

International Society Twin Studies (ISTS)

TWINS 2014

The Joint 3nd World Congress on Twin Pregnancy and 15thCongress of the International Society of Twin Studies (ISTS):

> Budapest November 16th-19th, 2014

> **Danubius Hotel Flamenco**

Sunday, November 16th

10.30 - 13.00 BUDA HALL

PRECONGRESS COURSE 1: Monitoring during pregnancy and labour

Coordinator: G.H.A. Visser, Netherlands

Discussants:

The first trimester scan K. Bilardo, Netherlands

Dichorionic twins; monitoring during pregnancy *K. Hack, 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, Netherlands

13:00 -14:00

BREAK

10.30 - 13.00 PARK 1 HALL

PRECONGRESS COURSE 2: Consensus: Twin management - terminology: a consensus conference

Coordinator: R. Quintero, USA

Discussants:

D. Oepkes, Netherlands

H. Muñoz, Chile

F. Slaghekke, Netherlands

E. Kontopoulos, USA

G.Clerici, Italy

10.00 - 16.15 PARK 2 HALL

PRECONGRESS COURSE 3: Advanced course on epigenetics and twinning

10:00 - 10.10 Welcome by Professor Tim Spector, United Kingdom

Session 1

Coordinator: Jon Mills, United Kingdom

10.10-10.40 Epigenetics the challenges and an example

Chris Bell, United Kingdom

10.40-11.00 Epigenetics in young twins

Richard Saffery, Australia

11.00-11.20 Epigenetics in autoimmune disease

Robert Lyle, Norway

11:20 -11.50 BREAK - POSTER PRESENTATION[GV1]

Session 2

Coordinator: Jeff Craig, Australia

| 11.50-12.10 | True concordance of diabetes in twins Kirsi Piestalinen, Finland |
|-------------|---|
| 12.10-12.30 | Epigenetics in the Hunger Winter Families Study Bas Heijmans, Netherlands |
| 12 30-12 50 | Enigenetics of mental health disease |

12:50-13.50 BREAK- POSTER PRESENTATION [GV2]

Jon Mills, United Kingdom

Session 3- EpiTrain Fellows presentations

Coordinator: Tim Spector, United Kingdom

| 13:50-14.05 | Cells abnormal growth and DNA damage bypass - under epigenetic control |
|-------------|--|
| | Puta Lauraira Chain |

Rute Loureiro, Spain

14:05-14.20 Epigenomic approach to unravel the weight loss associated markers from a 12 month

intervention study

Sailalitha Bollepalli, Finland

14:20-14.35 Allele-specific DNA methylation across brain and blood

Sarah Marzi, United Kingdom





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

14:50 -15:00 BREAK

Session 4

Coordinator: Jaako Kaprio, Finland

15:05-15.20 EUrodiscotwin - the use of the discordant twin pair model

Tim Spector, United Kingdom

15:20-16.00 Keynote Lecture - Causal modeling and twins

George Davey Smith USA

16:00-16.15 Closing remarks

Tim Spector, United Kingdom

16:15-16.30 BREAK

12.30 - 15.30 PARK 3 HALL

PRECONGRESS COURSE 4: A workshop on how to effective 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 3 HALL ISTS BOARD MEETING

Coordinator: G. Willemsen, Netherlands

18.00- 21.30 RAVEL 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, 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 our middle twin pregnancies (Short Communication) M.M. Gálvez Contreras, Spain

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

8:30 - 9:30 CORDOBA HALL

PARALLEL SESSION 1B: International Twin Studies of Cooperation, Competition and Altruism

Coordinators: 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 Nancy Segal, USA

Understanding associations among personality, friend support, and psychological distress in adult twins

Briana Horwitz, USA

9:30 - 10:00 RAVEL HALL

KEYNOTE LECTURE: introduced by I. Blickstein

Mendelian randomization and beyond: strengthening causal inference in epidemiological and omic sciences

G. Davey-Smith, United Kingdom



The Joint 3rd World Congress on
The 15th Congress of the
Twin Pregnancy
a Global Perspective
Twin Studies (ISTS)

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, 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)

B. Masturzo, Italy

10:30 - 12:30 CORDOBA HALL

PARALLEL SESSION 2B: Wellbeing

Coordinator: M. Bartels, Netherlands

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

Overlap between Wellbeing and Mental Illness throughout the life span B. Baselmans, *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. Røysamb, Norway

Life satisfaction and work absenteeism - a discordant twin analysis (10 minutes)
R.E. Orstavik, Norway[GV3]

Dispositional Life Satisfaction and DSM Axis II Personality Disorders (Short Communication) R.B. Nes, Norway

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

Genetic and Environmental Sources of Personality Development and Well-Being in Old Age *(Short Communication)*

C. Kandler, Germany

12:30 - 13:30

BREAK

13:30 - 15:30 BOLERO HALL

PARALLEL SESSION 3A: Obstetrical issues in twin pregnancy (II): prematurity

Coordinators: R. Romero, USA [GV4]- 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? R. Romero, USA[GV5]

