Chair Message:
Materials Science (started as Metallurgy) began primarily with heat treatment and microstructural considerations for metallic materials. Over the years Material Science has advanced to include ceramic and polymeric materials. With the addition of these two comes a desire for the understanding of materials at the molecular level. Please join us by welcoming this month’s speaker, Dr. Rakesh Kumar Behera and his presentation on how Computational Tools can guide the discovery of new Functional Materials.

Chairman: CHRIS RASMUSSEN
Stryker

This issue:
1: Chair Message
4: Location of November meeting
5: Views from the 10/17/17 ASM Managing Director presentation.
6: Speaker Bio: Dr. Rakesh Kumar Behera
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November 2017
ASM International Metro NY NJ Chapter
**How Computational Tools Can Guide The Discovery of New Functional Materials**

**Speaker: Dr. Rakesh Kumar Behera, Industry Assistant Professor from Tandon School of Engineering, NYU**

Computational methods are extremely useful to provide critical insight into fundamental and challenging materials issues. The simultaneous development of efficient modeling strategies and advancement in computational power has accelerated the use of computational tools in various fields including Materials Science. Computational predictions compliment experiment to probe details which are extremely difficult to examine using current characterization tools. In this presentation, I will briefly summarize the different simulation methods available for materials research, and highlight the use of electronic and atomic level simulations such as Density Functional Theory and Molecular Dynamics to investigate fundamental structure-property relationship in functional materials. I will discuss how we are using computational tools to guide experimental design of novel materials for functional applications.

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### 808th Technical Meeting:
**November 16th, 2017, Thursday**

<table>
<thead>
<tr>
<th>Program</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:15 pm Networking</td>
<td>Members: $35.00</td>
</tr>
<tr>
<td>7:00 pm Dinner</td>
<td>Guest: 40.00</td>
</tr>
<tr>
<td>8:00 pm Presentation</td>
<td>Students: 15.00</td>
</tr>
</tbody>
</table>

**Location:**
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Website of Meson Madrid:  

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Photos courtesy of Zunjian Yang

View from ASM Managing Director presentation

October 17th at Meson Madrid
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November 2017
ASM International Metro NY NJ Chapter
Speaker Bio: Dr. Rakesh Kumar Behera
Dr. Rakesh Kumar Behera is an Industry Assistant Professor in the Department of Mechanical and Aerospace Engineering in NYU Tandon School of Engineering. Prior to joining NYU Tandon in September 2016, Dr. Behera worked as a Research Scientist / Post-Doc in the School of Chemistry & Biochemistry and a Post-Doc in Nuclear Engineering at Georgia Institute of Technology. He received M.S. and Ph.D. degrees in Materials Science and Engineering from University of Florida, M.S. in Mechanical Engineering from Louisiana State University, and undergraduate degree in Metallurgical Engineering from the National Institute of Technology, India. Dr. Behera’s multidisciplinary research experience includes the use of computational methods to address fundamental structure-property relationship in advanced materials for energy applications. He has primarily published on various oxide materials for nuclear, fuel cell, and ferroelectric applications. Dr. Behera has also used several material synthesis and characterization techniques for his research.

Incoming Events of Year 2018 in NY-NJ Chapter:

January and February:
No meeting.

March 15th:
Presentation from Mr. Chris Rasmussen, Stryker

April 24th, 25th or 26th:
Family night, “Forensics of Materials Science”, Dr. Susan Kazan

May:
Plant Tour, Location: TBA

No meeting will be held on December of 2017, please support ASM International Metro NY NJ Chapter and wish you have a successful career in the coming year.

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Frank Cernuto APA Research
Zikun Deng Rutgers University Student
Oscar Feijoo Plainfield Academy of Arts & Advanced Studies
Ben Gigi
Joseph Grohowski Praxis Powder Technology
Dr. Jangbae Jeon Global Foundries
Shirkar Jha Rutgers University Student
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Mikio LaCapra Rutgers University Student
Eric Leonard Elemental Metals
Brian Maddock
Dr. Zhenli Mi University of Science and Technology, Beijing
Alexandra Spitzer Rutgers University Student
Kris Vaithinathan
Gregory Johnson Global Industries

We are looking forward to seeing you at the meetings; and, as always, the first dinner that a new member attends is complimentary.

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