

IPET Newsletter

Feb 2010

The Institute of Professional Engineering Technologists
(Association Not For Gain)

www.ipet.co.za

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"Tackle a Block at a Time".

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No 1. You know its 2010 when;
You try to enter your password on the microwave.
You have 12 phone numbers for your family of 3.
You e-mail your colleague at the desk next to you.
You've sat at the same desk for four years but worked for three companies.
Your CV is on a disk in your pocket
Your biggest loss from a system crash was all your best jokes.
Your boss doesn't have the ability to do your job.
Food left over from meetings is your staple diet.
You don't stay in touch with friends if they don't have e-mail addresses.

No 2. Editors Note.

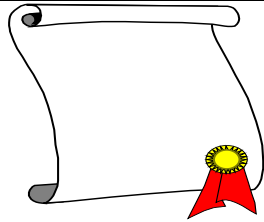
Will all members kindly note that IPET's financial year runs from 1st April of the year to end of March the next year.
This falls in line with the Engineering Council of South Africa's financial year.
This means fees for the coming year starting in April 2010 are due in April 2010 and not in January 2010.
Invoices for IPET fees for the coming year are targeted to be in the post in March 2010.

Our financial system cannot couple invoices to E Mails hence all invoices are posted by surface mail.

Please also note that your CPD records for ECSA registered persons must go to ECSA and not to IPET!

Please also see item 16 below as it refers to our up and coming Annual General Meeting on the 25th February 2010.

Thanks for your co-operation in these matters.



No. 3 Continuing Professional Development (CPD). General Details of the Scheme.

After many years the process of consultation and debate with stakeholders in the profession, including voluntary associations such as ours, the Engineering Council of South Africa (ECSA) approved a formal system affecting all registered engineering practitioners. This came into effect from **1st January 2006**.

CPD may be defined as "the systematic maintenance, improvement and broadening of knowledge and skills, and the development of personal qualities necessary for the execution of professional and technical duties throughout an engineering practitioners career".

The Engineering Profession Act 46 of 2000 requires;

that registered practitioners have to renew their registration at regular intervals. ECSA decided that the most appropriate way to implement the Act would be to link renewal of registration with CPD.

ECSA has attempted to design a system that is not a millstone around the necks of registered practitioners. A reasonable

system of earning points or credits has been devised. This system includes attendance at educational / academic courses as well as work-based activities. The 5 credits per year or 25 credits to be acquired over a 5-year period should be easily achieved with the three categories of CPD. While a minimum of 3 credits must be earned per year, excess credits can be carried over.

A very brief summary of CPD requirements follows;

Category 1 which requires 2 credits per year has proved to be the most difficult and controversial. It is however not difficult to attend 2 accredited Courses / Seminars a year. The rules for Category 1 have been amended to allow persons to obtain a total of 10 credits in 5 years instead of 2 each and every year. Some other concessions are also available but ECSA has to be contacted about these.

Category 2 awards workers 2 credits for just working more than 800 hours a year!

Category 3 awards members of an ECSA recognised Voluntary Association 1 credit for membership.

A misconception that only Electrical practitioners may attend Electrical courses is incorrect. Any discipline can attend other discipline courses if they are of interest and relevant to that particular practitioners profile.

(For example Financial courses affect all and not only accountants!)

The above are not the full or detailed requirements or methods of obtaining credits. See previous and future newsletters about CPD courses and news.

REFERENCE SOURCES;
ECSA Web Site www.ecsa.co.za

No 4.**IPET CPD Course List**

(Kindly note that the list is not complete and only lists some of the courses).

