

DPI Invention Award 2011

Dutch Polymer Institute





DPI Invention Award



The projected slide has a blue background with a decorative border at the top consisting of a pattern of white and blue circles of varying sizes. In the top right corner, there is a small version of the DPI logo. The main text on the slide is as follows:

DPI Invention Award 2011
Dutch Polymer Institute – The art of connecting

Dr. Jacques Joosten, Managing Director DPI
29 June 2011, Granada, Spain



GRANADA, 26TH JUNE - 1ST JULY, 2011









DPI Invention Award 2011

Dutch Polymer Institute – The art of connecting

*Dr. Jacques Joosten, Managing Director DPI
29 June 2011, Granada, Spain*



DPI Invention Award 2011

Dutch Polymer Institute – The art of connecting

Dr. Jacques Joosten, Managing Director DPI
29 June 2011, Granada, Spain



Academic P

Imperial College
London



University

Radboud Universiteit Nijmegen

FOOD & BIOBASED RESEARCH
WAGENINGEN UR

NANOforce



TU Delft

PF



Technische Universiteit
Eindhoven
University of Technology



Universiteit Maastricht

FPL

TU/e



UNIVERSITÄT
BAYREUTH



NWO

PTG
EINDHOVEN

ECN



UNIVERSITÄT

Queen Mary
University of London

Queen's
UNIVERSITY

ESPCI



UNIVERSITY OF

UNIVERSITY





DPI Invention Award



EPF 2011
EUROPEAN POLYMER CONGRESS

GRANADA, 26TH JUNE - 1ST JULY, 2011



Plant oils: the perfect rene
on the occasion of awarding t

Prof. Dr. Michael A. R. Meier, INSTITUTE OF O

KIT - University of Applied Sciences
National



Plant oils: the perfect renewable resource for polymer science ?!

on the occasion of awarding the 2011 DPI Invention Award to Prof. Dr. Cor Koning

Prof. Dr. Michael A. R. Meier, INSTITUTE OF ORGANIC CHEMISTRY, PROFESSORSHIP FOR APPLIED CHEMISTRY

KIT - University of the State of Baden-Wuerttemberg and
National Research Center of the Helmholtz Association



EPF 2011
EUROPEAN POLYMER CONFERENCE

DPI
Dutch Polymer Institute

GEP epf

GRANADA





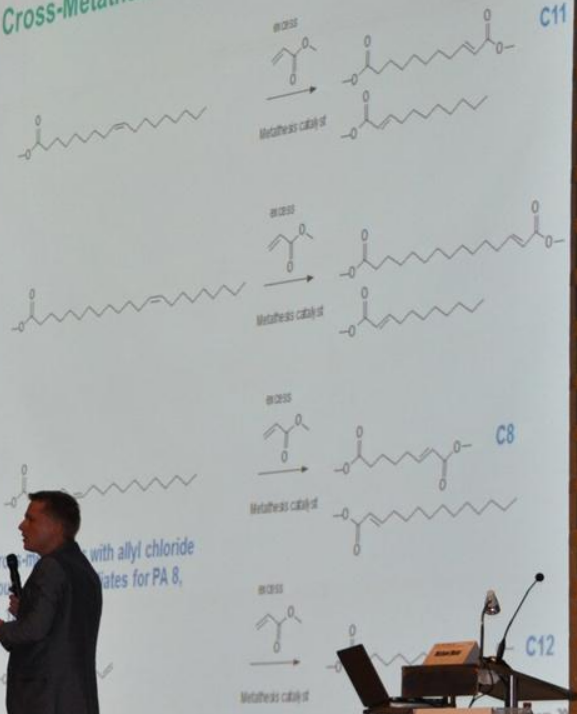
European Polymer Congress 2011
6th Congress of the International Union of Pure and Applied Chemistry
Michael Meier

