

Translation from Laboratory to Practice

Trust Saidi
Maastricht University



Main Argument

The laboratory plays a central role in the travelling of carbon nanotubes to the users.



Outline of the Presentation

- Background of Centre of Excellence in Strong Materials (University of Witwatersrand)
- Focus area on carbon nanotubes and strong composites
- Relevant social groups and technological frames
- How do the carbon nanotubes travel?
- Conditions for the travelling of carbon nanotubes



Centre of Excellence in Strong Materials

(University of Witwatersrand)

- Government initiative to promote research
- Carbon nanotubes and strong composites focus area
- Funding to acquire equipment
- Bursaries for students



Production of carbon nanotubes

- Synthesis and characterisation of the carbon nanotubes in the Chemistry laboratory
- Multidisciplinary research project with members from different science disciplines
- Successful production of carbon nanotubes
- Conflict of interest on way forward



Emergence of new research groups

- **CATOMAT group** based at School of Chemistry and involved in catalysis
- **Nano–Electronic group** based at School of Physics engaged with solar cells
- **UJ Nanomaterials group** working on pollution detection and water treatment
- **Water Platform group** working on up scaling water treatment using membranes



How do carbon nanotubes travel?

- Travelling is multi-directional
- Travelling is back and forth
- Modification of the technology as it travels
- Relevant social groups as key drivers
- Three layers of travelling from lab to users
 - Carbon nanotubes as an artifact in physical form
 - Carbon nanotubes as knowledge
 - Carbon nanotube as practices and activities



What makes carbon nanotubes travel?

- Flexibility of the technology
- Carbon nanotube as intermediary object
- Carbon nanotube as a communicative resource
- Availability of resources
 - Financial
 - Physical
 - Human
- Intensified producer-user interaction



Conclusion

Laboratories play a central role in the travelling of carbon nanotubes because they are the hubs for the following activities

- Synthesis of carbon nanotubes
- Characterisation of carbon nanotubes
- Functionalisation of carbon nanotubes
- Doping of carbon nanotubes
- Modification of the structure of carbon nanotubes



t.saidi@student.maastrichtuniversity.nl



<http://www.nano-dev.org/>