ECSA Validation Number	Description	Provider	Hours	Credits	Validity Dates
IPET-LLLS1-12/2010	Finance for Engineers (Middle & Top Management)	Life Long Learning Solutions, P O Box 37545, Faerie Glen, 0043.Tel 083 788 2666, 012 345 6738 / 345 4307, Fax 012 345 6793, E mail johanv@lls.co.za	20	2	01/01/2008 to 31/12/2010
IPET-LLLS2-12/2010	ISO 9001:2000 Guide to Practice	Life Long Learning Solutions, P O Box 37545, Faerie Glen, 0043.Tel 083 788 2666, 012 345 6738 / 345 4307, Fax 012 345 6793, E mail johanv@lls.co.za	10	1	01/01/2008 to 31/12/2010
IPET-LLLS3-12/2010	Diversity in Practice	Life Long Learning Solutions, P O Box 37545, Faerie Glen, 0043.Tel 083 788 2666, 012 345 6738 / 345 4307, Fax 012 345 6793, E mail johanv@lls.co.za	10	1	01/01/2008 to 31/12/2010
IPET -LLLS4-12/2010	Sales Negotiation Techniques	Life Long Learning Solutions, P O Box 37545, Faerie Glen, 0043.Tel 083 788 2666, 012 345 6738 / 345 4307, Fax 012 345 6793, E mail johanv@lls.co.za	10	1	01/01/2008 to 31/12/2010
IPET-LLLS5-01/2011	Environmental Risk	Life Long Learning Solutions, P O Box 37545, Faerie Glen, 0043.Tel 083 788 2666, 012 345 6738 / 345 4307, Fax 012 345 6793, E mail johanv@lls.co.za	10	1	01/06/2008 to 30/05/2011
IPET/ 06/00001/07	The ECSA CPD Policy and How to Log Your CPD	IPET P O Box 1824, Randburg, 2125, Tel / Fax / 011 787 9706, E mail engineer@netactive.co.za	1	0.1	01/07/2006 to 01/07/2009
IPET /2008/04/01	Workshop on HEGF & New Engineering Technology Education Qualifications	IPET P O Box 1824, Randburg, 2125, Tel / Fax / 011 787 9706, E mail engineer@netactive.co.za	10	1	01/04/2008
IPET 07/00001/10	Power System Protection Course	Ron Wedderburn, P O Box 78, Dargle, 3265. Tel / Fax 033 330 8412, Cell 083 735 8080	30	3	01/05/2007 to 30/05/2010
IPET 08/AST01	Fire Detection Engineering Course	Alien Systems & Technologies, PO Box 396, Walkerville, 1876, Tel 011 949 1157, Fax 011 949 1110, E Mail mike@astafrika.com	10	1	01/10/2008 to 01/10/2011
IPET 07 / IIR 101	Assessment for Pumps, Pipes & Valves Conference	Institute for International Research, PO Box 2353, Parklands, 2121.	30	3	26/06/2007 to 28/06/2007
IPET / 07 / Eskom 100	Underground Cable Systems Workshop	ESKOM Distribution, Network Services, Central Region, P O Box 11723, Randhart, 1467, Tel 011 871 2993, Fax, 011 871 2653, Cell 083 464 1614, E mail Ramashmt@eskom.co.za	20	2	Jul-07
IPET 07 / IIR100	The Engineering Manager	Institute for International Research, PO Box 2353, Parklands, 2121.	20	2	15 to 17 August 2007

The CPD Course list on the IPET Web site is updated from time to time. Please check it out occasionally.

There are also around 1000 activities listed on the ECSA Website www.ecsa.co.za.

So for further information please look up the ECSA Website!

Note.

*The following mini articles follow the trend of interesting scientific and engineering developments we set in our previous newsletters. We hope you find them of general interest!
Ed.*

No 5. Shifting The World To 100 Percent Clean, Renewable Energy. Here Are The Numbers

Stanford civil and environmental engineering Professor Mark Z. Jacobson and University of California-Davis researcher Mark Delucchi have written an article in Scientific American in which they claim most of the technology required to shift the world from fossil fuels to renewable energy already exist! The change over could reduce world power demand by 30%.

In their article the present research and a plan for powering the entire world on wind, water and solar energy. They claim ultimately the cost will be cheaper than continuing with fossil fuel or using nuclear power.

