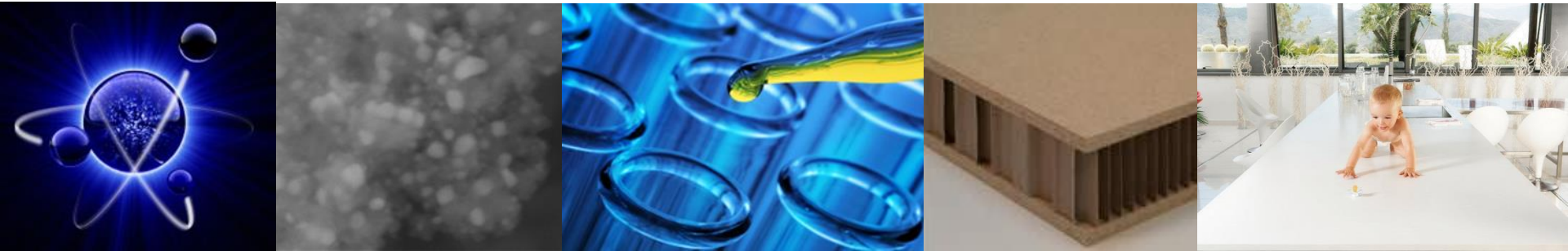


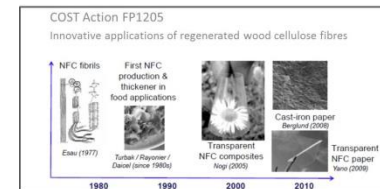


# Environmentally Friendly Wood Composites by Nanocellulose



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# OBJECTIVES

- ✓ To develop low formaldehyde-emitting wood composites
- ✓ To investigate effect of nanocellulose on formaldehyde emission properties of wood composites
- ✓ To expand use of nanocellulose
- ✓ To produce environmentally friendly green building materials by nanotechnology application

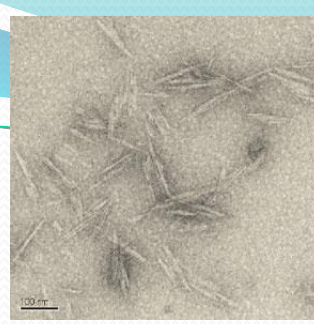


Figure: Peng et al. (2012)



# NANOCELLULOSE

- Cellulose is one of the most abundant natural biopolymers in the world.
- Nanocellulose has an important potential to be used in a variety of applications because of its enhanced properties.
- Cellulose nanofibers have an exciting potential as reinforcements in nanocomposites (Eichhorn et al. 2010; Klemm et al. 2011).



# CONCLUSIONS

- Formaldehyde emission property is of a great importance for wood composite materials because it could affect **human health**.
- The nanocellulose-reinforcement significantly **decreased** the **formaldehyde emission** values of the composites.



- The result of this research indicated that nanocellulose could be used with a proper rate to develop **environmentally friendly green building materials** having an enhanced property.





Thanks for your listening



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