



CRC/TRR 270 HoMMage



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ESSEN

Offen im Denken

Hysteresis Design of Magnetic Materials for Efficient Energy Conversion

Friday Aug 6, 2021, 15:00-16:00 s.t.,

UDE, Campus Duisburg, MG 272 (in person) and Zoom <https://uni-due.zoom.us/j/2253496215>

Prof. Dr. Hari Srikanth
*Department of Physics, University of South Florida,
Tampa, Florida*

Functional Materials Laboratory (FML@USF): Probing the physics of magnetic nanoparticles, novel magnetic textures and spinterfaces

In this talk, I will present an overview of current research in our Functional Materials Laboratory at the University of South Florida. Our research spans a wide range of magnetic materials from complex oxides to compensated ferrimagnets, topological Heusler systems and magnetic proximity effect in graphene and h-BN layers on ferrites. The common theme is our ability to sensitively measure and tune the effective magnetic anisotropy in a large class of magnetic materials including bulk, nanoparticle assemblies and thin film heterostructures. I will describe how we combine relatively unconventional experimental techniques like RF transverse susceptibility, magnetocaloric effect and inverse spin Hall effect to probe the fundamental physics of spin dynamics and spin transport across interfaces. Some recent results on our ongoing projects including core-shell and anisotropic nanoparticles, influence of magnetic anisotropy on spin Seebeck effect and anomalous Nernst effect, competing magnetic phases will be discussed.



Hari Srikanth is a Distinguished University Professor at the University of South Florida. He received his Ph.D. in experimental condensed matter physics from the Indian Institute of Science (Bangalore). After postdoctoral research for several years, Hari joined the Department of Physics at USF in 2000 and established the Functional Materials Laboratory. His research spans a wide range of topics including magnetization dynamics in nanostructures, applications of magnetic nanoparticles in nanomedicine and RF devices, magnetic refrigeration, spin caloritronics, complex oxides with exotic magnetic phases. He has over 280 publications and has given over 220 invited talks around the world. In 2019, he was named as an IEEE Magnetics Society Distinguished Lecturer. Hari is a *Fellow of the American Physical Society*, *Fellow of Institute of Physics* and a *Senior Member of IEEE*. He currently serves as an Editor for *Journal of Alloys and Compounds* and Associate Editor for *Physical Review*

B. Hari has been closely involved with the MMM and INTERMAG conferences for more than 17 years serving as Publication Editor, Publication Chair and on many program committees. He is the Special Events Chair for the 2022 Joint MMM/ INTERMAG hybrid conference to be held in New Orleans. Hari received a *Fulbright Scholar Award* to be a visiting professor at Nanyang Technological University in Singapore and he is also a Visiting Professor at Indian Institute of Technology Bombay.