

Technologists Keep The World Working.

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1. Some Notes and Pictures of the Awards Function some months ago.



The Past IPET President Mr RJ Molisane (left) introducing the newly elected President Mr WCC Mynhardt (right).



President Mr WCC Mynhardt, Past President Mr RJ Molosane, Vice President Mr M Engels. (Left to right).

IPET AWARD.

The Institute of Professional Engineering Technologists, IPET, annually awards the highest academic achieving ECSA accredited B Tech engineering graduates at all the Universities of Technology in South Africa. The best male and lady graduate at each University is awarded a 60mm gold plated medal and certificate at a gala function in Johannesburg, this year on Friday 8 December 2017. Over and above that, the best B Tech engineering graduate in South Africa is awarded with a large 75mm gold-plated medal. Nomination is on the basis of highest academic achievement. The graduate must at least have achieved an average of 75% for his/her B Tech degree and we require a copy of the academic record for the B Tech degree. The IPET award is the highest honour that an engineering graduate at a University of Technology in South Africa can achieve at B Tech level. Since 2003, awards are made to the respective highest achieving male and lady, with the aim to encourage more ladies to follow engineering as a career.



IPET President, Mr C Mynhardt, and the winners of the IPET Awards.

Front Row:

L-R: Mr. HG Wilmot (Durban University of Technology); Ms W Nazier (Cape Peninsula University of Technology); Mr. J Wium (Central University of Technology); Mr. WCC Mynhardt (President of IPET); Mr. SD Cesar (Highest overall achiever of BTECH (Male)); Ms Em Nel (Tshwane University of Technology)

Back Row:

l-R: Ms. S Mukuchiva (Nelson Mandela University); Ms. A Sigonya (Highest overall achiever of BTECH (Female)); Mr. LR Gama (University of Johannesburg); Mr. W Buys (Tshwane University of Technology); Mr. FK Baakeel (Nelson Mandela University); Mr. GD Roos (University of South Africa)

2. Good to Know.

IPET has entered the Social Network era.

Please visit our IPET Engineering Technologist Facebook and Linked-In pages and post your message there, or comment on posted messages. We started a linked-In company profile. If you were linked to our previous profile, please also link with the new one since the old one is now defunct.

Please give us feedback on these profiles and suggest what you think should be on it so that we can attract new members.

The message presently on the Linked-In profile is:

IPET, The Institute of Professional Engineering Technologists, speaks for all Engineering Technologists in South Africa.

Join now and get a discount on your ECSA annual registration fee more than your IPET membership fee!

In future we will also advertise our courses and workshops there.

Services Offered By Members.

(Free ad for members)

Please visit our Website for all detail.

<http://engineersdirectory.co.za/>

Wherever possible support your fellow members!

3. South African Forum for Engineering.

IPET is a member of SAFE. This Forum is a non-profit voluntary, non-statutory Engineering body with a membership consisting of Voluntary Associations, Learned Societies, Academic Institutions and Industry Associations. It should be noted that no other such non-statutory body exists representing the engineering disciplines, and that the interests of all parties are not effectively represented by any statutory body which will inherently be in a position of conflicting interests when dealing with any matters, which from time to time may be deemed to be contentious between the private and public sectors as they relate to the Engineering Profession.

Some 17 Voluntary Engineering Associations have been meeting over the past year and have signed a Memorandum of Understanding in order to collaborate on common issues.

SAFE recently sent a petition to the President of South Africa requesting intervention in saving the Construction industry. It seems nothing will happen until after the elections. The country's declining infrastructure and cancellation of projects due to violence and lawlessness is an area of great concern.

With the latest Company Group 5 going for business rescue it is estimated that this has resulted in over 8 000 jobs lost in the past year alone. It joins the other giants such as Basil Read and Esor who have folded in the past year. For a country that is shedding jobs and a negative economy that is growing below its own population growth, the closure of any industry should be lamented.

