

# DPI Annual Meeting 2020



Welcome to the  
**NEXT LEVEL**

Inspiring polymers



**NEXT LEVEL**  
Collaborations

HAVE A NICE MEETING

Welcome to the  
**NEXT LEVEL**  
DPI



Welcome  
to the  
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Welcome to the  
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**DPI**  
The Polymer  
Research Platform

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HOTEL ERDOHOVEN







Welcome to the  
**NEXT LEVEL**  
Annual Meeting 2020  
*Inspiring polymers*  
DPI

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DPI





# Thank you! Prof. Vincenzo Busico



- Joined DPI in 1999
- Leader in heterogeneous polyolefin catalysis
- Huge network in the Polyolefin research community
- Famous for high throughput approach
- Strong advocate of the DPI approach and instrumental in bringing new industrial and academic partners to the DPI network, building a strong DPI Polyolefin community
- Organised DPI Blue Sky Conferences & DPI Polyolefin course which have had a great impact in the creativity and the knowledge base in the DPI community

Klinken, E.J. [Microphone icon]

+99 JK DJ BA DU EM CB EK EK

BENCO Abdela... Dmitry Ubarsky (rocs) Mejer, E.H. Bosteen, C.L. Loon, Joachim ERIO ANDRE KUNRA Klinken, E.J. VINCENZO BUSICO



02:57:54

DPI Annual Meeting

# Who am I?

**TU/e** Eindhoven University of Technology

**DPI** The Polymer Research Platform

**1969** THE YEAR EVERYTHING CHANGED

Rob Kirkpatrick

OH! CALIFORNIA! THE WEATHER UNDERGROUND  
NEIL YOUNG & CRAZY HORSE TOMMY  
MCS MONTEY APOLLO 11 BOEING 747  
LEAD ZEPPELIN WOODSTOCK  
PROKOP'S PARK 30th HENOSKI RICHARD RICHARDSON  
THE GODFATHER YOGY AND JEFFERSON  
WOODY ALLEN THE STOCKS AIRPLANE  
MIDNIGHT COWBOY NUDITY THE MIRAGE  
BOB & CAROL 8 TED & MARY PETERS  
CORPORATION HEAT ROCKY STILL & MASH

**BULLET PROOF**

CHUCK HOLTON

Meijer, E.W. CB Bortoen, C.L. Loox, Joachim FK FABIO ANDRE KUNRA... VB VINCENZO BUSICO CC Costantino Cretan (In... BR Bernhard Rapp...

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02:59:59

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### DPI network of industry leaders

ExxonMobil  
SKF  
DSM  
BRIGHT SCIENCE. BRIGHTER LIVING.  
Silopec  
DPI  
The Polymer Research Platform  
TEIJIN  
Human Chemistry, Human Solutions  
Shell  
SCG CHEMICALS  
SNF FLOERGER  
BOREALIS  
Keep Discovering  
Braskem  
HUTCHINSON  
Reliance Industries Limited  
Nouryon  
سابك  
السابك  
Saudi Aramco  
DOW  
KINGFA  
SIBUR

Kirklin, E.L.

Participant list with initials and names:

- +104
- BA
- DU
- EM  
Major, E.W.
- CB  
Barbott, C.L.
- FX  
FABO ANDRE EDUARDO
- VB  
VINCENTO BASSO
- CC  
Coltantine Carlton
- BR  
Barnard Benge


