

## Editorial

### SOON, SKYSCRAPERS COULD BE MADE OF WOOD

US researchers find a simple way to make wood stronger than steel  
(from *Cosmos Magazine*)

Wood has been employed as a building material for thousands of years, but in today's world of office towers and massive industrial complexes its usefulness is distinctly limited. Now, however, US scientists have demonstrated a treatment method that could see it being used instead of steel girders in major building projects. Abundant and cheap, wood has long been a favoured choice as framework for houses. Beyond a certain size, however, it breaks or warps under pressure, limiting its use. It is also porous, and can expand and therefore weaken in humid conditions.

On the plus side, wood is a renewable resource that costs comparatively little and requires much less energy input than stronger materials – such as steel and alloys – routinely used in the making of big structures.

Recognising this, scientists and engineers have explored several avenues for strengthening wood. These include treating it with steam, heat, ammonia or mechanical processes such as putting under pressure through a roller.

All these methods, however, fall short of producing a sturdy construction material. Compressing it, for instance, reported a team led by Swedish architectural engineer Kristiina Laine in 2016, increased surface hardness but also left it prone to deformation. The US team, led by Jianwei Song from the University of Maryland and reporting in the journal *Nature*, has created a two-step process that produces dense wood with “a specific strength higher than that of most structural metals and alloys”, making it a lightweight and low-cost alternative for building projects.

The first part of the process involves boiling it in a mixture of sodium hydroxide (NaOH) and sodium sulphite (Na<sub>2</sub>SO<sub>3</sub>) in order to partially remove two substances that play important structural roles in the formation of plant cells: lignin and hemicellulose.

After this, the wood is put through a hot-rolling process, which causes what's left of the cell walls to collapse. The result, the scientists say, is a very dense form, characterised by tightly aligned cellulose nanofibres.

The process works with any species of tree.

As well as uses in the building industry, the scientists flag another potential application for their super-dense material – in the military. Layered sheets of the material, they report, show promise “for low-cost armour and ballistic energy absorption”.

*Submitted by Barry Cleveland*

## WYNPRESS

The Rotary Club of  
Wynberg



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#### September in Rotary

Basic education and literacy month

**Wynberg Rotary meet every Thursday,  
6 for 6.30pm,  
Palm House, Wynberg.**

For more information about our club, like us  
on Facebook or visit our website:

**[Wynbergrotary.org.za](http://Wynbergrotary.org.za)**



**BE THE INSPIRATION**

# Minutes: 6<sup>th</sup> September 2018

Compiled by Barry Cleveland

## Attendance

16 members present

Visitors: Armien White, Lowell and Linda Rice, Sue Martinez Charlene Hall, Nancy Simpson

## From the chair of President Biffy

President Biffy welcomed everyone to the meeting, and especially Lowell and his 'harem' from California! She discussed the following:

- Denzil van Graan, former principal of Perivale Junior School, will be inducted at Mossel Bay Rotary Club shortly.
- Raid on Constantia RC planned for 18 September. Guest speaker to talk about rhino poaching.
- Top Cop awards on 17 Oct. RC Seapoint. R200pp. At the Fire & Ice Hotel, Greenpoint
- Wynberg +Steenberg Rotaract Presidents induction as Hon. Members of Wynberg Rotary Club on 13 Sept.

## Fellowship

Barry and Val's anniversary on 9<sup>th</sup> September.

Sympathy and condolences extended to the Todd family – Valda lost her mother last week.

## Members' moments

Nobody experienced anything of note this week!

## Slots

**Justin:** Thanks to all who attended the Rotary Quiz Evening. A record 240 people participated. Profit TBA.

**Graham:** will be working on the 'manpower' list for Proms on the Saturday and Sunday evenings. Please wear white tops and black/navy trousers/skirts and report for duty at the City Hall at 18.30 on Saturday 29, and 15.30 on Sunday 30 Sept.

## Guest Speakers

Lowell and Linda have spent 6 years in Kenya and Tanzania as Pathways/Africa, supporting young people with opportunities for a quality education in order to build a better future. They have found that education in Africa is generally lacking for girls. So their latest project is in partnership with the community in Victoria Falls, Zimbabwe, establishing a micro-enterprise for the local women. They are taught to become seamstresses, producing sanitary kits for girls. When one provides a woman with the skills to make these kits, which last 3-4 years, and to educate others about the importance of hygiene management, women are empowered. After 4 months sewing training the women produce and sell the kits for \$10, using the profits to support their families, train others to increase the business, and provide opportunities for the community.

Pres Biffy introduced and thanked our most entertaining speakers.

## Swindle

With R1000 up for grabs, String could only find the 6 of spades (shame!). The attendance prize of R25 went to Karen.

## President's Words of Wisdom

"We do not see things the way they are. We see things the way we are."

Duty Roster	September			October
	13	20	27	4 Club Meeting
Sergeant	Overbosch	Schreiber	Todd	Barnard
Wynpress Editorial	Schreiber	Smith	Thomas	Van Niekerk
Wynpress Minutes	Howard	Van Niekerk	Thomas	Bredenkamp
Door Duty	Barnard	Bayes	Bredenkamp	Bonga
Grace	Murphy	O'Driscoll	Overbosch	Schonegevel J
Loyal Toast	Thomas	Bird	Bonga	Bredenkamp
International Toast	Howard	Jackson	Munday	Murphy
Speaker Intro and Thanks	Bayes	Barnard	Bird	N/A
Entertainment for the month	Bayes, Gowdy, Murphy, Thomas, Schonegevel R			Howard, Maunder, Edwards, O'Driscoll, Overbosch

## Dates To Diarise

<b>13 September</b>	Report back on Rotarians' Club visit to Karmøy, Norway. Induction of Monique Ewen (Pres. Wynberg Rotaract) and Chadwin Petersen (Pres. Steenberg Rotaract) as Hon. Members of Wynberg RC. Packing of Santa's Shoeboxes (Keela)
<b>18 September (Tuesday)</b>	Proposed raid on RC Constantia, where Peter Kuhnert will be talking about his novel 'Horn', concerning the sale of rhino horn.
<b>20 September</b>	Visiting MIT student Reanna Pittman will speak to us about solar powered water desalination.
<b>25 September (Tuesday)</b>	ER Community Medics: Comedy Night
<b>27 September</b>	Cyber Phishing/Hacking/Rotary website (Stephen B)
<b>29 September (Saturday)</b>	Last Night of the Proms at 20.00 in the City Hall
<b>30 September (Sunday)</b>	Last Night of the Proms at 17.00 in the City Hall
<b>6 October</b>	Kids' day out
<b>11 October</b>	Belinda Speed will talk to us about her PhD project on forensics
<b>13 October</b>	Mini Conference in Mossel Bay



# Tailpiece

