TWINS 2014

The Joint 3\textsuperscript{rd} World Congress on Twin Pregnancy and
15\textsuperscript{th} Congress of the International Society of Twin Studies (ISTS):
\textit{in honour of Luis Keith}

\textit{Budapest}

\textit{November 16\textsuperscript{th}-19\textsuperscript{th}, 2014}

\textit{Danubius Hotel Flamenco}
**Sunday, November 16**

**10:30 - 13:00 BARCELONA HALL**
**PRECONGRESS COURSE 1: Monitoring during pregnancy and labour**
Coordinator: G.H.A. Visser, The Netherlands

Discussants:
- The first trimester scan
  K. Bilardo, The Netherlands

- Dichorionic twins; monitoring during pregnancy
  K. Hack, The Netherlands

- Selective IUGR in monochorionic twins
  E. Gratacos, Spain

- How to manage triplets and higher order multiples
  Y. Yogev, Israel

- Monitoring during labour
  G.H.A. Visser, The Netherlands

**10:30 - 13:00 SEVILLA HALL**
**PRECONGRESS COURSE 2: Twin management - terminology: a consensus conference**
Coordinator: R. Quintero, USA

The purpose of the course is to discuss and make recommendations on terminology of normal and complicated twin/multiple gestations:
- Taxonomy of twins
- Definition of twin-twin transfusion syndrome and its complications
- Staging of twin-twin transfusion syndrome
- Definition of laser surgical techniques
- Definition of selective intrauterine growth restriction
- Classification of selective intrauterine growth restriction
- Definition of twin-anemia-polycythemia syndrome
- Staging of twin-anemia-polycythemia syndrome
- Discordant anomalous twins
Discussants:

D. Oepkes, The Netherlands
H. Muñoz, Chile
F. Slaghekke, The Netherlands
E. Kontopoulos, USA
G. Clerici, Italy

10:00 - 16:15 CORDOBA HALL
PRECONGRESS COURSE 3: Advanced course on epigenetics and twinning (sponsored by EpiTrain)

10:00 - 10:10 Welcome by Professor T. Spector, United Kingdom

Session 1 - Coordinator: T. Murphy, United Kingdom

10:10-10:40 Epigenetics the challenges and an example
C. Bell, United Kingdom

10:40-11:00 Epigenetics in young twins
R. Saffery, Australia

11:00-11:20 Epigenetics in autoimmune disease
R. Lyle, Norway

11:20 -11:50 BREAK - POSTER PRESENTATION

Session 2 - Coordinator: J. Craig, Australia

11.50-12:10 True concordance of diabetes in twins
K. Piestalinen, Finland

12.10-12.30 Epigenetics in the Hunger Winter Families Study
B. Heijmans, The Netherlands

12.30-12.50 Epigenetics of mental health disease
T. Murphy, United Kingdom

12:50-13.50 LUNCH - POSTER PRESENTATION
Session 3 - EpiTrain Fellows presentations
Coordinator: T. Spector, United Kingdom

13:50-14.05  Cells abnormal growth and DNA damage bypass - under epigenetic control  
R. Loureiro, Spain

14:05-14.20  Epigenomic approach to unravel the weight loss associated markers from a 12 month intervention study  
S. Bollepalli, Finland

14:20-14.35  Allele-specific DNA methylation across brain and blood  
S. Marzi, United Kingdom

14:35-14.50  Characterizing DNA methylation heritability across the genome  
J. E. Castillo Fernandez, United Kingdom

14:50 -15:00 BREAK

Session 4
Coordinator: J. Kaprio, Finland

15:05-15:20  EUrodiscotwin - the use of the discordant twin pair model  
T. Spector, United Kingdom

15:20-16:00  Keynote Lecture - Causal modeling and twins  
G. Davey Smith, USA

16:00-16:15  Closing remarks  
T. Spector, United Kingdom
12.30 - 15.30 PARK 1 HALL
PRECONGRESS COURSE 4: A workshop on how to effectively manage a national multiple birth organisation
(for ICOMBO members)
Coordinator: M. Rankin, Australia

An opportunity for ICOMBO members to share and learn about how to effectively manage their organisations. Topics to be discussed include how to attract and retain members; how to generate funds for their organisation; and clever ways to share and store information in the 21st century.