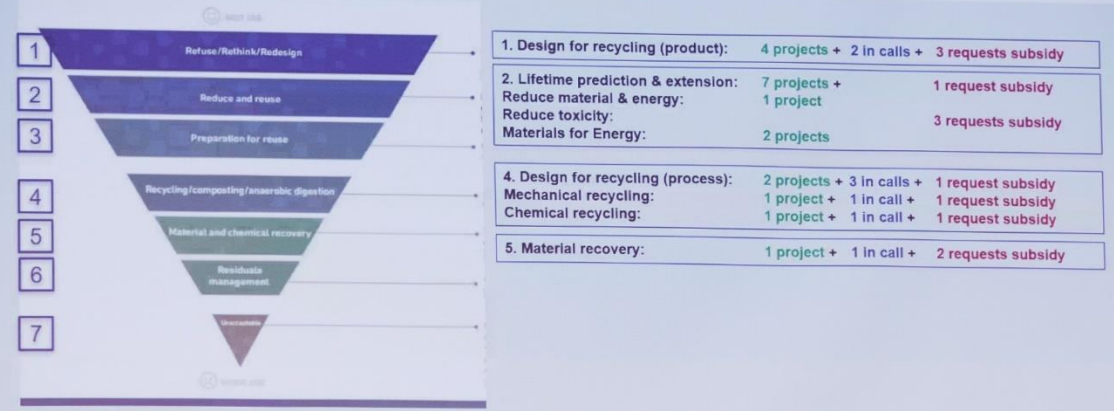
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**NEXT LEVEL**







# Portfolio Circular Plastics: well spread and rapidly expanding

DPI recently submitted additional funding requests for Circular Plastics with EU & national subsidy funds for a total of 6M€ subsidy, all directed towards Circular Plastics

Klinken, E.J.

Participant avatars and names: +108, BA, DU, EM (Meijer, E.W.), CB (Boston, C.L.), Loos, Joachim, FK (FABIO ANDRE KUNRA...), [Video Feed], VB (VINCENZO BUSICO), CC (Costantino Creton (Inv...)), BR (Bernhard Rege...)



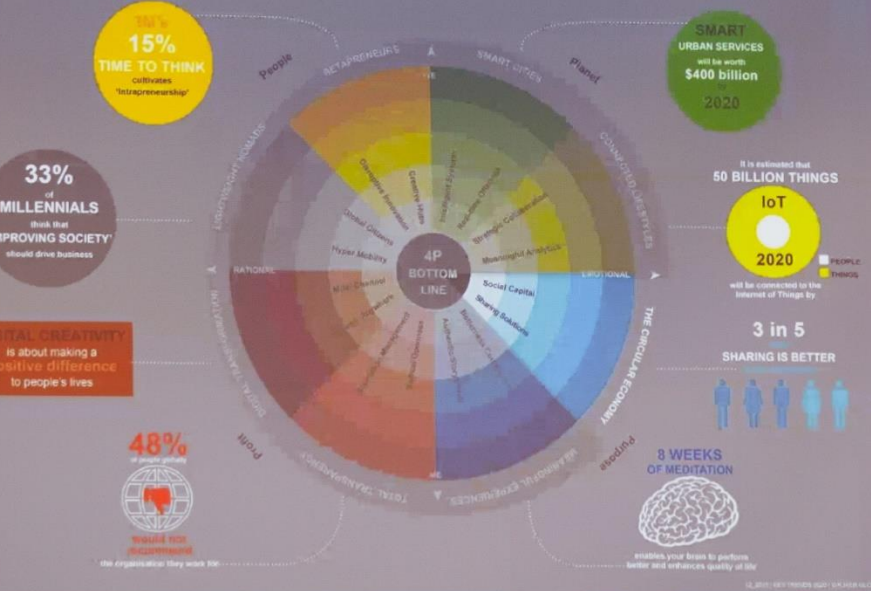




# The 4P world we live in... ...and the role of DPI



## 8 KEY TRENDS 2020 SHAPING PEOPLE, CITIES & BUSINESSES



Klinken, E.J.

Participant list with icons and names:

- +107
- BA
- DU
- EM Meijer, E.W.
- CB Boston, C.L.
- FK FABIO ANDRE KUNRA...
- VB VINCENZO BUSICO
- CC Costantino Creton (Inv...
- BR Bernhard Rieger...

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Research Platform



Stop

You're no longer spotlighted



Simone Hendrikse

Klinken, E.J.

