

26 September 2024

UNESCO HQ, ROOM I



# Brain Sciences

## Early Childhood Care & Education 2024 Congress

### Context

[The Tashkent Declaration and Commitments to Action for the Transformation of Early Childhood Care and Education<sup>1</sup>](#), the outcome of the World Conference on Early Childhood Care and Education ([WCECCE](#)), organized by UNESCO in November 2022, marked a decisive step in advancing the early childhood care and education (ECCE) agenda worldwide. The first high-level intergovernmental event in the field of education to be organized after the Transforming Education Summit ([TES](#)), the conference provided a forum for diverse stakeholders to discuss experiences, practices and innovations, as well as challenges and lessons learned arising from the realization of the ECCE agenda at national and international levels, in particular that of [Target 4.2 of the Sustainable Development Goals](#) (SDGs), by which countries committed to ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education by 2030.

Considering that inequalities and disparities in learning and personal development begin early and persist throughout life, it is of utmost importance to redouble our efforts to give all children the opportunity to thrive and flourish to their full potential, to ensure the optimal and holistic development of the foundational skills that are needed for their socialization, well-being, agency and learning.

Achieving these ambitious objectives can benefit, among other things, from recent advances in brain sciences research. Brain sciences can provide a better understanding of the development of these skills in early childhood, the environmental factors that enhance or hinder this development, and the actions that need to be taken to better support this process. The knowledge generated by brain sciences can be harnessed by all those involved in ECCE: policy-makers, parents, international organizations, early childhood professionals and the medical profession. They can contribute to a more profound

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<sup>1</sup> The Tashkent Declaration and Commitments to Action for the Transformation of Early Childhood Care and Education form a set of guiding principles and strategies that focus on four key areas for action: (i) quality, equitable and inclusive ECCE for all; (ii) the ECCE workforce; (iii) innovation to drive transformation forward; and (iv) policy, governance and financing. The document defines action commitments for the transformation of ECCE over the next 10 years. The Tashkent Declaration was unanimously adopted by all participating Member States, who pledged to (i) encourage the provision of at least one year of quality, free and compulsory pre-primary education for all, as well as to progressively increase ECCE provision, (ii) upgrade the mission of ECCE personnel, and (iii) raise ECCE funding to a level sufficient to achieve Target 4.2 of the SDGs, by striving to devote at least 10% of education spending to pre-primary education.

transformation of educational practices, pedagogical approaches and public policies in early childhood, aimed at promoting the well-being and holistic development of young children.

[Doctor James Heckman](#) has demonstrated through his research that 'the highest rate of return in early childhood development comes from investing as early as possible, from birth through age five, in disadvantaged families.'<sup>2</sup> Focusing on the early childhood period is crucial, as transforming education fundamentally begins with transforming early childhood education. Adopting an approach encompassing the cognitive, social, and emotional dimensions of child development and environmental influences is essential to guarantee better learning outcomes and success. Over the past few decades, remarkable progress in neuroscience has significantly advanced approaches to ECCE. Initially, insights were derived from deduction, based on general observations without direct evidence. Today, the field benefits from scientific exploration, utilizing advanced technologies such as brain imaging and powerful computers to conduct experiments and gather precise data. These advances have led to a better understanding of the impact of parental or caregivers' practices on the brain and, ultimately, on the development of a child's skills. From the earliest stages of life, the quality of the environment in which a child grows up has a decisive influence on the trajectory of his or her development.

With this in mind, and in support of the [Global Coalition for Education](#), launched by UNESCO, the Babilou Family Foundation is organizing the **International Congress on Brain Sciences, Early Childhood Care and Education**, a flagship event bringing together leading researchers, decision maker and practitioners. More specifically, neuroscientists, developmental psychologists and education experts will engage in discussions aimed at optimizing educational approaches for early childhood.

## Objective

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This international congress will provide an opportunity to present research findings on early childhood development and learning, and to encourage dialogue between researchers, education policymakers and practitioners on the practical implications of the research. Several research questions will be addressed:

- How can neuroscience findings inform policies for investment in early childhood to maximize return in a lifelong learning perspective, highlighting the crucial importance of the early years of development?
- How does the early organization of the brain enable young children to think and learn and interact, and how is this organization shaped by the child environment?
- How do inequalities in early childhood development and learning come about, and how can they be reduced?
- What factors contribute to disparities in early childhood development and learning, and what strategies can be implemented to mitigate them?

## Structuring and framing the congress

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The interplay between neuroscience and early childhood education is at the heart of the congress. Following the keynote address by Doctor James Heckman, the event will unfold through three round tables. These will explore the interaction and connection between academic research, its practical application and ECCE policies. They will bring together researchers in early childhood development, parents, professionals from the sector, international bodies and policy-makers. Discussions will aim to deepen understanding of the integration of research into policies, practices and actions, assessing their impact and outcomes, as well as the difficulties and challenges that arise from this integration. This

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<sup>2</sup> Heckman, J. J. (2006). 'Skill Formation and the Economics of Investing in Disadvantaged Children.' *Science*, 312(5782), 1900-1902.

Congress is designed to link scientific advances with their concrete application, highlighting ways to strengthen ECCE on a global scale.

## 1. Inaugural speech

This keynote address will present the influential work in economics by Doctor James Heckman, which has shown the importance of quality education from the earliest age in improving the chances of personal and professional fulfilment for individuals and their children, and in breaking the cycle of poverty.

## 2. The round tables

Recent advances in brain science offer a major insight into this work, as they provide a better understanding of the importance of early skills development for individual growth and fulfilment. This insight will be illustrated during three round table discussions featuring current research on early childhood development and learning.

### Round table 1: Understanding how young children think and learn

Coordinated by [Doctor Ghislaine Dehaene-Lambertz](#), this round table discussion will present recent advances in brain development, providing a better understanding of how the brain of the young child, although immature, is already organized to learn quickly and efficiently.<sup>3</sup> This research has revealed the multiple skills that children develop very early on in many areas (language, social, emotional, cognitive...)<sup>4</sup> and how the organization of their brain evolves during development to enable the acquisition of new skills based on these early skills.

