



**Paula Rantakallio Symposium  
on Birth Cohorts and  
Longitudinal Studies**



15<sup>th</sup> – 17<sup>th</sup> June 2022  
University of Oulu, Oulu – Finland

Wednesday, June 15<sup>th</sup>

Time	ID	Title	Chair	Online chair
8:30		<b>Registration</b>		
		<i>Coffee</i>		
10:00		<b>Opening and Introduction</b>		
		<b>The Paula Rantakallio Symposia on Birth Cohorts and Longitudinal Studies</b> Professor Juha Veijola <i>University of Oulu, Finland</i>		
		<b>Welcome to the Paula Rantakallio Symposium 2022</b> Professor Sylvain Sebert <i>University of Oulu, Finland</i>		
10:20		<i>Short break</i>		
10:30		<b>Session 1 – Early Growth Genetics and Epigenetics</b>	Janine Felix	Miia Halonen
10:30	K1	<b>Genetic studies of birth weight: insights from fifteen years of success and friendship in collaboration</b> Associate Professor Rachel Freathy <i>University of Exeter, United Kingdom</i>		
11:00	O1	<b>Genetic effects on the timing of parturition and links to fetal birth weight</b> <u>Pol Sole-Navais</u> on behalf of the EGG Consortium <i>University of Gothenburg, Sweden</i>		
11:10	O2	<b>Using genetics to investigate the causal relationship between smoking during pregnancy and placental weight</b> <u>Annika Jaitner</u> , Krasimira Tsaneva-Atanasova, Jack Bowden, Rachel Freathy <i>University of Exeter, United Kingdom</i>		

11:20	O3	<b>Epigenetic gestational age acceleration and indicators of childhood BMI trajectories</b> <u>Aminata Cisse</u> , Leanne Küpers, Lucindas Calas, Isabella Annesi-Maesano, Vincent Jaddoe, Barbara Heude, Janine Felix <i>Université de Paris, Inserm, INRAE, CRESS, France</i>		
11:30		Short break		
11:40		<b>Presented Posters Session 1</b>	Eero Kajantie	Yiyan He
	PP1	<b>Biomarker score for mortality and study dropout risk, a prospective observational study in two birth cohorts from Northern Finland</b> <u>Atte Ylöstalo</u> , Johannes Kettunen, Marita Kalaoja, Jari Jokelainen <i>University of Oulu, Finland</i>		
	PP2	<b>Paraben exposure during early pregnancy associates with altered cord blood DNA methylation: the PREDO cohort</b> <u>Marjaana Mäkinen</u> , Aleksi Kukkonen, Johanna Tuhkanen, Marius Lahti-Pulkkinen, Jani Koponen, Hannu Kiviranta, Darina Czamara, Elisabeth Binder, Katri Räikkönen, Jari Lahti <i>University of Helsinki, Finland</i>		
	PP3	<b>Association of body composition with blood gene expression in late childhood – a study in the HELIX Project and the Generation R Study.</b> <u>Irene Marques</u> , Mariona Bustamante, Martine Vrijheid, Vincent Jaddoe, Janine Felix <i>University Medical Center, The Netherlands</i>		
	PP4	<b>Circulatory microRNA levels associate with systolic and diastolic blood pressure</b> Antti Blankenstein, <u>Daria Kostiniuk</u> , Marko Elovainio, Mika Kähönen, Olli Raitakari, Terho Lehtimäki, Emma Raitoharju <i>Tampere University, Finland</i>		
	PP5	<b>Methylation status of polymorphically imprinted nc886 is stable through life and across tissues</b> <u>Saara Marttila</u> , Hely Tamminen, Mika Kähönen, Olli Raitakari, Terho Lehtimäki, Emma Raitoharju <i>Tampere University, Finland</i>		