16.45 - 17.45 PARK 1 HALL
ISTS BOARD MEETING
Coordinator: G. Willemsen, The Netherlands

18.00- 21.30 BOLERO HALL
OPENING CEREMONY & WELCOME RECEPTION
Chairpersons: G.C. Di Renzo, Italy, R. Quintero, USA, T. Spector, United Kingdom

Opening lecture: Twins in history and art
*D. Lippi, Italy*
Monday, November 17th

THROUGHOUT THE DAY – POSTER SESSION 1

8:30 – 9:30 BOLERO HALL
PARALLEL SESSION 1A: Preconceptional aspects of multiple pregnancy - How to avoid multiples in PMA
Coordinators: S. Daya, Canada - N. Lambalk, The Netherlands

- The outcomes of twin pregnancies with assisted reproduction
  S. Daya, Canada

- PMA and multiple pregnancy. How to improve perinatal outcome
  A. Antsaklis, Greece

- Epidemiology of twin pregnancy in our environment (Short Communication)
  A. Herrera Muñoz, Spain

- Conception mode: influence on first trimester maternal serum markers free β- HCG and PAPP-a used for aneuploidy screening in twin pregnancies (Short Communication)
  I.H. Linskens, The Netherlands

8:30 – 9:30 CORDOBA HALL
PARALLEL SESSION 1B: International Twin Studies of Cooperation, Competition and Altruism
Coordinator: N. Segal, USA

- Prosocial and Pro-self Behavior in Children: Findings from the Differential Productivity Task
  Karen Yirmiya, Israel

- Twin Studies of Tacit Coordination: New Findings in an Adolescent and Adult Sample
  N. Segal, USA

- “Quintuplets” FILM
  K. Vitkova Rulikova, Czech Republic

9:30 – 10:00 BOLERO HALL
KEYNOTE LECTURE
introduced by I. Blickstein, Israel

- Mendelian randomization and beyond: strengthening causal inference in epidemiological and omic sciences
  G. Davey-Smith, United Kingdom
10:00 - 10:30 BREAK

10:30 - 12:30 BOLERO HALL
PARALLEL SESSION 2A: Obstetrical issues in twin pregnancy (I): prenatal non invasive and invasive testing
Coordinators: D. Oepkes, The Netherlands - G. Monni, Italy

- Amnio or CVS in multiples?
  G. Monni, Italy

- NIPT in twins: fetal cell-free DNA fraction and aneuploidy assessment
  T. Musci, USA

- Non invasive twin zygosity assessment and aneuploidy detection by maternal plasma DNA sequencing
  T.Y. Leung, Hong Kong

- Ultrasound and twins: pitfalls and curiosities
  Y. Zalel, Israel

- Crown-rump length discordance and fetal structural abnormalities in twin pregnancies (Short Communication)
  A. Khalil, United Kingdom

- Amniocentesis in dichorionic twin pregnancies does not increase the risk of adverse outcome until 24 weeks (Short Communication)
  A. Piazzese, Italy

10:30 - 12:30 CORDOBA HALL
PARALLEL SESSION 2B: Wellbeing
Coordinator: M. Bartels, The Netherlands

- An overview of twin-family and molecular genetic studies into wellbeing
  M. Bartels, The Netherlands

- Overlap between Wellbeing and Mental Illness throughout the life span
  B. Baselmans, The Netherlands

- The Glass is Half Full and Half Empty: Optimism and pessimism as distinct systems with multiple biological influences
  T. Bates, United Kingdom

- Genetic and Environmental influences on subjective well-being inventory in Japanese Adults (Short Communication)
K. Omura, Japan

Genes, personality and life satisfaction *(Short Communication)*
E. Reysamb, Norway

Life satisfaction and work absenteeism - a discordant twin analysis *(Short Communication)*
R.E. Orstavik, Norway

Sense of coherence and subjective well-beings in middle aged population *(Short Communication)*
R. Tomizawa, Japan