They envisage electrically powered vehicles where only 20% of the energy is wasted in heat as against fossil fuelled vehicles that waste some 80% as heat. Electricity is to be generated by wind, water, hydrogen and solar power and the new mix of more efficient use of electricity could result in a saving of some 30% by 2030. Energy required in 2030 is estimated at 11.5 million megawatts as against 16.9 million megawatts.

In order to convert to wind, water and solar, the world would have to build wind turbines; solar photovoltaic and concentrated solar arrays; and geothermal, tidal, wave and hydroelectric power sources to generate the electricity, as well as transmission lines to carry it to the users. Analyzing only on-land locations with a high potential for producing power, they found that even if wind were the only method used to generate

power, the potential for wind energy production is 5 to 15 times greater than what is needed to power the entire world. For solar energy, the comparable calculation found that solar could produce about 30 times the amount needed.

The study provides examples of how a combination of renewable energy sources could be used to meet hour-by-hour power demand, addressing the commonly asked question, given the inherent variability of wind speed and sunshine, can these sources consistently produce enough power? The answer is yes.

The researchers also determined that the availability of certain materials that are needed for some of the current technologies, such as lithium for lithium-ion batteries, or platinum for fuel cells, are not currently barriers to building a large-scale renewable infrastructure.

The technologies being promoted by the dominant energy industries are not renewable and even the cleanest of them emit significantly more carbon and air pollution than wind, water and sun resources, say Jacobson and Delucchi.

Source ScienceDaily (Oct. 19, 2009)

Give a man a fish, and he can eat for a day. But teach a man how to fish, and he'll be dead of mercury poisoning within three years. ~Charles Haas

No 6. A Map Of Wind Resources In South Africa.

South Africa is the 30th place in the world to have a detailed map of the country's wind resources. The map shows the best locations for wind turbines and is a prerequisite for funding wind farms.

The maps are produced by means of extensive measurements and software programs developed in the Wind Energy Division at Risø DTU. Similar maps are now used in 30 countries around the world, such as Ireland, India, Egypt and China.

The project began in 2008 and is being taken to erect 10 data capturing measuring masts of 60 metres in

height mainly along the coastline. The data to be collected for some 36 months will include wind and temperature.

By comparing data areas for wind turbine location can be identified.

Source ScienceDaily (Nov. 4, 2009)

No 7. Wind Power Africa 2010 Conference and Renewable Energy Exhibition.

The African Wind Energy Association is putting on the Wind Power Conference in Cape Town from 12-14 May 2010. Details can be found on their Website www.windenergyafrica.com.

Wind Power Africa 2010 is the premier international event on wind energy in Africa hosted by the African Wind Energy Association in partnership with other African and international organisations. The event will bring together key African and international stakeholders from the public and private sectors with the aim to unlock Africa's wind energy potential.

The opportunities for wind power in Africa, and South Africa, in particular are immense due to a favourable investment climate offering profitable feed-in tariffs for wind energy, tremendous CDM project potential, ideal natural conditions as well as increasing energy demand and capacity shortages in growing economies. Wind Power Africa 2010 will examine the current and future wind energy markets in Africa and highlight attractive business opportunities with in depth analysis and country case studies.

For more information about the event, please visit the website www.windenergyafrica.com or contact:

Denise Spaull

T: +27 (0) 21 689 7881

E: denise@windenergyafrica.com

No 8. Liquid Granite: Building Material Of The Future Unveiled

Scientists have developed a new building material that is claimed to be fire resistant to temperatures in excess of 1100 degrees Celsius and is made largely from recycled material. It is as versatile as concrete. Liquid Granite offers a breakthrough in reducing fire risk in buildings because, unlike concrete, it doesn't explode at high temperatures. It also withstands high temperatures for longer periods than concrete thus offering valuable minutes in the case of a fire.

The material is made up of between 30 and 70 per cent recycled material, mainly base products from industry. It uses less than one third of the cement

used in precast concrete and thus has a lower carbon footprint.