	PP6	<b>Cardio-metabolic risk prediction in patients with depression using machine learning and exposome factors</b> <i>Angélica Atehortúa, Jerónimo Hernández González, Marina Camacho, Oliver Diaz, Karim Lekadir</i> <i>University of Barcelona, Spain</i>		
	PP7	<b>Effects of Symptoms of Attention-Deficit/Hyperactivity Disorder (ADHD) and Opposite Defiant Disorder (ODD) on Academic Achievement and Educational Attainment</b> <i>Sampo Seppä, Anu-Helmi Halt, Tanja Nordström, Tuula Hurtig</i> <i>University of Oulu, Finland</i>		
	PP8	<b>Parental suicide attempts and offspring mental health problems in adolescence: the mediation role of offspring mental health problems in childhood</b> <i>Ana Ortin Peralta, Martta Kerkelä, Juha Veijola, Mika Gissler, Andre Sourander, Cristiane S. Duarte</i> <i>Yeshiva University, USA</i>		
	PP9	<b>A multi-ancestry genome-wide association study of umbilical cord insulin and C-peptide measurements will form the basis of an important future bioresource</b> <i>Alice Hughes, Alan Kuang, Brandon Lim, Ruby Fore, Gad Hatem, Catherine Allard, Andrew Morris, Robin Beaumont, Andrew Hattersley, Rashmi Prasad, Marie-France Hivert, William Lowe Jr, Deborah Lawlor</i> <i>University of Exeter, United Kingdom</i>		
12:15		<i>Lunch break</i>		
13:00		<b>I Keynote Lecture Session</b>	Sylvain Sebert	Justiina Ronkainen
13:00	K2	<b>Early-life exposures, epigenetics and life course health</b> <i>Associate professor Janine Felix</i> <i>Erasmus Medical Center, The Netherlands</i>		
13:30	K3	<b>Leveraging early life cohorts to identify opportunities for cardiovascular prevention</b> <i>Professor David Burgner</i> <i>Murdoch Children's Research Institute, The Royal Children's Hospital, Melbourne, Australia</i>		
14:00		<i>Short break</i>		

14:10		<b>Session 2 – Early Life Stress and Life-long Health</b>	Karim Lekadir	Priyanka Choudhary
14:10	<b>K4</b>	<b>The EarlyCause Project</b> Professor Karim Lekadir <i>University of Barcelona, Spain</i>		
14:20	<b>K5</b>	<b>Early life stress and multimorbidity: Mapping associations across the life course and causal effects</b> Assistant Professor Charlotte Cecil <i>Erasmus Medical Center, The Netherlands</i>		
14:50	<b>O4</b>	<b>A Mendelian randomization study of inflammatory biomarkers and the risk of neuropsychiatric disorders</b> <u>Ville Karhunen</u> , Dipender Gill, James Yarmolinsky, Konstantinos K. Tsilidis, Abbas Dehghan, Marjo-Riitta Järvelin <i>University of Oulu, Finland</i>		
15:00	<b>O5</b>	<b>Molecular mediator of Barker hypothesis and the longitudinal metabolic profiles in the Young Finns study</b> <u>Emma Raitoharju</u> , Sonja Rajic, Terho Lehtimäki, Mika Kähönen, Olli Raitakari, Saara Marttila <i>Tampere University, Finland</i>		
15:10		<i>Coffee break and networking</i>		
15:40		<b>II Keynote Lecture Session</b>	Juha Veijola	Rozenn Nedelec
15:40	<b>K6</b>	<b>Obesity, blood lipids and the adolescent brain</b> Professor Zdenka Pausova <i>University of Toronto, Canada</i>		
16:10	<b>K7</b>	<b>Mental health effects of the first Covid-19 pandemic wave in England: a mixed-methods assessment including longitudinal data</b> Professor Peter Jones <i>University of Cambridge, United Kingdom</i>		
16:40		<i>Short break</i>		

16:50		<b>Session 3 – Brain and Mind Health</b>	Tuula Hurtig	Ninha Silva
16:50	<b>K8</b>	<b>The cinematic brain: Mapping human emotion circuits with motion pictures</b> Professor Lauri Nummenmaa <i>University of Turku, Finland</i>		
17:20	<b>O6</b>	<b>The Impact of Childhood Adversities in the Persistence of Attention-Deficit/Hyperactivity Disorder in The Northern Finland Birth Cohort 1986</b> <u>Mikko Salo</u> , Tuula Hurtig, Juha Veijola, Tanja Nordström, Anu-Helmi Halt <i>University of Oulu, Finland</i>		
17:30	<b>O7</b>	<b>Associations between placental DNA methylation and offspring's internalizing and externalizing symptoms at 3 years of age</b> <u>Aurélié Nakamura</u> , Johanna Lepeule <i>Université Grenoble Alpes, INSERM, CNRS, France</i>		
17:40	<b>O8</b>	<b>Is physical activity in adults born very preterm or with very low birth weight explained by cognitive function? An individual participant meta-analysis</b> <u>Kristina Anna Djupvik Aakvik</u> , Silje Dahl Benum, Katri Räikkönen, Marjaana Tikanmäki, Eero Kajantie, Petteri Hovi, Sarah Harris, Brian A. Darlow, Paul Jarle Mork, Marit S. Indredavik, Kari Anne I. Evensen <i>Norwegian University of Science and Technology, Norway</i>		
17:50		<b>Closing words</b>	Sylvain Sebert	
18:00		<b>End of day 1</b>		