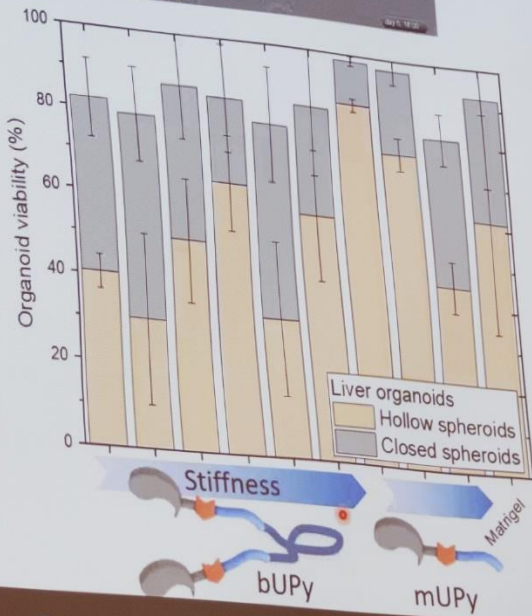
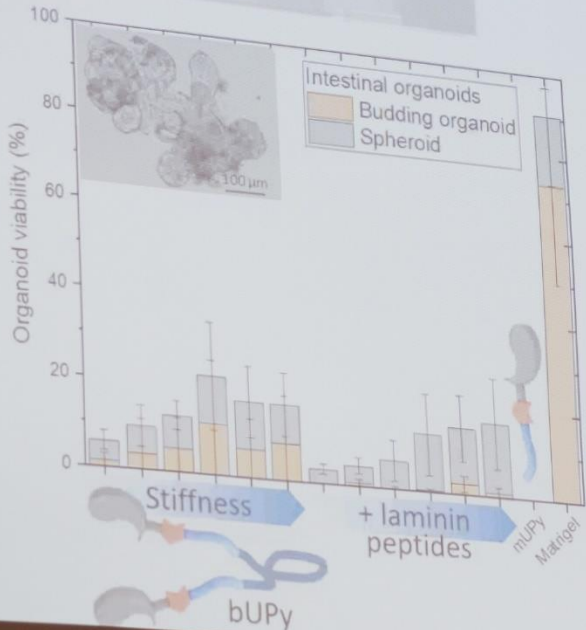
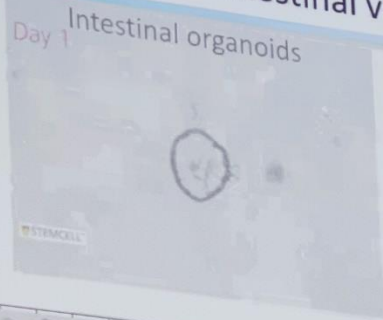


Meijer, E.W.

Bostoan, C.L.



### 3. Organoid experiments: intestinal versus liver organoids



Matrigel®

In collaboration with Hans Clevers lab, Utrecht

Simone Hendriks

+108

CS

EM

CB

Bostoen, C.L.

Loos, Joachim

FK

FABIO ANDRE KUNRA...

VB

VINCENZO BUSICO

CC

Costantino Creton (Inv...

BR

Bernhard Rieger (Gast)

EK

Klinken, E.J.



