

# 2022, 22<sup>nd</sup> – 25<sup>th</sup> June

## 52<sup>nd</sup> Behavior Genetics Annual Meeting

### Conference Program

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[NOTE: \*\* means that the presentation has been identified as a diversity presentation]

#### Wednesday, 22<sup>nd</sup> June

Wednesday 15:00 – 17:00	<b>Executive Committee Meeting I</b> Chaired by Greg Carey Venue Grand Ballroom
Wednesday 17:30 – 18:00	<b>New Faces Meet &amp; Greet</b> Venue Grand Ballroom
Wednesday 18:00 – 21:00	<b>Welcome Reception</b> Venue Grand Ballroom

#### Thursday, 23<sup>rd</sup> June

Thursday 8:45 – 9:00	OP Venue	<b>Opening Remarks</b> Grand Ballroom
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8:45 **Opening Remarks**  
➤ **Lisabeth DiLalla**, Southern Illinois University School of Medicine

Thursday 9:00 – 10:30	KN-1 Venue	<b>Plenary (Symposium) I</b> <b>Diversity and Inclusion in Behavior Genetics: Vulnerabilities and Health Care Across Ethnic/Racial/Risk Groups</b> Grand Ballroom
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- 9:00 **The Misuse of Genetic Ancestry and the Promise of Epigenetics in Studies of Racial Health Disparities**  
 ➤ **Amy Non**, University of CA, San Diego
- 9:30 **Diversity Enhances the Impact of Genomic Medicine**  
 ➤ **Lucia Hindorff**, National Human Genome Research Institute
- 10:00 PS Title 3 - TBA  
 ➤ **Sara Jaffee**, University of Pennsylvania

10:30 – 10:45 Coffee Break

Thursday	OS-1A	Substance Use
10:45 – 12:15	Chair Venue	TBA <i>Grand Ballroom Center</i>

- 10:45 **In Silico Genetic & Neuro-molecular Drug Re-purposing for Opioid Use Disorder**  
 ➤ **Spencer B. Huggett** (Emory University), Ami S. Ikeda (Emory University), Karla R. Kaun (Brown University), John E. McGeary (Brown University, Providence VA Medical Center), Rohan H.C. Palmer (Emory University)
- 11:00 **Disentangling Genetic and Environmental Influences of Drinking Trajectories from Early Adolescence Through Early Adulthood (T)**  
 ➤ **Lauren Bertin Loeffel** (Emory University), Chelsie E. Benca-Bachman (Emory University), Naomi P. Friedman (University of Colorado Boulder), Rohan H. C. Palmer (Emory University)
- 11:15 **Parental monitoring and adolescent substance use development in a smartphone- based intensive longitudinal twin sample**  
 ➤ **Jordan D. Alexander** (University of Minnesota), Samantha M. Freis (University of Colorado Boulder), Naomi P. Friedman (University of Colorado Boulder), Scott I. Vrieze (University of Minnesota)
- 11:30 **\*\*Trans-ancestry genome-wide association study of tobacco and alcohol use**  
 ➤ **Scott Vrieze** (University of Minnesota), Trans-omics for Precision Medicine, GWAS & Sequencing Consortium of Alcohol and Nicotine

11:45 **The roles of familial transmission and smoking during pregnancy on executive function skills: A sibling-comparison study**

- **Valerie S. Knopik** (Purdue University), Lauren Micalizzi (Brown University), Kristine Marceau (Purdue University), Amy Loviska (Purdue University), Li Yu (Purdue University), Alexandria Bien (Purdue University), Emily Rolan (Michigan State University), Allison S. Evans (Concord Comprehensive Neuropsychological Services), Rohan H.C. Palmer (Emory University), Andrew C. Heath (Washington University School of Medicine)

12:00 **The Direct and Spillover Impact of Smoking Cessation Intervention and Genetic Risk on Health Outcomes: Evidence from Mean and Variance Polygenic Scores**

- **Shubhashrita Basu** (University of Wisconsin-Madison), Jiacheng Miao (University of Wisconsin-Madison), Qiongshi Lu (University of Wisconsin-Madison), Jason Fletcher (University of Wisconsin-Madison), Lauren Schmitz (University of Wisconsin-Madison)

Thursday	OS-1B	Education
10:45 – 12:15	Chair	TBA
	Venue	<i>Champion Room</i>

10:45 **\*\* Reducing Racial Prejudice through Genetics Education and Curriculum**

- **Robbee Wedow** (Broad Institute of MIT and Harvard, Harvard University, Massachusetts General Hospital), Brian M. Donovan (BSCS Science Learning), Ravit G. Duncan (Rutgers University), Dennis Lee (BSCS Science Learning)

11:00 **Using DNA to predict Educational Success: A meta-analysis**

- **Kirsty Wilding** (University of York), Megan Wright (University of York), Sophie von Stumm (University of York)

11:15 **Time-trends in heritability of educational attainment in Spain: The female case**

- Juan J. Madrid-Valero (University of Alicante), Lucia Colodro-Conde (QIMR Berghofer MRI), Fruhling Rijdsdijk (Anton de Kom University), Federico Blanco (University of Murcia), Francisca González-Javier (University of Murcia, Biomedical Research Institute of Murcia), **Juan R. Ordoñana** (University of Murcia, Biomedical Research Institute of Murcia)

- 11:30 **Are Education/Mortality Disparities Widening in Countries other than the US?: Twin-Differenced Models of Age and Cohort in IGEMS**
- **Brian K Finch** (USC); Kyla Thomas (USC); Margaret Gatz (USC); Nancy Pedersen (Karolinska Institutet); Malin Ericsson (Karolinska Institutet); Miriam Mosing (Karolinska Institutet); Deborah Finkel (Indiana University Southeast)
- 11:45 **The Contribution of Assortative Mating to the Correlation Between Education and Health**
- **Marta Bilghese** (University of Southern California), Miles Kimball (University of Colorado Boulder), Patrick Turley (University of Southern California)
- 12:00 **To what extent do genetic factors explain the education-health gradient?**
- Silvia Barcellos (University of Southern California), **Titus Galama** (University of Southern California, Vrije Universiteit Amsterdam, Tinbergen Institute), Ariadna Jou (University of Southern California), Hans van Kippersluis (Erasmus University Rotterdam), Adriana Lleras-Muney (University of Southern California), Andries Marees (Vrije Universiteit Amsterdam)

Thursday	OS-1C	<b>Cognition</b>
10:45 – 12:15	Chair	TBA
	Venue	<i>Victory Room</i>

- 10:45 **The genetics of specific cognitive abilities: Sex, cohort and country (T)**
- **Quan Zhou** (Queen Mary University of London), Francesca Procopio (King's College London), Kaili Rimfeld (King's College London, Royal Holloway University of London), Margherita Malanchini (Queen Mary University of London, King's College London), Robert Plomin (King's College London)
- 11:00 **The genetics of specific cognitive abilities (T)**
- **Francesca Procopio** (King's College London), Quan Zhou (Queen Mary University of London), Ziyi Wang (King's College London, Queen Mary University of London), Agnieszka Gidziela (Queen Mary University of London), Kaili Rimfeld (King's College London, Royal Holloway University of London), Margherita Malanchini (Queen Mary University of London), Robert Plomin (King's College London)

- 11:15 **Identifying a genetic factor of quantitative ability (T)**
- **Alexandros Giannelis** (University of Minnesota), Emily A. Willoughby (University of Minnesota), Gretchen Saunders (University of Minnesota), James J. Lee (University of Minnesota)
- 11:30 **Genetic and environmental contributions to visual memory and visual-spatial reasoning trajectories across midlife**
- **Chandra A. Reynolds** (University of California Riverside), Nathan Gillespie (Virginia Commonwealth University, QIMR Berghofer Medical Research Institute), Michael C. Neale (Virginia Commonwealth University, Free University of Amsterdam), Carol Franz (University of California San Diego), Michael Lyons (Boston University), William S. Kremen (University of California San Diego, VA San Diego Healthcare System)
- 11:45 **Using within-sibship polygenic scores to predict cognitive differences within DZ twin pairs (T)**
- **Ziye Wang** (Queen Mary University of London, King's College London), Francesca Procopio (King's College London), Agnieszka Gidziela (Queen Mary University of London, King's College London), Quan Zhou (Queen Mary University of London), Margherita Malanchini (Queen Mary University of London), Kaili Rimfeld (King's College London, Royal Holloway University of London), Robert Plomin (King's College London)
- 12:00 **Neuroanatomical mediators of the association between the general intelligence PGS and the g-factor in the UK Biobank**
- **Camille M. Williams** (Paris Sciences et Lettres University), Ghislaine Labouret (Paris Sciences et Lettres University), Tobias Wolfram (Bielefeld University), Hugo Peyre (Paris Sciences et Lettres University, Robert Debré Hospital, Paris Diderot University), Franck Ramus (Paris Sciences et Lettres University)