Another important insight provided by brain sciences is the understanding that brain development and cognition result from an interaction between genetic and environmental factors, and that **the environment has a major influence on different levels of brain organization and development.**<sup>4</sup>

Children's interactions with their environment provide the experiences they need to organize their brains and acquire new skills. Early childhood is considered a sensitive period in a child's development and learning because it is marked by a major reorganization of the brain, known as cerebral plasticity, in response to the child's experiences. A large body of research shows the extent to which providing a secure, enriched environment in early childhood (in terms of socio-emotional reassurance, as well as cognitive and language stimulation) consolidates children's skills in these different areas. The importance of the child's social environment must be stressed here, as the quality of the child's interactions with those around him is decisive for his language, social-emotional and cognitive development.

### Round table 2: Reducing inequalities in development and learning: contributions from the brain sciences

With [Doctor Grégoire Borst](#), the second-round table will focus on a major socio-educational issue today: inequalities in development and learning.

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<sup>3</sup> Dehaene-Lambertz G, S Dehaene, S and Hertz-Pannier L. 2002. Functional neuroimaging of speech perception in infants. *Science* 298 (5600), 2013-2015

<sup>4</sup> Spelke, E. 2022. *What Babies Know*. Oxford University press

Cerebral plasticity in early childhood explains the brain's great vulnerability when confronted with risk factors. Research has revealed the effects of early experiences of adversity, as well as those linked to pollution or malnutrition, on brain function and structuring, with an increased risk of cognitive and health difficulties that can be observed well into adulthood.

Knowledge of early childhood brain development and learning is used to enhance the effectiveness of ECCE. For example, interventions based on these advances are being developed with young children in vulnerable situations to promote the development of their socio-emotional, cognitive and language skills, as well as their basic mathematical and reading skills.

### **Round table 3: Developing socio-emotional skills: the importance of executive functions.**

Finally, the last round table, chaired by [Doctor Adele Diamond](#), will focus on the cognitive abilities that play a major role in children's development and learning. Indeed, another contribution of Doctor James Heckman's work is to have highlighted the fundamental importance of young children's socio-emotional development for their academic success, health and socialization. Research into the brain and cognition has revealed the crucial importance of certain cognitive abilities, known as executive functions, in this development.<sup>5</sup> Executive functions are involved in the regulation of actions, thoughts and emotions. These functions enable children to better manage their emotions, follow instructions and demonstrate patience. They are the subject of a great deal of research in young children, because they are crucial both to the child's socio-emotional development and to his or her maturity and learning at school.

Children with poorer executive functioning are more likely to fall behind when they start school.<sup>6</sup> It is therefore important to help children fully develop their executive functions from early childhood. This is all the more crucial for children confronted with early experiences of adversity, given the accumulating evidence showing the deleterious effects of such experiences on the development of executive functions.

## **3. Discussions**

### **➤ What are the implications for parents, ECCE professionals and public policy?**

Research into brain development is helping us to understand why early childhood a crucial period for the development of the skills is needed for individual growth and fulfilment.

A first concrete implication of this research is that ECCE practitioners need to be trained in these scientific advances, so that educational practices, pedagogies and public policies take greater account of the way young children develop and learn, and the need to support the development of children's skills in all areas (language, cognitive, socio-emotional...).

This knowledge can also contribute to the current debate on the use of screens, with a key message being that this use must not be to the detriment of children's interactions with their environment, given the essential role these interactions play in their development.

Another major implication is that the most vulnerable families must be supported in their efforts to provide a sufficiently rich and secure environment for young children's development and learning.

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<sup>5</sup> Diamond, A. 2013. Executive functions. *The Annu Rev Psychol* ;64:135-68.

<sup>6</sup> Blair, C. 2002. School readiness. Integrating cognition and emotion in a neurobiological conceptualization of children's functioning at school entry. *Am Psychol*. 57(2):111-27. doi: 10.1037//0003-066x.57.2.111.

As a general rule, taking into account knowledge of brain and cognitive development to further transform educational practices and pedagogies must be accompanied by interventional research to develop, implement and evaluate interventions derived from this research, in a collaborative approach involving researchers and ECCE professionals. Such research is necessary to assess the effectiveness of these interventions on young children's development and learning, but it is also important to adapt them, if necessary, to the cultural, traditional and local specificities of the child's different learning contexts.

### ➤ **Interaction between experts, practitioners and researchers**

This conference highlights the crucial importance of establishing dialogue and building bridges between the fields of neuroscience research and early childhood education: although they are sometimes far apart, they both aspire to make their specific and unique languages accessible to all those involved. To meet this challenge, a committee of field experts has been formed to facilitate the practical application of the research presented. This committee will intervene at the end of each round table and will be made up of representatives of development agencies active in the field, parents, experienced practitioners, young post-docs, programme managers and political decision-makers.

During the roundtables, a panel of researchers will share their most recent findings, which will then be explored in greater depth following a series of questions and contributions from policy-makers and experts in the field who manage the operational dimension of the issues tackled on a daily basis. The latter will stimulate discussion on the imperative need to connect science to public policy, investment to practical situations. The aim is to structure an effective dialogue between researchers and policy-makers, to set up a simplified information-sharing system while preserving scientific rigour, and to encourage a solid partnership between the various care structures, family support and the training of early childhood professionals. This approach aims to create a link between scientific advances and their application in the field, underlining the crucial importance of collaboration between researchers and educators for the development and well-being of early childhood.