Cerclage vs. other methods to prevent twins preterm birth *E. 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



Twin Studies (ISTS)

Role of a glucocorticoid booster after the administration of a complete course with two doses for fetal lung maturation in twin pregnancies (Short Communication)

I.R. Monfort Ortiz, Spain

13:30 - 15:30 CORDOBA HALL

PARALLEL SESSION 3B: Cancer and Multiple birth

Coordinators: N. Lambalk, Netherlands - J. Harris, Norway

Increased breast cancer risk after a multiple pregnancy in IVF-treated women: a nationwide Dutch cohort study (25 minutes)

F. van Leeuwen, Netherlands

Cancer risk in opposite-sexed twins (13 minutes)

L. Ahrenfeldt, Denmark

Risk of lymphoma attributable to the genome: a twin study (13 minutes) W Cozen, USA

a Global Perspective

Australian twin and family studies of mammographic density and breast cancer: insights into early-life risk factors (13 minutes)

J.L. Hopper, Australia

20 years of studying melanoma risk factors in Queensland twins (13 minutes) N, Martin, Australia

Methods for studying heritability of cancer diagnosis using twins (13 minutes) S. Möller, Denmark

Heritability and familial risk of cancer in the Nordic Twin Cohorts (13 minutes) L.A. Mucci, USA

Common immune-related exposures/conditions and risk of non-Hodgkin lymphoma: a case-control study in discordant twin pairs. (13 minutes)

J. Wang, USA

15:30 - 16:00

BREAK





16:00- 18:00 BOLERO HALL

PARALLEL SESSION 4A: Neonatal issues in raising twins

Coordinators: L. Zimmermann, 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)

O. Erez, 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

Respiratory outcome of twins B. Kramer, NL

16:00 - 18:00 CORDOBA HALL

PARALLEL SESSION 4B: Addiction

Coordinator: J. Vink, Netherlands

The Neuregulin signalling pathway in addictions

A. Loukola, Finland

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

The Genetics Basis of Cotinine Levels in Daily Smokers: Results from a genome-wide meta-analysis J. Ware, United Kingdom[GV6]

Unraveling the genetic of alcohol dependence: heritability estimates and GWAS based on the AUDIT measure

H. Mbarek, Netherlands

Is there genetic overlap between personality, expectancies and symptoms of Cannabis Use disorders?

L. Mezquita, Spain



Twin Pregnancy a Global Perspective Twin Studies (ISTS)

Mechanisms of assortative mating for smoking behavior in a population based twin-study *J.L. Treur*, *Netherlands*

Association between SNUS use in adolescence and cigarette smoking in early adulthood - a prospective study among Finnish twins

D. Araneda, Finland [GV7]

18:00 - 19.30

FILM SESSION:

"Twin Sisters", introduced by Nancy Segal, USA





Tuesday, November 18th

THROUGHOUT THE DAY - POSTER SESSION 2

8:30 - 9:00 BOLERO HALL

KEYNOTE LECTURE: Introduced by Tim Spector, United Kingdom

The latest development in twin studies

D. Boomsma, Netherlands

9:00 - 10:00 BOLERO HALL

PARALLEL SESSION 5A: Twin Studies in Europe

Chairpersons: Z. Papp, Hungary, L. Littvay, Hungary

Coordinators: A. Tarnoki, Hungary, D. Tarnoki, Hungary

9.00 - 10.00 Twin studies in Central and Eastern Europe

Twin studies and registries in Central Eastern Europe

A.D. Tarnoki, Hungary

Twin studies in Hungary D. L. Tarnoki, Hungary

The heritability of coronary artery anatomy

P. Maurovich-Horvat, Hungary

Inheritance of left ventricular deformation

A. Kovács, Hungary

Twinship as a resource

R. Hegedűs, A. Pári, Zs. Drjenovszky, Hungary

The Hungarian twin registry: present and future

L. Littvay, Hungary

8:30 - 10:00 PARK HALL

ICOMBO Multiple Birth Organization BUSINESS meeting

Coordinators: M. Rankin, Australia

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 [GV8]

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

Placental anomalies in twins C. Hubinont[GV9], Belgium

IUGR in multiples E. Gratacos, Spain

Short Communication: Twin chorionicity and the risk of preeclampsia *I. Szymusik, Poland*

Short Communication: Perinatal outcomes of selective IUGR and non-selective IUGR in twin pregnancy

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 K Silventoinen, Finland

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

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

Fast food consumption and body mass index: a twin study G. Duncan, USA

Causes of variability and correlations among biomarkers of cardiovascular disease - twin versus genome-wide common SNPS models X. Chen, Sweden

Relationship between pre-diabetes and sleep duration in men from the Danish Geminakar twin cohort

C. Dalgård, Denmark

Relationship between metabolic syndrome and Breslow's 7 health practice index without genetic factors: a study of Japanese adult twins *K. Tanaka, Japan*

Genetic effects on thyroid gland size in Hungarian TWINS A.D. Tarnoki, Hungary [GV10]

