

## TUESDAY, MAY 6

<b>12.00</b>	<b>Opening and Welcome</b>
	<p><b>Session 1   Vacuum Technologies for Advanced Manufacturing: Insights into Roll-to-Roll Systems</b></p> <p>Chair: Dr. Cindy Steiner</p> <p>The tutorial covers vacuum technologies that are crucial for advanced manufacturing, especially in roll-to-roll systems. By combining theoretical knowledge with practical skills, participants will gain an understanding of the physics behind sputtering and evaporation, as well as their relevance in modern industry. Furthermore, the tutorial delves into roll-to-roll winding systems, providing insights into the roll-to-roll manufacturing process and highlighting the importance of efficient winding systems while addressing challenges and solutions for the high-quality transport of web through a roll-to-roll machine.</p>
<b>12.10</b>	<p><b>Lecture 1</b></p> <p>Speaker</p>
<b>12.30</b>	<p><b>Lecture 2</b></p> <p>Speaker</p>
<b>12.50</b>	<p><b>Lecture 3</b></p> <p>Speaker</p>
<b>13.10</b>	<i>Coffee Break</i>
	<p><b>Session 2   Advances in Surface Structuring: Nano-Imprinting, Curing against drum, and Embossing Processes</b></p> <p>Chair: Dr. Steffen Günther</p> <p>This session delves into the latest advancements in surface structuring technologies, focusing on nano-imprint lithography, curing against drums, and embossing processes. Attendees will gain insights into the methodologies and applications of these techniques in creating structured surfaces. Through expert presentations and discussions, we will explore the challenges, innovations, and future directions in the field. This session is essential for professionals seeking to enhance their understanding and application of surface structuring in various industries.</p>
<b>13.40</b>	<p><b>Lecture 4</b></p> <p>Speaker</p>
<b>14.00</b>	<p><b>Lecture 5</b></p> <p>Speaker</p>
<b>14.20</b>	<p><b>Lecture 6</b></p> <p>Speaker</p>
<b>14.40</b>	<p><b>Lecture 7</b></p> <p>Speaker</p>
<b>15.00</b>	<p><b>Lecture 8</b></p> <p>Speaker</p>
<b>15.20</b>	<i>Coffee Break</i>
	<p><b>Session 3   Vacuum Coating Technologies for Energy Storage Devices</b></p> <p>Chair: Claus Lubber</p> <p>The energy transition is progressing worldwide, but many challenges remain unresolved. Energy storage systems play a decisive role in the ecologically sustainable design of our energy systems. Various strategies and technologies for manufacturing energy storage systems are competing with each other on the market in order to realize the required efficiency and cost savings. Coatings and layer systems produced using vacuum coating technologies play an important role in this. This requires an optimum choice of materials for the coatings and coating systems in conjunction with a perfectly adapted coating technology. The session 'Vacuum Coating Technologies for Energy Storage' deals with roll-to-roll vacuum coating technologies that are suitable for Li-ion and 'next generation' batteries and other energy storage systems.</p>
<b>15.50</b>	<p><b>Lecture 9</b></p> <p>Speaker</p>
<b>16.10</b>	<p><b>Lecture 10</b></p> <p>Speaker</p>
<b>16.30</b>	<p><b>Lecture 11</b></p> <p>Speaker</p>
<b>16.50</b>	<p><b>Lecture 12</b></p> <p>Speaker</p>
<b>17.10</b>	<b>Closing</b>
<b>17.25</b>	<i>Bio Break</i>
<b>17.35</b>	<b>Lab Tour (50 Minutes)</b>
<b>18.30</b>	<b>Dinner and Poster Session at Technikum Fraunhofer FEP</b>

## WEDNESDAY, MAY 7

### Session 4 | Light and Energy in Buildings

Chair: Dr. Matthias Fahland

The building sector is responsible for more than 40 percent of the annual primary energy demand in Europe. Naturally, there is a need to reduce this number with the background of the climate change. At the same time, the demand of cooling will increase worldwide with the increasing temperature levels. Energy management via thin coatings on polymer films looks already back to half a century of technical development. It is 50 years ago that the first solar control films appeared on the market. The technical development is still ongoing. The layer stacks are continuously improving. New functions, like the adaptation of the optical properties to actual conditions were realized. Comprehensive building simulations allow the prediction of the energy demands after the introduction of new technologies. In this session we are looking forward to some contributions of this interesting field of research.

09.00 **Lecture 11**

Speaker

09.20 **Lecture 12**

Speaker

09.40 **Lecture 13**

Speaker

10.00 **Lecture 14**

Speaker

10.20 *Coffee Break*

### Session 5 | Scalable technologies for flexible perovskite solar cells

Chair: Dr. Michael Hoffmann

Perovskite solar cells on lab scale consistently achieve power conversion efficiencies in the range of 20-25% with increasing reports of simultaneously passing IEC accelerated lifetime test for 1000 h. Since they only require low temperature thin film technologies, they have the potential of disrupting the solar energy market. For the route to market, the successful implementation of scalable production technologies plays a crucial role. This session focuses on roll-to-roll technologies for perovskite solar cells on flexible substrates. It addresses the entire value chain including electrodes, buffer-, transport and absorber layers and encapsulation technology up to the module level.

10.50 **Lecture 15**

Speaker

11.10 **Lecture 16**

Speaker

11.30 **Lecture 17**

Speaker

11.50 **Lecture 18**

Speaker

### Session 6 | Funding Strategies: Navigating Opportunities and Building Collaborative Networks

Chair: Dr. Cindy Steiner

This session focuses on effective strategies for securing funding by searching for relevant opportunities and preparing successful applications. Participants will learn how to navigate various funding sources and understand the complexities of the application process. Emphasis will be placed on leveraging networks to identify potential collaborators and resources. The aim of this session is to equip participants with the essential tools needed to successfully seek funding and discover collaborative initiatives in their respective fields.

12.10 **Lecture 19**

Speaker

12.30 **Lecture 20**

Speaker

12.50 **End**