Thursday	Lunch	<b>IDEA Committee Conversation</b>
12:15 – 13:35		– OPEN TO ALL
	Venue	Grand Ballroom

Thursday

SY-2A

**Genomic structural equation modeling and polygenic score approaches to understanding substance use and related behaviors**

13:35 – 15:10

Chair  
Venue

**Rohan Palmer**, Emory University  
*Champion Room*

13:35

**Introduction**

- **Rohan Palmer** (Emory University)

13:45

**\*\*Additive Genetic and Interactive Effects on Alcohol Problems and Traumatic Experiences Among African Americans**

- **Chelsie E. Benca-Bachman** (Emory University), Whitney L. Barfield (Emory University), Rameez A. Syed (Emory University), Samantha G. Cassidy (Emory University), Seyma Katrinli (Emory University), Alicia K. Smith (Emory University), Abigail Powers (Emory University), Yara Mekawi (University of Louisville), Rohan H.C. Palmer (Emory University)

14:03

**Distinct associations among genetic internalizing and externalizing factors with polysubstance use among young adults**

- **Leslie A. Brick** (Alpert Medical School of Brown University, Providence VA Medical Center, Emory University), Chelsie E. Benca-Bachman (Emory University), Daniel E. Gustavson (Vanderbilt University Medical Center), Emma C. Johnson (Washington University School of Medicine), Rohan H.C. Palmer (Emory University)

14:21

**\*\*Associations between cannabis use, polygenic liability for schizophrenia, and unusual cannabis-related experiences**

- **Emma C. Johnson** (Washington University School of Medicine), Sarah M.C. Colbert (Washington University School of Medicine), Paul W. Jeffries (Washington University School of Medicine), Rebecca Tillman (Washington University School of Medicine), Tim Bigdeli (SUNY Downstate Health Sciences University), Nicole R. Karcher (Washington University School of Medicine), Grace Chan (University of Connecticut, University of Iowa Carver College of Medicine), Samuel Kuperman (University of Iowa Carver College of Medicine), Jacquelyn L. Meyers (SUNY Downstate Health Sciences University), John I. Nurnberger (Indiana University School of Medicine), Martin H. Plawecki (Indiana University School of

Medicine), Louisa Degenhardt (UNSW Sydney), Nicholas G. Martin (QIMR Berghofer Medical Research Institute), Chella Kamarajan (SUNY Downstate Health Sciences University), Marc Schuckit (University of California San Diego Medical School), Robin M. Murray (King's College London), Danielle M. Dick (Rutgers Robert Wood Johnson Medical School), Howard J. Edenberg (Indiana University School of Medicine), Deepak Cyril D'Souza (Yale University, VA Connecticut Healthcare System), Marta Di Forti (King's College London, South London and Maudsley NHS Mental Health Foundation Trust), Bernice Porjesz (SUNY Downstate Health Sciences University), Elliot C. Nelson (Washington University School of Medicine), Arpana Agrawal (Washington University School of Medicine)

14:39

**Executive Function and Impulsivity Predict Distinct Genetic Variance in Externalizing, Internalizing, Thought Disorders, and Cognition: A Genomic Structure Equation Modeling Investigation**

- **Daniel E. Gustavson** (Vanderbilt University Medical Center, University of Colorado Boulder), Claire Morrison (University of Colorado Boulder), Travis Mallard (Massachusetts General Hospital, Harvard Medical School), Pierre Fontanillas (23andMe Inc.), Sarah L. Elson (23andMe Inc.), the 23andMe Research Team, Naomi P. Friedman (University of Colorado Boulder), Abraham A. Palmer (University of California San Diego), Sandra Sanchez-Roige (University of California San Diego)

14:57

**Discussion**

**Rohan Palmer** (Emory University)

Thursday

SY-2B

**Early Identification of Risk for Alzheimer's Disease: Cognition, Brain, and Biomarkers**

13:35 – 15:10

Chair  
Venue

**Nathan Gillespie**, Virginia Commonwealth University  
*Victory Room*

13:35

**\*\*Introduction**

- **Jennifer Yokoyama** (University of California San Diego)

13:45

**Longitudinal genetic and environmental relationships between structural- and diffusion-based Alzheimer's disease neuroimaging signatures**

- **McKenna E. Williams** (University of California San Diego), Nathan A. Gillespie (Virginia Commonwealth University), Tyler R. Bell (University of California San Diego), Anders M. Dale (University of California San Diego), Jeremy A. Elman (University of California San Diego), Lisa T. Eyler (University of California San Diego, Desert Pacific Mental Illness Research Education and Clinical Center), Christine Fennema-Notestine (University of California San Diego), Carol E. Franz (University of California San Diego), Donald J. Hagler, Jr. (University of California San Diego), Linda K. McEvoy (University of California San Diego), Michael C. Neale (Virginia Commonwealth University), Matthew S. S. Panizzon (University of California San Diego), Chandra A. Reynolds (University of California Riverside), Mark Sanderson-Cimino (University of California San Diego), William S. Kremen (University of California San Diego)

14:03

**The etiology of blood-based biomarkers related to risk of Alzheimer's Disease in a population-based sample of early old-age men**

- **Nathan A Gillespie** (Virginia Commonwealth University, QIMR Berghofer Medical Research Institute), Jeremy E. Elman (University of California San Diego), Matthew S. Panizzon (University of California San Diego), Robert A. Rissman (University of California San Diego), Michael C. Neale (Virginia Commonwealth University), Carol Franz (University of California San Diego), William S. Kremen (University of California San Diego)

14:21

**The environmental etiology of five brain regions of interest based on a novel white matter hyperintensities parcellation system in a population-based sample of early old-age men**

- **Shu-Ju Lin** (University of California San Diego), Nathan A. Gillespie (Virginia Commonwealth University, QIMR Berghofer Medical Research Institute), Jeremy A. Elman (University of California San Diego), Carol Franz (University of California San Diego), William S. Kremen (University of California San Diego, VA San Diego Healthcare System), Christine Fennema-Notestine (University of California San Diego)

14:39

**Genetic and Environmental Influences on Subjective Memory Concern Measured Across 30 Years**

- **Tyler Bell** (University of California San Diego), Nathan A. Gillespie (Virginia Commonwealth University), Chandra Reynolds



(University of California Irvine), McKenna E. Williams (University of California San Diego, San Diego State University), Asad Beck (University of Washington), Carol E. Franz (University of California San Diego), William S. Kremen (University of California San Diego, VA San Diego Healthcare System)

14:57

**Discussion**

**Jennifer Yokoyama** (University of California San Diego)

Thursday

**Tea/Coffee Break**

15:10 – 15:25

Thursday	<b>OS-3A</b>	<b>Substance Use/ Behavior Problems</b>
15:25 – 16:40	Chair	TBA
	Venue	<i>Champion Room</i>

15:25

**Psychiatric and Psychosocial Effects of Recreational Cannabis Legalization in Adulthood (T)**

- **Stephanie M. Zellers** (University of Minnesota), J. Megan Ross (University of Colorado Anschutz Medical Campus), Gretchen R.B. Saunders (University of Minnesota), Jarrod M. Ellingson (University of Colorado Anschutz Medical Campus, University of Colorado Boulder), Jacob E. Anderson (University of Minnesota), Robin P. Corley (University of Colorado Boulder), John K. Hewitt (University of Colorado Boulder), Christian J. Hopfer (University of Colorado Anschutz Medical Campus, University of Colorado Boulder), William Iacono (University of Minnesota), Matt K. McGue (University of Minnesota), Scott I. Vrieze (University of Minnesota)

15:40

**Using a Multivariate Genomic Approach to Understand the Overlap between Externalizing Behaviors and Substance Use Disorders**

- **Holly E. Poore** (Rutgers University), Peter B. Barr (SUNY Downstate Health Sciences University), Alexander S. Hatoum (Washington University), Travis T. Mallard (Massachusetts General Hospital), Sandra Sanchez-Roige (University of California San Diego), Irwin D. Waldman (Emory University), Abraham A. Palmer (University of California San Diego), K Paige Harden (University of Texas at Austin), Philipp D. Koellinger (Vrije Universiteit), Danielle M. Dick (Rutgers University)

- 15:55 **Genetic and cultural transmission of alcohol use disorders and criminal behavior in Swedish twin pedigrees**
- **Hermine H. Maes** (Virginia Commonwealth University), Michael C. Neale (Virginia Commonwealth University), Henrik Ohlsson (Lund University), Jan Sundquist (Lund University), Kristina Sundquist (Lund University), Kenneth S. Kendler (Virginia Commonwealth University)
- 16:10 **Internalizing Symptoms and Alcohol Consumption in Adolescence: Multivariate Behavioral Genetic Analyses (T)**
- **Tong Chen** (Pennsylvania State University), Amanda M. Ramos (University of North Carolina at Chapel Hill, Chapel Hill), Jennifer L. Maggs (Pennsylvania State University), David Reiss (Yale School of Medicine), Jenae M. Neiderhiser (Pennsylvania State University)
- 16:25 **\*\*Polygenic Effects on Individual Rule Breaking and Peer Rule Breaking in Pathways to Alcohol Sips in the ABCD Study**
- **Kit K. Elam** (Indiana University), Jinni Su (Arizona State University), Fazil Aliev (Rutgers University), Dong-Chul Seo (Indiana University), Angel Trevino (Arizona State University), Jodi Kutzner (Indiana University)

