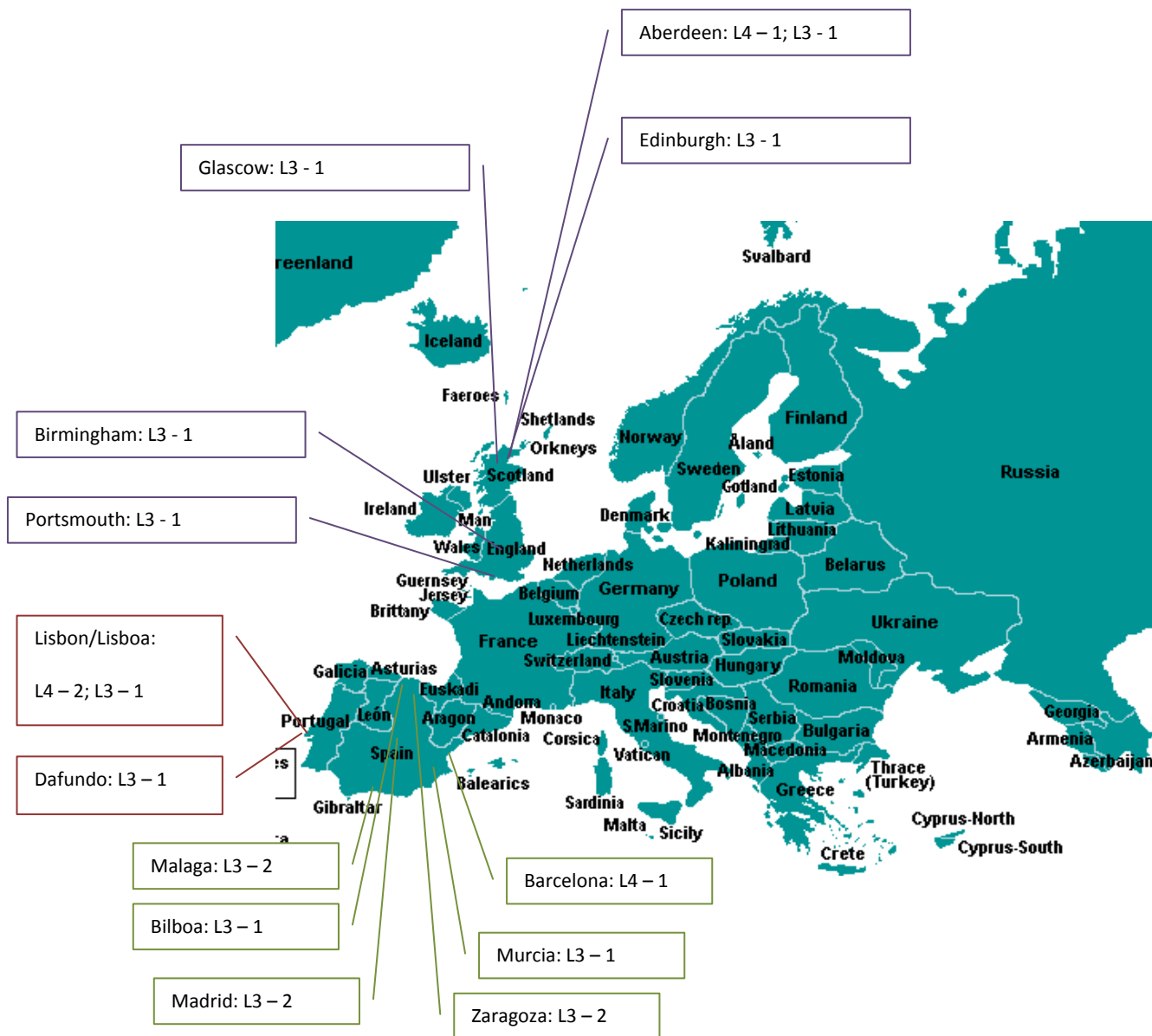
While the ISAK website provides contact details for all current Level 3 and Level 4 anthropometrists, the following provides an interesting visual of this information. Given that it is the Level 3 and 4 members who are able to run accreditation courses, the following provides an indication of those areas of the globe where there may be better opportunity for individuals looking to complete their ISAK accreditation. While it should be noted that just because there are Level 3's and 4's in the area this does not always mean that they run courses, it might just act as an incentive for some to try and broaden their horizons into those countries that don't have a Level 3 or 4.