## Participants

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The congress will bring together a diverse range of 1,000 face-to-face participants, reflecting the multidisciplinary importance of this event. Among them will be:

- **Representatives of UNESCO Member States** will strengthen political commitment, share best practices, and collaborate on implementing policies that support early childhood care and education worldwide.
- **Influential personalities** for messages and advocacy purpose.
- **Researchers and panellists** will advance knowledge and provide a unique opportunity for participants to learn and apply up-to-date scientific data to a variety of educational and developmental contexts by sharing their research.
- **Technical and financial partners'** participation will enable them to better understand the challenges and needs of the ECCE field, to direct their support more effectively, and to forge strategic partnerships with other key players.
- **Early childhood professionals and students** will bring practical perspectives, sharing field experiences and benefiting from interactions with experts to enhance their professional skills and expertise.
- **Parents and future parents'** participation will help them understand the importance of their role in child development and exchange views on best practices and common challenges.

- **Media and journalists** will raise public awareness on the importance of early childhood education and the scientific advances influencing policies and practices worldwide by covering the event. These participants will strengthen political commitment, share best practices, and collaborate on implementing policies that support early childhood care and education worldwide.

## Logistics

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- **Format:** The conference will be held in person and then broadcast on the UNESCO and Babilou YouTube channels.
- **Participation:** Personalized invitations will be sent by UNESCO's Assistant Director-General for Education to eminent personalities, partners and researchers. Other invitations will be sent by participant category and relayed by UNESCO and Babilou.
- **Pre-registration:** Pre-registration is exclusively online via the congress website. Once validated, participants will be invited to complete the formalities for obtaining a badge with a QR code. Pre-register here: <https://www.unesco.org/en/articles/international-congress-brain-sciences-early-childhood-care-and-education>
- **Languages:** Simultaneous interpretation will be provided in English, French and Spanish.
- **Venue :** 7, Place de Fontenoy, UNESCO Paris, Auditorium room 1.

## Agenda

**8:00 – 9:30**

### **Welcoming guests and coffee reception**

Venue: 7 place de Fontenoy, hall in front of the auditorium (room 1)

**9:30 - 11:00**

### **Opening session**

Location: Room 1

#### Speakers:

- Leadership UNESCO
- Leadership Babilou Family Foundation
- Ministers and Special Guests

#### Keynote speech:

- Dr. James Heckman, Professor of Economics at the University of Chicago, and Nobel Laureate in Economics

**11:00 - 12:45**

### **Round table 1: Understanding how young children think and learn.**

Location: Room 1

#### Moderator:

- Dr. Ghislaine Dehaene-Lambertz, Director, Neuroimaging Lab CNRS

#### Speakers:

- Dr. Marcela Pena, Pediatrician and Professor of Cognitive Sciences, Pontificia Universidad Católica de Chile
- Dr. Elizabeth Spelke, Professor of Psychology, Harvard University
- Dr. Stephanie Mazza, Professor of Neuropsychology, INSPE, Lyon 1 University

#### Early Childhood Care and Education Expert Group:

- Mr. Vincent Bulan, General Director, Babilou France – France
- Dr. Yufang Ruan, Young researcher in early childhood care and education (ECCE) - the People's Republic of China
- Dr. Patrick Makokoro, President, Nhaka Foundation- Zimbabwe

**12:45 - 14:20**

### **Lunch**

Location: UNESCO Garden (Piazza)

**14:20 – 16:00**

### **Round table 2: Reducing inequalities in development and learning: contributions from the brain sciences.**

Location: Room 1

#### Moderator :

- Dr. Grégoire Borst, Professor, Director of the Child Psychology and Development Laboratory at the University of Paris and senior member of the IUF

#### Speakers:

- Dr. Charles Nelson, Professor of Education and Pediatrics, Harvard University
- Dr. Kathy Hirsh Pasek, Professor of Psychology, Temple University
- Dr. Edward Melhuish, Professor of Developmental Psychology, University of Oxford

#### Early Childhood Care and Education Expert Group :

- Dr. Angela Low, Expert in emotional intelligence and child development – Canada
- Dr. Amina Abubakar, Professor and the Director of the Institute for Human Development at Aga Khan University (AKU) – Kenya

	<ul style="list-style-type: none"> <li>Mrs. Nathalie Casso- Vicarini, President-Founder, Ensemble pour l'Education de la Petite Enfance – France</li> </ul>
<b>16:00 - 17:40</b>	<p><b>Round table 3: Developing socio-emotional skills: the importance of executive functions</b> Location: Room 1</p> <p><i>Moderator:</i></p> <ul style="list-style-type: none"> <li>Dr. Adele Diamond, Professor of Neuroscience, University of British Columbia (UBC) - Vancouver</li> </ul> <p><i>Speakers:</i></p> <ul style="list-style-type: none"> <li>Dr. Jelena Obradović, Professor of Developmental Psychologist, Stanford University</li> <li>Dr. Claire Hughes, Professor of Developmental Psychology, University of Cambridge</li> <li>Dr. Philip Zelazo, Professor of Developmental Psychologist and Neurologist, University of Minnesota</li> </ul> <p><i>Early Childhood Care and Education Expert Group:</i></p> <ul style="list-style-type: none"> <li>Ms. Maria Camilla Londono Aristizabal, PhD. Candidate in Psychology and UNESCO Chair for Inclusive Early Childhood, Université du Québec à Trois-Rivières</li> <li>Dr. Sirene Lim, Associate Professor - Singapore</li> <li>Ms. Alyssa Blask Campbell, CEO of Seed &amp; Sew – United States of America</li> </ul>
<b>17:40 - 18:20</b>	<p><b>Plenary: Research implications for policies and strategies</b></p> <p><i>Moderator</i></p> <ul style="list-style-type: none"> <li>Mr. Borhene Chakroun, Director, Division for Lifelong Learning Policies and Systems, UNESCO</li> </ul> <p><i>Interventions</i></p> <ul style="list-style-type: none"> <li>High-level policy decision makers (Ministers and Mayors)</li> <li>High-level Expert in implementing ECCE related programmes (Training Institution, Curriculum development)</li> <li>Partners</li> </ul>
<b>18:20-18:30</b>	<p><b>Closing</b> UNESCO &amp; Babilou Family Foundation</p>
<b>18:30 - 20:00</b>	<p><b>Cocktail – Piazza</b></p>



