

# GEORG DUDA

Field Leader Musculoskeletal System | Nominee Voting Member



## Scientific Development/ CV:

My journey started with Biomechanics and brought me to mechano-biology of regeneration and more recently to the tight coupling of these to the early immune-reaction at the onset of healing. Immune-cells and mechano-sensation drives the early tissue self-assembly after injury. This all requires true trans-disciplinary approaches involving various experts from clinical, biological and engineering sciences. With an engineering background my interest is in understanding the principles of endogenous regeneration and why it is hampered in clinically challenging settings. Using novel technology developments from in house or in co-development, we aim at finding novel solutions based on a conceptual approach to empower in situ regeneration.

## Expertise:

Bioengineering background, we could bring a number of novel concepts in bone regeneration and joint replacements so far. We are eager to do so also with regenerative strategies that either replace or support conventional therapeutics. In addition, we have recently started to offer our scientific knowledge directly to patients through our „BeMoveD“ services, in which patients see advice by offering advanced diagnostics and advanced therapies.

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## Vision for the BCRT:

I was part of the initial team that applied for the BMBF funding. Since then, I am convinced that our concept to unravel principles of endogenous regeneration and empower these to help realize regeneration (in situ) in clinically challenging patients is unique. So far, our approach has proven to have a strong translational potential (and we can be proud that it has been copied a number of times).

Secondly, I am convinced that our trans-disciplinary approach that combines clinical, biological and engineering sciences (and many others...) is the foundation of our success. We should build on these strengths.

We envision to create a regenerative campus at the CVK together with our partner clinics and partner institutes that are on campus, across the Charité as well as within the Berlin-Brandenburg science community.

To allow this vision to mature and eventually grow, we need to keep the competences that made us so unique for the future - that includes a strong immune competence in regeneration. Personally I am very interested in the interplay of the immune cells, their activation and the adjacent matrix and its biophysics through which cells navigate. Further, I am convinced that our strong translational competence should be made widely available to those at Charité/BIH that are eager to provide advanced therapies to their patients.