Psychoactive medication in a population-based twin sample. Use and relationship with well-being *(Short Communication)*
J. R. Ordoñana, Spain

12:30 - 13:30 BREAK

13:30 - 15:30 BOLERO HALL
PARALLEL SESSION 3A: Obstetrical issues in twin pregnancy (II): prematurity
Coordinators: S. Hassan, USA - H. Muñoz, Chile

Cervical screening: which cut-off for twins?
S. Hassan, USA

Cervix in twin pregnancy: the Chilean experience
H. Muñoz, Chile

Progestogens and twins: do they work on the prevention of preterm birth and neonatal morbidity?
G.C. Di Renzo, Italy

Cerclage vs. other methods to prevent twins preterm birth
E. Borges da Fonseca, Brazil

The pessary and twins preterm birth prevention
L. Cabero Roura, Spain

Arabin cervical pessary to prevent preterm birth in twin pregnancies with short cervix *(Short Communication)*
S. Arduino, Italy

Role of a glucocorticoid dose after the administration of a complete course with two doses for fetal lung maturation in twin pregnancies *(Short Communication)*
V. J. Diago Almela, Spain
13:30 - 15:30 CORDOBA HALL
PARALLEL SESSION 3B: Cancer and Multiple birth
Coordinators: N. Lambalk, The Netherlands - J. Harris, Norway

- Increased breast cancer risk after a multiple pregnancy in IVF-treated women: a nationwide Dutch cohort study
  F. Van Leeuwen, The Netherlands

- Cancer risk in opposite-sexed twins (Short communication)
  L. Ahrenfeldt, Denmark

- Australian twin and family studies of mammographic density and breast cancer: insights into early-life risk factors (Short communication)
  J.L. Hopper, Australia

- 20 years of studying melanoma risk factors in Queensland twins (Short communication)
  N. Martin, Australia

- Methods for studying heritability of cancer diagnosis using twins (Short communication)
  S. Möller, Denmark

- Heritability and familial risk of cancer in the Nordic Twin Cohorts (Short communication)
  L. A. Mucci, USA

- Common immune-related exposures/conditions and risk of non-Hodgkin lymphoma: a case-control study in discordant twin pairs (Short communication)
  W. Cozen, USA

15:30 - 16:00 BREAK

16:00 - 18:00 BOLERO HALL
PARALLEL SESSION 4A: Neonatal issues in raising twins
Coordinators: L. Zimmermann, The Netherlands - G. Donzelli, Italy

- Intergenerational effect of preterm birth and small-for-gestational-age among twins and singletons (Short Communication)
  M. Bladh, Sweden

- Demise of the leading twin is an independent risk factor for early preterm birth (Short Communication)
  B. Hamou, Israel
Malformations and twining
G. Corsello, Italy

Long term follow up of complicated monochorionic twins, TTTS, TAPS and selective IUGR
E. Lopriore

The twins brain: what do they risk?
L. Ramenghi, Italy

Long-term neurologic outcome of children born after randomisation for the Solomon trial
(Short Communication)
J. M. M. van Klink

Respiratory outcome of twins
B. Kramer, The Netherlands

16:00 - 18:00 CORDOBA HALL
PARALLEL SESSION 4B: Addiction
Coordinator: J. Vink, The Netherlands

The Neuregulin signalling pathway in addictions (Short communication)
A. Loukola, Finland

The genetic landscape of Cannabis Use: a meta-analysis including over 27,000 subjects
(Short communication)
S. Stringer, The Netherlands

The Genetics Basis of Cotinine Levels in Daily Smokers: Results from a genome-wide meta-analysis
(Short communication)
A. Taylor, United Kingdom

Unraveling the genetic of alcohol dependence: heritability estimates and GWAS based on the
AUDIT measure (Short communication)
H. Mbarek, The Netherlands

Is there genetic overlap between personality, expectancies and symptoms of Cannabis Use
disorders? (Short communication)
L. Mezquita, Spain

Mechanisms of assortative mating for smoking behavior in a population based twin-study (Short
communication)
J.L. Treur, The Netherlands