Palacio de Exposiciones
y Congresos Granada

vention Award



Cross-Metathesis with oleochemicals



Cross-metathesis with allyl chloride works well for PA 8, 11, 12, 14, 16, 18, 20

© Michael A. R. Meier

DPI Invention Award



EPF 2011
DPI
Gronau
26th BNC - 7th July 2011



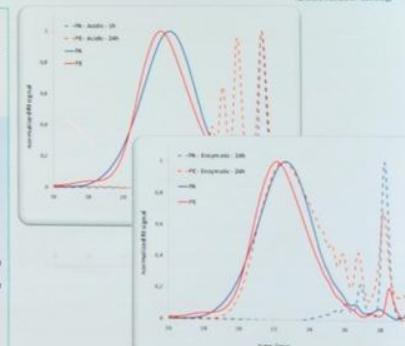
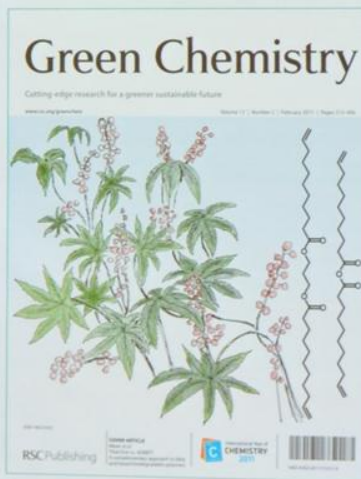




DPI Invention Award



Biopolymers: ADMET vs. Thiol-Ene

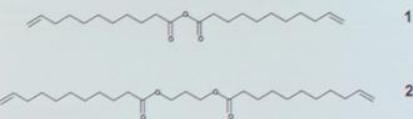
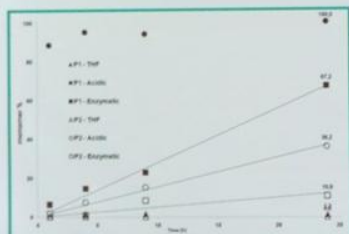


→ tunable degradation
→ PE/PA copolymers via ADMET & Thiol-Ene

O. Turtinc, M. A. R. Meier, Green Chem., 2011 13, 314



Biopolymers: ADMET vs. Thiol-Ene II



P1: Polyanhydride
 P2: Polyester
 P5: 50:50 copolymer

→ all polymers with very similar M_n and end-capped → only difference: connectivity!

→ copolyester/anhydrides accessible, that would otherwise be impossible

→ degradation can be tuned!

O. Türeci, M. A. R. Meier, Green Chem., 2011 13, 314

DPI Invention Award



RATE-DIRECTED POLYMERIZATION POLYMERS

ñoz-Guerra

roups
atalunya (Barcelona)
lla (Sevilla)

