



# BIP expert interview

## Interview with Professor Lucia Braga

*The SARAH Network of Neurorehabilitation in Brazil*

**Lucia Braga** is a neuroscientist, author, researcher, and clinician experienced in working with children, adolescents, and adults with brain injury. Her focus has been on long-term quality of life and context-sensitive ecological rehabilitation, having pioneered programs such as the Family Training Methodology and the MetaCognitive Dimension Programs for children and adolescents with TBI. Her research uses neuroimaging to explore the impact of neurorehabilitation on neuronal plasticity. She is President of the SARAH Network of Rehabilitation Hospitals, a 9-hospital system with over 1,000 beds. Her awards include a *docteur honoris causa* from Reims University (France), the National Order of Scientific Merit bestowed by the president of Brazil, and the Distinguished Career Award from INS. She is on the faculty of the University of Massachusetts Medical School's Psychiatry Department, and is engaged in neuroscientific research, often collaborating with European and American institutions.

At the outset, let me thank you Prof Braga for your time and willingness in participating in this interview.

It is a pleasure to do this interview with you. Thank you for the invitation.

*Question 1. Please tell us some interesting facts about yourself.*

I started university very young and decided to study music, specifically, musical composition and conducting. But, during the coursework, I became interested in the processes of children with acquired brain injuries (ABI). So, I changed my major to neuropsychology, with a focus on the child and adolescent. When I graduated, I started working at the first SARAH Rehabilitation hospital, in the Pediatric Neuropsychology Division, in the unit that treated spinal cord injury. I became a part of their interdisciplinary team. Thirty years ago, I became Director of this hospital and subsequently opened 8 more centers that now comprise the SARAH Network of Rehabilitation Hospitals. Today, in addition to my research and clinical work in neuropsychology, I am also the President of the Network, coordinating the nine centers in operation. So, you see, in the end, instead of becoming a composer and conductor of music, I construct and coordinate rehabilitation hospitals, and continue to see children with ABI with my specialized interprofessional teams.

*Question 2. How did you first become involved in neurorehabilitation and long have you been working in the field?*

I have been working in the field of neuropsychological rehabilitation for 45 years. As I mentioned, when I went to do an internship at the first SARAH rehabilitation hospital to play and teach music to children with ABI, I developed an abiding interest in neuropsychology and neurorehabilitation. I was hired as a neuropsychologist for the SARAH Network as soon as I graduated from college, and went on to complete my Masters, my PhD and two post-docs in neuropsychology (one in France). Since then, my work has focused on the lifelong development of the child and adolescent with ABI, accompanying them across their lifespan.

*Question 3. Tell us about the SARAH Network of neurorehabilitation in Brazil and how it serves children and young people following acquired brain injury in the country.*

The SARAH Network of Rehabilitation Hospitals comprises 9 centers located throughout Brazil. It treats over 2 million patients annually - of all ages.

While most are seen as outpatients, the Network hospitals are fully equipped with surgical suites, as well as 700 beds total. For the rehabilitation of children with ABI, the SARAH Network created an ecological, context-sensitive model of intervention based on family and community; this approach has been shown to be effective in randomized, controlled peer-reviewed studies. The basic tenet of this methodology includes family participation in all stages of the child's rehabilitation; individual goals established jointly by the child, family, and team of practitioners; and a playful approach to increase adherence to the program – all built upon each child's potential within an ecological perspective that permits easy insertion of protocol into daily life in a way that feels natural to both child and family. The family engages the child in the rehabilitation activities at home and in the community – with consistent guidance by the team of practitioners. This method was published and implemented in all the SARAH Network hospitals, as well as in other rehabilitation centers in Brazil and abroad.

For the rehabilitation of adolescents and pre-adolescents with ABI, we created a methodology based on the development of metacognition, with the participation of college students who act as capable pairs. The adolescents work in groups and learn to think about their behavior, which helps them develop more self-control, control their impulsivity, and attenuate social conflicts – in addition to increasing their potential. This methodology was also studied, proven effective, and published several years ago. All of the work at the SARAH Network is performed by integrated interdisciplinary teams of medical and rehabilitation professionals.

*Question 4. Are there opportunities for trainees and early career professionals to visit Brazil and participate in or complete internships as part of the SARAH network?*

Yes, every year the SARAH Network receives students, residents, and newly minted medical professionals from all over the world. In addition to providing training, the Network offers room and board at the hospital for these interns. Anyone can apply, via the email: [RECURSOSHUMANOS@SARAH.BR](mailto:RECURSOSHUMANOS@SARAH.BR).

*Question 5. What advice would you give to those wanting to expand neurorehabilitation for children and young people in areas where it is less or underdeveloped?*

I would suggest developing interventions based on the family's participation, whenever possible, as well as on community and peers – which has been proven efficient and cost-effective.



The follow-up of children, adolescents, and families can be done via telemedicine, which permits reaching populations in more distant and underdeveloped regions, without the incursion of transportation costs. Most of all, though, I would encourage the creation of programs that are humanistic, empathetic, and welcoming so that the child and adolescent – and their families – can grow and develop within a safe environment of mutual empowerment.

Thank you for your time and willingness to participate in this interview for this special issue of BIP.

*Question 6. Do you have any encouraging words for health professionals interested in a career in neurorehabilitation and not knowing where to begin?*

Of course. The field of neurorehabilitation is a growing one – with many opportunities and interesting, ever-changing ways of helping patients. It is very rewarding. Over the last couple of decades, we've seen exciting new challenges for practitioners, with the addition of neurotechnology, new diagnostic tools and protocols – and new approaches to engaging the child and adolescent in the rehabilitation process. Graduate programs in neuropsychology all over the world offer opportunities for internships, so that new professionals can zero in on which branch of neuropsychology most interests them. There is a lot of work to be done, with populations growing exponentially every year that need our help. For those interested in research, there are exciting opportunities in the sphere of neurorehabilitation and neuroimaging, the overlap of establishing the diagnosis and proceeding with the creation of a targeted treatment protocol.

Today at the SARAH Network, we have been working (with the aid of tractography and fMRI) on how rehabilitation impacts the brain's physical structure, connectivity, grey and white matter, prognoses, and so much more.



### About the Interviewer

**Leigh Schrieff-Brown** obtained her PhD from, and is currently an Associate Professor in, the Department of Psychology at the University of Cape Town (UCT) in South Africa. She is also currently the Deputy Dean of Postgraduate Studies and Funding in the Humanities Faculty at UCT and a registered neuropsychologist in South Africa. She has built a research program around, and teaches primarily in, the area of pediatric traumatic brain injury (especially around a range of outcomes and predictors of those outcomes) and neuropsychological rehabilitation. She supervises and teaches on the pediatric component of the Masters in Clinical Neuropsychology in the department. She has supervised several postgraduate students (currently from honours to doctoral level), has published book chapters as well as a range of research papers in local and international journals, and presented at several local and international conferences in the above-mentioned fields. In terms of her international profile, she serves as a member of the Board of Directors for the International Paediatric Brain Injury Society (IPBIS), in which she chairs their Trainee/Early Career Subcommittee, as well as serving on the International Neuropsychological Society (INS) Justice and Equity Subcommittee and previously on the INS Science Committee. She is also the Regional representative for South Africa and the deputy chair of the INS Global Engagement Committee (GEC).