Association between SNUS use in adolescence and cigarette smoking in early adulthood - a
prospective study among Finnish twins (Short communication)
D. Araneda, Finland
18:00 - 19.30 BOLERO HALL
FILM SESSION: “Twin Sisters”
introduced by N. Segal, USA
Tuesday, November 18th

THROUGHOUT THE DAY – POSTER SESSION 2

8:30 – 9:00 BOLERO HALL
KEYNOTE LECTURE
Introduced by T. Spector, United Kingdom

The latest development in twin studies
D. Boomsma, The Netherlands

8:30 – 10:00 CORDOBA HALL
ICOMBO Multiple Birth Organization BUSINESS meeting
Coordinator: M. Rankin, Australia

9:00 – 10:00 BOLERO HALL
PARALLEL SESSION 5: Twin Studies in Europe
Chairpersons: Z. Papp, Hungary - L. Littvay, Hungary
Coordinators: A. Tarnoki, Hungary - D. Tarnoki, Hungary

Twin studies in Central and Eastern Europe:

Twin studies and registries in Central Eastern Europe (Short communication)
A. D. Tarnoki, Hungary

Twin studies in Hungary (Short communication)
D. L. Tarnoki, Hungary

The heritability of coronary artery anatomy (Short communication)
P. Maurovich-Horvat, Hungary

Inheritance of left ventricular deformation (Short communication)
A. Kovács, Hungary

Twinship as a resource (Short communication)
R. Hegedűs, A. Pári, Zs. Drjenovszky, Hungary

The Hungarian twin registry: present and future (Short communication)
L. Littvay, Hungary
10:00 - 10:30 BREAK

10:30 - 12:30 BOLERO HALL
PARALLEL SESSION 6A: Obstetrical issues in twin pregnancy (III): growth
Coordinators: G. Rizzo, Italy - E. Gratacos, Spain

First trimester prediction of twin growth disturbances
J.L. Bartha, Spain

NCD, obesity and twins
Y. Yogev, Israel

Twin Pregnancy: double risk for metabolic syndrome
L. Voto, Argentina

Placental anomalies in twins
C. Hubinont, Belgium

Laser therapy for twin-twin transfusion syndrome: where are we today?
R. Quintero, USA

Twin chorionicity and the risk of preeclampsia (Short communication)
I. Szymusik, Poland

Perinatal outcomes of selective IUGR and non-selective IUGR in twin pregnancy
(Short communication)
J. Lee, Korea

10:30- 12:30 CORDOBA HALL
PARALLEL SESSION 6B: Metabolic syndrome, diabetes and cardiovascular risk factors
Coordinator: K. Ohm-Kyvik, Denmark

Genetics of cardiovascular diseases (Short communication)
K. Silventoinen, Finland

Identification of an adipose specific gene environment interaction associated with BMI
(Short communication)
C. Glastonbury, United Kingdom

Effects of genetic and environmental influences on abdominal adipose tissue compartments and hepatic lipid accumulation: a classical twin study (Short communication)
A.L. Jermendy, Hungary

Fast food consumption and body mass index: a twin study (Short communication)
G. Duncan, USA
Causes of variability and correlations among biomarkers of cardiovascular disease - twin versus genome-wide common SNPS models (Short communication)
X. Chen, Sweden

Relationship between pre-diabetes and sleep duration in men from the Danish Geminakar twin cohort (Short communication)
C. Dalgård, Denmark

Relationship between metabolic syndrome and Breslow’s 7 health practice index without genetic factors: a study of Japanese adult twins (Short communication)
K. Tanaka, Japan

Genetic effects on thyroid gland size in Hungarian TWINS (Short communication)
A. D. Tarnoki, Hungary

12:30 - 13:30 BREAK

13:30 - 15:30 BOLERO HALL
PARALLEL SESSION 7A: Obstetrical issues in twin pregnancy (IV): labour and delivery
Coordinators: J.F. Barrett, Canada - E. Kontopoulos, USA

Timing of delivery of twins
R. Sokol, USA

Timing of delivery of monochorionic twins
I. Blickstein, Israel

The Twin Birth Study: the secondary analyses begin! Labour induction and successful vaginal birth
J.F. Barrett, Canada