The product was developed at Sheffield Hallam University and is available from Liquid Granite Ltd. The new material has a four-hour fire rating. The developer of the product is Professor Pal Mangat, Director of the Centre of Infrastructure Management at Sheffield Hallam University.

Source Adapted from press releases & Sheffield Hallam University.

No 9. Outer space. Earth's Largest Junkyard.

Space has become an international dumping ground for derelict spacecraft, wreckage from colliding satellites, remains from mischievous anti-satellite testing, spent rocket stages, discarded lens caps and clamp bands, paint chips and, also at one time for a lost tool bag. There are estimated to be some 300,000 objects larger than one centimetre moving at hyper-velocity in orbit around the Earth.

Experts from around the world are concerned and recently attended a wake-up call type of meeting called the International Conference on Orbital Debris Removal.

Some of the issues discussed included understanding the problem, creating viable concepts to eliminate the debris, legal, economic and incentive matters as well as international policy and cooperation.

Some 50 presentations from countries that include the United States, Russia, France, Germany and Japan were presented.

Some suggestions were the use of an Electron thrusters type of vehicle that would catch debris for removal, to ground based pulsed laser beams that would upset the debris orbit resulting in a meteor like fire like plunge to Earth.

Source NASA.

No 10. Bio Fuel in the EU.

Cereals were still the preferred feedstock in 2008 in the EU. The EU produced around 2.8 billion litres of fuel ethanol, which represents a growth of roughly 58% compared to 2007. The major share of this was distilled from cereals that account for 1.79 billion litres or almost 63% of the total ethanol feedstock. Among the different grains used for ethanol production wheat is still one of the most important cereals with a share of 28% (39% in 2007), which equals 788 million litres. The second most used cereal was maize (760.3 million litres or 27%) whose usage increased from 13% (227 million litres) in 2007. Rye is another grain used in mainly northern and eastern parts of the EU (121.5 million litres or 4.3%). Barley is also used and accounts for 98.6 million litres (3.5%). Finally, triticale is a marginal

feedstock primarily used in Germany, and although the precise volume is difficult to estimate it is probably not more than 0.7% of total production.

Source Bio Fuels International.

Ed. Nothing much happening in SA??!!

No 11. Small Adverts.

IPET is prepared to place very small text only adverts in the Newsletter if they are deemed to be of direct interest and value to members. The Editor and Executive's decision on any particular advert is final. The adverts may not exceed 100 words and are, for the time being, free. Adverts that just advertise companies and / or their products are excluded from this offer. Other adverts, for which payment will be required, may be entertained in the future.

As our country is experiencing a difficult economic and financial crisis your organisation is trying to assist members where practical. Those seeking permanent positions in industry or those younger persons who need experiential training in order to complete their degree or diplomas may advertise their requirements with their contact details in a mini advert which will be included in the regular E Newsletter. As we also have requests from ECSA "Candidates" for Mentors, this request will also be covered in a mini advert. This is a free service to members.

No 12. Adverts.

See www.inovationfund.ac.za if you have a bright technical idea and require funding!

No 13. Publication Policy.

Our policy is to be informative but not to compete with Newspapers or Engineering Journals. We try to give a selective rational overview of the engineering scene relative to our members. We endeavour to cover matters of importance that might not make it into the general press. While we publish regularly, we may not always have the latest scandal! We need good technology news in terms of people, products and processes. If you have recently been promoted, moved to a different job, started a business, completed an interesting project, received an award of which you are proud, or have a handy tip to share, your news, views and letters to the editor on relevant issues will be welcome. Don't leave it to others; we want to hear from you!

The editor reserves the right to shorten and edit letters or reject them for publication where necessary.

No 14. The Joke Column. Warning / Disclaimer.

Sensitive readers are warned that the following may erroneously 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 120 and 121 years of age. A further requirement is you must have a sense of humour.

