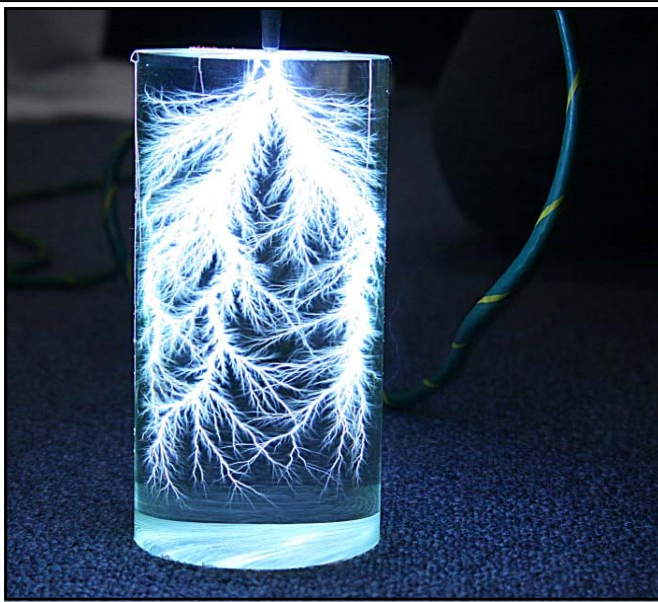




Electron (Christmas) Trees



FLASH! CRACKLE! POP! A cylindrical perspex block at the instant of discharge.

Ryan Smith, Senior Physicist

William Buckland Radiotherapy Centre, Victoria, AU

With the approaching decommissioning of linear accelerator LA3, our engineer suggested that we take advantage of this opportunity to make some “electron trees”. I had seen one of these legendary items sitting on colleague’s window sill for almost 10 years and jumped at the chance of owning one myself.

Continued Pg 2

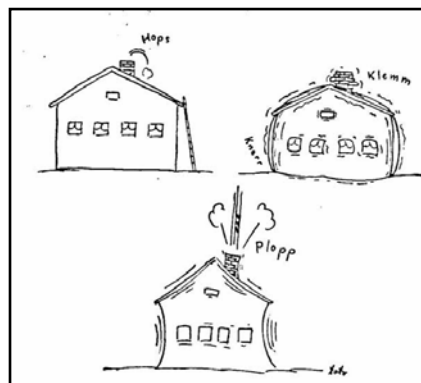
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From the desk of the President

Dear colleagues and friends,

As we prepare for a well-earned break from work and consider what last minute presents we have forgotten, the College is also getting into the festive mood with this beautifully crafted newsletter. May and her team (ie Jar-rad) have done a great job again - at least I jolly well hope so as the contents of this newsletter have been kept secret and not even the President was allowed a preview.



However, I was briefed to write something jolly (and short) which leads me to my treasured selection of German jokes. What about the one with the Gartenzweig and the cauliflower? Or better still, my 60 favourite jokes involving Wiener dogs, sandals and socks? Not ordinary sandals of course...

I tried some of them at home and unfortunately, most of the scintillating, subtle

German humour seems to get lost in translation. At least that is what my kids said.

As such all I can do is leave you with a little drawing (also from my German times)...

Now at least you know why we have to buy our own Christmas presents.

Hohoho and best wishes

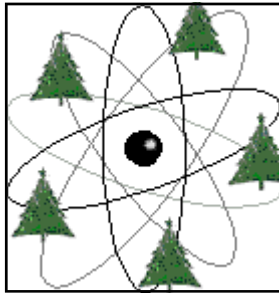
Tomas



From Page 1....

In medical physics circles, electron trees are almost a thing of myth. They have been talked about by many, but produced by few.

I purchased a large volume of perspex and had it cut to size in preparation for the big event.



Electron Christmas Trees

We arrived at work early on a sunny Saturday morning and began preparing the linac to deliver the required beam.

We removed the ion chamber, flattening filter and configured the target to be out of the beam. The machine was set in 6MV mode, and with those attenuating devices removed, we were able to achieve a raw electron beam, with a very high dose rate, at the couch top.

We set the first perspex (rectangular) block on the couch, and delivered some dose. We were without an ion chamber, so we couldn't set MU's, only time. Watching through the room monitor we all witnessed the amazing blue glow that emanated from the block as the electron beam impacted on the perspex, otherwise known as "Cerenkov Radiation".

The delivery of high energy electrons to the perspex block results in a large charge to build up in the block, with nowhere to go. The creation of an electron tree requires the charge to be removed suddenly, which is what happened

next.