Thursday	OS-3B	Statistical Methods I
15:25 – 16:40	Chair	TBA
	Venue	<i>Victory Room</i>

- 15:25 **Using Genomic Structural Equation Modeling to test the validity of latent factor models**
- **Margaret L. Clapp** (University of Texas at Austin), Andrew D. Grotzinger (University of Colorado at Boulder), Elliot M. Tucker-Drob (University of Texas at Austin)
- 15:40 **Cross-Lagged Mendelian Randomization: Extending Causal Inference in Observational Studies by Integrating Genetic Instruments with Repeated-Measures Designs (T)**
- **Madhurbain Singh** (Virginia Commonwealth University), Philip Vinh (Virginia Commonwealth University), Yi (Daniel) Zhou (Virginia Commonwealth University), Luis F.S. Castro-de-Araujo (Virginia Commonwealth University), Brad Verhulst (Texas A&M University), Conor V. Dolan (Vrije Universiteit), Michael C. Neale (Virginia Commonwealth University, Vrije Universiteit)

- 15:55                    **Experiments with Mixture Distribution Modeling of Direction-of-Causation Models**
- Philip Vinh (Virginia Commonwealth University), **Michael C. Neale** (Virginia Commonwealth University, Free University of Amsterdam)
- 16:10                    **Adjusting for genetic confounding using polygenic scores within structural equation models**
- **Leonard Frach** (University College London), Frühling Rijdsdijk (Anton de Kom University of Suriname), Frank Dudbridge (University of Leicester), Jean-Baptiste Pingault (University College London, King's College London)
- 16:25                    **Let's BG Indiscrete: Continuous-Time Modeling of Within- and Between-Person Variation**
- **Michael D. Hunter** (Pennsylvania State University)
- Thursday  
16:40 – 17:00                    **Break**

Thursday	OS-4A	Development/ Parenting
17:00 – 18:00	Chair Venue	TBA <i>Champion Room</i>

- 17:00                    **\*\*Parental Nurturance and Youth Resilience: A Monozygotic Twin Difference Study (T)**
- **Alexandra Y. Vazquez** (Michigan State University), Kelly L. Klump (University of Michigan), Luke W. Hyde (Michigan State University), S. Alexandra Burt (Michigan State University)
- 17:15                    **Parenting Moderates the Etiology of Children's Social Information Processing**
- **Elizabeth A. Shewark** (Michigan State University), Sarah L. Carroll (Michigan State University), Kelly L. Klump (Michigan State University), S. Alexandra. Burt (Michigan State University)
- 17:30                    **Genetic and environmental influences on objective affect during parent-child interaction: similarity across context and environmentally-influenced parent-child covariance in positive but not negative affect**
- **Sierra Clifford** (Arizona State University), Amanda Fuller (Arizona State University), Mary Davis (Arizona State University), Leah

Doane (Arizona State University), Kathryn Lemery-Chalfant (Arizona State University)

17:45

**Augmenting and limiting children's externalized behavior: an evaluation of parental indirect genetic effects by Trio-GCTA**

- Epen M. Eilertsen (University of Oslo, Norwegian Institute of Public Health), Rosa Cheesman (University of Oslo), Ziada Ayorech (University of Oslo), Espen Røysamb (University of Oslo), Jean-Baptiste Pingault (University College London, King's College), Pål Njølstad (University of Bergen, Haukeland University Hospital), Ole A. Andreassen (Oslo University Hospital, University of Oslo), Alexandra Havdahl (University of Oslo, Lovisenberg Diaconal Hospital), Tom A. McAdams (University of Oslo, King's College London), Fartein A. Torvik (University of Oslo, Norwegian Institute of Public Health), **Eivind Ystrom** (University of Oslo, Norwegian Institute of Public Health)

Thursday

OS-4B

**Economics and Politics**

17:00 – 18:00

Chair

TBA

Venue

*Victory Room*

17:00

**A polygenic index of cognitive performance predicts ideological consistency on economic, but not social, issues**

- **Rafael Ahlskog** (Uppsala University)

17:15

**Genetics, Economic Choices, and Income**

- **Leandro Carvalho** (University of Southern California)

17:30

**Genetic and environmental contributions to IQ and political attitudes in adoptive and biological families with 30-year-old offspring**

- **James J. Lee** (University of Minnesota), Emily A. Willoughby (University of Southern Denmark), Matt McGue (University of Minnesota), William G. Iacono (University of Minnesota), Alexandros Giannelis (University of Minnesota), Steven Ludeke (University of Southern Denmark), Robert Klemmensen (University of Southern Denmark), Asbjørn S. Nørgaard (Cevea)

17:45

**Genetic Influences on the Development of Sociopolitical Attitudes in Young Adulthood are Moderated by College Exposure**

- **Joshua D. Isen** (University of South Alabama), Steven G. Ludeke (University of Southern Denmark), Matt K. McGue (University of Minnesota), William G. Iacono (University of Minnesota)

[PLEASE NOTE: NOT ALL POSTERS ARE INCLUDED YET – WAITING FOR FINAL REGISTRATIONS]

Thursday

PS-1

Poster Session: Development

18:00 – 20:30

Venue

*Grand Ballroom Center*

1. **\*\*Life's two lotteries: modelling the effects of genes and environments in human capital formation**
  - **Marina Aguiar-Palma** (Vrije Universiteit Amsterdam, Fundação Getúlio Vargas), Titus J. Galma (University of Southern California, Vrije Universiteit Amsterdam), Sjoerd van Alten (Vrije Universiteit Amsterdam)
2. **The Etiology of the Development of Irritability in the Preschool Period (R)**
  - **I-Tzu Hung** (Boston University), Chang Liu (George Washington University), Jody M. Ganiban (George Washington University), Kimberly J. Saudino (Boston University)
3. **Early Risk for Child Externalizing Symptoms: Examining Genetic, Prenatal, and Parental Influences (R)**
  - **Sohee Lee** (Purdue University), Olivia C. Robertson (Purdue University), Kristine Marceau (Purdue University), Valerie S. Knopik (Purdue University), Misaki Natsuaki (University of California, Riverside), Daniel S. Shaw (University of Pittsburgh), David Reiss (Yale University), Leslie D. Leve (University of Oregon), Jody M. Ganiban (George Washington University), Jenae M. Neiderhiser (Penn State University)
4. **Genetic and Environmental Contributions to Parental Warmth Across the Preschool Years**
  - **Seon K. Lee** (George Washington University), Jody M. Ganiban (George Washington University), Kimberly J. Saudino (Boston University)

5. **Associations of Parenting and Child Anger During Preschool: A Longitudinal Twin Study**
  - **Chang Liu** (George Washington University), Yao Zheng (University of Alberta), Jody M. Ganiban (George Washington University), Kimberly J. Saudino (Boston University)
  
6. **The Longitudinal Relationship between Attachment Styles and Temperament in Twins (R)**
  - **Ramona S. Weber** (University of Virginia), Haley M. Howard (University of Virginia), Christopher R. Beam (University of Southern California), Deborah Finkel (Indiana University Southeast, Jönköping University), Deborah Davis (University of Louisville School of Medicine), Eric Turkheimer (University of Virginia)

Thursday	PS-2	Poster Session: Health
18:00 – 20:30	Venue	<i>Grand Ballroom Center</i>

7. **Epigenetic Stability in Childhood and Adolescence: The Impact of COVID-19 and Implications for the Social Determinants of Health**
  - **Abby J. deSteiguer** (University of Texas at Austin), Diego Londono-Correa (University of Texas at Austin), Laurel Raffington (University of Texas at Austin), Peter T. Tanksley (University of Texas at Austin), Elliot M. Tucker-Drob (University of Texas at Austin), K. Paige Harden (University of Texas at Austin)
  
8. **Physical Activity and Chronic Pain in Twin Children: Genetic and Environmental Contributions**
  - **Eva M. Bartsch** (Arizona State University), Sierra Clifford (Arizona State University), Mary C. Davis (Arizona State University), Leah D. Doane (Arizona State University), Kathryn Lemery-Chalfant (Arizona State University)
  
9. **Polygenic Effects on Sex Initiation and Risky Sexual Behavior across Early Adulthood (R)**
  - **Jodi Kutzner** (Indiana University), Kit K. Elam (Indiana University), Fazil Aliev (Rutgers University), Thao Ha (Arizona State University)

