

BIOGRAPHICAL SKETCH

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NAME: Hans-Christoph Becker, MD

eRA COMMONS USER NAME (credential, e.g., agency login): BECKER.CHRISTOPH

POSITION TITLE: Professor of Radiology, Stanford Hospital & Clinics

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Semmelweis University Budapest, Hungary		1988	Medicine
Saarland University Faculty of Medicine, Germany		1989	Medicine
Ludwig-Maximilians-University Munich, Germany	MD	1993	Medicine
Ludwig-Maximilians-University Munich, Germany	Board certified	2001	Radiology
Ludwig-Maximilians-University Munich, Germany	Certified	2010	GCP
Society of Cardiac CT, USA	Level III certified	2011	Cardiac CT

A. Personal Statement

My current research focus is oncological clinical trials and tumor response assessment. I am actively involved in more than 40 clinical phase II and III cancer trials and as a Co-Investigator I am in charge of the on-site response assessment based on imaging. I have extensive experience with clinical trials, CRFs, queries, monitor site visits and audits. In the last two years I have done more than 4,000 response assessment for more than 1,000 patients. I am providing conventional RECIST 1.1 as well as sophisticated response assessment according to the Cheson, Lugano and immune related response criteria, respectively. With the growing database, I have started looking specifically into the difference between the standard RECIST 1.1 and dedicated immune response criteria. An abstract on this topic has been accepted for presentation at the next RSNA (Radiological Society of North America) meeting. The currently existing response criteria are constantly evolving but not yet taking full advantage of all imaging features. I am strongly convinced that radiomics structure analysis and techniques involving artificial intelligence revised imaging criteria can be developed that will allow for a better outcome prediction for patients in clinical trials. My expertise is thus an excellent fit to this proposal, in which I will participate in the tumor assessments of the clinical evaluation studies of this project.

- a) S Kaur, Stanford, CA; S Srinivas, MD; A Fan; V Chen; L Xie; **H R Becker**, MD, PhD Comparison of RECIST 1.1, irRC, irRECIST and WHO Criteria in Patients with Renal Cell Cancer Receiving Immune Therapy. Accepted for oral presentation at the RSNA 2017

B. Positions and Honors

1993-2000 Residency & radiology fellowship, Ludwig-Maximilians University of Munich, Germany
2001-2015 Professor of Radiology, Ludwig-Maximilians University of Munich, Germany
2015- Professor of Radiology, Stanford University, CA, USA

Awards and Honors

2001 Siemens Visiting Research Fellowship award, Vienna, Austria,
2003 Society of Body Computed Tomography and Magnetic Resonance Cum Laude Award
2008 Andreas-Grüntzig Lecture at CIRSE 2008, Copenhagen, Denmark

C. Contributions to Science

C.1) Cardiac CT and quantitative assessment: In the past, my scientific focus was cardiac CT. I evaluated and published extensively on the comparison between electron beam CT and spiral CT for coronary calcium screening. When cardiac CT angiography evolved, I participated in the development of radiation dose reduction methods that led to two US patents. I have since published extensively in the field of cardiac CT. I have also participated in numerous clinical trials dealing with contrast-induced nephropathy. Since new CT applications and their clinical application have always been of interest for me, I also explored and published about the potential of rotating C-arm CT in patients planned for selective interventional radiation therapy (SIRT).

So far 225 peer reviewed scientific papers have been published under my name. A list of references that represents my work best:

- a) Detection of Hemodynamically Significant Coronary Artery Stenosis: Incremental Diagnostic Value of Dynamic CT-based Myocardial Perfusion Imaging *RADIOLOGY* Bamberg, F., Becker, A., Schwarz, F., Marcus, R. P., Greif, M., von Ziegler, F., Blankstein, R., Hoffmann, U., Sommer, W. H., Hoffmann, V. S., Johnson, T. R., **Becker, H. R.**, Wintersperger, B. J., Reiser, M. F., Nikolaou, K. 2011; 260 (3): 689-698
- b) Meta-Analysis and Systematic Review of the Long-Term Predictive Value of Assessment of Coronary Atherosclerosis by Contrast-Enhanced Coronary Computed Tomography Angiography *JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY* Bamberg, F., Sommer, W. H., Hoffmann, V., Achenbach, S., Nikolaou, K., Conen, D., Reiser, M. F., Hoffmann, U., **Becker, C. R.** 2011; 57 (24): 2426-2436
- c) Contrast-induced acute kidney injury after computed tomography prior to transcatheter aortic valve implantation *CLINICAL RADIOLOGY* Jochheim, D., Schneider, V., Schwarz, F., Kupatt, C., LANGE, P., Reiser, M., Massberg, S., Gutierrez-Chico, J., Mehilli, J., **Becker, H.** 2014; 69 (10): 1034-1038
- d) C-Arm Computed Tomography Compared With Positron Emission Tomography/Computed Tomography for Treatment Planning Before Radioembolization *CARDIOVASCULAR AND INTERVENTIONAL RADIOLOGY* **Becker, C.**, Wagnershauser, T., Tiling, R., Weckbach, S., Johnson, T., Meissner, O., Klingenberg-Regn, K., Reiser, M., Hoffmann, R. T. 2011; 34 (3): 550-556

[A complete list of my references can be found here:](#)

D. Additional Information: Research Support and/or Scholastic Performance

Ongoing Research Support

N/A (Fleischmann)

12/15/12 – 10/31/20

Siemens Medical Solutions USA, Inc.

Siemens CT Project – Optimization of Injection Protocols

Major Goal: To identify under-perfused or ischemic myocardium in patients with indeterminate degree of coronary obstruction. We will also demonstrate the value of stress testing in kidney transplant candidates without apparent active cardiac condition.

Role: Co-investigator

5R01 CA195443-03 (Kamaya)

04/01/16 – 03/31/21

NIH

3D Dynamic Contrast-Enhanced US for Monitoring Chemotherapy of Liver Metastasis

Major Goal: To assess the feasibility and reproducibility of a novel volumetric perfusion ultrasound imaging approach in patients with liver metastases from colorectal cancer and to evaluate early potential predictors of response to therapy.

Role: Collaborator

Completed Research Support (past 3 years)

None