



 LIVE ASI

THEORY TUESDAYS

CLASI & SOUTHPAW **FREE** WEBINAR SERIES

Shelly Lane

PhD, OTR/L, FAOTA

July 25, 5pm PDT (California time)

NEUROSCIENCE OF PLAY: A CORE ELEMENT OF AYRES SI



SOUTHPAW



CLASI

Welcome

CLASI <https://www.cl-asi.org/>

&

Southpaw Enterprises

<https://www.southpaw.com/>

are pleased to present this monthly webinar series focusing on ASI Theory

Dr. Zoe Mailloux &

Dr. Susanne Smith Roley

are honored to moderate this series, which will discuss **sensory integration foundations** of learning and behavior including the complex neurobiological contributions from basic and applied science

The webinars will be recorded and made available on [cl-asi.org](https://www.cl-asi.org/) & [southpaw.org](https://www.southpaw.org)

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MEET OUR
GUEST



Shelly Lane

PhD, OTR/L, FAOTA



you to our presenter

Dr. Shelly Lane

Dr. Shelly J Lane is Academic Program Director at Colorado State University (CSU), Director of the *Sensory Integration, Play and Occupational Therapy Lab* at CSU, and a Conjoint Professor of Occupational Therapy at the University of Newcastle, Australia. She has engaged in aspects of pediatric occupational therapy practice, education and scholarship for over 45 years. Dr. Lane's research has focused broadly on neuroscience applications in occupational therapy, and development and sensory integration/processing in children. Her recent collaborative research projects include playfulness and interaction in father-child pairs; effectiveness of the Alert Program® with children with autism; sensory processing considerations for sleep in autism; and understanding the neuroscience underlying pediatric occupational therapy interventions. Currently she is collaborating on several projects including parent coaching for children with sensory integration/processing challenges, sleep and sensory integration/processing differences in autistic individuals across the lifespan, sensory processing exacerbations during PANS exacerbations.

Dr. Lane presents both nationally and internationally, has published extensively, and has edited, co-authored and contributed to books addressing issues related to sensory integration and processing, neuroscience applications to practice, and pediatric occupational therapy practice. She is first author on *Kids Can Be Kids*, co-edited with Professor Anita Bundy, and is second author on the 3rd edition of *Sensory Integration: Theory and Practice*, also co-edited with Professor Anita Bundy.



Don't leave!



has generously donated prizes which will be raffled at the end of each webinar...



A glimpse into the neuroscience of play: A core element of ASI

Shelly J Lane, PhD, OTR/L, FAOTA
Colorado State University





Characteristics of play and playfulness



What is play?

- Social interaction and engagement between players
 - Decide what they want to do
 - Develop parameters around which to do it
 - Driven by their own motivation to engage
 - From which players receive some sort of intrinsic reward or positive emotional outcomes

