Dirk Donker, senior staff member, cardiologist-intensivist

Specialty:	Cardiology, Intensive Care Medicine
Institute:	University Medical Center Utrecht
Department:	Department of Intensive Care
City:	Utrecht
Country:	The Netherlands
Function:	Staff member, ECMO coordinator, Department of Intensive Care
Clinical focus	extracorporeal life support, mechanical circulatory support, LVAD, echocardiography
Scientific/ clinical focus	extracorporeal life support, mechanistic pathophysiological understanding of complex heart failure, care for cardiological complexity, perioperative care for cardiac surgery, ECMO care
Key words:	complex heart failure, cardiology, cardiac surgery; echocardiography, mathematical modeling, extracorporeal life support/ ECMO

What else do I want to say?

I consider myself a passionate academic clinician with a focus on complex cardiovascular pathology and extracorporeal life support. My professional enthusiam is driven by the ability that we, as intensivists, can provide the best possible care for our patients, when we do our utmost to understand complex pathophysiology at the bedside by trying to gain mechanistic insights in every individual. This individualized-patient-care concept has been the ultimate goal of my PhD thesis entitled ‘Cardiac mechanomyopathy: integrating the picture from cell to beating heart' (Maastricht University, 2008). Here, insights deduced from molecular biology, cellular electrophysiology, echocardiography and mathematical modeling have been used to enhance our understanding on mechano-electrical phenomena in complex heart failure. This basic and translational scientific work was the impetus to proceed in the clinical arena, become intensivist and in recent years start a fruitful cooperation with Dr. Michael Broomé, cardio-anesthesiologist-intensivist at the ECMO unit Karolinska in Stockholm. Together, we aim to promote mathematical modeling of complex hemodynamics, heart failure and extracorporeal life support. This means, that clinically available data from individual patients including critical care monitoring and echocardiography can be fed into a computer model developed by Broomé for every individual patient. In this way individualized simulations can be performed, which allows improved understanding of indivual pathophysioloy for education purposes but also as a future perspective, for clinical decision support in intensive care medicine.