10. **Exploring relationships between internalizing problems and risky sexual behavior: A twin study (R)**
  - **Katie N. Paulich** (University of Colorado Boulder), Samantha M. Freis (University of Colorado Boulder), Deepika R. Dokuru (University of Colorado Boulder), John K. Hewitt (University of Colorado Boulder), Michael C. Stallings (University of Colorado Boulder)
  
11. **The Ecological Momentary Assessment of Well-being: a genetically informative study (R)**
  - **Lianne P. de Vries** (Vrije Universiteit Amsterdam, Amsterdam University Medical Centres), Dirk H.M. Pelt (Vrije Universiteit Amsterdam, Amsterdam University Medical Centres), Meike Bartels (Vrije Universiteit Amsterdam, Amsterdam University Medical Centres)

Thursday	PS-3	Poster Session: Psychopathology
18:00 – 20:30	Venue	<i>Grand Ballroom Center</i>

12. **Using Genomic SEM to explore genetic associations among mental disorders, cognitive abilities, education, and personality**
  - **Diego Londono-Correa** (University of Texas at Austin), Abby J. deSteiguer (University of Texas at Austin), Ted Schwaba (University of Texas at Austin), Javier de la Fuente (University of Texas at Austin), Elliot M. Tucker-Drob (University of Texas at Austin), Kathryn P. Harden (University of Texas at Austin)
  
13. **Phenotypic and Genetic Psychopathology Factors in the UK Biobank**
  - **Camille M. Williams** (PSL University), Franck Ramus (PSL University), Tobias Wolfram (Bielefeld University), Hugo Peyre (PSL University, Robert Debré Hospital, Paris Diderot University)
  
14. **Genomic structural equation modeling links chronic pain, psychopathology, and neuroticism**
  - **Katerina Zorina-Lichtenwalter** (University of Colorado Boulder), Carmen I. Bango (Dartmouth College), Marta Ceko (University of Colorado Boulder), Matthew C. Keller (University of Colorado Boulder), Lukas Van Oudenhove (KU Leuven), Tor D. Wager

(Dartmouth College), Naomi P. Friedman (University of Colorado Boulder)

15. **Absence of Evidence for Balancing Selection in Schizophrenia**
  - **Michael F. Pogue-Geile** (University of Pittsburgh), Petra E. Rupert (University of Pittsburgh), Susan Kuo (University of Pittsburgh, Broad Institute of MIT & Harvard), Christie W. Musket (University of Pittsburgh), Konasale Prasad (University of Pittsburgh), Ruben C. Gur (University of Pennsylvania), Laura Almas (University of Pennsylvania), Raquel E. Gur (University of Pennsylvania), Vishwajit L. Nimgaonkar (University of Pittsburgh)
16. **Effects of genetic risk for schizophrenia versus bipolar disorder on task-based neural activation: An fMRI meta-analysis (R)**
  - **Petra Rupert** (University of Pittsburgh), Michael Pogue-Geile (University of Pittsburgh)
17. **\*\*Sex Differences in Genetic and Environmental Contributions to Functional Brain Connectivity Associated with Suicide Behaviors in Pre-Adolescents (R)**
  - **Yi Zhou** (Virginia Commonwealth University), Michael C. Neale (Virginia Commonwealth University)

Thursday	PS-4	Poster Session: Externalizing/Substance Use
18:00 – 20:30	Venue	<i>Grand Ballroom Center</i>

18. **Familial effects account for relationship between past month tobacco frequency and presence of a current pain episode**
  - **Lydia Rader** (University of Colorado Boulder), Andrew E. Reineberg (University of Colorado Boulder), Bogdan Petre (Dartmouth College), Tor D. Wager (Dartmouth College), Naomi P. Friedman (University of Colorado Boulder)
19. **\*\*Conditional and Moderated Effects of Polygenic Risk for Alcoholism on Alcohol Consumption Among African Americans with a History of Trauma**
  - **Samantha G. Cassidy** (Emory University), Whitney L. Barfield (Emory University), Chelsie E. Benca-Bachman (Emory University), Rameez A. Syed (Emory University), Seyma Katrinli (Emory University), Alicia K. Smith (Emory University), Abigail Powers



(Emory University), Yara Mekawi (University of Louisville), Rohan HC. Palmer (Emory University)

20. **Distinct Etiologic Mechanisms May Underlie Associations of Heroin Use and Prescription Opioid Misuse with Psychopathology (R)**

- **Genevieve F. Dash** (University of Missouri), Ian R. Gizer (University of Missouri), Nicholas G. Martin (QIMR Berghofer), Arpana Agrawal (Washington University School of Medicine), Michael T. Lynskey (King's College London), Wendy S. Slutske (University of Wisconsin, Madison)

21. **Sex Differences in the Associations Between Genetic Risk for Alcohol Consumption and Alcohol-Related Aggression (R)**

- **Kellyn M. Spychala** (University of Missouri), Kirk C. Wilhelmsen (West Virginia University, Renaissance Computing Institute, University of North Carolina, Chapel Hill), Ian R. Gizer (University of Missouri)

22. **\*\*Alcohol Use Disorder Polygenic Risk Scores and Trajectories of Childhood Externalizing Behaviors: Examining the Role of Parenting and Family Conflict in the ABCD Study**

- **Angel D. Trevino** (Arizona State University), Jinni Su (Arizona State University), Belal Jamil (Arizona State University), Fazil Aliev (Rutgers Robert Wood Johnson Medical School), Kit Elam (Indiana University), Kathryn Lemery-Chalfant (Arizona State University)

23. **\*\*Examining associations between genetic and neural risk for externalizing behaviors in adolescence and early adulthood**

- **Sarah J. Brislin** (Rutgers University), Jessica Salvatore (Rutgers University), Jacquelyn Meyers (State University of New York), Chella Kamarajan (State University of New York), Martin Plawecki (Indiana University School of Medicine), Howard Edenberg (Indiana University School of Medicine), Samuel Kuperman (University of Iowa), Jay Tischfield (Rutgers University), Victor Hesselbrock (University of Connecticut), Andrey Anokhin (Washington University), David Chorlian (State University of New York), Marc Schuckit (University of California, San Diego), John Nurnberger (Indiana University School of Medicine), Lance Bauer (University of Connecticut), Gayathri Pandey (State University of New York), Ashwini Pandey (State University of New York), John Kramer

(University of Iowa), Grace Chan (University of Connecticut), Bernice Porjesz (State University of New York), Danielle M. Dick (Rutgers University), COGA Consortium

Thursday PS-5 **Poster Session: Developmental Disorders**  
18:00 – 20:30 Venue *Grand Ballroom Center*

24. **Developing a Biomarker Assessment tool to evaluate the performance of EEG Proxy Markers of Sensory Sensitivities in Autism Spectrum Conditions**
- **Ayesha Javed** (King's College London), Jason He (King's College London), Charlotte Blackmore (King's College London), Jumana Ahmad (University of Greenwich), Nicolaas Puts (King's College London), Emily Jones (Birkbeck University of London), Grainne McAlonan (King's College London)
25. **Association between cumulative psychosocial adversity in the family and neurodevelopmental disorders; a family-based cohort study (R)**
- **Aleksandra Kanina** (Karolinska Institutet), Henrik Larsson (Örebro University), Arvid Sjölander (Karolinska Institutet), Agnieszka Butwicka (Karolinska Institutet, Stockholm Health Care Services, Medical University of Warsaw, Medical University of Lodz), Mark Taylor (Karolinska Institutet), Miriam Martini (Karolinska Institutet), Paul Lichtenstein (Karolinska Institutet), Frida Lundberg (Karolinska Institutet), Brian D'Onofrio (Indiana University), Mina Rosenqvist (Karolinska Institutet)

Thursday PS-6 **Poster Session: Cognition**  
18:00 – 20:30 Venue

26. **Vertical alignment of WISC Vocabulary Test Items Across Three Test Versions in the Louisville Twin Study (R)**
- **Alyssa C. Kam** (University of Southern California), Cheyenne S. Eames<sup>2</sup>, Eric N. Penichet (University of Southern California), Ramona S. Weber (University of Virginia), Sarah S. Rodock (University of Virginia), Anzhelika Parenchuk (University of Virginia), Haley M. Howard (University of Virginia), Maxwell Kofman (University of Southern California), London Woodruff (University of Virginia), LiChen Dong (University of Virginia),

Christopher R. Beam (University of Southern California), Eric Turkheimer (University of Virginia)

27. **Gene-environmental interplay of verbal fluency and episodic memory: evaluating moderation by sleep duration and educational attainment (R)**
- **Tina T. Vo** (University of California, Riverside), Shandell Pahlen (University of California, Riverside), William S. Kremen (University of California, San Diego), Matt McGue (University of Minnesota), Anna K. Dahl Aslan (University of Skövde, Karolinska Institute), Marianne Nygaard (University of Southern Denmark), Kaare Christensen (University of Southern Denmark), Chandra A. Reynolds (University of California, Riverside), IGEMS Consortium
28. **Investigating the causal effect of reserve proxies on cognitive reserve in ABCD (R)**
- **Anqing Zheng** (University of California, Riverside), Chandra A. Reynolds (University of California, Riverside)

