ALD/ALE 2020 Virtual Meeting Overview

The AVS 20th International Conference on Atomic Layer Deposition (ALD 2020) featuring the 7th International Atomic Layer Etching Workshop (ALE 2020) will be adapted into a Virtual Meeting comprised of Live and On Demand (recorded) Sessions. The pre-registration deadline is June 25, 2020.

Virtual Meeting Highlights

- Live Daily Session with Plenary and Invited Speakers with Q&A Chat
- Live Announcement of the AVS ALD Innovator & JVST Best Paper Award
- Live Two-Day Tutorial with Academic and Industry Experts with Q&A Chat
- Live Student Awards Presentations with Q&A Chat and an Awards Presentation
- Live Virtual Sponsor Rooms
- On Demand Poster Sessions with a Mix of Pre-recorded (Video or Audio) Talks and/or PDFs
- On Demand Sessions Available Through July 2021

Time Zone: All Live Sessions will be held in Eastern Daylight Time (EDT). Please note that Live Sessions will also be recorded and added to the On Demand Sessions. Time Zone Converter Tool

Virtual Meeting Quick Links

- Conference Website
- Registration
- Presentation Instructions
- Viewing Instructions

Virtual Meeting Schedule

- Live Session Schedule: May be found on the next several pages or in the ALD/ALE 2020 Online Scheduler and Mobile App. Live Sessions will be presented over the conference dates: June 29-July 1.
- On Demand Session Schedule: Will be posted soon in the ALD/ALE 2020 Online Scheduler and Mobile App. On Demand access will begin on June 29.

All sessions will be accessible via the ALD/ALE 2020 Online Scheduler and/or Mobile App until July 31, 2020*. Live sessions will be presented over the conference dates (June 29-July 1, 2020). On Demand access will begin on Monday, June 29, 2020.

*Access After July 31, 2020: AVS Platinum Members will have access to all On Demand Sessions (except the Tutorial) in the AVS Technical Library until their membership expiration date. Non-Members will also receive access to all On Demand Sessions as AVS Silver Members until July 31, 2021.
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Presenter(s)</th>
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<tbody>
<tr>
<td>10:00</td>
<td>LI1-MoM7</td>
<td>Plenary &amp; ALD Innovator Award Session Welcome Introduction</td>
<td>C. DETAVERNIER, J. DENDOOVEN, Ghent University, Belgium, P. POODT, TNO/Holst Center, Netherlands, W.M.M. KESSELS, Eindhoven University of Technology, Netherlands, H.C.M. KNOOPS, Oxford Instruments Plasma Technology, Netherlands, J.-F. DE MARNEFFE, IMEC, Belgium</td>
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<tr>
<td>10:15</td>
<td>LI1-MoM8</td>
<td>Invited ALD Innovator Awardee Introduction</td>
<td>MIKKO RITALA, University of Helsinki, Finland</td>
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<tr>
<td>10:30</td>
<td>LI1-MoM9</td>
<td>Invited Selective and Atomic Scale Processes to Enable Future Nano-Electronics</td>
<td>ROBERT CLARK, TEL Technology Center, America, LLC</td>
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<td>10:45</td>
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<td>Invited talk continued.</td>
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<tr>
<td>11:00</td>
<td>LI1-MoM11</td>
<td>Invited The First Application of ALD Technology in Display Industry</td>
<td>HYUN-CHUL CHOI, LG Display, Republic of Korea</td>
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<td>11:15</td>
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<td>Break</td>
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<tr>
<td>11:30</td>
<td>LI1-MoM13</td>
<td>Invited ALD on Powders for Catalysis</td>
<td>FRANK ROSOWSKI, BASF SE, Germany</td>
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<td>11:45</td>
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<td>Invited talk continued.</td>
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<tr>
<td>12:00</td>
<td>LI1-MoM15</td>
<td>Invited The Flip Side of the Story: Atomic Layer Etching</td>
<td>KEREN KANARIK, Lam Research Corp.</td>
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<td>12:15</td>
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<td>Invited talk continued.</td>
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<tr>
<td>12:30</td>
<td>LI1-MoM17</td>
<td>JVST Best Paper Award, Closing Remarks, &amp; Sponsor Thank You</td>
<td>C. DETAVERNIER, J. DENDOOVEN, Ghent University, Belgium, P. POODT, TNO/Holst Center, Netherlands, W.M.M. KESSELS, Eindhoven University of Technology, Netherlands, H.C.M. KNOOPS, Oxford Instruments Plasma Technology, Netherlands, J.-F. DE MARNEFFE, IMEC, Belgium</td>
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## Tuesday Morning, June 30, 2020