**Plenary session:** Dr. James Heckman, Professor of Economics at the University of Chicago, and Nobel Laureate in Economics

### Round table 1: Understanding how young children think and learn

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#### Moderator

Dr. Ghislaine Dehaene-Lambertz, Research Director, CNRS

#### Round table objectives

This round table will present recent advances in brain development and learning in very young children. In recent years, the rapid development of brain imaging in young children has led to major advances in our understanding of how the brain is organized and functions in the first few years of life, and how this organization enables the young child to possess many early skills and acquire new ones. A remarkable example is language acquisition, where we now have a better understanding of how the child develops numerous language skills from the very first years of life. Research also shows the fundamental importance of sleep for the reorganization of the brain during development, and its influence on children's learning. Advances in knowledge about the development and learning of very young children can play a major role in developing innovations to promote the development of children's early skills. Four researchers will present their current research on brain imaging of the very young child, early skills, language development, the role of sleep in early development and learning, and innovations based on this knowledge.

#### Speakers

- **Dr. Ghislaine Dehaene-Lambertz** (Professor and Director of Research at CNRS, Université Paris-Saclay): Brain imaging of the very young.
- **Dr. Marcela Pena** (Professor of Cognitive Psychology, Pontificia Universidad Católica de Chile): Language development in the first years of life and the value of tablets to support vocabulary.
- **Dr. Elisabeth Spelke** (Professor of Cognitive Psychology, Harvard University): The precocious skills of the very young child and how to support them.
- **Dr. Stephanie Mazza** (Professor of Neuropsychology, University of Lyon): The importance of sleep for brain development and learning.

#### Early Childhood Care and Education Expert Group

A group focused on the synergy between research and practice is set up for each round table. The intervenants will reflect as a group on the discussions, and at the end of each round table, offer their perspectives on actions that could be taken in the early education sector based on the round table discussions.

- **Mr. Vincent Bulan**, General Director, Babilou France – France
- **Dr. Yufang Ruan**, Young researcher in early childhood care and education (ECCE) - the People's Republic of China
- **Dr. Patrick Makokoro**, President, Nhaka Foundation- Zimbabwe

## Round table 2: Reducing inequalities in development and learning: contributions from the brain sciences

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### Moderator

Dr. Grégoire Borst, Professor, Director of the Child Psychology and Development Laboratory at the University of Paris and senior member of the IUF

### Round table objectives

This second-round table will focus on inequalities in development and learning linked to differences in the security and enrichment of children's living environments. The challenge is to better understand how the early experiences associated with these contexts affect cerebral and cognitive development, and what innovations can help reduce these developmental inequalities.

### Speakers

- **Dr. Grégoire Borst** (Professor, Director of the Child Psychology and Development Laboratory at the University of Paris and senior member of the IUF)
- **Dr. Charles Nelson** (Professor of Education and Pediatrics, Harvard University): The influences of early adversity on brain development.
- **Dr. Kathy Hirsh-Pasek** (Professor of Psychology, Temple University): How can we transform public spaces to promote early childhood development and learning?
- **Dr. Edward Melhuish** (Professor of Developmental Psychology, University of Oxford): Research on Brain Development: What are the implications for public policy?

### Early Childhood Care and Education Expert Group

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- **Dr. Angela Low**, Expert in emotional intelligence and child development – Canada
- **Dr. Amina Abubakar**, Professor and the Director of the Institute for Human Development at Aga Khan University (AKU)– Kenya
- **Ms. Nathalie Casso- Vicarini**, President-Founder, Ensemble pour l'Education de la Petite Enfance – France

## Round table 3: Developing socio-emotional skills: the importance of executive functions

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### Moderator

Dr. Adele Diamond, Professor of Neuroscience, University of British Columbia, Vancouver

### Round table objectives

This final round table will cover work on the importance of executive functions for early childhood development and learning, the long-term effects of their development in early childhood on the individual's chances of fulfilment and achievement in adulthood, and the various approaches used to support the development of executive functions across different cultures.

## Speakers

- **Dr. Adele Diamond** (Professor of Neuroscience, Columbia University - UK): The development and support of executive functions in early childhood.
- **Dr. Jelena Obradović** (Professor of Developmental Psychology, Stanford University): The development of executive functions and their support across different cultures.
- **Dr. Claire Hughes** (Professor of Developmental Psychology, University of Cambridge): The Role of Parents in the Development of Executive Functions.
- **Dr. Philip Zelazo** (Professor of Developmental Psychology and Neurologist, University of Minnesota): Supporting the development of executive functions in early childhood.

## Early Childhood Care and Education Expert Group

A group focused on the synergy between research and practice is set up for each round table. The intervenants will reflect as a group on the discussions, and at the end of each round table, offer their perspectives on actions that could be taken in the early education sector based on the round table discussions.

- **Dr. Maria Camilla Londono Aristizabal**, PhD. Candidate in Psychology and UNESCO Chair for Inclusive Early Childhood, Université du Québec à Trois-Rivières
- **Dr. Sirene Lim**, Associate Professor - Singapore
- **Ms. Alyssa Blask Campbell**, CEO of Seed & Sew – United States of America

### Under the leadership of



**Ms. Stefania Giannini, Assistant Director-General for Education, UNESCO**

Ms Stefania Giannini was appointed UNESCO Assistant Director-General for Education in May 2018, becoming the top UN official in the field. As Senator of the Republic of Italy (2013 – 2018) and Minister of Education, Universities and Research (2014 – 2016), she developed and implemented a structural reform of the Italian education system, centred on social inclusion and cultural awareness.



**Mr. Xavier Ouvrard, CEO, Babilou Family Foundation**

Mr Xavier Ouvrard was appointed Chief Executive Officer of the Babilou Group in 2017 and Chairman and Chief Executive Officer of Babilou Family in 2020. A graduate of IEP Paris and HEC, Xavier is an expert in the education and early childhood sector. He supported the transformation and the development of Babilou alongside the founders Rodolphe and Edouard Carle. His main aim is to promote the educational revolution brought about by neuroscience in the 21st century and to develop a responsible and sustainable managerial model. This is the spirit of 'sustainable education,' in service of the children cared for in all of the group's nurseries.