Entering the treatment room after turning the beam off, there was a very strong smell of ozone and the initially clear block had turned slightly yellow.

With a centre punch attached to an earth lead, I stood the block on its end, aligned the centre punch to the middle of the block, and hit it with a hammer.

There was an amazing flash; a crackling sound and then an awesome display of lighting within the perspex block itself.

All onlookers were "ooing" and "ahhhing" with excitement as the electron tree continued to create itself with each lightning flash. The flickering within the block continued for literally minutes after the discharge.

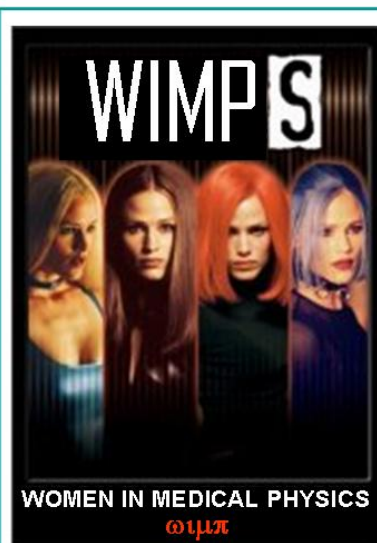
The point at which the centre punch

breaches the surface causes a minor stress point in the block. The static charge built up in the block across the entire volume suddenly rushes to that breach point. The flow of electrons follows a path of minimal resistance, and the electrons build in numbers as they approach the stress point as each "branch" of the tree combine to form the main trunk.

The electron flow causes the perspex to melt slightly and therefore change colour, leaving an incredible and very fine structure behind.

We repeated the process on some cylindrical perspex blocks with the same result. The electron tree grew in three dimensions; also giving an amazing display of lightning.

The final result was a beautiful display of nature, forever encased in perspex.



Twenty years ago I was recruited to work for QRI – one female in a group of ten physicists.

I was trained as a ROMP and after ten years moved on to a job in Geelong.

I thought I'd be working with the "old boys" until I met Anne at a College branch dinner.

That's when we got the idea – to form a social group of women working in medical physics.

Now we have a network of over fifteen women in Victoria alone, and about forty women attend our annual Australasian dinners.

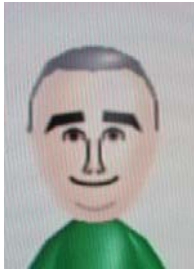
Times have changed – male/female workplace relations have improved – yet we still like to take time out for some "girls only" conversation.

Written by R. Brown, authorised by A. Perkins on behalf of Women In Medical Physics, Victoria.

WIMPS is open to women working in any field of medical physics and biomedical engineering and is not restricted to ACPSEM members.

If you or a colleague wish to join us and you were not previously on our email list please contact Rhonda Brown at rhonda.brown@aip.org.au .

Disclaimer: WIMPS is an informal social network and is not affiliated with any professional bodies.



Mii Trevor Ackerly

KEYBOARD CLASH



Dr Sean Geoghegan

As the all important Christmas time comes closer, thoughts turn to the important things. The Birth of Jesus, Putting an Angel or Star on the Christmas Tree, The Gift of Giving.... that is, giving a Nintendo Wii or the Gift of Time. Back again to Debate whether the Wonderful Wii or the Sands through the Hour Glass are a better present is Mr Trevor Ackerly and Dr Sean Geoghegan

Members of the College who stop to think about this time of year can come to only one conclusion: the

Nintendo Wii is what it is all about - for everyone! Shallow materialists can get that dose of retail therapy that Kevin 07 has prescribed by buying one. Family men and wimps can wonder at the simple joy experienced by their Wii playing children, and then sneak in a game themselves when the kids finally crash. Older parents in danger of being banished to nursing homes by uncaring children can console themselves with the thought that they will at least be able to play Wii all day long with no risk of breaking bones, while the young and feckless can play Wii tennis with one hand without any risk of spilling the alcoholic drink in the other.

THE Wii.... A
REVOLUTION IN
MEDICAL PHYSICS

Those who look upon this time of year as a time of giving and altruism, however, see the Wii for what it truly is, a revolution in medical physics and biomedical engineering. It has

applications in stroke rehabilitation, training of surgeons, radiological review of PET, MRI and CT images¹, is the cheapest patient motion sensor available², and the open source community are working to bring out wii linux (www.wiili.org) to enable even more applications. Wii has raised Olivia Newton John's profile, which in turn will benefit cancer treatment through her sponsorship of the Olivia Newton John Cancer Centre. Wii, lets get physical!