Thursday, June 16th

Time	ID	Title	Chair	Online Chair
9:00		<b>Welcome and registration</b>		
9:30		<b>Session 4 – Cohorts, Genetics and Obesity</b>	Ville Karhunen	Anni Heiskala
9:30	<b>K9</b>	<b>From Epidemiology to Precision Diabetic and Obesity Medicine</b> Professor Phillipe Froguel <i>Imperial College London, United Kingdom</i>		
10:00	<b>O9</b>	<b>Body composition in adults born preterm entering middle age: a two-country birth cohort study</b> <u>Laura Jussinniemi</u> , Maarit Kulmala, Kristina Djupvik Aakvik, Silje Dahl Benum, Kari Anne I. Evensen, Eero Kajantie <i>University of Oulu, Finland</i>		
10:10	<b>O10</b>	<b>Variant-to-gene mapping at the childhood obesity locus on chr12q13 and subsequent luciferase assay analyses implicate rs7132908 as a causal variant within the 3' UTR of FAIM2</b> Sheridan Littleton, Jonathan Bradfield, James Pippin, Chun Su, Alessandra Chesi, Andrew Wells, Robert Berkowitz, Matthew Pahl, Struan Grant <i>Children's Hospital of Philadelphia, USA</i>		
10:20	<b>O11</b>	<b>Associations between parent and child body mass index are largely due to genetic confounding: triangulation of evidence from three study designs in six birth cohorts</b> <u>Tom Bond</u> , Sylvain Sebert, Marjo-Riitta Järvelin, David Evans, Deborah Lawlor <i>University of Bristol, United Kingdom</i>		
10:30		<i>Coffee break and networking</i>		
11:00		<b>III Keynote Lecture Session</b>	Johannes Kettunen	Yiyan He

11:00	K10	<b>Omics large and small: applying (multi)omics in various sets of sample size and complexity for determinants of human health and disease</b> Professor Markus Perola <i>University of Helsinki, Finland</i>		
11:30	K12	<b>Integrating genomics and multi-omics in population cohorts to understand disease aetiology</b> Professor Adam Butterworth <i>University of Cambridge, United Kingdom</i>		
12:00		<i>Short break</i>		
12:10		<b>Presented Posters Session 2</b>	Tuula Hurtig	Justiina Ronkainen
	PP10	<b>Residential relocation trajectories and neighborhood density, mixed land use and access networks as predictors of walking and bicycling in the Northern Finland Birth Cohort 1966</b> <u>Mikko Kärmeniemi</u> , Tiina Lankila, Tiina Ikäheimo, Soile Puhakka, Maisa Niemelä, Timo Jämsä, Heli Koivumaa-Honkanen, Raija Korpelainen <i>University of Oulu, Finland</i>		
	PP11	<b>Adults born preterm with very low birth weight have poorer motor abilities than term born controls: a collaborative study of two birth cohorts</b> <u>Silje Dahl Benum</u> , Kristina Anna Djupvik Aakvik, Laura Jussinniemi, Maarit Kulmala, Anna Perregaard Munch Jørgensen, Eero Kajantie, Kari Anne I. Evensen <i>Norwegian University of Science and Technology, Norway</i>		
	PP12	<b>Objectively measured physical activity in adults born small for gestational age at term: a prospective cohort study</b> <u>Cathrin Vano Mehl</u> , Silje Dahl Benum, Atle Kongsvold, Paul Jarle Mork, Eero Kajantie, Kari Anne I. Evensen <i>Norwegian University of Science and Technology, Norway</i>		
	PP13	<b>Parents' alcohol use before and during pregnancy in a cohort of 21 472 Eastern-Finland pregnancies</b> <u>Taija Voutilainen</u> , Jaana Rysä, Leea Keski-Nisula, Olli Kärkkäinen <i>University of Eastern Finland, Kuopio, Finland</i>		