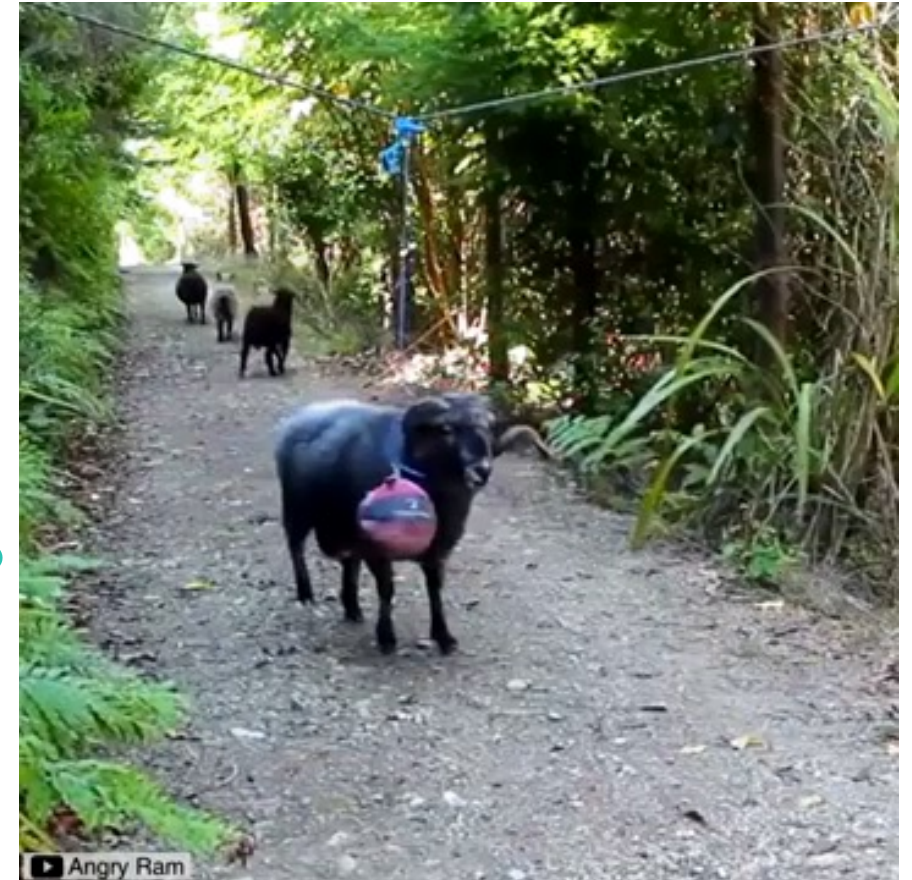
(Burghardt 2005; Bateson & Martin, 2013)

What is the function of play?

From insects to humans, evidence suggests that we all play, yet

- Play expends energy and takes up time
- Play may be distracting in the face of potential danger
- There is always a risk that a player could be injured

Is there an evolutionary or developmental benefit?



How does the brain benefit from play?

- Promote development of behavioral flexibility
(Vanderschuren & Trezza, 2014).
- Support ability to build adaptability and flexibility
(Brown & Vaughan, 2009).
- Acquire skills needed as an adult (Andersen, et al, 2022)





Play is
essential to...

Play has
been linked
to...

- **Social competence and socioemotional intelligence** (Panksepp & Biven, 2012; Siviy & Panksepp, 2011; Van Den Berg et al., 1999)
- **Developing and maintaining social relationships** (Bekoff, 1976)
- **Play may reduce stress and support maintenance of social groups** (Pellis & Pellis, 2009)



- Key to “typical” motor, social, emotional and cognitive development
(Baarendse et al., 2013; Sivi, 2016; Spinka et al., 2001; Van Den Berg et al., 1999a; Vanderschuren & Trezza, 2014; Von Frijtag et al., 2002)
- Supports development of higher level brain functions
- Guides us to develop self identity, understand others

depositphotos

Foundations for play: Connection

- Mother-infant attunement
 - Basis for development of emotional regulation and brain development (Brown & Vaughn, 2010)
- Mothers responsiveness in first year of life influences cognition and executive function skills in second year (Neale, et al, 2018)