word





Carbohydrate-based polycondensation polymers

Naturally-occurring resources

- fully renewable
- easily accessible
- widely diverse

CARBOHYDRATES

- sustainable
- biodegradable
- novel

Polycondensation polymers



EPF 2011
EUROPEAN POLYMER CONFERENCE

DPI
Dutch Polymer Institute

SEP eef





University
of Glasgow

On the Importance of Carbon Allotrope Network Organisation in Nanocomposites

Joachim Loos

Email: joachim.loos@glasgow.ac.uk



On the Importance of Carbon Allotrope Network Organisation in Nanocomposites

Joachim Loos
Email: joachim.loos@glasgow.ac.uk

tion Award



Joachim Loos

EPF 2011
EMERITUS PRIZES AWARDS

DPI
Dutch Polymer Institute

GEP epf

University of Glasgow

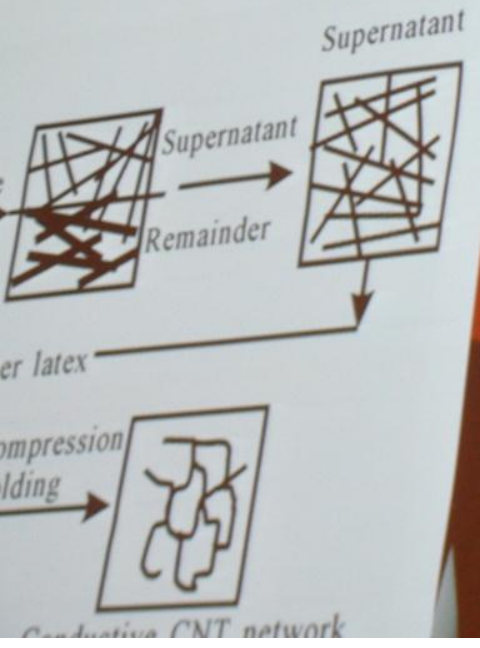
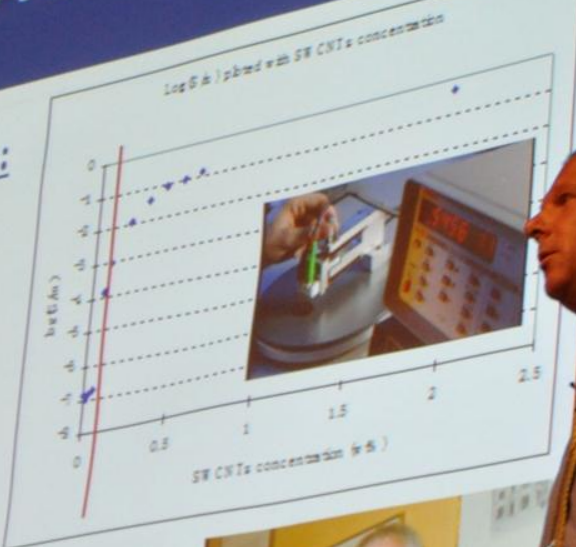
University
Glasgow

Kelvi
Nanocharacterisation
Centre



Conductive Nanocomposites

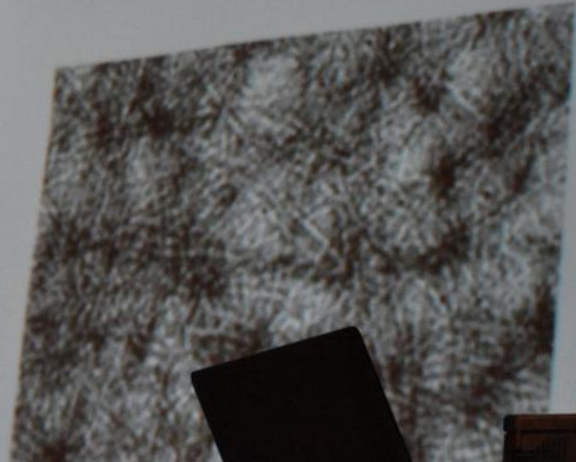
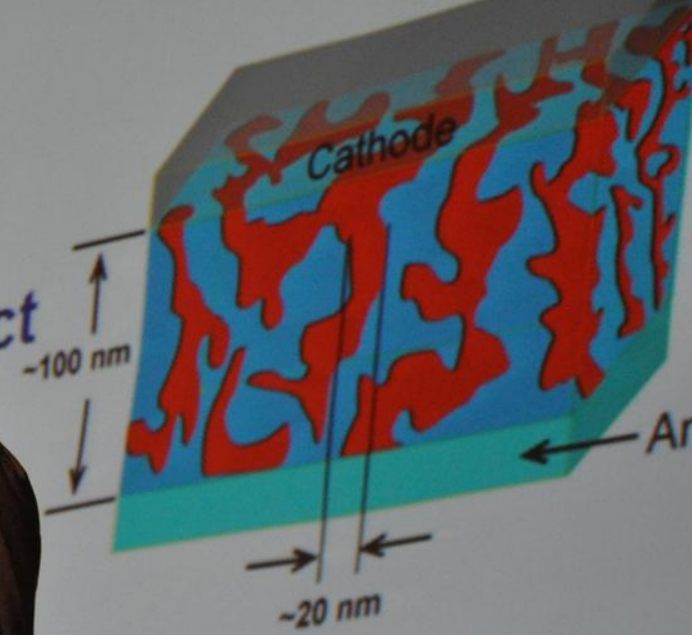
highest conductivity:
100 S/m (Bulk)
10 S/m (Thin film)
1 S/m (Graphene)



2D vs. 3D



object



Acknowledgement

NATURE NANOTE



ARTICLES



Figure 4 | Percolating network and spheres: one rich in rods and the sphere-to-rod diameter

