



## 1. Scientific summary and abstract

The aim of the ISOS international summit on OPV stability is to create global standards for measuring OPV stability, performance and lifetime. The last 2 years the ISOS have been arranged in Denver, Colorado and in Amsterdam, Netherlands respectively and have conducted introductory talks and breakout sessions, e.g. stability, round robin and testing protocols (at ISOS-2).

This year the annual summit on OPV stability ISOS-3 will be held in Denmark and will comprise a 2 day *experimental roll-to-roll manufacturing OPV workshop* (limited number of attendants), 1 day *scientific conference with poster session* and the 2 day *summit* with scientific discussions and scientific talks of the latest developments within OPV stability (see program and list of invited speakers below).

The organizing committee for ISOS-3 is: Dr. Dave Ginley, Dr. Darin Laird, Dr. Jens Hauch, Dr. Jan Kroon, Dr. Albert van Breemen, Dr. Frederik Krebs and Dr. Eva Bundgaard. A curriculum vitae for each member can be found below.

## 2. Program:

### Experimental workshop:

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	<b>Monday 19/4</b>	<b>Tuesday 20/4</b>
<b>8:30</b>	Welcome	
<b>9:00</b>	Talk: <a href="#">Frederik Krebs</a> Lab	Lab
<b>10:30</b>	Coffee	Coffee
<b>11:00</b>	Lab	Lab
<b>12:30</b>	Lunch	Lunch
<b>13:30</b>	Lab	Lab
<b>15:00</b>	Coffee	Coffee
<b>15:30</b>	Lab	Finishing discussions
<b>17-21</b>	Lab/dinner	Dinner at Rådhuskælderen

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## Conference

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<b>Wednesday 21/4</b>	
<b>8:30</b>	Welcome
<b>9:00</b>	<i>Title: Degradation</i> Chair: <b>Frederik Krebs</b> Talk: <b>Kion Norrman</b> <b>David Germack</b> <b>Matthew Lloyd</b> <b>Jean-Luc Gardette</b>
<b>11:00</b>	Coffee and snack
<b>11:30</b>	<i>Title: Materials</i> Chair: <b>Eva Bundgaard</b> Talk: <b>Dirk Vanderzande</b> <b>Serge Beaupré</b> <b>Olle Inganäs</b> <b>Stéphane Guillerez</b>
<b>13:30</b>	Lunch and coffee
<b>15:00</b>	Tour de Risø (in groups)
<b>17-21</b>	Poster session Standing dinner

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## Summit

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	Thursday 22/4	Friday 23/4
8:30	<i>Title: Industrial Materials</i> Chair: <b>Laurence Lutsen</b> Talk: <b>David Kronholm</b> <b>Peter Eckerle</b> <b>Andreas Elschner</b> <b>Frank Louwet</b>	Summary in breakout sessions <b>Round robin (Dave Ginley, Jan Kroon)</b> <b>Industry (Jens Hauch, Darin Laird)</b> <b>Fundamental (Albert van Breemen, Frederik Krebs)</b>
10:30	Coffee	Coffee
11:00	Breakout sessions <b>Round robin (Dave Ginley, Jan Kroon)</b> <b>Industry (Jens Hauch, Darin Laird)</b> <b>Fundamental (Albert van Breemen, Frederik Krebs)</b>	Plenary presentation and discussions <b>Dave Ginley, Jan Kroon</b> <b>Jens Hauch, Darin Laird</b> <b>Albert van Breemen, Frederik Krebs</b>
12:30	Lunch	Lunch
13:30	<i>Title: Manufacture</i> Chair: <b>Jens Hauch &amp; Darin Laird</b> Talk: <b>Bertrand Jannon</b> <b>Gang Li</b> <b>Tommi Vourinen</b> <b>Yulia Galagan</b>	Plenary discussion and wrap-up ISOS-4 time and place <b>Dave Ginley</b>
15:30	Coffee	End (14:00)
16:00	Breakout sessions <b>Round robin (Dave Ginley, Jan Kroon)</b> <b>Industry (Jens Hauch, Darin Laird)</b> <b>Fundamental (Albert van Breemen, Frederik Krebs)</b>	
17:30	Dinner Saga Fjord (bus departs 17:30)	

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### 3. Curriculum Vitae



*Dr. David S. Ginley* received his PhD in inorganic chemistry from MIT in 1976. He then joined Sandia National Laboratories where he was the Department manager until 1992 where he joined National Renewable Energy Laboratory. Dr. Ginley is currently leading activities in the applications of nanotechnology, organic electronics, transition metal oxides and ink jet printing for solar cells. Current work focuses on the development and basic science of very high quality materials and the development of next generation process technology for materials and device development. Dr. Ginley is an adjunct Professor of Physics at CU Boulder and a Research Professor of physics at the Colorado School of Mines. Dr. Ginley has published more than 360 papers and received 27 patents.