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*

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





13:30- 15:30 CORDOBA HALL

PARALLEL SESSION 7B: Epigenetics and Telomere Studies

Coordinators: Jennifer Harris, Norway, R. Lyle, Norway

A common DNA methylation signature in whole blood samples from monozygotic twins discordant for malignant tumor development

L. Roos, United Kingdom

Are twins reared apart more epigenetically discordant than twins reared together? N.L. Segal, USA

DNA Methylation in Urologic Chronic Pelvic Pain: A MAPP Research Network Twin Study 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 A.J.Svendsen, Denmark

Lower placental telomere length may be attributed to maternal residential traffic exposure; a twin study

E. Bijnens, Belgium

Greater Resemblance of Telomere Length in Dizygotic Twins with increasing paternal age *J. Hjelmborg, Denmark*

Leukocyte Telomere Length (LTL) in Urologic Chronic Pelvic Pain: A MAPP Research Network Twin Study

E. Strachan, USA[GV11]

13:30- 15:30 PARK HALL

PARALLEL SESSION 7C: ICOMBO symposium

Coordinator: M. Rankin, Australia

Family care nursing in the multiple birth families - evidence based strengthening is needed (15 minutes)

K. Heinonen, Finland[GV12]

Similarities and Differences in the delivery of maternity care in English Speaking Countries K. Reed, United Kingdom (20 minutes)

Post-Partum Mood Disorder (Post Natal Depression) (20 minutes) S. Griffith, USA[GV13]

The first quintuplets in Czech Republic (15 minutes)
K. Vitkova Rulikova, Czech Republic [GV14]



Understanding the emotional challenges of a twin pregnancy: how it impacts parenting and impedes individuality (20 minutes)

J. Friedman, USA[GV15]

Postnatal depression symptomatology and breastfeeding (15 minutes)

L. Colodro-Conde, Spain

The multiquol study: a cross-sectional community survey of quality of life concerns of parents of young multiple birth children in Australia (15 minutes)

C. Bolch, Australia [GV16]

15:30 - 16:00

BREAK

16:00 - 17:30 BOLERO HALL

PARALLEL SESSION 8A: Obstetrical issues in twin pregnancy (V): malformations unique to twins

Coordinators: A. Antsaklis, Greece - Z. Papp, Hungary

Twin Mythology in the American Continent (Short Communication)

D. Czukerberg, USA

The cardiovascular malformations

J. Carvalho, United Kingdom

The placenta

L. Lewi[GV17], Belgium

Management of discordant anomalous twins

E. Kontopoulos, 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

Coordinators: 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, Netherlands GV181

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 [GV19]

17:30 - 18:00 PLENARY 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 PARK HALL

ISTS General Meeting

Chairperson: T. Spector, United Kingdom Secretary: G. Willemsen, 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, 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, Netherlands

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

Acute TTTS in labour D. Skupski, USA

8:30 - 10:30 CORDOBA HALL

PARALLEL SESSION 9B: Bulmer session on new developments with the biology of twinning

Coordinator: N. Lambalk, Netherlands, C. Derom, Belgium

Biology of MZ twinning

B. Reversade, Singapore[GV20]

How chimaeric are dizygotic monochorionic twins? J.M. Craig, Australia

Can we do more to help parents of newborn twins understand about zygosity and chorionicity? *T.L. Cutler, Australia*

Monozygotic twins after assisted reproduction: a change in chorionicity C. Derom, Belgium



Mid-pregnancy, perinatal and neonatal reproductive endocrinology in twins and singleton controls. *E.A.M. Kuijper*, *Netherlands*

Historical twinning rates in Norway *T. Nilsen, Norway,*

Spot the difference and know the similarity; genetic counseling in monozygotic twins *P.J.G. Zwijnenburg*, *Netherlands*[GV21]

Pitx2 positions the embryonic axis and regulates twinning A. Torlopp, United Kingdom

The genetic landscape of Twinning: a meta-analysis of genome-wide association studies from the Twinning Gwas Consortium

H. Mbarek, Netherlands[GV22]

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 [GV23]

Using Biomarkers in Population-based Studies *T. Seeman, USA*[GV24]

Why biomarkers in twin research? W. Cozen, USA

Biospecimens for twin research: what and how? J.M. Craig, Australia

Cotinine as a biomarker for tobacco use *J. Kaprio*, *Finland*

Self-reported dietary intake patterns correlate strongly with blood metabolites using a non-targeted metabolomics approach in a population based twin *T. Pallister*, *United Kingdom*

CODATwins project: understanding macro-environmental variation in genetic and environmental effects

K. Silventoinen, Finland GV251



11:00- 12:30 CORDOBA HALL

PARALLEL SESSION 10B: Monochorionic twins (2): other issues

Coordinator: I. Blickstein, Israel - B. Arabin, Germany

Monochorionic twins behaviour 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 RAVEL HALL

CLOSING LECTURE introduced by T. Spector, United Kingdom

The Microbiome D. Ehrlich[GV26], France

13:00 - 13:40 RAVEL HALL

AWARD CEREMONY AND CLOSING REMARKS - THE NEXT TWINS CONGRESS IN 2017