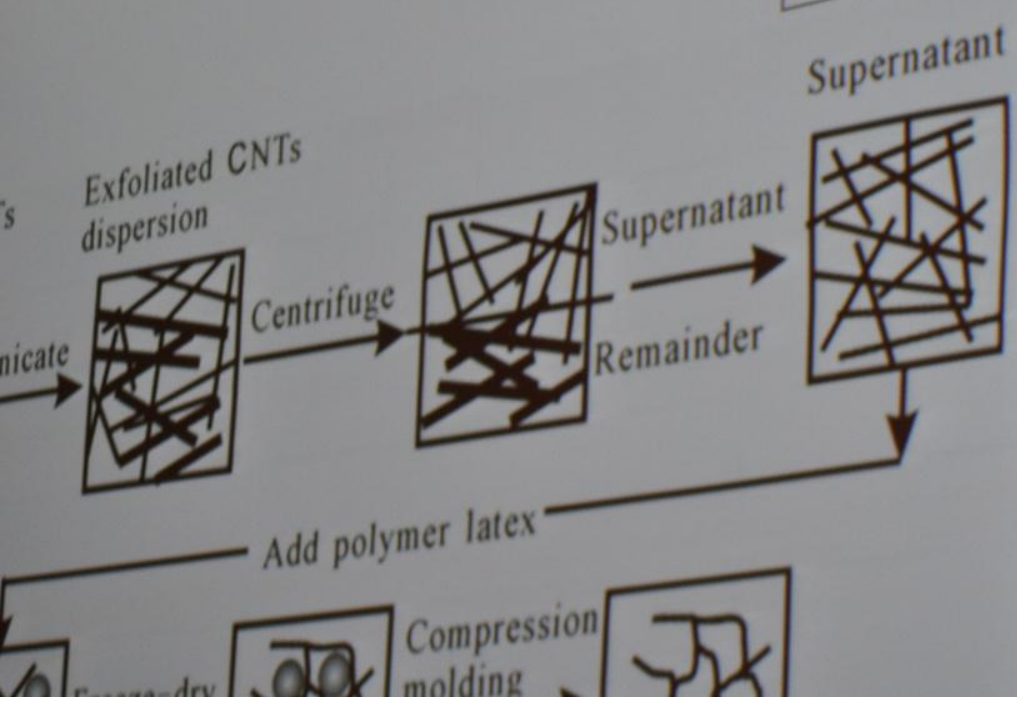
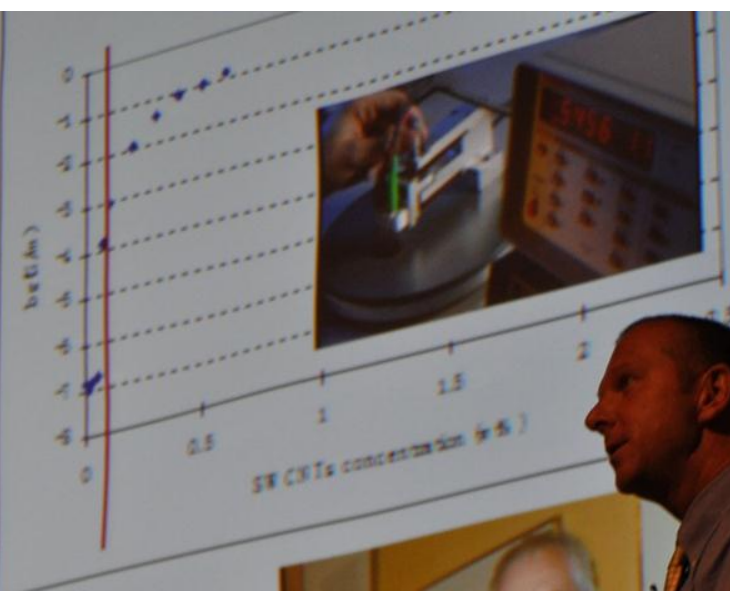




Towards

Threshold:
(SWCNT)
(MWCNT)
(Graphene)

Highest conductivity:
1000 S/m (Bulk)
500 S/m (Thin film)
10 S/m (Graphene)