Thursday

PS-7

Poster Session: Methods

18:00 – 20:30

Venue

29. **A comprehensive meta-analysis of human assortative mating in 22 complex traits (R)**
- **Tanya B. Horwitz** (University of Colorado Boulder), Matthew C. Keller (University of Colorado Boulder)
30. **Human capital mediates natural selection in contemporary humans**
- **David Hugh-Jones** (University of East Anglia), Abdel Abdellaoui (Amsterdam UMC)
31. **Comparison of GEE and Mixed-Effects Approaches in Phenotypic Models (R)**
- **Shandell Pahlen** (University of California, Riverside), Chandra A. Reynolds (University of California, Riverside)

Thursday

18:00 – 20:30

PS-8

Venue

Virtual Poster Session

*Victory Room*

32. **The Factor Structure of Self-Competence in Early Childhood: A Genetically-Informed Analysis (R)**
  - **Riley L. Marshall** (Southern Illinois University), Lisabeth Fisher DiLalla (Southern Illinois University)
  
33. **Can polygenic risk scores predict who will receive or respond better to electroconvulsive therapy for treatment of major depressive disorder?**
  - **Kristen L. Hopkins** (QIMR Berghofer Medical Research Institute, University of Queensland), Penelope A. Lind (QIMR Berghofer Medical Research Institute), Brittany L. Mitchell (QIMR Berghofer Medical Research Institute), David C. Whiteman (QIMR Berghofer Medical Research Institute), Catherine M. Olsen (QIMR Berghofer Medical Research Institute), Dan J. Siskind (University of Queensland, Metro South Addiction and Mental Health Service), Ian B. Hickie (University of Sydney), Nicholas G. Martin (QIMR Berghofer Medical Research Institute), Sarah E. Medland (QIMR Berghofer Medical Research Institute, University of Queensland)
  
34. **Association of different 5HTR2A, COMT, DRD4 and MAOA genotypes with the success in recognition of facial expressions**
  - **Ekaterina M. Kovsh** (Southern Federal University), Denis V. Yavna (Southern Federal University), Vitaly V. Babenko (Southern Federal University, Don State Technical University), Pavel N. Ermakov (Southern Federal University), Elena V. Vorobyeva (Southern Federal University, Don State Technical University), Ekaterina G. Denisova (Don State Technical University), Daria S. Alekseeva (Southern Federal University)
  
35. **Genes, Biology, and Environment, Oh My! The Impact of DRD4, Temperamental Negativity, and Household Chaos on Young Twins' Externalizing Behaviors (R)**
  - **Matthew R. Jamnik** (Flagler College), Lisabeth F. DiLalla (Southern Illinois University School of Medicine)
  
36. **Pharmacogenomics and ancestry: A study on allele frequencies across populations in commercial pharmacogenomic panels (R)**
  - **Jose J. Morosoli** (QIMR Berghofer Medical Research Institute), Kristina Spears (QIMR Berghofer Medical Research Institute), Penelope A. Lind (QIMR Berghofer Medical Research Institute),

Gregory Pratt (QIMR Berghofer Medical Research Institute), Sarah E. Medland (QIMR Berghofer Medical Research Institute)

37. **Education and subjective well-being: A behavior-genetic test of causal hypotheses**
- **Shinji Yamagata** (Nagoya University), Chizuru Shikishima (Teikyo University), Juko Ando (Keio University)
38. **Parental Differential Treatment and Symptoms of Child Psychopathology: A Twin Study**
- **Janna M. Pickett** (Arizona State University), Courtney Lyding (Emory University), H. Hill. Goldsmith (University of Wisconsin-Madison), Kathryn Lemery-Chalfant (Arizona State University)

## Friday, 24<sup>th</sup> June

Friday	KN-2	<b>Sponsored Plenary II</b>
9:00 – 10:00	<b>Low-Pass Sequencing for the Next Generation of High-Throughput Genomics Applications</b>	
9:00	Venue	<i>Grand Ballroom</i>
	<b>Joe Pickrell</b> , Gencove	
10:00 – 10:30	Coffee Break	
Friday	OS-5A	<b>Statistical Methods II</b>
10:30 – 12:00	Chair	TBA
	Venue	<i>Champion Room</i>
10:30	<b>Exploring the relationships between autozygosity, educational attainment, and cognitive ability in a contemporary, trans-ancestral American sample</b>	
	➤ Sarah MC. Colbert (Washington University School of Medicine), Matthew C. Keller (University of Colorado Boulder), Arpana Agrawal (Washington University School of Medicine), <b>Emma C. Johnson</b> (Washington University School of Medicine)	

- 10:45 **Evaluating the regional and functional overlap of rare and common variant signals across complex traits (T)**
- **Pamela N. Romero Villela** (University of Colorado Boulder), Meng Huang (University of North Texas Health Science Center at Fort Worth), Matthew C. Keller (University of Colorado, Boulder)
- 11:00 **An explanation for apparent differences in environmental effects within- versus between-groups**
- **Patrick O'Keefe** (Oregon Health & Science University), Wendy Johnson (University of Edinburgh), S. Alex Burt (Michigan State University)
- 11:15 **\*\* Estimating SNP-based heritability in multi-ancestry sample**
- **Seon-Kyeong Jang** (University of Minnesota), Scott Vrieze (University of Minnesota), Saonli Basu (University of Minnesota)
- 11:30 **Investigating bias in estimates of genetic and environmental influence in conventional twin studies of Educational Attainment**
- Tobias Wolfram (University of Bielefeld), **Damien Morris** (King's College London)
- 11:45 **Rank concordance of polygenic indices: implications for personalised intervention and gene-environment interplay**
- Dilnoza Muslimova (Erasmus University Rotterdam, Tinbergen Institute), Rita Dias Pereira (Erasmus University Rotterdam, Tinbergen Institute), Stephanie Von Hinke (Erasmus University Rotterdam, Tinbergen Institute, University of Bristol), Hans Van Kippersluis (Erasmus University Rotterdam, Tinbergen Institute), Niels Rietveld (Erasmus University Rotterdam, Tinbergen Institute, Erasmus University Rotterdam), **Fleur Meddens** (University of Oxford)

Friday	OS-5B	Mental Health I
10:30 – 12:00	Chair	TBA
	Venue	<i>Victory Room</i>

- 10:30 **Precision Psychiatry: Science Fiction or Science Fact? Challenges and opportunities for translating polygenic risk scores (PRS) into practice**
- **Danielle M. Dick** (Rutgers Robert Wood Johnson Medical School), Morgan N. Driver (Virginia Commonwealth University), Jehannine Austin (University of British Columbia), Lia Petronio (Broad Institute of MIT and Harvard), Deanna Brockman (Color Health),

Jacqueline S. Dron (Broad Institute of MIT and Harvard,  
Massachusetts General Hospital)

- 10:45      **Sex-stratified genomic relationships across mental health and socioeconomic traits**
- **Andries T. Marees** (VU University Amsterdam), Titus J. Galama (VU University Amsterdam, Tinbergen Institute, University of Southern California, Erasmus University)
- 11:00      **A genetically informed longitudinal study of perceived stress and loneliness (T)**
- **Ryan Moshtael** (University of Southern California), Christopher R. Beam (University of Southern California)
- 11:15      **Examining the associations between educational experiences and mental health from childhood to adolescence**
- **Kaili Rimfeld (King's College London, Royal Holloway University of London)**, Margherita Malanchini (Queen Mary University of London), Robert Plomin (King's College London)
- 11:30      **Identifying genetic and environmental pathways for the development of externalizing behavior using within-family genomic data**
- **Peter T. Tanksley** (University of Texas at Austin), Sarah J. Brislin (Rutgers Robert Wood Johnson School of Medicine), Jasmin Wertz (Duke University, University of Edinburgh), Travis T. Mallard (Massachusetts General Hospital, Harvard Medical School), Paige Harden (University of Texas at Austin)
- 11:45      **\*\*Reciprocal causality between same-sex attraction and psychological distress using a genetically sensitive design: Mediating role of victimization as a minority stress factor [Virtual presentation]**
- **Olakunle Oginni** (King's College London, Obafemi Awolowo University), Kai Lim (King's College London), Qazi Rahman (King's College London), Patrick Jern (Abo Akademi University), Thalia Eley (King's College London), Fruhling Rijdsdijk (King's College London, Anton de Kom University of Suriname)

Friday	<b>Lunch and Business Meeting</b>	
12:00 – 13:30	Venue	<i>Grand Ballroom</i>

Friday	KN-3	<b>Dobzhansky Lecture</b>
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13:30 – 14:30 Title - TBA

Venue *Grand Ballroom*

13:30 **Laura Baker** (University of Southern California)