Problems of labour induction in twins
M. Robson, Ireland

Optimal mode of delivery for the second twin
D. Farine, Canada

How and when to deliver twins?
B. Arabin, Germany
13:30–15:30 CORDOBA HALL
PARALLEL SESSION 7B: Epigenetics and Telomere Studies
Coordinators: J. Harris, Norway - R. Lyle, Norway

A common DNA methylation signature in whole blood samples from monozygotic twins discordant for malignant tumor development *(Short communication)*
L. Roos, United Kingdom

Are twins reared apart more epigenetically discordant than twins reared together? *(Short communication)*
N. L. Segal, USA

DNA Methylation in Urologic Chronic Pelvic Pain: A MAPP Research Network Twin Study *(Short communication)*
E. Strachan, USA

Changes in DNA methylation in rheumatoid arthritis and the effect of smoking, anti-CCP and treatment. An epigenome wide association study in monozygotic RA discordant twin pairs *(Short communication)*
A. J. Svendsen, Denmark

Lower placental telomere length may be attributed to maternal residential traffic exposure; a twin study *(Short communication)*
E. Bijnens, Belgium

Greater Resemblance of Telomere Length in Dizygotic Twins with increasing paternal age *(Short communication)*
J. Hjelmbo, Denmark

Leukocyte Telomere Length (LTL) in Urologic Chronic Pelvic Pain: A MAPP Research Network Twin Study *(Short communication)*
E. Strachan, USA

13:30–15:30 PARK 1 HALL
PARALLEL SESSION 7C: ICOMBO symposium
Coordinator: M. Rankin, Australia

Family care nursing in the multiple birth families - evidence based strengthening is needed - based on PhD Kristiina Heinonen's research
U. Kumpula, Finland

Similarities and Differences in the delivery of maternity care in English Speaking Countries
K. Reed, United Kingdom

Post-Partum Mood Disorder (Post Natal Depression)
S. Griffith, USA
The first quintuplets in Czech Republic
K. Vitkova Rulikova, Czech Republic

Understanding the emotional challenges of a twin pregnancy: how it impacts parenting and impedes individuality
J. Friedman, USA

Postnatal depression symptomatology and breastfeeding
L. Colodro-Conde, Spain

15:30 - 16:00 BREAK

16:00 - 17:30 BOLERO HALL
PARALLEL SESSION 8A: Obstetrical issues in twin pregnancy (V): malformations and pathologies unique to twins
Coordinators: A. Antsaklis, Greece - Z. Papp, Hungary

- Twin mythology in the American continent (Short Communication)
  D. Czukerberg, USA

- The original features of the twin placenta
  L. Lewi, Belgium

- Management of discordant anomalous twins
  E. Kontopoulos, USA

- Acute TTTS in labour
  D. Skupski, USA

- Prognosis for an isolated single umbilical artery in twin pregnancies (Short Communication)
  T. Cade, Australia

- Pathology of co-twins with “vanished twins” in high risk pregnancy (Short Communication)
  I. Gordienko, Ukraine

16:00 - 17:30 CORDOBA HALL
PARALLEL SESSION 8B: Anthropometric traits
Coordinator: K. Silventoinen, Finland

- Association of height with physical and psychosocial traits: the role of genetic and environmental factors
  A. Jelenkovic, Spain
Explaining individual differences in BMI: contributions from the Netherlands Twin Register
G. Willemsen, The Netherlands

Early-life nutritional determinants of childhood BMI
M. Diasparra, Canada

Is Post-Traumatic Stress Disorder (PTSD) associated with increased body mass index?
J. Goldberg, USA

Genetic and Environmental Effects on Fat Distribution: The Healthy Twin Study
J.N. Kim, Korea

The impact of genetic and environmental factors on maternal gestational weight gain: a twin study based on the Swedish twin registry
E. Scheers Andersson, Sweden

17:30 - 18:00 BOLERO HALL
KEYNOTE LECTURE
introduced by R. Quintero, USA

Ultrasound and Doppler in the first trimester - What we can predict in twins?
G. Rizzo, Italy

18:00 - 18:45 CORDOBA HALL
ISTS General Meeting
Chairperson: T. Spector, United Kingdom
Secretary: G. Willemsen, The Netherlands