Joachim Loos

Asociación de Expositores
Congreso Granada

EPF 2011

Award







entation Award

 **DPI**
Dutch Polymer Institute

 **EPF 2011**
EUROPEAN POLYMER CONFERENCE

 **DPI**
Dutch Polymer Institute

 **GEP** 

GRANADA
26th JUNE - 1st JULY 2011

Joachim Loos

Relación de Expositores
Congreso Granada



DPI Invention Award 2011

- Awarded every two years to an inventor of the DPI community
- To emphasize the importance of inventions

Winner DPI Invention Award 2011: Prof.dr. Cor E. Koning

- 5 filed patent applications in the last two years
- Performance Polymers, Coatings, Bio-Inspired Polymers
- Focus on societal & environmental responsibility
- Generated new projects & business opportunities









Cor

Lab

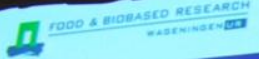
Ein

EP









TU e Technische Universiteit
Eindhoven
University of Technology

Sustainable coatings, plastics and fibers from novel biomass-based polymers

Cor Koning
Laboratory of Polymer Chemistry
Eindhoven University of Technology

meeting, Granada, Spain,
July 2011



Cor Koning

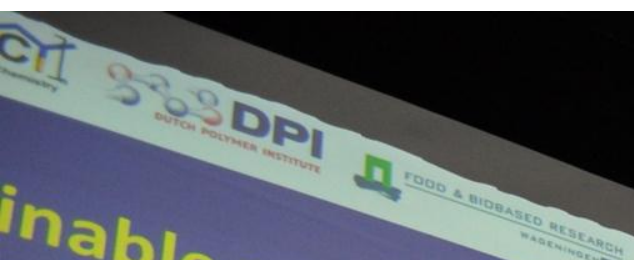
Palacio de Exposiciones
y Congresos Granada

EPF 2011
EUROPEAN POLYMER CONFERENCE

DPI
Dutch Polymer Institute

GEP epf

GRANADA
26th JUNE - 1st JULY 2011



Sustainable coatings, plastics fibers from novel cellulose-based polymers

Department of Polymer Chemistry
Technische Universiteit
Eindhoven University of Technology
Granada, Spain,
2011



Courtesy of DPI

DPI Invention Award



DPI Invention Award

ISIPCI
Laboratory of Polymer Chemistry

DPI
DUTCH POLYMER INSTITUTE

FOOD & BIODEGRADABLE RESEARCH
WAGeningen UR

TU/e
Technische Universiteit
Eindhoven
University of Technology

Sustainable coatings, plastics and fibers from novel biomass-based polymers

Cor Koning
Laboratory of Polymer Chemistry
Eindhoven University of Technology

EPF meeting, Granada, Spain,
June/July 2011

Cor Koning

Palacio de Exposiciones
y Congresos Granada

EPF 2011
EUROPEAN POLYMER CONFERENCE

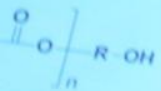
DPI
Dutch Polymer Institute

GEP ept

GRANADA
26th JUNE - 1st JULY 2011



esters



(MEA)

(MES)

Technische Universiteit
Eindhoven
University of Technology

DPI Invention Award

 **DPI**
Dutch Polymer Institute

GRANADA
26th JUNE - 1st JULY 2011



ward

EPF 2011

DPI
Dutch Polymer Institute

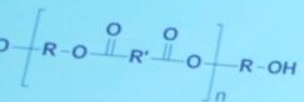
GRANADA
26th JUNE - 1st JULY 2011



DPI Invention Award



ed polyesters



(polyadipate) (PPA)

(polybutadipate) (PBA)

(polysebacate) (PDS)

(polyethylene adipate) (PDMEA)

(polyethylene succinate) (PDMES)

TU/e Technische Universiteit
Eindhoven
University of Technology

DPI Invention Award

 **DPI**
Dutch Polymer Institute

GRANADA
26th JUNE - 1st JULY, 2011

DPI Invention Award



DPI Invention Award



DPI Invention Award









EPF 2011

EUROPEAN POLYMER CONGRESS



G E P

epf



GRANADA, 26TH JUNE - 1TH JULY, 2011