

CPH Seminar in Precision Medicine

“Diffusion MRI of the Brain: Principles and Application in Neuroscience”

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Diffusion MRI (dMRI) is an imaging modality that has received an increasing amount of interest in the last years. Although it is also employed in other organs (liver, prostate, muscle...), dMRI in the brain is specially attractive due to its capacity to probe the microstructure of the white matter in vivo. In this talk, we will introduce the principles of dMRI acquisition and processing, including concepts such as diffusion tensor imaging, tractography and structural connectomics. Also, we will discuss possible applications of this modality to medical research and other fields of neuroscience.

Dr. Rodrigo de Luis García received the Ingeniero de Telecomunicación and the Ph.D. degrees from the University of Valladolid, Spain, in 2002 and 2007, respectively. He is an Associate Professor (Profesor Contratado Doctor) with the E.T.S.I. Telecomunicación, the University of Valladolid, where he is also with the Laboratory of Image Processing (LPI). His research interests include medical image analysis and processing, with a special focus on magnetic resonance imaging (MRI) and neuroimaging. In 2008, he was awarded with a Fulbright Scholarship for a two-year stay as a Research Fellow with the Laboratory of Mathematics in Imaging at Brigham and Women's Hospital, Harvard Medical School, Boston. He is author or coauthor of more than 50 publications in international peer-reviewed journals and conferences, and is currently a participant or principal investigator of several funded research grants and contracts.

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