

Circular & Sustainable Materials in 2050

*Joint 4TU.HTM & M2i Workshop in
collaboration with the LDE Centre for Sustainability*

Chaired by

- **Arjan Mol**, Scientific Director 4TU.HTM, Professor Corrosion Technology & Electrochemistry, Materials Science & Engineering, TU Delft
- René Kleijn, Associate Professor Industrial Ecology, Institute of Environmental Studies, Leiden University / LDE Centre for Sustainability



UNIVERSITY OF TWENTE.



Centre for Sustainability

Leiden-Delft-Erasmus Universities



4TU.High-Tech Materials ...

. . . aims to stimulate excellent materials science research at through collaboration.

Joint workshops, joint materials science activities, joint conferences

- within **4TU**: Delft, Eindhoven, Twente, Wageningen
- multidisciplinary: **4TU**.Centres: **4TU**.Energy & **4TU**.Ethics & Technology
- Materials innovation institute (M2i), Leiden-Delft-Erasmus Centre for Sustainability
- Other materials science research groups
- MaterialenNL Platform

All aspects of materials science

from fundamental to applied,
from nanotechnology to constructions



Prof.dr.ir. Arjan Mol
Scientific director



Reina Boerrigter, MA
Coordinator

The importance of materials and materials science & engineering!

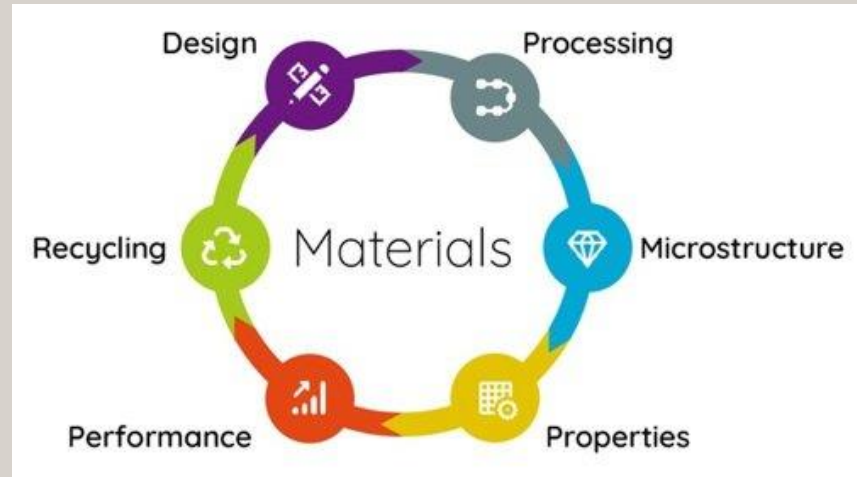


"The importance of materials science sometimes gets overlooked in the communication to the outside world, because emphasis is mostly on wonderful end products. But without materials science, it would be darn empty around us."

Arjan Mol

energy transition & materials transition

For a transition towards sustainable production and consumption of materials, we need to look at the complete materials life cycle.



Sustainable Materials & Materials Science

Let's do this together!

Junior researchers ...

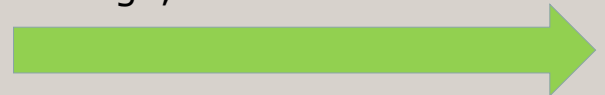
... get involved through the Young4TU.HTM network (more later this spring!)

Senior researchers ...

... join us in speaking out & creating awareness together! (white papers, opinion papers, social media, demo applications)

Students ...

... stay tuned for the 4TU.Responsible Sustainability Challenge, for Master Honours Students, starting September 2022



4TU.Responsible Sustainability Challenge

*a 15 ECTS project for Master Honours students
starting September 2022*

Real-life cases
Topics from the
EU Green Deal
Challenge Based
Learning

**Do you want
to help create
a greener
tomorrow?**

**Are you ready to
step outside
your university's
borders?**

Working in teams from
4 technical universities

Coaching and support
from experts

Workshops at the
4TUs

Circular & Sustainable Materials in 2050

13.00 – 13.10 (10 min.)	<p>Introduction</p> <p>Arjan Mol (scientific director 4TU.HTM) Materials Science and Engineering, 3mE, Delft University of Technology</p> <p style="text-align: right;"><u>Chair: René Kleijn (Leiden)</u></p>
13.10 - 13.30 (20 min.)	<p>René Kleijn (Leiden) / Benjamin Sprecher (Delft) <i>Towards circular and sustainable materials in 2050</i></p>
13.30 - 13.50 (20 min.)	<p>Matthéüs van de Pol (Economic Affairs and Climate) <i>Circular Manufacturing Industry</i></p>
13.50 - 14.10 (20 min.)	<p>Conny Bakker (Delft) <i>Design for the Circular Economy</i></p>
14.10 - 14.30 (20 min.)	<p>Peter Rem (Delft) <i>Materials Separation, and the Recycling of Concrete</i></p>
14.30 – 14.40	10 minute break
14.40 - 15.00 (20 min.)	<p style="text-align: right;"><u>Chair: Arjan Mol (4TU.HTM / TU Delft)</u></p> <p>Bernard Dam (Delft) <i>Materials for the hydrogen economy: from smart windows to hydrogen sensors</i></p>
15.00 - 15.20 (20 min.)	<p>Antoni Forner Cuenca (Eindhoven) <i>The importance of materials science for redox flow batteries</i></p>
15.20 - 15.40 (20 min.)	<p>Karin Molenveld (Wageningen) <i>Sustainable plastics based on renewable raw materials</i></p>
15.40 - 16.00	Discussion & closure

Programme

Contact 4TU.High-Tech Materials



www.4TU.nl/HTM



@4TU_HTM



4TU.HTM Group



r.boerrigter@tudelft.nl

(Reina Boerrigter, Coordinator 4TU.HTM)