Simone Hendriks



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Welcome  
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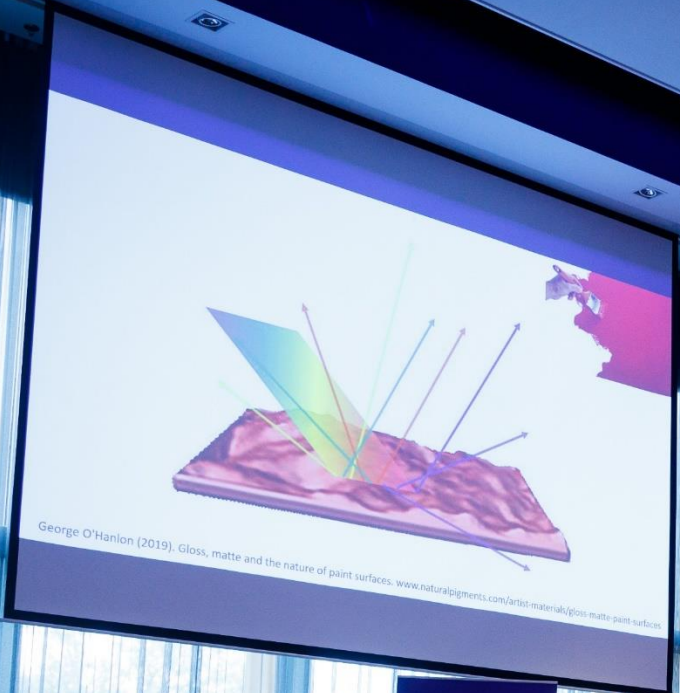




LET THERE BE LIGHT  
QUANTITATIVE IMAGING OF  
NANOSCALE DYNAMICS  
IN POLYMER MATERIALS

HANNE VAN DER KOOIJ





Welcome to the  
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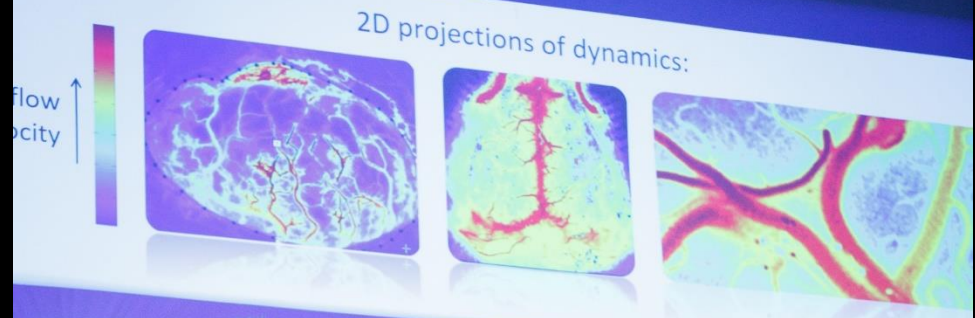


Many years ago, Joris Sprakel, intrigued by coatings...



We need an imaging method for turbid systems...





# Laser Speckle Imaging





### Dynamics in turbid systems: DWS

Diffusing-wave spectroscopy : dynamic light scattering in the multiple scattering limit

D. J. Pine, D. A. Weitz, F. X. Zhu and E. Hertzinger  
*J. Phys.: France* 81 (1998) 2161-2171

The diagram illustrates the experimental setup for Diffusing-Wave Spectroscopy (DWS). It shows a 'Laser' source emitting light that passes through a 'Studied product'. The light is then detected by a 'Sensor'. The process is labeled as 'Backscattering'.

Next Level  
Collaboration

Presented by  
Next Level  
DPI

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uffele





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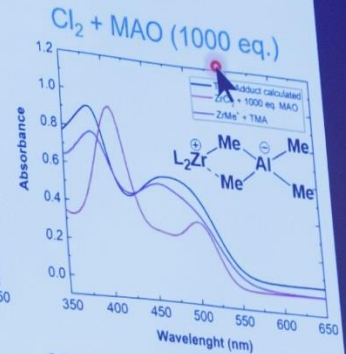
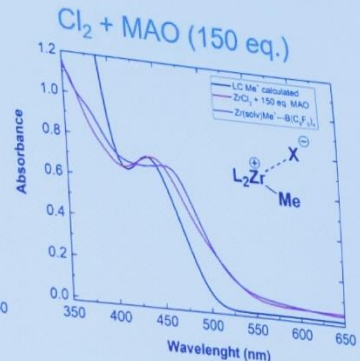
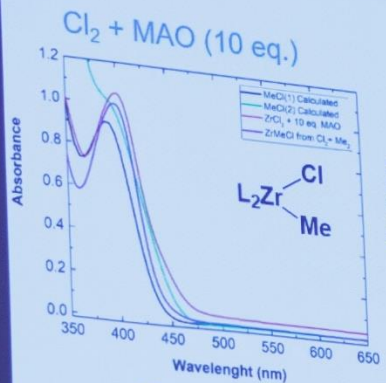
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# Combined Approach to study the Activation with MAO