**Ms. Sridevi Raghavan, Co-President, Babilou Family Foundation**

Ms Sridevi Raghavan is an MBA graduate of Harvard Business School. During her MBA, she presented the idea of India's first company nurseries at the HBS Annual Business Plan competition and securing seed funding for her entrepreneurial idea from HBS alumni. Sridevi returned to India after graduation to launch Amelio, which became among the largest nursery networks in India with over 30 nurseries across Chennai, Bangalore and Hyderabad. After selling her chain of Amelio nurseries to the Babilou Family Group in 2018, Sridevi joined the Executive Board in 2020 and became the Senior VP in charge of global Education, Quality, and Sustainable Development. In India, she is well-known as an engaged entrepreneur. She is considered an expert in education and regularly speaks at early childhood conferences and symposia around the world.



**Mr. Borhene Chakroun, Director Lifelong Learning Systems, UNESCO**

Mr. Borhene Chakroun is Director of Policies and Lifelong Learning Systems Division at UNESCO Headquarters. He has conducted policy reviews and skills systems diagnosis in different contexts and has written articles and books in the field of skills development and lifelong learning. Recently he has focused on global trends in reforming education and training systems as well as the global agenda for skills development in the context of the 2030 Sustainable Development Agenda. An engineer with a Ph.D. in Education Sciences from Bourgogne University in France, he has worked as a trainer, chief trainer, and project manager. He has also worked as a consultant for the EU, World Bank and other international organizations before joining the European Training Foundation (ETF) in 2001.

## Keynote Speaker



### **Dr. James Heckman, Professor of Economics, Nobel-Prize Winning Economist**

Dr. James J. Heckman is the Henry Schultz Distinguished Service Professor of Economics at the University of Chicago, a Nobel Memorial Prizewinner in economics and an expert in the economics of human development. Through the university's Center for the Economics of Human Development, he has conducted groundbreaking work with a consortium of economists, developmental psychologists, sociologists, statisticians and neuroscientists showing that quality early childhood development heavily influences health, economic and social outcomes for individuals and society at large. Heckman has shown that there are great economic gains to be had by investing in early childhood development. [Read more.](#)

## Round table 1

### Moderator



### **Dr. Ghislaine Dehaene, Professor and Director, Neuroimaging Lab CNRS**

Pediatrician, director of the Robert Debré Child Brain Institute (Paris, France) and the developmental brain imaging lab, Prof. Ghislaine Dehaene-Lambertz and her team investigate the development of cognitive functions in infants and children using brain imaging techniques. Their goal is to understand how complex cognitive functions, such as language, music, mathematics, etc... emerge in the human brain, thanks to a thorough description of the brain's initial structural and functional organization. She also studies how school education builds on this pre-existing organization but also transforms it, to enable new skills such as reading for example. She is the recipient of several national and international awards (Prix Justine and Yves Sergent 2013, Grand Prix Scientifique de la Fondation de France, 2015, et NRJ-Institut de France, 2016, Médaille d'argent du CNRS, 2018). She was elected as foreign member of the US National Academy of Sciences (2022). With colleagues, she has published a book on language for a general audience '*La plus belle histoire du langage,*' and a book for general practitioners on how to understand and monitor child's developmental disorders in primary care '*Les troubles dys avant 7 ans: Les clés pour comprendre et assurer le suivi en médecine de ville*'.

### Speakers



### **Dr. Elizabeth Spelke, Harvard Psychology Department, Professor of Psychology, Harvard University**

Dr Elizabeth Spelke is involved in the work of the Center for Brains, Minds, and Machines at the Massachusetts Institute of Technology and has previously taught at the University of Pennsylvania and Cornell University. Her research focuses on the sources of human-specific cognitive abilities, such as mathematical abilities, symbol construction and use, and object taxonomy. She investigates the origins of these abilities through behavioural studies on infants and young children, exploring the development of their understanding of objects, actions, people, places, numbers, and geometric shapes in their environment.



**Dr. Marcela Peña, MD, Pediatrician and Professor of Cognitive Science, Pontificia Universidad Católica de Chile**

Dr. Marcela Peña is MD, pediatrician and obtained her Ph.D. in Cognitive Science and Psycholinguistics from the École des Hautes Études en Sciences Sociales in Paris, France. Presently, she holds the position of Full Professor at the School of Psychology at the Pontificia Universidad Católica de Chile, where she leads the Laboratory of Cognitive Neuroscience. Additionally, Dr Peña serves as the Scientific Director at the National Center of Artificial Intelligence in Chile. Dr Peña has been affiliated to several multidisciplinary initiatives aimed at protecting and promoting learning skills when children develop in adverse contexts. For instance, she is a member of the UNESCO Chair of Science for Education, entitled 'Building a Bridge between Laboratory and Classroom', operating under the leadership of Professor Roberto Lent in Brazil, she contributes as an invited researcher within the J-Pal network, and is an active member of the UBC Language Sciences group in Canada. Dr Peña's research is centred on early cognitive development and early learning, employing a multidisciplinary approach that integrates behavioural and neuroimaging techniques. Her investigations delve into how infants and young children, both those typically developing and with atypical development, acquire language, learn from their environment, and develop foundational cognitive skills crucial for their education and well-being. More recently, Dr Peña and her team have been engaged in designing tablet-based interventions aimed at promoting linguistic and communicative abilities among pre-school aged children, as innovative tools to support the activity of early childhood educators.



**Dr. Stephanie Mazza, Professor of Neuropsychology, INSPE of Lyon 1 University**

Dr. Stephanie Mazza is a member of the Lyon Neuroscience Research Center affiliated with Inserm and Lyon 1 University. She is also a member of the scientific council of the National Institute of Sleep and Vigilance. Her work aims to establish a connection between sleep and performance. She is particularly interested in the impact of sleep deprivation on cognitive performance: memory, attention, and stress management. She is leading a research project evaluating the involvement of sleep and its disorders in the learning process of children and adolescents. She has co-developed, with school teachers, a sleep education programme for primary school children.