4. The Court Case Against ECSA – Update.

ECSA was approached some years back on what seems to have been a flawed process of appointment of individuals onto ECSA's then new council which may render the new council illegal. This was a concern raised by various Voluntary Associations (VA) as it impacts on the validity of the work of ECSA's committees and the VA's.

Due process was followed after ECSA did not respond to the concern and the matter was taken to the Council for the Built Environment (CBE) for investigation. Legal advice indicated that there is sufficient evidence that the process was flawed. This concurs with the legal finding of the CBE.

Before going to court these individuals followed all available processes to resolve the matter amicably and in a collaborative manner with ECSA.

ECSA and the CBE were approached, then the Minister of Public Works. The team met with the Minister, deputy minister, the DG and their advisors. The Minister and his deputy both confirmed that they were not aware of the details of the issues regarding the ECSA case apparently promised to get back to the VA's. It's been more than two years since this meeting was held and the team has not received any response.

Due to no response from these bodies, the only option available was to go to court. Some 16 Voluntary Associations are indirectly part of this litigation process. Papers were lodged in high court in October 2016. The court date for this case has not yet been finalised as far as we are aware.

During the past few months ECSA has indicated that it may be willing to discuss this matter, but at the time of writing no positive steps have been agreed on.

5. CPD News.



Members at a recent CPD Course held at Hilti South Africa.

Member's attention is drawn to the September Newsletter which gives a useful interim report on CPD course providers. See website www.ipet.co.za.

Skills such as communication, learning, attitude and emotional intelligence have also become important, according to economist Mike Schüssler

6. Adverts of interest to members.

Get digital now with the Festo Automation Expo 2019!

Festo invites you to maximise your competitiveness in the industry. We are offering a course on an 'Introduction to Industry 4.0: Core elements and business opportunities'. This course appeals to management level, senior executives, technology enthusiasts and engineering professionals. Attending this half-day accredited course will earn you **0.5 CPD points**.

The second half of the day will also include a seminar from four of our industry specialists.

The half-day morning session (CPD course) costs R1750.00.

The half-day afternoon session (seminar and function) costs R1250.00.

The full day session (CPD course, seminar and function) costs R2500.00.

A 5% discount will be given to customers that will be paying for the full day session, making the total R2375.00.

Dates and venues for the Automation Expo:

Gauteng: 6th June 2019 – Sandton Convention Centre

Eastern Cape: 4th July 2019 – Boardwalk Convention Centre

Western Cape: 19th July 2019 – Spier Wine Estate

KwaZulu Natal: 15th August 2019 – Durban ICC

Payment instructions

- To RSVP and secure your spot please visit www.festo.co.za/expo2019 and click on the "Register for the full day: Cost R2500" button.
- After filling up the registration form you will receive an email with a Quicket link and promotion code within 3-5 working days.
- After clicking on the Quicket link, kindly enter your promotion code on the promotion code tab to activate your voucher.
- Once the full payment has been made you will receive an email notification confirming that you have paid.

Kindly direct all your enquiries to events.za@festo.com.

Click on this link to RSVP and secure your spot www.festo.co.za/expo2019!

If links don't work please type in the text into your internet browser.

The Mechanical Designer's Handbook for Projects in South Africa 1st Edition

Price (including delivery in the RSA) R675

Order directly from Author:

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Author	A.J. van der Merwe (Pr Tech Eng)
Format	Book – A4 Paperback / Softback
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Language	English

This handbook is specifically written for technologists, designers and drafting technicians in the engineering project environment in Southern Africa. It is also a useful reference to students in mechanical and structural engineering.

The text introduces the reader to design office management, layout drawings from flow sheets and P& IDs, the understanding of survey drawings, basic structural design of steelwork to SANS 10162, machine design, belt conveyor design to international standard ISO 5048 and fluid design, including pump selection. Fifty two step by step examples simulate typical situations in practice and guide the reader to quick and accurate solutions. After more than 25 years in the design and project management environment, the author based the contents of this handbook on practical “hands on” experiences and gladly shares this knowledge with upcoming professionals.