14:30 – 14:45 Tea/Coffee Break

Friday	OS-6A	<b>Development</b>
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14:45 – 16:15

Chair

TBA

Venue

*Champion Room*

14:45

**The developmental interplay between the p-factor of psychopathology and the g-factor of intelligence from age 7 through 16 years**

- **Sophie von Stumm** (University of York), Margherita Malanchini (Queen Mary University of London, King's College London), Helen L. Fisher (King's College London)

15:00

**Explaining the influence of nonshared environment (NSE) on behaviour problems from preschool to adulthood: Mind the missing NSE gap (T)**

- **Agnieszka Gidziela** (Queen Mary University of London, King's College London), Margherita Malanchini (Queen Mary University of London, King's College London), Kaili Rimfeld (King's College London, Royal Holloway University of London), Andrew McMillan (King's College London), Angelica Ronald (Birkbeck University of London), Essi Viding (University College London), Alison Pike (University of Sussex), Kathryn Asbury (University of York), Thalia C. Eley (King's College London), Sophie von Stumm (University of York), Robert Plomin (King's College London)

15:15

**Genetic, environmental and phenotypic variation in, and correlations between, brain cortical thickness and surface area in children (T)**

- **Daniel Bustamante** (Virginia Institute for Psychiatric and Behavioral Genetics, Virginia Commonwealth University), Ananda B. Amstadter (Virginia Institute for Psychiatric and Behavioral Genetics, Virginia Commonwealth University), Michael C. Neale (Virginia Institute for Psychiatric and Behavioral Genetics)



- 15:30 **Evocative pathways via callous behaviors to school-age relationships and later social skills: A longitudinal adoption study**
- **Amanda M. Ramos** (University of North Carolina at Chapel Hill), Elizabeth A. Shewark (Michigan State University), Misaki N. Natsuaki (University of California, Riverside), David Reiss (Yale University), Daniel S. Shaw (University of Pittsburgh), Jody M. Ganiban (George Washington University), Leslie D. Leve (University of Oregon), Jenae M. Neiderhiser (Pennsylvania State University)
- 15:45 **Maternal Smoking During Pregnancy Exposure and DNA Methylation: A sibling comparison study**
- **Nikolina Nonkovic** (Purdue University), Kristine Marceau (Purdue University), John E. McGeary (Brown University), Rohan H.C. Palmer (Emory College of Arts), Andrew C. Heath (Washington University School of Medicine), Valerie S. Knopik (Purdue University)
- 16:00 **A Longitudinal Twin Study of Normal Personality Development from Adolescence to Adulthood [virtual??]**
- **Yuri Kim** (University of Minnesota), Stephanie M. Zellers (University of Minnesota), James J. Lee (University of Minnesota), Matt McGue (University of Minnesota)

Friday	OS-6B	Health
14:45 – 16:15	Chair	TBA
	Venue	<i>Victory Room</i>

- 14:45 **Genomic Moderation of Body Mass Index (BMI) with Health and Lifestyle Variables**
- **Sarah E. Benstock** (Texas A&M University), Jennifer Holtkamp Harris (Texas A&M University), Amy M. Adams (Texas A&M University), John Hetteema (Texas A&M University), Elizabeth Prom-Wormley (Virginia Commonwealth University), Brad Verhulst (Texas A&M University)
- 15:00 **Co-Recovery of Physical Size and Cognitive Ability across Childhood (T)**
- **Sean R. Womack** (University of Virginia), Evan J. Giangrande (University of Virginia), Ramona Weber (University of Virginia), Christopher R. Beam (University of Southern California), Deborah Finkel (Indiana University Southeast, Jönköping University),

Deborah W. Davis (University of Louisville), Eric Turkheimer (University of Virginia)

- 15:15 **Genetic, prenatal, birth, and postnatal predictors for pubertal tempo in a sample of children adopted at birth (T)**
- **Olivia C. Robertson** (Purdue University), Kristine Marceau (Purdue University), Elizabeth A. Shirtcliff (University of Oregon), Lorah D. Dorn (Penn State University), Misaki N. Natsuaki (University of California, Riverside), Daniel S. Shaw (University of Pittsburgh), David Reiss (Yale University), Leslie D. Leve (University of Oregon), Jenae M. Neiderhiser (Penn State University), Jody M. Ganiban (George Washington University)
- 15:30 **Genome-wide association study of six latent sleep health factors (T)**
- **Claire L. Morrison** (University of Colorado Boulder), Naomi P. Friedman (University of Colorado Boulder)
- 15:45 **Using polygenic scores for circadian rhythm to predict well-being, health, and sleep (T)**
- **Anne Landvreugd** (Vrije Universiteit, Amsterdam University Medical Centre), René Pool (Vrije Universiteit), Michel G. Nivard (Vrije Universiteit, Amsterdam University Medical Centre), Meike Bartels (Universiteit, Amsterdam University Medical Centre)
- 16:00 **Multivariate modeling of direct and proxy GWAS indicates substantial common variant heritability of Alzheimer’s disease**
- **Javier de la Fuente** (University of Texas at Austin), Andrew D. Grotzinger (University of Texas at Austin, Massachusetts General Hospital), Riccardo E. Marioni (University of Edinburgh), Michel G. Nivard (VU University Amsterdam), Elliot M. Tucker-Drob (University of Texas at Austin)

16:00 – 16:30 Break

Friday SY-7A **Neurodevelopmental Disorders: on restrictive food intake disorder, the etiological stability of autistic traits, and the genetics of autism**

16:30 – 18:00 Chair Venue **Tinca Polderman**, Vrije Universiteit Amsterdam  
*Champion Room*

- 16:30 **Introduction**
- **Tinca Polderman** (Vrije Universiteit Amsterdam)
- 16:40 **Heritability of the avoidant/restrictive food intake disorder (ARFID) phenotype in 6- to-12-year-old Swedish twins**
- **Lisa Dinkler** (Karolinska Institutet), Paul Lichtenstein (Karolinska Institutet), Sebastian Lundström (Gothenburg University), Henrik Larsson (Karolinska Institutet, Örebro University), Nadia Micali (University of Geneva, University College London), Mark Taylor (Karolinska Institutet), Cynthia Bulik (Karolinska Institutet, University of North Carolina at Chapel Hill)
- 17:00 **Heritability of clinical diagnosis in autistic adults and etiological stability of autistic traits from childhood to adulthood**
- **Miriam Martini** (Karolinska Institutet), Paul Lichtenstein (Karolinska Institutet), Henrik Larsson (Karolinska Institutet, Örebro University), Ebba du Rietz (Karolinska Institutet), Agnieszka Butwicka (Karolinska Institutet), Aleksandra Kanina (Karolinska Institutet), Mina Rosenqvist (Karolinska Institutet), Mark Taylor (Karolinska Institutet)
- 17:20 **Structural models of genome-wide covariance identify multiple genetic influences across ASD symptoms**
- **Lucía de Hoyos** (Max Planck Institute for Psycholinguistics), Maria T. Barendse (Max Planck Institute for Psycholinguistics), Fenja Schlag (Max Planck Institute for Psycholinguistics), Marjolein M.J. van Donkelaar (Max Planck Institute for Psycholinguistics), Ellen Verhoef (Max Planck Institute for Psycholinguistics), Chin Yang Shapland (University of Bristol), Jan Buitelaar (Radboud University, Karakter Child and Adolescent Psychiatry University Centre), Brad Verhulst (Texas A&M University), Simon E. Fischer (Max Planck Institute for Psycholinguistics, Radboud University), Dheeraj rai (University of Bristol, Avon and Wiltshire Partnership NHS Mental Health Trust, Karolinska Institutet), Beate St. Pourcain (Max Planck Institute for Psycholinguistics, University of Bristol, Radboud University)
- 17:40 **The Association between Polygenic scores for Autism Spectrum Disorder and Autism Spectrum Disorder and Associated Traits: a Systematic Review and Meta-analysis**
- **Melanie M. de Wit** (Vrije Universiteit), Morgan J. Morgan (King's College London), Abdel Abdellaoui (University of Amsterdam),

Sander Begeer (Vrije Universiteit), Angelica Ronald (Birkbeck University of London), **Tinca J.C. Polderman** (Vrije Universiteit)