## Round Table 2

### Moderator



**Dr. Grégoire Borst, Professor, Director of the Child Psychology and Development Laboratory at the University of Paris and senior member of the IUF**

Dr. Grégoire Borst is a full Professor of Developmental Psychology and Educational Cognitive Neuroscience at the University Paris Cité. He is the director of the Child Development and Education Lab (CNRS) at La Sorbonne and a senior member of the Institut Universitaire de France. His work focuses on the role of cognitive control on the cognitive and socio-emotional development of children and adolescents and on learning at school. He has published more than 90 articles and 9 books. He is a visiting scientist at MGIEP (UNESCO) and senior member of the IBE (UNESCO). He is the co-director of the interdisciplinary research network on education and learning of 100 labs and 700 researchers in France. He is also the co-director of the 10-year research programme on the Sciences for Education in France. In 2021, he received the Daignan-Bouveret Prize

from the French Academy of Moral and Political Sciences for his research on the science of learning. In 2023, he became a fellow of the International Science Council.

## Speakers



### **Dr. Charles Nelson, Professor of Education and Pediatrics, Harvard University**

Dr. Charles A. Nelson III, Ph.D., is currently Professor of Pediatrics and Neuroscience and Professor of Psychology in the Department of Psychiatry at Harvard Medical School, and Professor of Education in the Harvard Graduate School of Education. He also holds the Richard David Scott Chair in Pediatric Developmental Medicine Research at Boston Children's Hospital and serves as Director of Research in the Division of Developmental Medicine. His research interests centre on a variety of problems in developmental cognitive neuroscience, including: the development of social perception; developmental trajectories to autism; and the effects of early adversity on brain and behavioural development. He chaired the John D. and Catherine T. MacArthur Foundation Research Network on Early Experience and Brain Development and served on the National Academy of Sciences (NAS) panels that wrote *From Neurons to Neighborhoods*, *New Directions in Child Abuse and Neglect Research*, and currently serves on the panel *The Role of Seafood Consumption in Child Growth and Development*. Among his many honours he has received the Leon Eisenberg award from Harvard Medical School, an honorary Doctorate from Bucharest University (Romania), was a resident fellow at the Rockefeller Foundation Bellagio (Italy) Center, has been elected to the American Academy of Arts and Sciences, the National Academy of Medicine, the British Academy and along with Professors Fox and Zeanah has received the Ruane Prize for Child and Adolescent Psychiatric Research from the Brain & Behavior Research Foundation. In 2021 he received the Klaus J. Jacobs Research Prize and in 2023 he received the Society for Research in Child Development (SRCD) Distinguished Scientific Contributions to Child Development award.



### **Dr. Edward Melhuish, Professor of Developmental Psychology, Oxford University**

Dr. Edward Melhuish is Emeritus Professor of Human Development at the University of Oxford, and Birkbeck, University of London, and Baoyung Foundation Professor of Education at Zhejiang University, China. He is an honorary professor at 4 other universities. He has been involved many research projects spanning over 40 years in several countries. Examples of his projects in the UK include leading the National Evaluation of Sure Start (NESS, 2001-2012), Effective Pre-school Primary and Secondary Education (EPPSE, 1998-2014) and the Study of Early Education and Development (SEED, 2013-2021) projects. He is currently involved with longitudinal studies of several thousand children in England, China and Norway. His studies have contributed to social policy in the UK for families, early years services and education, including universal provision of pre-school for all 3 and 4 year-olds, establishing 3500 Children's Centres, Every Child Matters and 10-Year Childcare strategies, and early education for 2-year-olds for the 40% most disadvantaged children. His work has involved leading multi-disciplinary teams that have investigated issues related to developing policy and practice bearing upon optimising development and well-being for children, families and practitioners. This work has influenced the lives of millions of children. He was awarded the OBE for services to social science in 2016. He has given evidence to parliamentary committees and is an advisor to research councils in Australia, Canada, Chile, Finland, Germany, Korea, Norway, Portugal, the Netherlands and the USA, as well as the European Commission, OECD and WHO.



**Dr. Kathy Hirsh-Pasek, Professor of Psychology, Temple University**

Professor of Psychology at Temple University and a senior fellow at the Brookings Institution, Dr Hirsh-Pasek was declared a 'scientific entrepreneur' by the American Association of Psychology. Having written 14 books and 250+ publications, her Einstein Never Used Flashcards won the Book for a Better Life Award in 2003 with her *Becoming Brilliant* (2016) reaching the New York Times Bestsellers List in education. Co-founder of the global Learning Science Exchange Fellowship, she brings together scientists, journalists, policy-makers and entertainers, to put learning science in the hands of educators. Her newest initiative Playful Learning Landscapes re-imagines cities and public squares as places with science-infused designs that enhance academic and social opportunities.

### Round Table 3

#### Moderator



**Dr. Adele Diamond, Professor of Neuroscience, University British Columbia, Vancouver**

Dr. Adele Diamond is the Canada Research Chair Professor of Developmental Cognitive Neuroscience at University of British Columbia in Vancouver, Canada. A leader in two fields, psychology and neuroscience, Adele cofounded the flourishing interdisciplinary field of 'developmental cognitive neuroscience.' Her speciality is the rigorous study of executive functions especially in children which she has been conducting for over 40 years and which include focused attention, creative problem-solving, self-control, and working memory. Adele studies how executive functions are affected by biological factors (such as genes and neurochemistry) and by environmental ones (e.g. impaired by stress or improved by interventions). Her work has been marked by innovation and crossing disciplinary boundaries. Her discoveries have thrice changed international medical guidelines for the treatment of diseases and have had a significant impact on educational practice worldwide, improving millions of children's lives. Adele is a member of the Royal Society of Canada, was named one of the '2000 Outstanding Women of the 20th Century,' and was listed as one of the 15 most influential neuroscientists alive today. Her other awards include an Award for Lifetime Contributions to Developmental Psychology in the Service of Science and Society plus three honorary doctorates. She has given roughly 600 invited addresses in over 40 countries across 6 continents, including at the White House and to the Dalai Lama. Adele was educated at Swarthmore College (BA, Phi Beta Kappa, in Sociology-Anthropology and Psychology), Harvard University (Ph.D. in Developmental Psychology), and Yale Medical School (Postdoctoral Fellow in Neuroscience).