20:00 - 23:00 SOCIAL AND FACULTY DINNER
Wednesday, November 19th

8:30 – 10:30 BOLERO HALL
PARALLEL SESSION 9A: Monochorionic twins (I): surgery and TTTS
Coordinators: R. Quintero, USA - D. Oepkes, The Netherlands

Cardiac manifestations of TTTS
N. Manning, United Kingdom

Donor twin catch-up growth after laser surgery for twin-twin transfusion syndrome
R. Quintero, USA

TAPS: how severe is it, how to treat it?
D. Oepkes, The Netherlands

TAPS: how to diagnose it, how to prevent it?
F. Slaghekke, The Netherlands

Development of survival rates after laser therapy for severe TTS in a series of 851 consecutive cases
K. Hecher, Germany

Fetal brain injury in survivors of twin pregnancies complicated by demise of one twin as assessed by in utero MR imaging
M. Kilby, United Kingdom

Is the sequential laser technique for twin-to-twin transfusion syndrome truly superior to the standard selective technique? A meta-analysis (Short communication)
J. Akkermans, The Netherlands

8:30 – 10:30 CORDOBA HALL
PARALLEL SESSION 9B: Bulmer session on new developments with the biology of twinning
Coordinator: N. Lambalk, The Netherlands - C. Derom, Belgium

Biology of MZ twinning
B. Reversade, Singapore

How chimaeric are dizygotic monochorionic twins? (Short communication)
J. M. Craig, Australia

Can we do more to help parents of newborn twins understand about zygosity and chorionicity? (Short communication)
T. L. Cutler, Australia
Monozygotic twins after assisted reproduction: a change in chorionicity (Short communication)
C. Derom, Belgium

Mid-pregnancy, perinatal and neonatal reproductive endocrinology in twins and singleton controls (Short communication)
E.A.M. Kuijper, The Netherlands

Historical twinning rates in Norway (Short communication)
T. Nilsen, Norway,

Spot the difference and know the similarity; genetic counseling in monozygotic twins (Short communication)
P.J.G. Zwijnenburg, The Netherlands

Pitx2 positions the embryonic axis and regulates twinning (Short communication)
C. Stern, United Kingdom

The genetic landscape of Twinning: a meta-analysis of genome-wide association studies from the Twinning Gwas Consortium (Short communication)
H. Mbarek, The Netherlands

10:30 - 11:00 BREAK

11:00- 12:30 BOLERO HALL
PARALLEL SESSION 10A: Biomarkers and the International Network of Twin Registries
Coordinator: J. Harris, Norway

Intro and INTR
J. Harris, Norway

Why biomarkers in twin research? (Short communication)
J. M. Craig, Australia

Biospecimens for twin research: what and how? (Short communication)
J.M. Craig, Australia

Cotinine as a biomarker for tobacco use (Short communication)
J. Kaprio, Finland

Self-reported dietary intake patterns correlate strongly with blood metabolites using a non-targeted metabolomics approach in a population based twin (Short communication)
T. Pallister, United Kingdom
CODATwins project: understanding macro-environmental variation in genetic and environmental effects (Short communication)
J. Kaprio, Finland

11:00-12:30 CORDOBA HALL
PARALLEL SESSION 10B: Monochorionic twins (II): other issues
Coordinators: I. Blickstein, Israel - B. Arabin, Germany

Twin pregnancy and delivery as a window for future health?
B. Arabin, Germany

MC twining as an embryonic accident
I. Blickstein, Israel

Functional and acquired cardiovascular anomalies in monochorionic twins
N. Manning, United Kingdom

First trimester fetal reduction in monochorionic multiples and perinatal outcome
A. Mikhailov, Russia

Contemporary management of monoamniotic twins
V. Stefanovic, Finland

12:30-13:00 BOLERO HALL
CLOSING LECTURE
introduced by T. Spector, United Kingdom

The Microbiome
D. Ehrlich, France

13:00 - 13:40 BOLERO HALL
AWARD CEREMONY AND CLOSING REMARKS - THE NEXT TWINS CONGRESS IN 2017