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<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors/Institutes</th>
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<tr>
<td>10:00 am</td>
<td>LI2-TuM7</td>
<td>Welcome and Introduction, <strong>CHRISTOPHE DETAVERNIER</strong>, J. DENDOOVEN, Ghent University, Belgium, P. POODT, TNO/Holst Center, Netherlands, W.M.M. KESSELS, Eindhoven University of Technology, Netherlands, H.C.M. KNOOPS, Oxford Instruments Plasma Technology, Netherlands, J.-F. DE MARNEFFE, IMEC, Belgium</td>
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<tr>
<td>10:15 am</td>
<td>LI2-TuM8</td>
<td>Invited Thermal Atomic Layer Deposition of Noble Metal Films Using Non-Oxidative Coreactants, <strong>CHARLES H. WINTER</strong>, Wayne State University</td>
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<tr>
<td>10:30 am</td>
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<td>Invited talk continued.</td>
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<tr>
<td>10:45 am</td>
<td>LI2-TuM10</td>
<td>Mixing It Up: Tuning Atomic Ordering in 2-D (\text{Mo}<em>x\text{W}</em>{1-x}\text{S}_2) Alloys by ALD, <strong>JEFF SCHULPEN</strong>, W.M.M. KESSELS, V. VANDALON, A. BOL, Eindhoven University of Technology, Netherlands</td>
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<tr>
<td>11:00 am</td>
<td>LI2-TuM11</td>
<td>Deposition of Conductive PEDOT Thin Films with EDOT and ReCl(_5) Precursors, <strong>SABA GHAFOURISALEH</strong>, G. POPOV, M. LESKELA, M. PUTKONEN, M. RITALA, University of Helsinki, Finland</td>
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<tr>
<td>11:15 am</td>
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<td>Break</td>
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<tr>
<td>11:45 am</td>
<td>LI2-TuM14</td>
<td>Mimicking Chitin and Chitosan Type of Functionality with Novel Thin Films Grown by Molecular Layer Deposition, <strong>KARINA ASHURBEKOVA</strong>, M. KNEZ, CIC nanoGUNE BRTA, Spain</td>
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<tr>
<td>12:00 pm</td>
<td>LI2-TuM15</td>
<td>Closing Remarks &amp; Sponsor Thank You, <strong>C. DETAVERNIER</strong>, J. DENDOOVEN, Ghent University, Belgium, P. POODT, TNO/Holst Center, Netherlands, W.M.M. KESSELS, Eindhoven University of Technology, Netherlands, H.C.M. KNOOPS, Oxford Instruments Plasma Technology, Netherlands, J.-F. DE MARNEFFE, IMEC, Belgium</td>
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<tr>
<td>Time</td>
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<tr>
<td>10:00 am</td>
<td>LI3-WeM7</td>
<td>Welcome &amp; Introduction, <strong>C. DETAVERNIER</strong>, Ghent University, Belgium, P. POODT, TNO/Holst Center, Netherlands, W.M.M. KESSELS, Eindhoven University of Technology, Netherlands, H.C.M. KNOOPS, Oxford Instruments Plasma Technology, Netherlands, J.-F. DE MARNEFFE, IMEC, Belgium</td>
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<tr>
<td>10:15 am</td>
<td>LI3-WeM8 Invited</td>
<td>Surface Reactions Between Metals and Diketone induced by Gas Cluster Ion Bombardments, <strong>N. TOYODA</strong>, K. UEMATSUI, University of Hyogo, Japan</td>
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<tr>
<td>10:30 am</td>
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<td>Invited talk continued.</td>
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<tr>
<td>10:45 am</td>
<td>LI3-WeM10</td>
<td>ALE 2020 Best Student Paper Award Talk: Isotropic Plasma ALE of Al₂O₃ using SF₆ Plasma and TMA, <strong>N. CHITTOCK</strong>, M. VOS, A. MACKUS, Eindhoven University of Technology, Netherlands, H.C.M. KNOOPS, Oxford Instruments Plasma Technology, Netherlands, W.M.M. KESSELS, Eindhoven University of Technology, Netherlands</td>
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<tr>
<td>11:00 am</td>
<td>Break</td>
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<tr>
<td>11:15 am</td>
<td>LI3-WeM12 Invited</td>
<td>Monolayer Lithography: Exploiting Inhibition Contrast from the Extreme Ultraviolet Irradiation of Organic Monolayers for Area Selective Depositions, <strong>R. WOJTECKI</strong>, IBM Research - Almaden</td>
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<td>11:30 am</td>
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<td>Invited talk continued.</td>
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<tr>
<td>11:45 am</td>
<td>LI3-WeM14</td>
<td>Super-Conformal ALD of Metallic Mo Films by Simultaneous Deposition and Etch, <strong>J.-S. LEHN</strong>, EMD Performance Materials, C. DEZELAH, ASM, Finland, J. WOODRUFF, R. KANJOLIA, D. MOSER, T. POLSON, EMD Performance Materials</td>
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<tr>
<td>12:00 pm</td>
<td>Break</td>
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<tr>
<td>12:15 pm</td>
<td>LI3-WeM16</td>
<td>Process Optimization in Atomic Layer Deposition Using Machine Learning, <strong>A. YANGUAS-GIL</strong>, S. LETOURNEAU, A. MANE, N. PAULSON, A. LANCASTER, <strong>JEFFREY W. ELAM</strong>, Argonne National Laboratory</td>
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<tr>
<td>12:30 pm</td>
<td>LI3-WeM17</td>
<td>ALD/ALE Student Awards, Closing Remarks, &amp; Sponsor Thank You, <strong>C. DETAVERNIER</strong>, J. DENDOOVEN, Ghent University, Belgium, P. POODT, TNO/Holst Center, Netherlands, W.M.M. KESSELS, Eindhoven University of Technology, Netherlands, H.C.M. KNOOPS, Oxford Instruments Plasma Technology, Netherlands, J.-F. DE MARNEFFE, IMEC, Belgium</td>
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### Tutorials
#### Room: Live - Session TU1-TuA
**Tutorial Session: Tuesday Live**
**Moderators:** Christophe Detavernier, Ghent University, Belgium, Harm C.M. Knoops, Oxford Instruments Plasma Technology, The Netherlands