## Experiments (NMR and UV-vis)

## DFT Calculation (Prediction of UV-vis spectra)



Cl<sub>2</sub> + Me<sub>2</sub>

Me<sub>2</sub> + trityl-borate

Me<sub>2</sub> + trityl-borate + TMA

The experimental trends of dichlorides activated with different equivalents of MAO are well reproduced by DFT calculations and experiments carried out on well-defined species.



Leonardo Sian

+106

CS

CB

Loos, Joachim

FK

FABIO ANDRE KUNRA...

VB

VINCENZO BUSICO

CC

Costantino Creton (Inv...

BR

Bernhard Rieger (Gast)

EK

Klinken, E.J.



Simone Hendriks

LS

Leonardo Sian



04:00:13

DPI Annual Meeting

# Acknowledgements

Stop spotlighting

DPI The Polymer Research Platform

سابک  
sabic

Leonardo Sim

+103 CS CB

Loos, Joachim FK FABIO ANDRIE KUNRA... VB VINCENZO BUSCO CC Costantino Creton (Im... BR Bernhard Roger (East) EK Kirkes, E.L. LS Leonardo Sim

Welcome to the  
**NEXT LEVEL**







Welcome to the  
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HIGH PERFORMANCE  
BEHAVIORS

ACHIEVEMENT v.s. MOVEMENT

TEAM v.s. COMMITTEE

FALL IN LOVE v.s. FALL IN LOVE  
WITH GOAL WITH PLAN

PRODUCTION v.s. PERFECTION

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to the

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**Programme**

13.30 **Welcome and DPI update**  
Ernst Jan van Klinken, Managing Director DPI

**DPI Golden Thesis Award**  
Presentations by the three nominees:  
Dr. Simone Hendrikse  
Dr. Hanne van der Kooij  
Dr. Leonardo Sian

14.45 **Break**

15.15 **How do the best get better**  
Paul Rulkens, High Performance Mastermind

**Inspiring Polymers**  
Prof. Bernhard Rieger, Technical University of Munich

16.30 **Wrap-up**

HIGH PERFORMANCE BEHAVIORS

Achievement v.s. Movement

Team v.s. Committee

Fall in love v.s. Fall in love  
with goal with plan

Production v.s. Perfection

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Programme

DPI

- 10:00 Welcome and DPI update
- 10:15 Distinguished speaker: Distinguished Professor DPI
- 10:30 DPI Golden Thesis Award
- 10:45 Presentation by the award winners
- 11:00 Presentation by the award winners
- 11:15 Presentation by the award winners
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- 24:00 Presentation by the award winners