With so many Airline stories in the news of late we thought you might enjoy a few Airline jokes.

It was mealtime during the trip on a small airline. "Would you like dinner?" the flight attendant asked. "What are my choices?" asked the passenger. "Yes or no" said the flight attendant!

Cabin attendant announcements:

In the event of a sudden loss of cabin pressure, masks will descend from the ceiling. Stop screaming, grab the mask, and pull it over your face. If you have a small child travelling with you, secure your mask before assisting the child with theirs. If you are travelling with more than one small child pick your favourite!

As you exit the plane, make sure to gather all of your belongings. Anything left behind will be distributed evenly among the flight attendants. Please do not leave children or spouses!

And from the pilot during his welcome message: XXX airlines is pleased to have some of the best flight attendants in the industry. Unfortunately, none of them are on this flight!

A peppery woman at the airline ticket counter was complaining about the delay in the departure of her flight. "Young man," she snapped at the clerk, "the way you people run this airline, a witch on a janitors broom could get there faster." "Madam," the clerk said, with just a hint of a smile, "the runways are clear."

The following column may become a regular feature in the future.

It is hoped to publish useful technical and other information from time to time, which can be cut out and stored in your own information file. Start your collection now!

Editor.

No 15. For Your File Only!

The Digital Versatile Disc / Digital Video Disc.

(Continued).

Copy Protection and Recording of Satellite Programmes.

New types of copy protection are being introduced on an ongoing basis.

DVD recorders that record on a DVD-RW disc in VR mode or a DVD-RAM format that is CPRM compatible can record many programmes. DVD-RW VR Mode or DVD-RAM recorded discs are not playable on many DVD players.

Satellite DVRs do allow recordings of most content except for pay-per-view and on-demand programming. These recordings are made on a hard drive disc and are not usually permanently saved. Further copies of the programme from the hard drive to DVD's are not usually possible due to the anti-copy codes embedded in the programme.

The practice of widespread copying of content to DVD's may slowly be coming to an end?!

Legal Issues.

Protection of intellectual content and copyright laws are strict and enforced quite vigorously by the authorities in South Africa but as this is a minefield of legalities this article will not be going into this aspect except to say, be law abiding!

Frequently Asked Questions (and Answers).

Q: Can I play my recorded DVD's on other DVD players?

A: Maybe! It all depends on the compatibility of the player and what format was used in the recording.

Q: How many formats are there?

A: At least 7 and that's without getting into the differences between PAL and NTSC TV systems.

Q: What are the formats.

A:

DVD-R: The most universal of recordable DVD formats that is used by computer DVD writers as well as most DVD recorders. DVD-R is a write-once format, much like CD-R and discs made in this format can be played in most current DVD players. DVD-R discs need to be finalized at the conclusion of the recording before they can be played on another DVD player.

DVD-R DL: This is a record once format identical to DVD-R except that it has two, layers on information on the same side of the DVD allowing approx double the recording time of a single side. Some DVD recorders do not have this format facility and the physical differences between a standard DVD-R and DVD R DL may prevent some DVD players from playing this format.

DVD-RW: Recordable and rewritable format (like CD-RW). The Discs are playable in most DVD players, provided they are recorded in the straight Video Mode and finalized. In addition, the DVD-RW format also has the ability to perform Chase Play, which is similar to Time Slip used in the DVD-RAM format (refer to the explanation for the DVD-RAM format). However, this function is available only in what is referred to as VR mode. DVD-RW recordings made in VR mode may not be as compatible with other DVD players.

DVD+RW: Recordable and rewritable format promoted primarily by Philips, with a host of other partners. These claim to offer a greater degree of compatibility with current DVD technology than DVD-RW. The DVD+RW format is also the easiest to use, in terms of basic recording, as the discs do not need to be finalized at the

conclusion of the recording process in order to play in another DVD player. This is due to the finalization process being done during the actual recording process itself.