No. 7. New Members.

IPET Welcomes the following

New members who joined

Recently.

Aucamp	GC
Badenhorst	WJ
Botes	L
Botha	JF
Boxhoorn	JM
De lange	WA
Du Plooy	MC
Ferreira	JI
Foot	C
Harry	ML
Makaula	SZ
Malatji	AM
Manko	MP
Mashele	L
Mhanda	J
Miller	MS
Mkhize	SWHF
Mniki	M

Mogolola	PST
Mohamed S	
Mulder	FE
Nkhasi	L
Ntseke	LW
Sayi	MA
Stolz	AHG
Widmer	WA
Zulu	SM

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Snippets.

The following mini articles, notices and news follow the trend of interesting scientific, engineering developments and general interest items that we come across. Read and enjoy!

Please feel free to contribute by sending your items to share with our members!

Ed

Scientists turn carbon dioxide back into coal?!

Scientists have harnessed liquid metals to turn carbon dioxide back into solid coal, in research that offers an alternative pathway for safely and permanently removing the greenhouse gas from our atmosphere. The new technique can convert CO₂ back into carbon at room temperature, a process that's efficient and scalable. A side benefit is that the carbon can hold electrical charge, becoming a supercapacitor, so it could potentially be used as a component in future vehicles.

The research team led by RMIT University in Melbourne, Australia, have developed a new technique that can efficiently convert CO₂ from a gas into solid particles of carbon.

Published in the journal Nature Communications, the research offers an alternative pathway for safely and permanently removing the greenhouse gas from our atmosphere.

"While more research needs to be done, it's a crucial first step to delivering solid storage of carbon."

The research was conducted at RMIT's MicroNano Research Facility and the RMIT Microscopy and Microanalysis Facility, with lead investigator, Honorary RMIT and ARC Laureate Fellow, Professor Kouros Kalantar-Zadeh (now UNSW).

The research is supported by the Australian Research Council Centre for Future Low-Energy Electronics Technologies (FLEET) and the ARC Centre of Excellence for Electromaterials Science (ACES).

The collaboration involved researchers from Germany (University of Munster), China (Nanjing University of Aeronautics and Astronautics), the US (North Carolina State University) and Australia (UNSW, University of Wollongong, Monash University, QUT).

(Ed; Wow – watch this development)!!

Scientists have made a next-generation plastic that can be recycled again and again into new materials of any color, shape, or form

Researchers have designed a recyclable plastic that can be disassembled into its constituent parts at the molecular level, and then reassembled into a different shape, texture, and color again and again without loss of performance or quality.

A team of researchers at the U.S. Department of Energy's (DOE) Lawrence Berkeley National Laboratory (Berkeley Lab) has designed a recyclable plastic that, like a Lego playset, can be disassembled into its constituent parts at the molecular level, and then reassembled into a different shape, texture, and color again and again without loss of performance or quality. The new material, called poly(diketoenamine), or PDK, was reported in the journal *Nature Chemistry*.

The researchers next plan to develop PDK plastics with a wide range of thermal and mechanical properties for applications as diverse as textiles, 3D printing, and foams. In addition, they are looking to expand the formulations by incorporating plant-based materials and other sustainable sources.

Source:

Journal Reference:

1. Peter R. Christensen, Angélique M. Scheuermann, Kathryn E. Loeffler, Brett A. Helms. **Closed-loop recycling of plastics enabled by dynamic covalent diketoenamine bonds.** *Nature Chemistry*, 2019; 11 (5): 442 DOI: [10.1038/s41557-019-0249-2](https://doi.org/10.1038/s41557-019-0249-2)
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No More Plastic Shopping Bags. (Pollution to diminish)!

The Real Estate Investment Trust (Reit) Liberty Two Degrees (L2D) have announced a “no plastic shopping bags” policy at its portfolio of malls from January 2020. It has set itself a zero sustain target by 2030 which will see a reduction in water and energy use along other measures. It will introduce community based plastic free bags to its centres. These centres include Sandton City, Eastgate Complex, Nelson Mandela Square, Liberty Midlands (KZN), Liberty Promenade Mitchells Plain (West Cape) and some others.