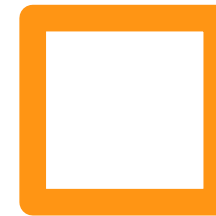
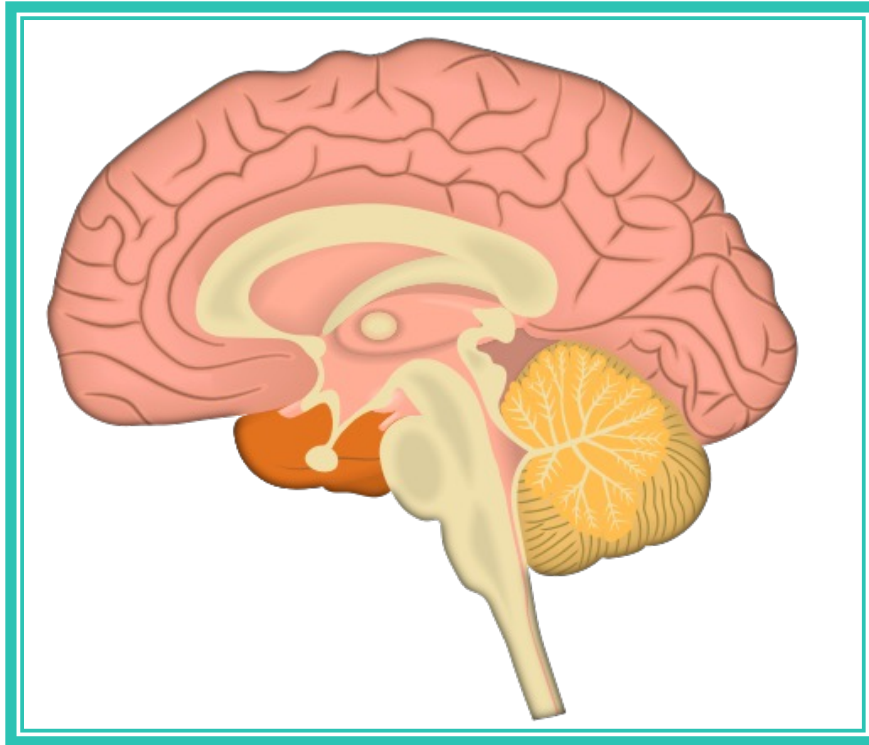


Foundations for play: Context

- Play is not seen during periods of stress, high anxiety, hunger, illness
- Play is not seen when the context is considered unsafe or uninviting
- Playful behavior takes place when the player feels safe to express characteristics of playfulness



Play and playfulness
involve the whole brain



Play and playful behaviors

Context

1

Physical
(sensori-
motor) play

2

Social
interaction

3

Emotional
regulation,
motivation,
adaptability,
flexibility

4

Executive
functions

Internal drive

- Having the capacity to find joy in life is essential to well-being
- Reward and emotional regulation: key to understanding underpinnings of fun/pleasure
 - Limbic structures
 - Dopamine
 - Endogenous opioid peptides



When play is restricted...

Young animals

Short term deprivation

- “rebound play”

Long term impact of play deprivation

- Negative impact on social interactions later in life
- Poor emotional regulation
- Negative impact on cognitive development

Adult animals

- Continuing to play associated with reduced incidence of disorders such as dementia, cardiovascular disease, neurological disorders
- Deprivation → mental health concerns such as dark mood, anhedonia, loss of optimism



What other
questions/thoughts?





Thank you!

ASI THEORY TUESDAYS

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Save the Dates!

JUNE 27	JULY 25
AUG 29	SEP 26
OCT 24	NOV 21

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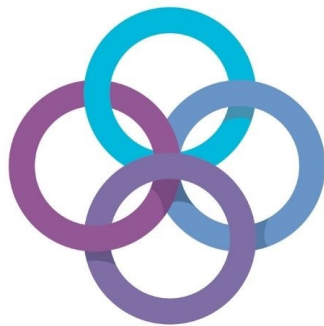
**TRANSLATING
RESEARCH INTO
PRACTICE**



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TOUR OF ASI® CLINICS AROUND THE WORLD

Explore creative and innovative therapy spaces
from around the world that provide Ayres
Sensory Integration (ASI) intervention and hear
advice and insight from their owners and expert
clinicians

WEBINAR DATES

● **May 12th 2023**
9:00AM PST

Visit ASI Clinics in Brazil

● **June 2nd 2023**
9:00AM PST

Visit ASI Clinics in the USA

● **July 21st 2023**
9:00AM PST

Visit ASI Clinics in Spain

● **August 11th 2023**
9:00AM PST

Visit ASI Clinics in Central/South
America

● **September 8th 2023**
9:00AM PST

Visit ASI Clinics in Croatia and the
United Kingdom

Register for free here:

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INNOVATIONS IN AYRES' SENSORY INTEGRATION

Rio De Janeiro on Oct. 12-14, 2023

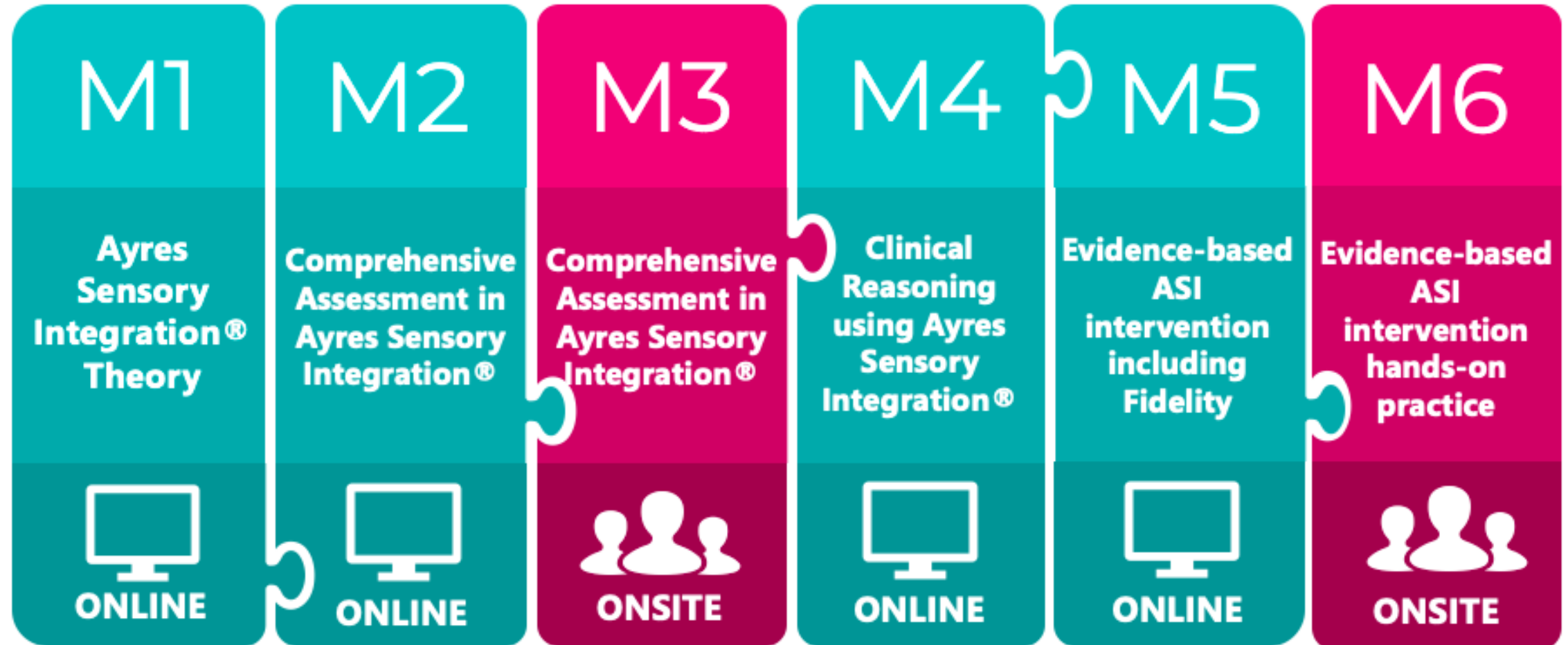
Hosted by the Brazilian Sensory Integration Association (ABIS) in partnership with the International Council for Education in Ayres Sensory Integration (ICE-ASI).



Find out more:

<https://www.ice-asi.org/isic-congresses/>

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