References

1 Gallo, L., De Pietro, G. and Marra, I., 3D interaction with volumetric medical data: experiencing the Wiimote Proceedings of the 1st annual conference on Ambient Media and systems, Quebec, Canada 2008

2 Fox, C. and Todd, S., Development of a new instrument for assessment of Patient Motion. Poster, ABEC 2008, conference handbook p383.

The time of year is nearly upon us when we're wondering what type of present we should be getting for our

friends and family. This is a difficult question to answer without knowledge of the individual's likes and dislikes. One can do a Google search to find that the best present to give (at least in Australia on Friday 12 December 2008) is the Westpac Gift Card. It can range in value from \$15 to \$800 and is easy to send by post. A gift card does not lose value and can be used by the receiver to purchase whatever they want. However, monetary value, ease of postage and the first advertised item in a Google search does not give us the best gift to give. The best type of gift that can be given is time. We all know of how we lose time all the time (especially in the middle of an exam or during patient specific QA) and so the gift to give is

THERE ARE NODES IN
OUR WORLD WHERE
LOST TIME
ACCUMULATES

time. Because of the strange nature of the universe, it is obvious that there are nodes in our world where lost time accumulates and can be harvested. Providing an opportunity for your friend or family member to bask in the emanations around these nodes would be the best gift one can give. There they can experience an excess of time and appreciate the wonders of the universe at their leisure. Ultimately, though, the best gift to give is an interstate bus trip to the international airport in a distant capital city. The piece of mind achieved will be worth the expense and should only be given to the most deserving friend or relative. Including a return ticket is optional.

REBUTTALS NEXT PAGE



REBUTTALS

The Westpac Gift Card is only valid until the expiry date shown on the card, so it is either a gift of money to Westpac or a time management problem for the recipient who has to decide what they want and get it within the specified time limit. And of all banks, why Westpac? Do they do a special deal if the Gift Card is in Swiss francs?

In contrast, the Wii-mote can give you time. During radiotherapy accreditation exams, time stops when the power goes off and the lights go out, but if you can't see in the darkness the extra time is of no advantage unless you have a battery powered device like the Wii-mote, by the discreet illumination of which you can get a few extra minutes.

As for the interstate bus trip...anyone from Perth will tell you that a road trip from Perth to anywhere is at best TOO MUCH OF A GOOD THING. "From St. Kilda to King's Cross is thirteen hours on a bus", but Paul Kelly didn't seem to find it an uplifting experience, he just ended up wanting to be back where he started from.

Save yourself the time and take a virtual jog around Wii-fit island in the comfort of your own lounge room. You gain the time that you would have spent driving to and from your running track. You will at least be transiently happier, and when you get bored with it your Wii-mote can be recycled through e-bay as a respiratory gating monitor for a 4D-CT. Just remember to lick the jam off your fingers before you pick up the Wii-mote.

Mr Trevor Ackerly:

Trevor is still the Chief Physicist at WBRC, but the girls have now turned 10 and can fight back effectively. These days, whenever he tries to set them adrift, they somehow seem to end up shopping instead. Trevor was last spotted in a Kayak on the Punakaiki river on the West Coast of New Zealand's South Island on 21st November. The girls last went shopping more recently at Kmart, where they secretly bought Christmas presents for each other.

The Wii is one of the worst known examples of a time funnel. A user of the Wii can lose a massive amount of time which is funnelled directly to the nearest airport, train station, bus terminal, taxi rank or bank queue (depending on the Wii settings) there to be appreciated and enjoyed by those there. The Wii has a greater effect on the transfer of time than the more familiar time funnels, such as the written exam, sleep or a good book. It also encourages loud alcohol drinking relatives and friends to congregate at your house, whereas the gift of an interstate bus trip to the airport in a distant capital city prevents this. Admittedly, as the proponent attests, the Wii can be used professionally (with care and protection), however the same is true for professional use of an interstate bus trip to the airport in a distant capital city (or similar) where due care and protection must also be taken to avoid overexposure to the surfeit of time.

ps from Dr Geoghegan: despite the persuasive arguments presented here, the Ultimate Best Gift to give is actually 10kg of 239Pu which can be used to get anything you want, such as a Wii. You could trade the Pu for a Wii, thereby turning the number two into a number one. Gift, that is.