#### Speakers



**Dr. Claire Hughes, Professor of Developmental Psychology, University of Cambridge**

Dr. Claire Hughes is a Professor of Developmental Psychology at the University of Cambridge. She is a Fellow of Newnham College, and Deputy Head of the Psychology Department. Formerly, Claire worked at the Social, Genetic and Developmental Psychiatry Research Centre, Kings College London, and held a research fellowship at the Fyssen Foundation in Paris, France (Université Paris V). In 2011 she was made a UK 'Woman of the Year' and her book 'Social Understanding, Social Lives' won the British Psychological Society award for Book of the Year 2013. Other books include "Why Siblings Matter", "Executive Function in Childhood" and most recently, "The Psychology of Starting School". Her research applies longitudinal and international designs to examine the interplay between children's social experiences and cognitive development.





**Dr. Jelena Obradović, Professor of Developmental Psychologist, Stanford University**

Dr Jelena Obradović is a Developmental Psychologist, a professor at Stanford University in the Graduate School of Education, and the Associate Director of the Stanford Center on Early Childhood. Her research examines how the interplay of children's physiological stress arousal, executive functions, self-regulatory behaviours, and quality of caregiving and educational environments contributes to their health, learning, and well-being over time. She is leading an international initiative to develop multi-method, multi-informant assessment tools and guidelines to conduct mixed-method studies of how executive function skills and behaviours are expressed and leveraged in different settings to support culturally relevant learning outcomes.



**Dr. Philip Zelazo, Professor of Developmental Psychology and Neurologist, University of Minnesota**

Professor Zelazo studies the development and neural bases of executive function, or the conscious control of thought, action, and emotion. He does so using a variety of approaches, from experimental to cross-cultural to electrophysiological (EEG/ERP), and his work has focused on a number of influential ideas, including the notion that the executive function depends, in part, on the development of the ability to use increasingly complex, higher-order rules (formulated in self-directed speech)—part of the Cognitive Complexity and Control theory; the notion that consciousness develops through a series of 'levels' in which information is reprocessed via thalamo-cortical circuits involving prefrontal cortex (the Levels of Consciousness model)—with consequences for the quality of subjective experience, and the potential for recall, rule complexity, and cognitive control; and the importance of the distinction between more 'cool', cognitive aspects of executive function typically associated with dorsolateral prefrontal cortex (DL-PFC) vs. more 'hot', affective aspects associated with more ventral and medial regions of PFC (e.g. orbitofrontal cortex; OFC)

**Early Childhood Care and Education Experts Group**

**Round Table 1**



**Mr. Vincent Bulan, General Director, Babilou France – France**

Vincent Bulan, a nursery nurse and graduate of the Conservatoire National des Arts et Métiers, has over 20 years' experience in the Early Childhood sector. Now Managing Director of Babilou France, he began his career in the pediatric intensive care unit at Rouen University Hospital and Armand Trousseau Hospital (APHP). In 2006, he was appointed crèche director for the town of Montreuil, then Head of Childcare Quality in 2009, before joining Gazouillis in 2010 as Early Childhood Coordinator. In 2014, he joined Babilou as Management Manager before being promoted to Sector Manager, then Territory Director, Regional Executive Director in Île de France Est to finally become Deputy Managing Director in 2020 and take over as Managing Director of Babilou France in 2021.



**Dr. Patrick Makokoro, President, Nhaka Foundation- Zimbabwe**

Dr. Patrick Makokoro is an early childhood development practitioner, and educational researcher with extensive experience working in community and international development. The work he has carried out includes early childhood development program implementation, early childhood development network establishment in Africa and providing extensive consulting support to international non-profits working in Africa. Among other social entrepreneurship initiatives, he founded the Nhaka Foundation, a charitable organization that provides early childhood development, education, meals, health care, psycho-social support, and other essential services to children in Southern Africa. He is a co-founder of the Africa Early Childhood Network, founder of the Zimbabwe Network for Early Childhood Development Actors (ZINECDA) and convenor of the Southern Africa Network for Early Childhood Development (SANECD). Through the ECDinAfrica, he works with the Africa-focused UNESCO Tri-Chairs in Early Childhood Development. Dr. Patrick Makokoro has books and publications on early childhood development in Africa and continues to write in this area.



**Dr. Yufang Ruan, researcher in early childhood care and education (ECCE)- The People's Republic of China**

Her research concerns young children's language development and developmental disorders, in particular how language environment interacts with their emergent speech and language skills. Recently, she has devoted her efforts to bridging basic science and policy research by contributing to UNESCO's background report for the World Conference on ECCE and the first Global Report on ECCE.

**Round Table 2**



**Dr. Amina Abubakar, Professor and the Director of the Institute for Human Development at Aga Khan University (AKU)- Kenya**

Amina Abubakar is a Professor and the Director of the Institute for Human Development at Aga Khan University (AKU). She is also a Senior Research Scientist at the Kenya Medical Research Institute/Wellcome Trust Research Programme. She is a trained Developmental Psychologist with more than 20 years of research experience working in rural settings in Kenya within multidisciplinary teams. She is interested in both acquired and congenital brain disorders. Specifically, her research interests lie in a) quantifying the neurocognitive burden of early childhood diseases, b) developing culturally appropriate psychological measures for use in SSA and c) identifying culturally appropriate intervention strategies for at-risk children in SSA.. In 2016, she was awarded the Royal Society Pfizer Award in recognition of her pioneering psychological research in East Africa, and for the impact her work has had in the field of neurodevelopmental assessment. She is actively involved in capacity building for African scientists and has supervised PhD students in Kenya, South Africa, Tanzania and Zambia.