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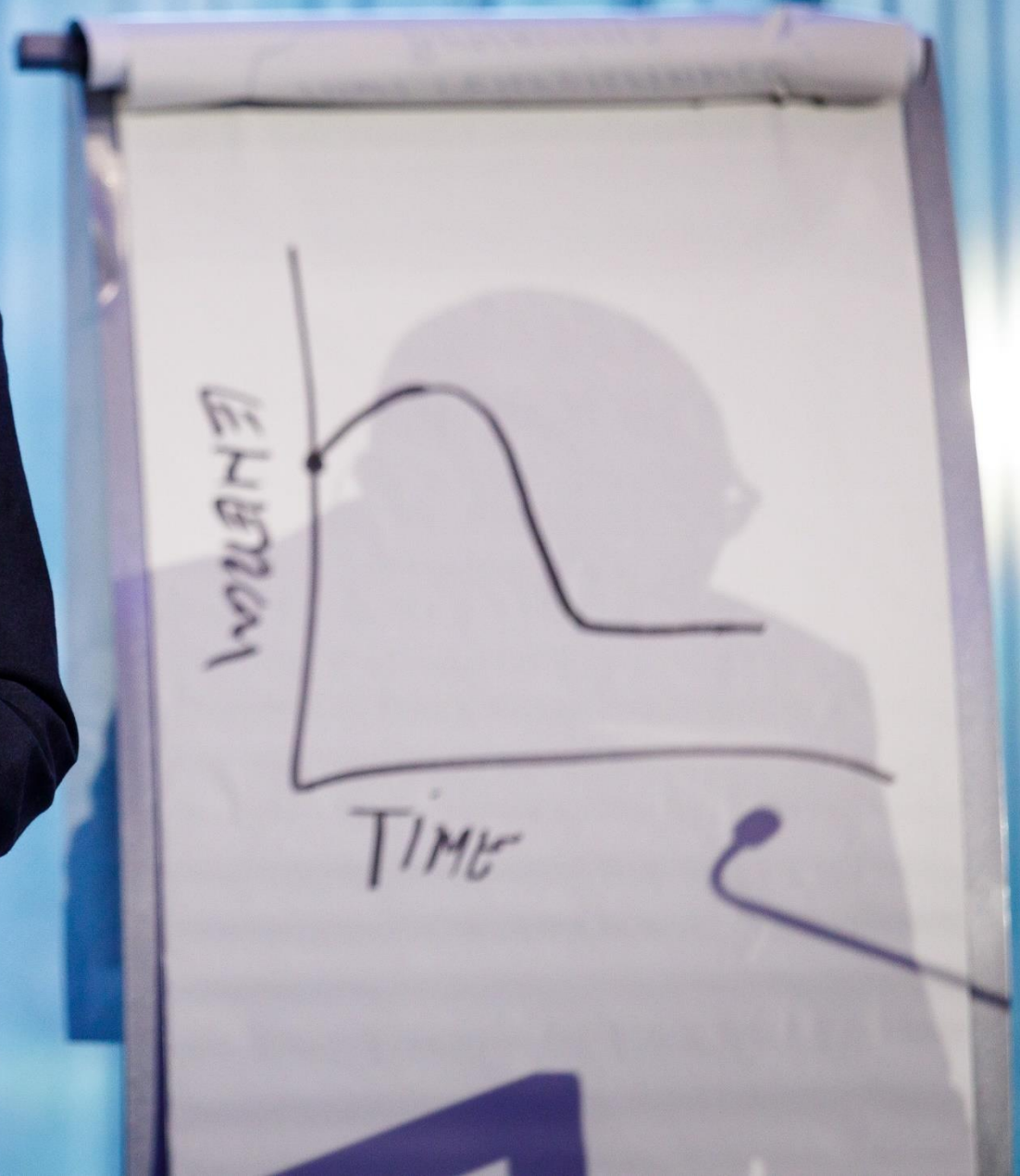
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STRATEGIC  
QUITTING

COLLABO-  
RATION

CLARITY

Welcome  
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1440









Bernhard Rieger (Gast)



Klinken, E.J.

VINCENZO BUSICO



Korstanje, R.J.



Gitsas, Antonis

GERVAT Laurent



Chávez Thielemann, H.N.



FABIO ANDRE KUNRATH

Tomovic, Z.



2 %  
x  
Days





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**DPI**  
The Future of  
Research

PHILIPS

Winner  
2020  
DPI





Winner  
2020

Golden Thesis Award  
Hanne van der Kooij  
DPI



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Inspiring polymers  
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1%  
2x  
70 Days

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DP  
The Future of...

PHILIPS



1%  
2x  
70 Days

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Virtual meeting interface showing participants: BR, BA, HT, TD, FK. Video feeds of participants are visible.

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The Regional  
Development Institute

22  
24  
2024