Dr Sean Geoghegan:

Sean is a leading expert on avoiding getting jobs done by pretending to be very busy while watching replays of the Goodies as part of fundamental physics research projects. He is the co-inventor of one of the lesser known endless paper trail systems and has automated the production of meaningless paper forms printed on varying sheets of coloured paper. He enjoys piling these up on his desk, pushing a pen across them every now and again before carefully inserting the scribbled-on forms into manila folders. After hours he can frequently be found fumbling with various forms of entertainment including ionising radiation, air cavities and water. He has never used a Wii as part of any professional activity but is familiar with the pleasures of airports having spent more than 1% of his total living hours either in an airplane or in an airport. He always travels with a jar of vegemite.



Recipe: Rumballs

Chef: Tania Tehovnik, Macarthur Cancer Therapy Centre

Makes: 20-25

Ingredients:

1/4 cup rum

1/3 cup raisins, finely chopped

300g good-quality dark chocolate

1/3 cup thickened cream

Method:

1. Bring rum and raisins to a simmer

in a saucepan over low heat. Remove from heat. Set aside for 30 minutes.

2. Chop 200g of the chocolate. Grate remaining chocolate.

Combine chocolate and cream in a heatproof, microwave-safe bowl. Microwave, uncovered, on medium (50%) for 2 to 3 minutes, stirring every minute with a metal spoon, or until melted and



smooth. Stir in rum. Cover. Refrigerate for 3 to 4 hours or until firm

3. Line a tray with baking paper. Using 2 teaspoons of chocolate mixture at a time, roll into balls.

4. Roll balls in grated chocolate. Place on prepared tray. Refrigerate until firm

Source & Pic: www.taste.com

Call for Ads

The ACPSEM Social Newsletter is asking Vendors if they would like to submit an Advertisement for circulation as part of the Newsletter.

The Newsletter is sent to all Members on the Email server.

The size of Advertisements are restricted to 1/2 page (13cm down x 18cm across) and 1/4 page (13 down x 9 across or 4.5cm down x 18cm across).

Number of advertisements per newsletter will be restricted to four, first come first serve. After that advertisers will be placed onto a waiting list to be placed in the next issue. Contact: The Editors

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hans.feitz@gms-aus.com

Service, Knowledge and Experience



Where in the World is the President?



Once again, we have three photos from somewhere. Can you guess where? Please send your best guesses to the editor. Remember – the person with the most correct entries wins the President’s Prize: A Lonely Planets Guidebook of your choice.

THE QUESTION: Which State, Territory or Island?





Quotable Quotes

Jarrad Begg

I'm not known for being the clearest talker in the best of situations. Quite often I get excited when I know an answer and end up shouting out the wrong answer in my eagerness to answer correctly. Unfortunately that has left me with a fair few Quotable Quotes - things I said which I wish I had not.

This is probably not the best way of impressing future employers, but it does serve for some laughs.

“IT’S LIKE DESALINATION,
EXCEPT IT’S DE-
HEATINATION”

- “I just realized the one problem I have....” - 12/12/2006
- “It’s not like I’m the Dullest Spark on the Block....” - 21/10/2006
- “Boy is the shit going to hit the ceiling” - 10/01/2007
- “Released post humorously” - 15/01/2007
- On the Topic of Sequels - “Terminator 2 was a better sequel than Terminator 1” - 05/03/2007
- On the Topic of Learning - “I just manage to Osmosis some stuff occasionally” - 08/03/2007
- On the Topic of Cooling - “It’s like desalination, except it’s de-heatination” - 14/03/2007

Now I can’t be the only person who manages to put their foot in their mouth. If you know someone with a funny quote, and you have their permission, send it in.

May’s Christmas Crackers

Q. What did Adam say to Eve on the night before Christmas?

A. It’s Christmas, Eve!

Q. Why does Scrooge love Santa’s reindeer?

A. Because every buck is deer to him.

Q. What do you get if cross a snowman and a shark?

A. Frost bite.

Q. What did the guests sing at the Eskimo's Christmas party?

A. Freeze a jolly good fellow.

Q. How many chimneys does Santa go down on Christmas eve?

A. Stacks

Q. Why didn’t the skeleton go to the Christmas party?

A. Because he had nobody to go with.

Q. Why did the elf put his bed in the fireplace on Christmas eve?

A. Because he wanted to sleep like a log.

Q. What do you give a train driver for Christmas?

A. Platform shoes.

Q. What did one sheep say to the other at Christmas?

A. Merry Christmas to ewe!

And a very merry Christmas to ewe too. Have a wonderful and safe holiday, and we look forward to bringing you lots more fun and silliness in the next edition of the ACP-SEM Social Newsletter.

ps letters to the Editor complaining about bad taste in jokes will be lodged in our special filing cabinet...

If you would like to Contribute to the Newsletter, please send your ideas to the editorial team

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