The globe has been divided into 4 general regions and I have tried to show where Level 3 and Level 4 anthropometrists are located. This information is taken directly from the ISAK website so if there is information that is incorrect, my apologies. Also if I am a little off with the placement of my markers please put this down to poor graphic design. I have tried however to be as accurate as possible to be able to give the big picture. I am sure that you will agree there are definitely areas of the globe that have better access to Level 3 and 4 anthropometrists than others.

Carmel



## Europe and Surrounding Regions



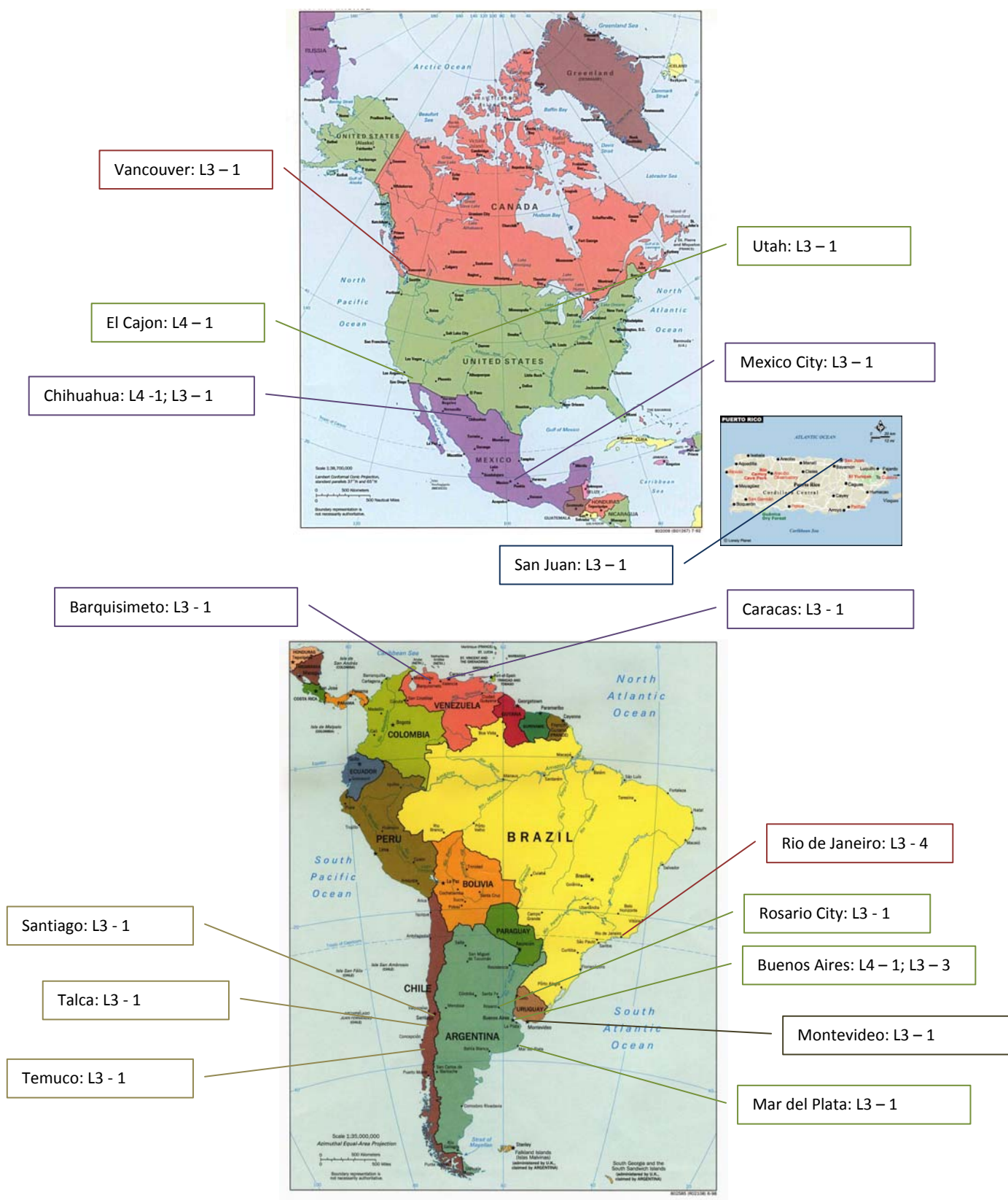


Potchefstroom: L4 - 1

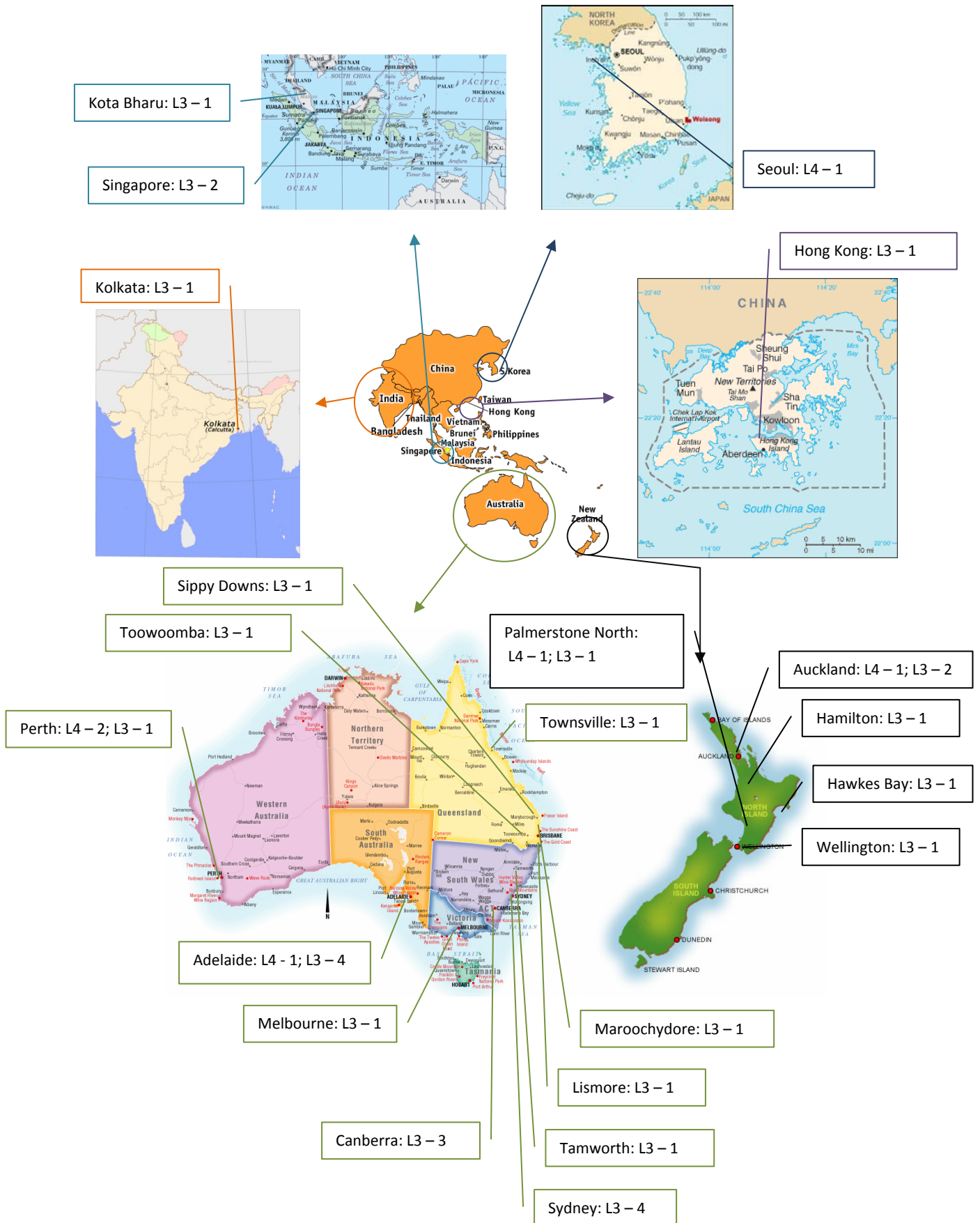
Stellenbosch: L3 - 1



## North and South America



## Asian and Pacific Regions





## 2009 COURSE PHOTOS

### Level 1 Courses

The National Sports Institute, Bukit Jalil, Kuala Lumpur, Malaysia, 14-16 and 17-19 August, 2009. These courses also included re-accreditation exams for Level 1 and 2.



Thank-you to Masa Kagawa for the above photos.

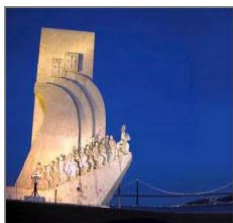
## ISAK CONFERENCE - LISBON 2010



We invite you to...



## WORLD CONFERENCE 11-12 NOVEMBER, 2010 ESTORIL, Portugal



### Where

The city of Lisbon (*Lisboa*), the capital of the Portuguese Republic, stands alongside the Atlantic Ocean, and is home to about 2 million people. A lively city with a charming mix of old (established in 1147) and new Europe, Lisbon stands just miles from several world-class beaches and minutes from Europe's most Western geographical point! Portugal is among the



