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SHORT BIO

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QUOTE



## DURRLEMAN STANLEY

Statistical learning, imaging, neurosciences

✉ stanley.durrleman [at] inria.fr / Twitter: @SDurrleman

🌐 web site



### SHORT BIO

Stanley Durrleman is heading the joint Inria / ICM ARAMIS research team at the Brain Institute (ICM) in Paris. He is the founding director of the ICM centre for neuroinformatics. His research has earned him several international awards, including a European Research Council (ERC) award in 2015.

### TOPICS OF INTEREST

Geometry and learning, neuroimaging, brain disorders, disease modeling, digital twins

### PROJECT IN PRAIRIE

We will develop novel statistical and computational approaches at the cross-roads of geometry and learning. These approaches built on generic principles will allow the exploitation of a large variety of structured and unstructured data such as clinical data, structural and functional imaging. These methods are well suited to deal with repeated data from the same patients over time (i.e. longitudinal data), so that they can be used to synthesize digital models of disease progression. The personalization of such models to new patient data will enable the implementation and evaluation of personalized therapeutic strategies.

### QUOTE

Better understanding the brain and its disorders is probably the most fascinating scientific and medical challenge of this century. The repeated failures to find efficient treatments against most neurological diseases require to explore radically different approaches. At the core of one of the major European hospital and neuroscience research institute, we develop novel data-driven approaches to exploit large databases of neuroscience data including imaging, clinical, physiological and genomics data. We simulate the progression of neurodegenerative diseases. We design and evaluate decision support systems informed by personalized prediction of disease progression. Our research contributes therefore to the emergence of a precision medicine in neurology.



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