Friday	SY-7B	<b>Lifespan Development and Cognitive Aging in the Colorado Adoption/Twin Study of Lifespan Development and the Louisville Twin Study</b>
16:30 – 18:05	Chair	<b>Christopher Beam</b> , University of Southern California, and <b>Chandra Reynolds</b> , University of California Riverside
	Venue	<i>Victory Room</i>
16:30	<b>Introduction</b>	
	➤	<b>Christopher Beam</b> (University of Southern California) and <b>Chandra Reynolds</b> (University of California Riverside)
16:35	<b>Cognitive functioning and intraindividual variability at midlife: is there signal amongst the noise?</b>	
	➤	<b>Chandra A. Reynolds</b> (University of California, Riverside), Robin P. Corley (University of Colorado Boulder), John C. DeFries (University of Colorado Boulder), Naomi P. Friedman (University of Colorado Boulder), Elizabeth Muñoz (University of Texas at Austin), Robert Plomin (King's College London), Sally J. Wadsworth (University of Colorado Boulder)
16:53	<b>Twin and sibling similarities of neighborhood socioeconomic deprivation and associations with cognitive function</b>	
	➤	<b>Elizabeth Muñoz</b> (University of Texas at Austin), Eli Knaap (University of California, Riverside), Robin P. Corley (University of Colorado Boulder), Soo Rhee (University of Colorado Boulder), Sally J. Wadsworth (University of Colorado Boulder), Chandra A. Reynolds (University of California Riverside)
17:11	<b>Associations among measures of epigenetic age and cognitive functioning in the Louisville twins at midlife</b>	
	➤	<b>Christopher R. Beam</b> (University of Southern California), Morgan E. Levine (Yale School of Medicine), Deborah Finkel (Indiana University Southeast, Jönköping University), Ebrahim Zandi (University of Southern California Keck School of Medicine), Evan J. Giangrande (University of Virginia), Eric Turkheimer (University of Virginia), Thomas Guterbock (University of Virginia), Sean Johnson (University of Virginia), Shelby Monahan (University of Louisville School of Medicine), Kristin Higdon (University of

Louisville School of Medicine), A. Ceville Barna (University of Louisville School of Medicine), Ariel King (University of Louisville School of Medicine), Kendra Sikes (University of Louisville School of Medicine), Lesa Ryan (University of Louisville School of Medicine), Deborah W. Davis (University of Louisville School of Medicine)

17:29

**Phenotypic divergence in dizygotic twins links the Wilson Effect and the Scarr-Rowe Interaction**

- **Evan J. Giangrande** (University of Virginia), Sean R. Womack (University of Virginia), Christopher R. Beam (University of Southern California), Deborah Finkel (Indiana University Southeast, Jönköping University), Deborah W. Davis (University of Louisville School of Medicine), Eric Turkheimer (University of Virginia)

17:47

**Discussion**

- **Jonathan King** (NIA, NIH)

## Saturday, 25<sup>th</sup> June

Saturday	KN-4	<b>Plenary III</b>
9:00 – 10:00	<b>Celebrating a century of research in behavioral genetics</b>	

Venue *Grand Ballroom*

9:00

**Robert Plomin**, King's College London

10:00 – 10:20

Coffee Break

Saturday	OS-8A	<b>Mental Health II</b>
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10:20 – 11:50

Chair

TBA

Venue

*Champion Room*

10:20

**Genetic Architecture of Self-Rated Health: Relationship with Physical Health, Cognition Function, and Depression**

- **Deborah Finkel** (Indiana University Southeast, Jönköping University), IGEMS Consortium

- 10:35 **Challenges to incorporating polygenic risk scores in clinical mental health practice**
- **Sarah E. Medland** (QIMR Berghofer Medical Research Institute), Brittany Mitchell (QIMR Berghofer Medical Research Institute), Adrian Campos (QIMR Berghofer Medical Research Institute), David C. Whiteman (QIMR Berghofer Medical Research Institute), Catherine M. Olsen (QIMR Berghofer Medical Research Institute), Dan J. Siskind (University of Queensland, Metro South Addiction and Mental Health Service), Ian Hickie (University of Sydney), Penelope A. Lind (QIMR Berghofer Medical Research Institute), Nicholas G. Martin (QIMR Berghofer Medical Research Institute)
- 10:50 **\*\* Nature and nurture intertwined: The example of early psychosocial prevention**
- **Kathryn Lemery-Chalfant** (Arizona State University), Jenn-Yun Tein (Arizona State University)
- 11:05 **Developmental GxE: The Role of Neighborhood Disadvantage as an Etiologic Moderator of Continuity and Change in Antisocial Behavior (T)**
- **Sarah L. Carroll** (Michigan State University), Elizabeth A. Shewark (Michigan State University), Kelly L. Klump (Michigan State University), S. Alexandra Burt (Michigan State University)
- 11:20 **The role of heritable and environment influences on adolescent anxiety and life meaning and purpose over the course of the COVID-19 pandemic: An adoption study (T)**
- **Li Yu** (Purdue University), Prudence A. Regacho (Purdue University), Kristine Marceau (Purdue University), Valerie S. Knopik (Purdue University), Misaki Natsuaki (University of California Riverside), Daniel S. Shaw (University of Pittsburgh), David Reiss (Yale University), Leslie D. Leve (University of Oregon), Jody M. Ganiban (George Washington University), Jenae M. Neiderhiser (Penn State University)
- 11:35 **Chronic pain conditions and risk of suicidal behavior: A 10-year longitudinal co-twin control study [*Virtual presentation*] (T)**
- **Cen Chen** (Karolinska Institutet), Erik Pettersson (Karolinska Institutet), Alynna Summit (Indiana University), Katja Boersma (Örebro University), Zheng Chang (Karolinska Institutet), Ralf Kuja-Halkola (Karolinska Institutet), Paul Lichtenstein (Karolinska Institutet), Patrick Quinn (Indiana University)

Saturday	OS-8B	Role of Social Environment
10:20 – 11:50	Chair Venue	TBA <i>Victory Room</i>
10:20	<b>**The interplay within the interplay: rGE varies across neighborhood contexts</b> <ul style="list-style-type: none"> <li>➤ <b>S. Alexandra Burt</b> (Michigan State University), Elizabeth A. Shewark (Michigan State University), Kelly L. Klump (Michigan State University), Jenae M. Neiderhiser (Pennsylvania State University)</li> </ul>	
10:35	<b>Genetic and environmental determinants of socioeconomic status: evidence from within-family models in the Dutch Lifelines cohort</b> <ul style="list-style-type: none"> <li>➤ <b>Sjoerd van Alten</b> (Vrije Universiteit Amsterdam, Tinbergen Institute), Titus J. Galama (Vrije Universiteit Amsterdam, Tinbergen Institute, University of Southern California, Erasmus University Rotterdam)</li> </ul>	
10:50	<b>Does Home Chaos Influence School Performance over Time? A Biometric Cross-Lagged Panel Model</b> <ul style="list-style-type: none"> <li>➤ <b>Alexandra Starr</b> (Bielefeld University), Mirko Ruks (Bielefeld University), Lena Weigel (Bielefeld University), Rainer Riemann (Bielefeld University)</li> </ul>	
11:05	<b>Large-scale genome-wide study of income highlights heterogenous pleiotropy across the genome (T)</b> <ul style="list-style-type: none"> <li>➤ <b>Hyeokmoon Kweon</b> (Vrije Universiteit Amsterdam), Casper A.P. Burik (Vrije Universiteit Amsterdam), Rafael Ahlskog (Uppsala University), Aysu Okbay (Vrije Universiteit Amsterdam), Richard Karlsson Linnér (Leiden University), Ronald de Vlaming (Vrije Universiteit Amsterdam), Daniel J. Benjamin (National Bureau of Economic Research, UCLA), Thomas A. DiPrete (Columbia University), Philipp D. Koellinger (Vrije Universiteit Amsterdam), Social Science Genetic Association Consortium</li> </ul>	
11:20	<b>Trading social status for genetics in marriage markets: evidence from UK Biobank</b> <ul style="list-style-type: none"> <li>➤ Abdel Abdellaoui (UMC Medical Centre), Oana Borcan (University of East Anglia), Pierre Chiappori (University of Columbia), <b>David Hugh-Jones</b> (University of East Anglia)</li> </ul>	

11:35

**\*\*Where You Live Matters: Visualizing Environmental Effects on Reading Attainment (T)**

- **Jeffrey A. Shero** (Florida State University), Florina Erbeli (Texas A&M University), Zoe Reed (University of Bristol), Rasheda Haughbrook (Florida State University), Oliver Davis (University of Bristol, The Alan Turing Institute), Jeanette Taylor (Florida State University), Sara A. Hart (Florida State University)

Saturday

**Lunch and Mentor Meetings**

11:50 – 13:20

Venue

Saturday

OS-9A

**Statistical Methods III**

13:20 – 14:50

Chair

TBA

Venue

*Champion Room*

13:20

**Gametic Phasing Leading to Detection and Correction of Mendelian Errors (T)**

- **Emmanuel Sapin** (University of Colorado Boulder), Matthew C. Keller (University of Colorado Boulder)

13:35

**Mendelian imputation of parental genotypes improves estimates of direct genetic effects**

- **Junming Guan** (UCLA Anderson School of Management), Seyed Moeen Nehzati (UCLA), Stefania Benonisdottir (University of Oxford), Aysu Okbay (Vrije Universiteit Amsterdam), Hariharan Jayashankar (National Bureau of Economic Research), Chanwook Lee (Harvard University), David Cesarini (National Bureau of Economic Research, New York University), Daniel J. Benjamin (UCLA, National Bureau of Economic Research), Patrick Turley (University of Southern California), Augustine Kong (University of Oxford), Alexander I. Young (UCLA Anderson School of Management)