	PP14	<b>Lung function and respiratory morbidity in adolescents born preterm or small-for gestational age in Bangladesh: 15year follow-up of the MINIMat Study</b> <u>Pieta Näsänen-Gilmore</u> , Syed Moshfiq Rahman, Jesmin Pervin, Chandan Tarafder, Eva-Lotta Ekström, Anisur Rahman, Eero Kajantie <i>Finnish Institute for Health and Welfare, Finland</i>		
	PP15	<b>Emotional neglect and parents' adverse childhood events</b> <u>Laura Ylittervo</u> , Juha Veijola, Anu-Helmi Halt <i>University of Oulu, Finland</i>		
	PP16	<b>Is Attention Deficit Hyperactivity Disorder (ADHD) related to growth deficits? Testing the association in a drug-naïve cohort.</b> <u>Alina Rodriguez</u> , Irma Moilanen, Anja Taanila, Marjo-Riitta Jarvelin, Marika Kaakinen <i>Imperial College London, United Kingdom</i>		
	PP17	<b>Associations Between Reproductive Health and Maternal Antenatal Fatigue in the Northern Finland Birth Cohort 1986</b> <u>Tiina Riekk</u> , Kerkelä Martta, Juha Veijola <i>University of Oulu, Finland</i>		
12:45		<i>Lunch break</i>		
13:30		<b>Session 5 – Cohorts and Women's Health</b>	Tehri Piltonen	Miia Halonen
13:30	K12	<b>Common gynecological symptoms reveal high morbidity risk in women</b> Professor Terhi Piltonen <i>University of Oulu, Finland</i>		
14:00	O12	<b>Early childhood effect of Chernobyl accident on woman's fertility</b> <u>Matilde Giaccherini</u> , Joanna Kopinska <i>University of Rome Tor Vergata - CEIS, Italy</i>		

14:10	O13	<b>Determinants of dysmenorrhea among female adolescents; results from a community-based cohort study in Amsterdam.</b> Bregje Uden, van, Anne Timmermans, Emmy Boogaard, van den, <u>Tanja Vrijkotte</u> <i>Amsterdam UMC, Netherlands</i>		
14:20	O14	<b>AMH as a surrogate for PCOM: The usability of biological variables to diagnose PCOS in a population-based data set</b> Terhi Piltonen, Elina Komsu, Laure Morin-Papunen, Elisa Korhonen, Stephen Franks, Marjo-Riitta Järvelin, Riikka Arffman, <u>Meri-Maija Ollila</u> <i>University of Oulu and Oulu University Hospital, Finland</i>		
14:30		<i>Short break</i>		
14:40		<b>IV Keynote Lecture Session</b>	Eero Kajantie	Priyanka Choudary
14:40	K13	<b>From longitudinal studies to interventions: protecting and strengthening babies' brains in Bangladesh</b> Dr Jena Hamadani <i>International Center for Diarrhoeal Disease Research, Dhaka, Bangladesh</i>		
15:10	K14	<b>Introduction to the cardiovascular risk in Young Finns study</b> Professor Olli Raitakari <i>University of Turku, Finland</i>		
15:40		<i>Coffee break and networking</i>		
16:00		<b>Session 6 – Models and Trajectories</b>	Alina Rodriguez	Marko Kantomaa
16:00	K15	<b>FinnGen and the road ahead in human genetics</b> Director Mark Daly <i>Institute for Molecular Medicine Finland FIMM, University of Helsinki, Finland</i>		

16:30	O15	<b>Multi-phenotype GWAS reveals shared rare and common genetic variation underlying depressive symptoms and inflammation</b> Zhanna Balkhiyarova, Yuwei Jiao, Wenjie Li, Juha Veijola, Karl-Heinz Herzig, Marjo-Riitta Järvelin, Arie Nouwen, Inga Prokopenko, <u>Marika Kaakinen</u> <i>University of Surrey, United Kingdom</i>		
16:40	O16	<b>Genetic scores and maternal characteristics make similar contributions to birth weight in mother-child pairs of South Asian and European ancestry, despite lower birth weight of South Asians</b> <u>Maneka Haulder</u> , Alice E Hughes, Robin N Beaumont, Brandon Lim, Daniel Leirer, Andrew T Hattersley, Beverley M Shields, Rachel M Freathy <i>University of Exeter, United Kingdom</i>		
16:50	O17	<b>Allergic disease trajectories up to adolescence: characteristics, early-life and genetic determinants</b> <u>Anna Kilanowski</u> , Elisabeth Thiering, Gang Wang, Ashish Kumar, Sara Kress, Claudia Flexeder, Carl-Peter Bauer, Dietrich Berdel, Andrea von Berg, Anna Bergström, Monika Gappa, Joachim Heinrich, Gunda Herberth, Sibylle Koletzko, Inger Kull, Erik Melen, Tamara Schikowski, Annette Peters, Marie Standl <i>Helmholtz Zentrum München, Germany</i>		
17:00		Short break		
17:10		<b>Paula Rantakallio Lecture</b> Public event held in Finnish (Short version of the presentation in English is in the Conference book)	Minna Ruddock	Miia Halonen
17:15		<b>Elämänmittainen terveysterveys – Pohjois-Suomen syntymäkohortit kertovat</b> <b><i>Life-long health – Tales from the Northern Finland Birth Cohorts</i></b> Professor Marjo-Riitta Järvelin <i>Imperial College London, United Kingdom and University of Oulu, Finland</i>		
18:00		<b>General discussion and questions</b> (part of the public event, in Finnish)		
18:30		End of day 2		
20:00		<b>Conference dinner at Theatre Restaurant <i>Vänmanni</i></b> (Oulu City Theatre, Kaarlenväylä 2, 90100 Oulu)		