**Dr. Angela Low, Expert in emotional intelligence and child development – Canada**

Dr. Angela Low is an expert in emotional intelligence and child development who is committed to promoting resilience and social and emotional competence in children, youth and their families. She is an adjunct professor in the Faculty of Education at the University of British Columbia, and a researcher at Simon Fraser University. She also works with the British Columbia government to develop and implement public mental health programs for children and their families across the province of British Columbia. Her research and practice focus on fostering the mental and emotional competence, resilience and well-being of the adults around children, so they can provide the nurturing environments where children can thrive. Angela's recent research focuses on parents' experiences of shame and guilt in the context of parenting education.



**Mrs. Nathalie Casso- Vicarini, President-Founder, Ensemble pour l'Education de la Petite Enfance – France**

Mrs. Nathalie founded and lead the association Ensemble pour l'Education de la Petite Enfance. She aims to answer new challenges of our society making early childhood a priority to reduce inequalities. With the team, they daily aim at raising awareness about positive communication in education and pedagogy with a strong link with the OECD. Since 20 years, She have been studying and comparing various pedagogic methods in different countries (France, Australia, India...). she also created nurseries for companies in France and abroad and coached parents and professionals of early childhood. She is an advisor both for public and private entities in the sector of early childhood education in order to encourage fair initiatives.



**Dr. Maria Camila Londono Aristizabal, PhD. Candidate in Psychology and UNESCO Chair for Inclusive Early Childhood, Université du Québec à Trois-Rivières**

Dr. Maria holds a bachelor's degree in psychology from Pontificia Universidad Javeriana in Bogotá, Colombia. She is currently Ph.D. candidate in psychology with a focus on family studies at the Université du Québec à Trois-Rivières in Canada. In January 2020, Maria joined the UNESCO Chair in Early Childhood and Inclusive Early Intervention at the Université du Québec à Trois-Rivières as a research assistant. Maria has a strong interest in the development of children's executive functions, including their assessment and intervention strategies. Her research also focuses on early childhood assessment and intervention, as well as preschool education. Throughout her career, Maria has gained extensive professional experience working with children, adolescents, and adults in psychological assessment and intervention. She has also provided support and guidance to educators and supervisory staff in childcare centers, helping them implement inclusive practices in the province of Quebec.



**Dr. Sirene Lim (林美莹), Associate Professor - Singapore**

Dr. Sirene Lim is currently Vice Dean of the S R Nathan School of Human Development and has been key in the creation of the university's full-time undergraduate early childhood education degree programme which is the only such programme in the country's public university system. She has had various educational positions -- as a teacher, a curriculum officer at the Ministry of Education (Singapore), an Assistant Professor at the National Institute of Education, Nanyang Technological University. She contributes towards national committees on curricular and quality aspects of education, and serves on the board of the National Institute of Early Childhood Development. Sirene has enjoyed working with a range of pre-service, in-service, masters and doctoral students; and she balances her academic insights with a realistic view of what teachers face daily in the early childhood sector. Her research interests include early childhood policies, teacher learning and leadership, and play in children's lives. She has published in journals such as *Educational Management Administration and Leadership*, *Contemporary Issues in Early Childhood*, and *International Journal of Inclusive Education*. Her hope is for Singapore to strengthen its early childhood educational research and practice, to develop a cohesive learning community of professionals and academics, for society to embrace inclusivity and rethink narrow definitions of how and what children should learn.

## Partners



**Mrs. Erinna Dia, Associate Director for Early Childhood Development (ECD), UNICEF**

Mrs. Erinna Dia took up her position as Associate Director for Early Childhood Development (ECD) in March 2021.

As the global lead for ECD, she is driven by the desire that all girls and boys get the best start in life through adequate policies, programmes and parenting practices that protect and fulfill the survival, growth and development rights of all children in early life, including in fragile and humanitarian settings.

Dia previously worked as Chief of Education in Burkina Faso, the Democratic Republic of Congo, Yemen, and Afghanistan. With the teams under her leadership, she achieved critical results for children in complex and nonpermissive political and operational environments.

Before joining UNICEF, she held technical positions in the Human Development and Economics departments of the African Development Bank working with Regional Member Countries towards social transformation and growth generation through improved access to education, skills, technology and employment.

Dia holds a PhD in International Education from New York University and an MBA from Lehigh University in the United States.



**H.E. Sana Suhail, Director General, Abu Dhabi Early Childhood Authority**

Her Excellency Sana Suhail is the Director General of Abu Dhabi Early Childhood Authority established in July 2019, her role included the institutional setup and ECD strategy activation, prior to that she held the post of the Undersecretary, at the Ministry of Community Development from 20th April 2016, a federal entity that is responsible of social and community development sector in UAE, primarily developing and delivering policies, programs and services for all segments forming the society in the social context. Prior to that she served at the General Secretariat of UAE Cabinet as Assistant General Secretary – Policy and Communication from July 2013, Her post included directing the sector and its three arms: the Government Policies, the Special Projects and the Government Communication Office. Prior to joining the General Secretariat of the Cabinet, Her Excellency Suhail held several key government positions at federal and local levels. Between 2011 and 2013, she was the Assistant Deputy Minister for Supporting Services at the Ministry of Public Works, where she supervised the ministry's institutional development plans and developed organizational units including the Customer Services Center. Between 2003 and 2010, Her Excellency held the post of the Assistant Secretary General of the Executive Council of the Emirate of Dubai, where she contributed in the initiation and implementation of various projects in the Emirate of Dubai. She worked on developing a government communication system, a sectorial committee-based approach and a pre-planned agenda for Dubai's Executive Council. Additionally, Her Excellency headed the Business Support Unit at The Executive Office of the Dubai Ruler, His Highness Sheikh Mohammed Bin Rashid Al Maktoum and played a key role at the establishment phase as a member of the core team, she led and participated in the launch of several projects.