DVD+R: A record-once format introduced and backed by Philips and adopted by the other DVD+RW proponents, that is said to be easier to use than DVD-R, while still playable in most current DVD players. DVD+R discs need to be finalized before they can be played on other DVD players.

DVD+R DL: A record-once format that is identical to DVD+R, except that it has two layers on the same side of the DVD. This allows twice the recording time capacity on a single side. This format is incorporated on most new PCs with DVD writers, but is slowly being introduced into standalone DVD recorders. Although the actual recording format is the same as DVD+R, the physical difference between a standard DVD+R disc and a DVD+R DL disc may result in less playback compatibility on some DVD players that can play single layer DVD+R discs.

DVD-RAM: Recordable and rewritable format promoted by Panasonic, Toshiba, Samsung, and Hitachi, which is not playback compatible with most standard DVD players, and is not compatible with most DVD-ROM computer drives. One of the unique features of DVD-RAM, however, is its ability (with its random access and quick writing speed) to allow the user to watch the beginning of a recording while the DVD recorder is still recording the end of the program. This is referred to as "Time Slip". Another advantage of DVD-RAM is its extensive capability for on-disc editing. With its quick access speed, you can rearrange the playback order of scenes and delete other scenes from playback, without erasing the original video. However, it must be re-noted that the recording made is not compatible with playback on most standard DVD players.

Q. Is there a difference between commercial produced DVD's and home recorded DVD's?

A. Yes.

Commercial DVDs that are sold at the local video store use the DVD-Video format. They are manufactured with a stamping process, whereas homemade DVDs are "burned". This makes the actual physical reflective properties and the way the actual disc reading instructions are recorded on commercial DVD-Video and home recorded DVD formats different. This also results in home recordings storing slightly less data (and duration) than the stamped versions.

The owners DVD player usually lists the formats it can play. Most players can play at least DVD-R, DVD+RW and DVD-RW (video mode).

Q. Can DVD's you record be played anywhere in the world?

R. A. No.

Analogue TV works on 3 major different systems in different countries.

NTSC for USA, Canada, Mexico and some South American countries as well as Japan, Taiwan and Korea.

PAL for the UK, Germany, Spain, Portugal, Italy, China, Australia, most of Africa and the middle East.

SECAM for France and many of the old French colonies.

Very briefly the different systems are described below.

NTSC is based on a 525 line, 60 fields a second at 60Hz system. This is an interlaced system where each frame is scanned in two fields of 262 lines, which are combined to make a frame of video.

PAL is the dominant analogue format in the world. It is based on a 625 line, 50 field and 25 frames a second 50Hz system. It also uses interlacing into two fields of 312 lines each. As colour was part of the standard from the start, unlike NSTC, the colour rendition is better. Its frame rate of 25 is closer to movie films frame rate of 24 frames per second.

SECAM

A system developed in France originally by Henri de France it relied on sequential transmission of the chrominance signals. Used in France, some countries in Africa, and most of the countries that made up the old Russia (USSR).

Like other colour standards it had to be compatible with old monochrome TV receivers. So like other standards it carried the basic monochrome (black and white) signal (luminance) and added a colour signal (chrominance) in a sequential fashion. This is different to other colour TV systems.

Q. Can you record HDTV on a DVD recorder?

A. As commercial DVD is not a HD format the recorders have the same constraints. The maximum resolution on a commercial DVD and DVD recorder is 480i, which can be played back in 480p on a progressive scan DVD player or up scaled to 720p/1080i/1080p on an up scaling DVD player.

HDTV broadcast resolution is normally 720i or 1080i which is beyond the capabilities of the normal DVD recorder / player (not hard drive).

Q. Do DVD recorders come equipped with HD TV tuners?

A. Some recorders are equipped with ATSC (HDTV tuners). These are capable of receiving Digital HD TV. All new TV's and recorders should now come equipped with HDTV tuners as the analogue TV broadcasts are due to be phased out in the next few years. Watch the news and see future newsletters on updates on this transition process as South Africa will be using the latest MPEG 4 standard and set top boxes to convert the HD signal to standard analogue are not yet finalised or available.