13:50

**Are there causal effects of genetic population structure? Evidence from family analyses**

- Ramina Sotoudeh (University of Oxford), **Sam Trejo** (Princeton University), Arbel Harpak (University of Texas at Austin), Dalton Conley (Princeton University)



14:05            **\*\* Matching methods simultaneously reduce bias and increase power in diverse-ancestry GWAS**  
➤        **Tami Gjorgjieva** (National Bureau of Economic Research), Jonathan Jala (UCLA), Daniel J. Benjamin (National Bureau of Economic Research, UCLA), Patrick Turley (University of Southern California)

14:20            **Methods for transferring polygenic signals between species**  
➤        **Abraham A. Palmer** (University of California San Diego)

14:35            **\*\* Leveraging the China Family Panel Study: An Estimation of Height Using Preliminary Kinship Links**  
➤        **Xuanyu Lyu** (Wake Forest University), S. Mason Garrison (Wake Forest University)

**Saturday            OS-9B            Subjective Experiences**

13:20 – 14:50      Chair            TBA  
Venue            *Victory Room*

13:20            **Using item response theory modeling to address psychometric issues in genetic findings for happiness, satisfaction with life, and social support**  
➤        **Dirk H.M. Pelt** (Vrije Universiteit Amsterdam, Amsterdam University Medical Center), Inga Schwabe (Tilburg University), Meike Bartels (Vrije Universiteit Amsterdam)

13:35            **Longer education and aspects of well-being, mental, and physical health: Causal or non-causal associations? (T)**  
➤        **Margot P. van de Weijer** (Vrije Universiteit Amsterdam, Amsterdam University Medical Centres), Perline A. Demange (Vrije Universiteit Amsterdam, Amsterdam University Medical Centres), Dirk H.M. Pelt (Vrije Universiteit Amsterdam, Amsterdam University Medical Centres), Meike Bartels (Vrije Universiteit Amsterdam, Amsterdam University Medical Centres), Michel G. Nivard (Vrije Universiteit Amsterdam, Amsterdam University Medical Centres)

13:50            **Distinguishing Between Well-being and Resilience: a GWAS-by-subtraction study in the UK Biobank (T)**  
➤        **Lianne P. de Vries** (Vrije Universiteit Amsterdam, Amsterdam University Medical Centres), Perline A. Demange (Vrije Universiteit Amsterdam, Amsterdam University Medical Centres),

Dirk H.M. Pelt (Vrije Universiteit Amsterdam, Amsterdam University Medical Centres), Christiaan H. Vinkers (Amsterdam UMC), Michel G. Nivard (Vrije Universiteit Amsterdam, Amsterdam University Medical Centres), Meike Bartels (Vrije Universiteit Amsterdam, Amsterdam University Medical Centres)

14:05

**Exploring the Genetics of Individual Differences in Rhythmic Perception and Musical Engagement in the Vanderbilt Online Musicality Study**

- Daniel E. Gustavson (Vanderbilt University Medical Center), **Peyton L. Coleman** (Vanderbilt University Medical Center), Youjia Wang (Vanderbilt University Medical Center, University of Illinois at Chicago), Rachana Nitin (Vanderbilt University Medical Center), Lauren E. Petty (Vanderbilt University Medical Center), Catherine T. Bush (Vanderbilt University Medical Center), Miriam A. Mosing (Karolinska Institutet, Max Planck Institute for Empirical Aesthetics, University of Melbourne), Laura W. Wesseldijk (Karolinska Institutet, Max Planck Institute for Empirical Aesthetics, University of Melbourne, University of Amsterdam), Fredrik Ullén (Karolinska Institutet, Max Planck Institute for Empirical Aesthetics), 23andMe Research Team, Jennifer E. Below (Vanderbilt University Medical Center), Nancy J. Cox (Vanderbilt University Medical Center), Reyna L. Gordon (Vanderbilt University)

14:20

**Genetic modulators of neural encoding of pitch: an electrophysiological and behavioral study**

- **Marc Via** (Universitat de Barcelona, Institut de Recerca Sant Joan de Déu), Giannina A. Puddu-Gallardo (Universitat de Barcelona), Daniela Zanetti (Universitat de Barcelona), Natàlia Gorina-Careta (Institut de Recerca Sant Joan de Déu), Carles Escera (Universitat de Barcelona, Institut de Recerca Sant Joan de Déu), Inmaculada C. Clemente (Universitat de Barcelona, Institut de Recerca Sant Joan de Déu)

14:35

**The etiology of beliefs about free will and determinism in adoptive and biological families (T)**

- **Emily A. Willoughby** (University of Minnesota), Matt McGue (University of Minnesota), William G. Iacono (University of Minnesota), James J. Lee (University of Minnesota), Alan C. Love (University of Minnesota)

14:50 – 15:05

Tea/Coffee Break

Saturday	OS-10A	<b>Mental Health III</b>
15:05 – 16:05	Chair	TBA
	Venue	<i>Champion Room</i>
15:05	<b>Investigating Common Aetiology Underlying Childhood Appetite And Eating Disorder Symptoms In Adolescence</b>	
	<ul style="list-style-type: none"> <li>➤ <b>Zeynep Nas</b> (University College London), Alice Kininmonth (University College London), Andrea D. Smith (University of Cambridge), Janet Treasure (Maudsley Hospital), Clare H. Llewellyn (University College London)</li> </ul>	
15:20	<b>**Associations between Polygenic Scores for Alcohol Consumption, Disorder, and Post Traumatic Stress Disorder sub-domains with Post Traumatic Stress and Depression Severity in the Context of Trauma in an African American Sample</b>	
	<ul style="list-style-type: none"> <li>➤ <b>Chelsie E. Benca-Bachman</b> (Emory University), Whitney L. Barfield (Emory University), Rameez A. Syed (Emory University), Samantha G. Cassidy (Emory University), Seyma Katrinli (Emory University), Alicia K. Smith (Emory University), Abigail Powers (Emory University), Yara Mekawi (University of Louisville), Rohan H.C. Palmer (Emory University)</li> </ul>	
15:35	<b>Intergenerational Transmission of Psychopathology: An Examination of Symptom Severity and Directionality</b>	
	<ul style="list-style-type: none"> <li>➤ <b>Kristine Marceau</b> (Purdue University), Li (Hazel) Yu (Purdue University), Valerie S. Knopik (Purdue University), Jody M. Ganiban (George Washington University), Jenae M. Neiderhiser (Pennsylvania State University)</li> </ul>	
15:50	<b>Developing Genomic SEM to identify sex differences in the multivariate genetic architecture of psychiatric disorders</b>	
	<ul style="list-style-type: none"> <li>➤ <b>Ted Schwaba</b> (University of Texas at Austin), Andrew D. Grotzinger (University of Colorado Boulder), Michel G. Nivard (Vrije Universiteit), Lea K. Davis (Vanderbilt University Medical Center), Elliot M. Tucker-Drob (University of Texas at Austin)</li> </ul>	
Saturday	OS-10B	<b>Diversification</b>
15:05 – 16:05	Chair	TBA
	Venue	<i>Victory Room</i>

- 15:05      **\*\*The Effect of Education on the Relationship between Genetics, Early-Life Disadvantages, and Later-Life SES**
- **Silvia H. Barcellos** (University of Southern California), Leandro S. Carvalho (University of Southern California), Patrick Turley (University of Southern California)
- 15:20      **Intention among Americans to use genetic reproductive technologies to increase offspring educational attainment even modestly is substantial, higher among those who already have higher educational attainment, and subject to a modest bandwagon effect**
- **Tammy Tan** (National Bureau of Economic Research), Michelle Meyer (Center for Translational Bioethics and Health Care Policy), Daniel Benjamin (University of California, Los Angeles, Los Angeles), Patrick Turley (University of Southern California), David Laibson (Harvard University)
- 15:35      **\*\*Diversifying the Behavior Genetic Pipeline: Pathways and Strategies for Incorporating Undergraduate Students**
- **S. Mason Garrison** (Wake Forest University)
- 15:50      **Laypeople overestimate the predictive power of polygenic scores but do not view them as any more anxiety-producing than other scores for the same trait**
- **Michelle N. Meyer** (Geisinger Health System, Geisinger Commonwealth School of Medicine), Tami Gjorgjieva (Geisinger Health System, National Bureau of Economic Research), Christopher F. Chabris (Geisinger Commonwealth School of Medicine)
- Saturday  
16:05 – 17:05      **Executive Committee Meeting II**  
Chaired by Greg Carey  
Venue
- Saturday  
18:30 – 19:30      **Reception**  
Venue                      *Natural History Museum*
- Saturday  
19:30 – 21:30      **Banquet**  
Venue                      *Natural History Museum*