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<th>Time</th>
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<th>Topic</th>
<th>Speaker(s)</th>
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<tr>
<td>1:00 pm</td>
<td>TU1-TuA1</td>
<td>Tuesday Tutorial Welcome &amp; Sponsor Thank You</td>
<td>Christophe Detavernier, Ghent University, Belgium</td>
</tr>
<tr>
<td>1:15 pm</td>
<td>TU1-TuA2</td>
<td>Invited ALD Precursor Chemistry: Synthetic Routes, Purification and Evaluation of Precursors</td>
<td>Anjana Devi, Ruhr University Bochum, Germany</td>
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<td>1:30 pm</td>
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<td>Break</td>
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<td>2:00 pm</td>
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<td>3:00 pm</td>
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<td>Break</td>
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<tr>
<td>3:15 pm</td>
<td>TU1-TuA10</td>
<td>Invited ALD on High Aspect Ratio and Nanostructured Materials: from Fundamentals to Economics</td>
<td>Angel Yanguas-Gil, Argonne National Laboratory</td>
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<td>3:30 pm</td>
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<td>Break</td>
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<tr>
<td>4:00 pm</td>
<td>TU1-TuA13</td>
<td>Questions &amp; Answers</td>
<td>A. Devi, Ruhr University Bochum, Germany, N. Dasgupta, University of Michigan, A. Yanguas-Gil, Argonne National Laboratory</td>
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<td>4:15 pm</td>
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<td>Break</td>
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<tr>
<td>4:30 pm</td>
<td>TU1-TuA15</td>
<td>Session Over - View On Demand Presentations</td>
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<td>4:45 pm</td>
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<td>Break</td>
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#### Room: Live - Session TU2-WeA
**Tutorial Session: Wednesday Live**
**Moderators:** Jean-François de Marneffe, IMEC, Belgium, Erwin Kessels, Eindhoven University of Technology, The Netherlands, Paul Poodt, TNO/Holst Center, The Netherlands

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<tbody>
<tr>
<td>1:00 pm</td>
<td>TU2-WeA1</td>
<td>Wednesday Tutorial Welcome &amp; Sponsor Thank You</td>
<td>Erwin Kessels, Eindhoven University of Technology, The Netherlands</td>
</tr>
<tr>
<td>1:15 pm</td>
<td>TU2-WeA2</td>
<td>Invited Growth Mechanisms and Selectivity During Atomic Layer Deposition</td>
<td>Annelies Delabie, KU Leuven – University of Leuven/IMEC, Belgium</td>
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<td>1:30 pm</td>
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<td>Break</td>
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<td>2:00 pm</td>
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<td>Break</td>
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<tr>
<td>2:15 pm</td>
<td>TU2-WeA6</td>
<td>Invited Self-limiting Surface Reactions for Atomic-level Control of Materials Processing</td>
<td>Simon D. Elliott, Schrödinger, Inc.</td>
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<td>2:45 pm</td>
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<td>Break</td>
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<td>3:00 pm</td>
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<td>Break</td>
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<tr>
<td>3:15 pm</td>
<td>TU2-WeA10</td>
<td>Invited Fundamentals of ALE – Optimizing Passivation and Etch*</td>
<td>Mark Kushner, University of Michigan</td>
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<td>3:30 pm</td>
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<td>Break</td>
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<tr>
<td>4:00 pm</td>
<td>TU2-WeA13</td>
<td>Questions &amp; Answers</td>
<td>Mark Kushner, University of Michigan</td>
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<tr>
<td>4:15 pm</td>
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<td>Break</td>
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<tr>
<td>4:30 pm</td>
<td>TU2-WeA15</td>
<td>Session Over - View On Demand Presentations</td>
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<td>4:45 pm</td>
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<td>Break</td>
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