While newer recorders may have tuners that can receive HDTV signals the recordings made will not be HD since DVD is a standard definition format. The signals are downscaled in the recording process to standard DVD definition.

Q. Will DVD recorders be able to play to HD TV sets?

A. Many recorders have the up scaling ability to playback the recorded standard definition recording to HDMI connections on the TV set, however the resulting picture is not true high definition.

Q. What is needed to record in true high definition?

A. To record in true high definition on a disc-based format, the consumer needs to use a Blu-Ray Disc recorder. (HD DVD has been discontinued).

Improvements and succession.

In 2006, a new format called Blu-ray Disc (BD), designed by Sony, Philips and Panasonic, was released as the successor to DVD. Another format, HD DVD, competed unsuccessfully with this format in the 2006 to 2008 format war and has been discontinued.

A dual layer Blu-ray Disc can store 50 GB.

Unlike previous format changes (e.g., audio tape to compact disc, VHS videotape to DVD), there is no immediate indication that production of the standard DVD will gradually wind down, as they still dominate, with around 87% of video sales and approximately one billion DVD player sales worldwide. Experts claim that the DVD will remain the dominant medium for at least another 5 years as Blu-Ray technology is still in its introductory phase, write and read speeds being poor as well as the hardware being expensive. Blu-ray players initially struggled partly because the MPEG I-frames stored on DVD discs were based on JPEG, which carries DCT information that can be exploited to improve interpolation for higher resolutions.

Consumers initially were also slow to adopt Blu-ray due to the cost. By 2009, 85% of stores in the USA were selling Blu-ray Discs. Figures for South Africa are not available but appear to be much lower. A high-definition TV and appropriate connection cables are also required to take advantage of Blu-ray disc. Some analysts suggest that the biggest obstacle to replacing DVD is due to its installed base; a large majority of consumers are satisfied with DVDs. The DVD succeeded because it offered a compelling alternative to VHS. In addition, Blu-ray players are designed to be backward - compatible, allowing older DVDs to be played since the media are physically identical; this differed from the change from vinyl to CD and from tape to DVD, which involved a complete change in physical medium.

The Holographic Versatile Disc (HVD) is an optical disc technology that may one day hold up to 3.9 terabytes (TB) of information, albeit the current maximum is 500GB. It employs a technique known as collinear holography.

The 5D DVD, being developed at the Swinburne University of Technology in Melbourne, Australia, uses a multilaser system to encode and read data on multiple layers. Disc capacities are estimated at up to 10 terabytes, and the technology could be

commercially ready within ten years or so.
And so Technology marches on!

Further developments may be published in future newsletters. Ed

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The Annual General Meeting of the Institute of Professional Engineering Technologists will be held on:

Thursday 25th February 2010
at the Engineering Council of South Africa
First Floor Board Room
Waterview Corner Building
2 Ernest Oppenheimer Avenue
Bruma Lake Office Park
Bruma
Johannesburg
2198
At 14H30.

1. Opening of Meeting.
2. Attendance Register and Apologies.
3. Additions to the Agenda.
4. Approval of the Minutes of the Annual General Meeting of IPET held on 9th February 2009.
5. Matters Arising.
6. President's Annual Report.
7. Annual Financial Report.
8. Appointment of Auditors for the 2010 / 2011 Financial Year.
9. The Council for 2010 / 2011.
10. Induction of the new President.
11. Additional Items added to the Agenda.
12. Closing.
13. Refreshments.

Kindly RSVP before 23rd February 2010 to the above Tel / Fax / Answering Service so that adequate catering can be provided!

Amin Officer: V Nel, Pr Tech Eng, Pr Techni Eng.

The Council For 2009/2010

Nominations are invited for up to seven (7) Council members. Nominations are also invited for representatives of non-corporate members.

