

## Neurodevelopmental Disorders Annual Seminar 2023

Gloria Yoshkova, a first-year PhD student and a member of the CoGDev Lab, shares an overview of the Neurodevelopmental Disorders Annual Seminar (NDAS) that took place on the 16<sup>th</sup> of June 2023. Gloria and colleagues from the CogDev Lab were among the presenters at the event.

This year's Neurodevelopmental Disorders Annual Seminar (NDAS) took place in picturesque Egham, where Royal Holloway University of London hosted visitors from around the UK and abroad. Early career and established researchers joined the event for an exciting day of poster presentations and inspiring talks. With a keynote speaker, the developmental cognitive neuroscientist Saloni Krishnan, 26 oral presenters, and 20 research posters, the seminar offered numerous insights into contemporary tools and methods to study neurodevelopmental conditions.



*The scenic campus of Royal Holloway, University of London, where NDAS 2023 took place.*

The University of Surrey and the Cognition, Genes and Developmental Variability (CoGDev) Lab were represented at the event by Professor Emily Farran – one of the founders of NDAS and director of the CogDev Lab, Lauren Jenner and Dr Ishita Chowdhury who delivered outstanding talks, and Gloria Yoshkova and Christina Soderberg who presented posters about their research plans. Read below to find out more about their work and the highlights of NDAS 2023.

After a warm welcome from the organisers and hosts of the event, two parallel sessions of oral presentations took place. Professor Chris Jarrold chaired the talks on Executive Function, while Dr Kate Theodore chaired the session themed Mental Health. Dr Silvana Mareva, a researcher from the University of Cambridge, opened the Executive Function session with an exciting talk about mapping executive function (EF) profiles in neurodevelopmental diversity. Her recent research suggests that three profiles of executive functioning can be differentiated in neurodivergent children as well as differences in their neural white matter organisation. Her talk was followed by Dr Katherine Laverty who utilised a novel developmentally appropriate method to study the executive function of autistic children with co-occurring intellectual disability. Dr Laverty and her team asked parents and caregivers to deliver a battery of EF tasks to their children in their own homes, while they guided them in real time through Bluetooth headphones. The session was closed by Victoria Hulks who spoke about the importance of perceived parental self-efficacy and its impact on caregivers of neurodivergent children. Victoria is currently working on developing an appropriate measure of self-efficacy by studying the experiences of neurodivergent families.

Meanwhile, in the session themed Mental Health, Kayla Smith presented her recent findings suggesting that in people with Fragile X Syndrome, autism characteristics such as sensory sensitivities and intolerance of uncertainty, were associated with an increased likelihood of anxiety. Harriet Housby touched on another important subject, the mental health of parents and caregivers and how the support available to families can impact psychological well-being. She found that the amount of support parents accessed, significantly predicted their mental health. Contrary to their expectations, parents who reported greater perceived support also experienced more mental health difficulties. However, after controlling for child characteristics, difficulties and deprivation, this association was no longer significant, suggesting that multiple factors contribute to caregivers' mental health.



*The spectacular Founder's Building at the heart of Royal Holloway, University of London campus where NDAS 2023 took place.*

The second block of talks addressed the themes of Language and Communication, chaired by Professor Lucy Henry, and Measures and Interventions chaired by Dr Gemma Northam. The first session provided valuable insights into the pragmatic skills of adults with Down Syndrome by Elisa Mattiauda, the patterns in which children with Down Syndrome interact with their parents from an eye-tracking study led by Hana D'Souza, and the importance of reading enjoyment in adults with dyslexia for engagement and text comprehension presented by Dr Amrita Bains.

In the parallel session on Measures and Interventions, Victoria Castle from the University of Oxford spoke about developing an observational parent-child interaction measure that includes neurodiversity. In a series of workshops with parents and research experts, Victoria and her team identified the importance of flexibility within a coding scheme, the need for a setting that does not elicit stress in the child, and the importance of assessing responsive parenting.

After a well-deserved lunch break, and a chance to meet other researchers and experts in the field, the visitors of NDAS 2023 made their way to the poster presentation hall. Across two poster sessions, researchers shared findings on various aspects of neurodevelopmental conditions. From the 20 brilliant posters, we learned about attention to detail and its importance for sentence comprehension (Aimee O'Shea), motor milestones and their association with motor skills (Aislinn Bowler), executive function profiles of pre-term children (Raj Seraya), the effects of physical exercise on problem-solving (Christina Soderberg), and how sensory stimulation impacts infants' sleep.



*Christina Soderberg from Birkbeck, University of London and the CogDev Lab presented her planned research on the effect of physical activity on problem-solving and neural connectivity in ADHD.*



*Gloria Yoshkova from the University of Surrey and the CogDev Lab presented her planned research on motor development in Williams Syndrome*

Among the poster presenters, was Gloria Yoshkova from the University of Surrey and the CogDev Lab, who shared her exciting ideas and research plans on the motor development of children with Williams Syndrome. Under the supervision of Professor Emily Farran and Dr Jo Moss, Gloria will use motion tracking, machine learning and traditional methods to explore the specifics of motor impairment in Williams Syndrome, and how these relate to other areas of development such as social and cognitive skills.

The final sessions of parallel talks were themed Perception and False Belief, chaired by Professor Emily Farran, and Social Behaviour and Functioning, chaired by Dr Amrita Bains. Professor Farran and Professor Gaia Scerif opened the first session with a talk about the perceptual capacity in autism and ADHD where

findings suggested common everyday experiences of “barrage of information”, “overload”, and “intense focus”. Lauren Jenner from the University of Surrey presented her exciting research on false belief reasoning in Down Syndrome, Prader-Willi Syndrome and Autism. She used traditional tasks alongside novel eye-tracking tasks to measure implicit and explicit false belief functioning across children. Her talk was followed by Dr Ishita Chowdhury, another representative of the University of Surrey, who shared her findings on the role of like-mindedness in deception detection in autistic and neurotypical adults.



*Professor Emily Farran introduces Lauren Jenner who presented her findings on implicit and explicit false-belief reasoning in Down Syndrome, Prader-Willi syndrome, and autism.*

In the parallel session, Dr Carrie Ballantyne from the University of West Scotland spoke about the barriers faced by autistic psychology graduates entering the professional field. Some of these included the disclosure of their diagnosis, application process, and available support. The session was closed by Dr Jeanne Wolstencroft who works towards the development of a picture-based autism screening questionnaire which will hopefully reduce the long waiting lists for autism assessment. The day ended with a talk by the keynote speaker Dr Saloni Krishnan who presented her research on the

neural basis of Developmental Language Disorder and discussed future directions for understanding heterogeneity in the condition.

Unquestionably, NDAS 2023 offered a remarkable variety of talks, poster presentations and discussions on current research methods, challenges and future directions in the study of neurodevelopmental conditions. Do not worry if you missed this year's event – NDAS 2024 is already in the planning. So save the date in your calendars and join us at the University of East Anglia, on 28<sup>th</sup> June 2024 for more exciting research.

We look forward to seeing you next year at NDAS24.