least expensive travel locations in Europe (currency is Euro) and Lisbon is served by a major international airport, just 2 hours away from Madrid, Paris, London... or Morocco(!). There are daily direct flights to/from NY, Boston and most European capitals.

### Venue

The Estoril Coast is one of those rare places where everything people attending a congresses are looking for can be found - sunshine, a mild climate near the sea (with temperatures ranging 11-17°C in November), excellent food, a beautiful landscape and an atmosphere that is both relaxed and sophisticated, with modern, ample and well equipped facilities. The easy access to local sightseeing tours to famous places such as the romantic Sintra, the cosmopolitan Lisbon, and the ecological Costa Azul, the many monuments to visit, the variety of sports facilities/activities, the Portuguese gastronomy, together with the renowned Portuguese hospitality, are some of the factors that make of the Estoril Coast-Lisbon area a unique place for holding Congresses. The Estoril Coast, benefiting from all the advantages of a capital - Lisbon - but without any of its disadvantages, offers a perfect combination of rest and entertainment, capable of bringing together intense and useful working sessions with interesting and well planned social and leisure programmes. Announcement



Mark your calendars for another great ISAK experience, this time in Southern Europe!

1st Announcement



Faculty of Human Kinetics



Technical University of Lisbon



The International Society for the  
Advancement of Kinanthropometry



## ISAK OFFICE BEARERS 2009

For full contact details, profiles and photographs of the office bearers please see the ISAK web site.

### President

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### ISAK Council Executive

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### Member Contact Details

Don't forget to inform the ISAK Secretariat when your contact details change, particularly your email address. If you don't we have no way of getting in touch with you when we need to. Equally, since this Kinanthreport won't reach those whose email addresses are out of date; please feel free to forward it to ISAK members whose addresses (to your knowledge) are incorrect.

## FROM THE EDITOR

Please remember that you can send me information that you would like included in the next edition of the Kinanthreport at any time. As a member I am relying on you to let me know what you would like to see in the report and to provide me with information that you feel other members may like to be made aware of.

I hope you enjoy this edition and I wish you and your family all the best for the upcoming holiday season.

Kind Regards,

Carmel

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