The Council members are:

Current Council that remain in office; Messrs;	Council members who may be nominated	Corresponding volunteer members who serve in absentia in an advisory role.
K Chabikuli (Senior Vice President	Col D Jordaan	D Argyrakis (Corresponding member, PE)
D Lange (Past President)	J Moloisane	K Ramjee (Corresponding member, PE).
J Lessing (Junior Vice President)	F Walker	
J J de Koker (Treasurer)	P C van Dyk	
	W Badenhorst	
	Dr G Fanourakis	
	B Pitman	
	C Mynhardt	
	Ian du Plessis	
	MW Lotter	
	V Nel (Admin Officer)	
	S Lambert	

Messrs. Col. D Jordaan , J Moloisane, F Walker, B Pitman, M W Lotter and P van Dyk have retired but are eligible for re-election.

Messrs. D Lange, K Chabikuli, J Lessing, and JJ de Koker remain in office and need not be nominated.

Kindly note that if the nominee is a Full member of the present Council, his signature as a nominee will not be required.

Persons who are not mentioned above may also be nominated.

Please note that only nominations of members in good standing will be accepted.

Nomination Form

Kindly complete and return on or before the 23rd February 2010.

IPET
PO Box 1824
Randburg
2125

Fax 011 787 9706

Dear Sir,

I, the undersigned, wish to nominate the following Corporate Members to serve on the IPET Council for 2009 / 2010.

Nominee	Post Held	Signature
1		
2		
3		
4		
5		
6		
7		

Proposer
Name (Please Print) _____

IPET Membership Number _____ Date _____ Signature _____

Annual General Meeting of the Institute of Professional Engineering Technologists

Thursday 25th February 2010

PROXY VOTING FORM

I, IPET membership Number:

will be unable to attend the Annual General Meeting of the Institute on the 25th February 2010, so hereby appoint

(please print)....., or failing him the Chairman to vote on my

behalf at the meeting or at any meeting following an adjournment thereof.

Signature.....

No 17. List of Members in Good Standing.

Please refer to our Website for the latest list. See www.ipet.co.za

It is not reproduced in this newsletter!

If your name does not yet appear there, then kindly check that you have paid your annual fee. If you have then submit documentary proof of payment with your name and IPET number to our office so we can trace records and update lists where required.

Kindly note that the IPET Financial year runs from April to March of the next year.

No 18.

Unsubscribe Option.

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

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

Number 19. O. & O. E.

The Institute of Professional Engineering Technologists, its agents, volunteers, workers and members cannot be held responsible for errors in, amendments to, or any damages whatsoever arising from information published in good faith. Opinions expressed by contributors are not necessarily shared by IPET.

QRT

When you have finished with this Newsletter, please pass it on to your Chief Executive Officer, Technical Manager, Technical Supervisor, Human Resources Manager, Technical Buyer, and/ or your Engineering Colleagues.

No 20.

The Institute of Professional Engineering Technologists
P O Box 1824
Randburg
2125
Tel / Fax 011 787 9706

**To All
Members**

We are experiencing returned mail, including membership certificates marked unclaimed and undeliverable E mail.

We are therefore in the process of updating our database.

If you have not sent us an update in the last 6 months or so please complete the form in large black font.

Return the completed form to us by Mail. **Fax & E-mails attachments are NOT accepted.**

Provide us with your E mail address so we can send our regular E News Letter to you.

This may be useful in you giving advance warning of important matters that affect you and the profession.

All information will be treated as confidential and will not be shared with any other party

Last name		Initials	
First Names			
Your Preferred Postal address		Postal code	
Work Postal address		Postal code	
Name of Employer / Company			
Your or your Company's main field of engineering			
Work Tel (include area codes for all numbers)	Work Fax		
Home Tel		Home Fax	
Cell No		E Mail (Large font please)	
Membership Number			
Engineering Council of SA Registration Number (If applicable)			
I D Number			
Race (For statistical purposes only)	Asian (Indian etc) = A, Black = B, Coloured = C, White = W		