Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

ALUMNI

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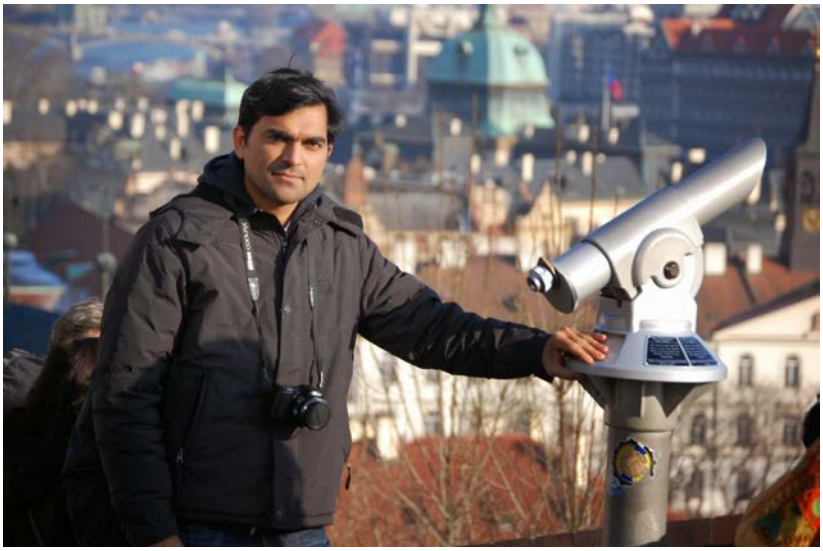

Research Areas:

- Mathematical study and numerical simulation of two-phase flow
- applications in industrial and environmental studies
- high order numerical simulation and its analysis of flow in porous media

Do you see any differences in the scientific work and its devices regarding the focus of research between India and Germany?

As a mathematician, I believe that rather than material resources human resources plays a key role in making the research well oriented and full fledged. A bilateral exchange of students and the visiting programmes contribute tremendously towards the development in scientific research.

I have visited several times Department of Mathematics University of Wurzburg, and I would comment on my experience that, the researchers are well organized in their activities. Prof. Christian who lead the research group used to conduct meeting every week. I found that is really a nice practice, as students and professors exchange their idea or advances in a week. According to me, as the German scientists do, working in a research group rather than only individual, contribute more towards an efficient scientific research.

Which changes affect your scientific area in particular and how do you deal with this challenge in terms of operationalizing changes and predict future developments?

Being a mathematician from applicable mathematics community, I would say there are several challenges we encounter with the ongoing research works. This could be from both the theoritical and modeling part. A dedicated collaboration with both the communities would add tremendously to the future goals.

How far does your scientific model help us to develop strategies to face global challenges?
I am working on problems related to the study of flow of fluids in different media, which is of great importance in many of the industrial, environmental and biological studies. For example, petroleum reservoir, sedimentation process, water management in polymer electrolyte fuel cells, environmental remediation etc. For instance, in petroleum production, oil reservoir simulation is a key tool to investigate on the flow behaviour of oil and to optimize oil production.
There are several difficulties which extend from physical modelling to simulation techniques and computer implementation. As a researcher in this direction, my studies contribute towards the modelling and numerical simulation which resolves these difficulties to a certain extend.