*Dr. Darin W. Laird* received his PhD in Chemistry from University of Texas at Austin in 2001. Dr. Laird is a founder and the Director of the Power and Circuitry Teams at Plextronics, Inc. Prior to joining the company, he was a postdoctoral associate in the research group of Richard D. McCullough at Carnegie Mellon University. Dr. Laird leads the Power and Circuitry Teams for product development in Organic Photovoltaic Cells (OPV) and Organic Thin Film Transistors (OTFT) and oversees the Materials Development Group for designing electroactive polymer donors and acceptors with controllable electronic, optical, and morphological properties for OPV and OTFT application tracks. Furthermore, Dr. Laird has overseen the creation of the team and approach to increase stability of OPV modules. Dr. Laird is an inventor on 82 issued and pending patent applications for OLED, OPV, and OTFT application technologies.



*Dr. Jens A. Hauch* is the Director of R&D Operations and the manager of the German R&D site of Konarka Technologies. Dr. Hauch is responsible for stability and packaging development of Konarka's innovative Power Plastic<sup>®</sup>, a new type of solar module based on semiconducting organic polymers. Dr. Hauch received his PhD in Physics from the Center for Nonlinear Dynamics at the University of Texas at Austin in 1998. Before joining Konarka in 2004, he was active in the development of thin-film magnetic sensors, electrochromic displays, and organic photodetectors at Siemens Corporate Technology from 1999-2004. Dr. Hauch is author and co-author of numerous patents, patent applications and scientific papers in organic photovoltaics, thin film magnetics and dynamic fracture.



*Dr. Jan Kroon* is a Senior Research Scientist and Program coordinator of Organic based PV technologies, addressing both polymer PV and dye-sensitized solar cells. He has been project coordinator of several national and international projects, amongst which a number of EU projects.



*Dr. Albert van Breemen* received his Ph. D. degree in Organic and Polymer Chemistry from the University Hasselt, Belgium, in 1999. In that same year Dr. van Breemen joined TNO Science and Industry as Project Member in the Functional Polymers & Coatings department up to 2000, as Project Leader in the same department since 2001. In 2008, he became senior research scientist at TNO/Holst Centre working on organic transistors, memories and electro-optical sensors. Furthermore, Dr. van Breemen is currently involved in standardisation activities in organic and large area electronics in the FP7-project OPERA.



*Dr. Frederik C. Krebs* received his PhD in Chemistry from the Technical University of Denmark in 2000 and has since then worked as group leader in the field of polymer solar cells at Risø DTU, National Laboratory for Sustainable Energy. The areas of research include new materials with low band gap and novel processing capability, large area processing and manufacture of polymer solar cells, stability and lifetime testing, degradation mechanism studies, outside testing and demonstration. Dr. Krebs has published more than 120 papers and holds 17 filed patents.



*Dr. Eva Bundgaard* received her PhD in Chemistry from Risø DTU/RUC in 2007. She is currently working at Risø DTU, National Laboratory for Sustainable Energy as a post.doc. with main research activities in synthesis of new low band gap polymer materials for organic solar cells. She has published 9 peer-reviewed journal papers within the field of organic synthesis, organic photovoltaics and low band-gap polymers.

#### 4. List of invited speakers

Name	Workplace	Session	Confirmed? Y/N
Dr. Kion Norrman	Risø DTU	Degradation	Y
Dr. Tommi Vourinen	VTT	Manufacture	Y
Dr. David S. Germack	NIST	Degradation	Y
Dr. Andreas Elsner	H. C. Starck	Industry	Y
Dr. Dirk Vanderzande	IMO-IMOMECE	Materials	Y
Dr. David Kronholm	Nano-C	Industry	Y
Dr. Serge Beapré	University of Laval	Materials	Y
Dr. Matthew Lloyd	NREL	Degradation	Y
Dr. Gang Li	Solarmer	Manufacture	Y
Dr. Yulia Galagan	TNO	Manufacture	Y
Dr. Bertrand Jannon	Alcan	Manufacture	Y
Dr. Peter Eckerle	BASF	Industry	(Y)
Dr. Jean Lyc Gardette	University of Blaise Pascal	Degradation	Y
Dr. Frank Louwert	Agfa	Industry	Y
Dr. Olle Inganäs	IFM Linköping University	Materials	Y
Dr. Stéphane Guillerez	CEA	Materials	Y