Viable and Environmentally-Friendly Alternative to Styrofoam.

Washington State University researchers have developed an environmentally-friendly, plant-based material that for the first time works better than Styrofoam for insulation.

The foam is mostly made from nanocrystals of cellulose which is the most abundant plant material on earth. The researchers also developed an environmentally friendly and simple manufacturing process to make the foam, using water as a solvent instead of other harmful solvents.

Researchers have been working to develop an environmentally friendly replacement for polystyrene foam, or Styrofoam for years. Styrofoam, is made from petroleum and is used in everything from coffee cups to materials for building and construction, transportation, and packaging industries. It is made from toxic ingredients and depends on petroleum and doesn't degrade naturally, and creates pollution when it burns.

While other researchers have created other cellulose-based foams, the plant-based versions haven't performed as well as Styrofoam. They are not as strong, don't insulate as well, and degraded at higher temperatures and in humidity.

In their work, the WSU team created a material that is made of about 75 percent cellulose nanocrystals from wood pulp. For the first time, the researchers report, the plant-based material surpassed the insulation capabilities of Styrofoam. It is also very lightweight and can support up to 200 times its weight without changing shape. It degrades well, and burning it doesn't produce polluting ash.

The researchers are now developing formulations for stronger and more durable materials for practical applications. They are interested in incorporating low-cost feedstocks to make a commercially viable product and considering how to move from laboratory to a real-world manufacturing scale.

Story Source:

Washington State University.

The work, led by Amir Ameli, assistant professor in the School of Mechanical and Materials Engineering, and Xiao Zhang, associate professor in the Gene and Linda School of Chemical Engineering and Bioengineering, is published in the journal *Carbohydrate Polymers*.

Science Fiction comes true!

The video is rather dark but extremely interesting. Most TED videos are!!
A breakthrough device that combines mind and machine (Arnav Kapur | TED2019)

https://www.ted.com/talks/arnav_kapur_a_breakthrough_device_that_combines_mind_and_machine?utm_source=tedcomshare&utm_medium=email&utm_campaign=tedsread

Spacex Successfully launched the first 60 Starlink Satellites.

This could be a game changer for the world!
In a world dominated by collectives and group thinking it shows that one individual can make a difference!

See ; <https://www.theverge.com/2019/5/15/18624630/spacex-elon-musk-starlink-internet-satellites-falcon-9-rocket-launch-live>



No 9. The Joke Column.

Warning / Disclaimer.

Sensitive readers are warned that the following may erroneously and unintentionally be taken to contain sex, violence, strong language, gender, race, ethics etc. Readers are warned not to read or have any of the following read to them. Recommended readers age is limited to 140 and 161 years of age. A further requirement is you must have a sense of humour. No Persons or animals are intended to be harmed in any way by this column.

"Being British is about driving a German car to an Irish pub for a Belgian beer, then going home, grabbing an Indian curry or a Turkish kebab on the way, to sit on Swedish furniture and watch American and Australian shows on a Japanese or Korean TV, which will soon be powered by a Chinese power station."

And the most British thing of all? "Suspicion of anything foreign."
And arguing about Brexit!!

Britain has Brexit
South Africa has BrokeIT!!
Is this because SA is CrookIT?
Lets see if the Government can FixIT!!

The first computer dates back to Adam and Eve. It was an Apple with limited memory, just one byte. And then everything crashed.

“Yesterday is history, tomorrow is a mystery, today is a gift of God, which is why we call it the present.”

Bill Keane

Part 10.

Unsubscribe Option.

As a member of IPET you should want to receive the E News. If however u do not want to receive the IPET E News as an E Mail then you have the option to unsubscribe.

To unsubscribe send an email with "IPET unsubscribe newsletter" in the text to engineer@netactive.co.za

Part 11.

O. & O. E.

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