Friday, June 17th

Time	ID	Title	Chair	Online Chair
9:00		<b>Welcome and registration</b>		
9:30		<b>Session 7 – Biomarkers and Methods</b>	Justiina Ronkainen	Yiyan He
9:30	K16	<b>Digital biomarkers for brain assessment at scale</b> Doctor Jennifer Barnett <i>University of Cambridge, United Kingdom</i>		
10:00	O18	<b>Identification and correction of gender and ethnicity related biases in machine learning based prediction of mental illness</b> <u>Vien Ngoc Dang</u> , Anna Cascarano, Jerónimo Hernández-González, Karim Lekadir <i>University of Barcelona, Spain</i>		
10:10	O19	<b>Exercise isn't everything: Replacing sedentary time with physical activity is associated with better cardiometabolic health</b> <u>Vahid Farrahi</u> , Mehrdad Rostami, Maisa Niemelä, Raija Korpelainen, Timo Jämsä, Mourad Oussalah <i>University of Oulu, Finland</i>		
10:20	O20	<b>Comprehensive lipoprotein data in large-scale epidemiology – fundamental structural and metabolic relationships</b> Siyu Zhao, Marjo-Riitta Järvelin, Ville-Petteri Mäkinen, Pauli Ohukainen, Mika Ala-Korpela <i>University of Oulu, Finland</i>		
10:30		<i>Coffee break and networking</i>		
11:00		<b>V Keynote Lecture Session</b>	Juha Veijola	Rozenn Nedelec
11:00	K17	<b>Inferring cellular underpinnings of mental illness from brain images</b> Professor Tomas Paus <i>University of Montreal, Canada</i>		

11:30	K18	<b>Genetic determinants of metabolism: understanding potential therapeutic targets</b> Professor Johannes Kettunen, <i>University of Oulu, Finland</i>		
12:00		<i>Lunch break</i>		
13:00		<b>Session 8 – Early Life Environment – Adversities and Trajectories</b>	Marko Kantomaa	Basho Poelman
13:00	K19	<b>Is ADHD only a neurodevelopmental disorder? New insights on its trajectories</b> Professor Luis Rohde <i>Federal University of Rio Grande do Sul, Brazil</i>		
13:30	O21	<b>Ambient air pollution and size at birth: results from a nationwide register study</b> <u>Anna Pulakka</u> , Jules Kerckhoffs, Johanna Metsälä, Katriina Heikkilä, Eero Kajantie, Sylvain Sebert <i>University of Oulu, Finland</i>		
13:40	O22	<b>Preterm birth and the risk of chronic disease multimorbidity in adolescence and early adulthood: a population-based cohort study</b> <u>Katriina Heikkilä</u> , Anna Pulakka, Johana Metsälä, Suvi Alenius, Petteri Hovi, Mika Gissler, Sven Sandin, Eero Kajantie <i>Finnish Institute for Health and Welfare, Finland</i>		
13:50	O23	<b>Association of temperament and character traits with ADHD and its comorbidities</b> <u>Jandeh Jallow</u> , Anu-Helmi Halt, Martta Kerkelä, Tuula Hurtig, Jouko Miettunen <i>University of Oulu, Finland</i>		
14:00		<b>Closure and Farewell</b>	Sylvain Sebert	
14:30		<b>End of the conference</b>		