

One Day Workshop
On
**“Study and Analysis of Mathematical
Models of Moving Boundary Problems”**

Sponsored by Science and Engineering
Research Board (SERB), Govt. of India

August 17, 2019



Organised by:
**Department of Mathematical
Sciences
Indian Institute of Technology
(Banaras Hindu University)
Varanasi-221005**

Venue:
**Department of Mathematical Sciences IIT
(BHU), Varanasi-221005**

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Introduction:

Moving boundary problems (or Stefan Problems) involving diffusion processes have attracted a numerous investigators just over a century, since they have many practical applications in the fields of science, engineering and technology. The practical applications can be seen in heat transfer where phase transition occur (melting, solidification, thawing), moisture transport such as swelling of grain or polymers, sediment transport in fluvial depositional systems, oxygen diffusion problem, fluid flow in porous media, cryosurgery, tumour growth, etc. All these processes contain either a moving interface or moving reaction front which is unknown initially.

In the literature, the mathematical models related to moving boundary problems are discussed under some assumptions as usual. Therefore, there is still scope to modify the models related to moving boundary problems which is more near to the real physical processes. Moreover, there are many important physical processes associated to moving boundary problems which have not been adequately studied and are not understood till now. To have a deeper understanding of such complex physical mechanics of these important problems, a detailed studies need to be performed to present more realistic mathematical model of moving boundary problems and its solution.

Who can attend?

Faculty members of colleges/University/Engineering colleges working in the departments of Applied or Pure Mathematics/Mechanical Engineering/other interested department are eligible to attend the course.

Registration Process

The scanned copy of the filled in application form to be mailed at rajeev.apm@iitbhu.ac.in by **July 25, 2019**. Application format is given in this brochure.

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COORDINATOR:

Dr. Rajeev
Department of Mathematical Sciences, IIT (BHU)

Objectives:

- To discuss some mathematical models of moving boundary problems having physical relevance.
- To deliberate the scope of modifications in the mathematical models in view of real world problem.
- To discuss various approximate/numerical solution to the problems.
- To promote R&D in the areas of the moving boundary problems.
- To promote societal benefits of study of moving boundary problems.

Indian Institute of Technology (BHU), Varanasi
Department of Mathematical Sciences

Registration Form

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1. Name

2. a) Age b) Sex: M/F

3. Designation

4. Organization

5. Address for correspondence

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E-mail..... Phone/Mobile.....

6. Highest academic qualification.....

7. Specialization

8. IIT (BHU) accommodation required Yes No

Please register me for the one day workshop on *Study and Analysis of Mathematical Models of Moving Boundary Problems* to be held at Department of Mathematical Sciences, IIT (BHU) Varanasi.

Date.....

Place

Signature of the Participant