

The Body Across the Lifespan: How Body Representation Is Shaped from Infancy to Old Age

Friday, September 12, 2025 11:00 AM (1h 30m)

Perceiving the body as one's own relies on the integration of multisensory information such as vision, touch, and proprioception. Although multisensory mechanisms underlying body representation have been widely investigated in adulthood, how these processes develop at birth and change with aging remains poorly understood. This symposium aims to provide a comprehensive, lifespan-oriented perspective on body representation, shedding light on the dynamic development and modulation of the bodily self from infancy to old age. From a developmental perspective, Alice Rossi Sebastiano (University of Turin) presents kinematic and EEG data demonstrating that the more frequent self-directed movements in newborns enhance multisensory integration, promoting the emergence of a primitive bodily self. Mattia Galigani (University of Turin) illustrates how motor development supports the visual differentiation of the body. Using EEG frequency-tagging, he shows how infants distinguish their hands from external objects, with this response linked to fine motor skills.

Regarding age-related changes, Gaia Risso (Institute of Health, Sion) investigates alterations in metric body representation and ownership sensations in older adults, linking these changes to proprioceptive decline through virtual reality, psychophysical, and computational methods. Angela Marotta (University of Verona) illustrates the modulation of body ownership across young, middle-aged, and older adults using the well-established rubber hand illusion, reflecting age-related changes in the perceptual and cognitive functions underlying body representation.

Collectively, these studies offer a multifaceted, multi-approach perspective on the multisensory processes that shape body representation across different life stages, providing new directions for research on how the bodily self develops and adapts throughout the lifespan.

If you're submitting a symposium talk, what's the symposium title?

If you're submitting a symposium, or a talk that is part of a symposium, is this a junior symposium?

No

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