

International Year of Light Celebratory Event in Wales



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Outline

Following the declaration by the UN on 20 December 2013 that 2015 should be the International Year of Light (IYOL), the Photonics Academy for Wales at Bangor (PAWB) undertook to organise a series of events in Wales to celebrate IYOL.

The aim was to provide a variety of public events which will demonstrate the importance of light in supporting and enhancing life.

The expectation was that several key organisations would coordinate their activities in order to facilitate such events. To this end, initial approaches were made to: the Institute of Physics in Wales; The Photonics Academy of Wales, the Welsh Optoelectronics Forum and the Learned Society of Wales.

Given the significant role which light plays in the economy of Wales it was also expected that industrial and commercial bodies would support and participate in 'International Year of Light : Wales'.

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1. Supportive Organisations

Having sought engagement from a variety of organisations it is gratifying to report a positive response from several quarters – some of which were unforeseen. The simplest way for indicating how such a response emerged is to present those contributions roughly in chronological order.



- The first organisation which responded in a practical way was the *Learned Society of Wales*. The Learned Society of Wales (LSW) (<http://learnedsocietywales.ac.uk/>) is an independent, all-Wales, self-governing, pan-discipline educational charity, providing public benefit including expert scholarly advice on a variety of public policy issues related to science, engineering, medicine, arts, humanities and social sciences. Established in 2010, the Society, Wales's first national scholarly academy, aims to establish itself both as a recognised international representative of the world of Welsh learning, and as a source of authoritative, scholarly, and critical comment and advice on policy issues affecting Wales. The Learned Society of Wales received a Royal Charter in 2015. At the time, the present author was a member of the Council of the LSW and when he presented a short paper to the LSW Council the then Chief Executive of the LSW Dr Lynn Williams immediately made an offer of sponsoring a Christmas Lecture for Schools on the topic 'Chemistry and Light'. This was delivered in Bangor – and the seats could have been filled twice over. It is stressed that this was Christmas 2014 and so IYoL in Wales got off to an early start and, literally with a bang.



- A major cultural event in Wales is the National Eisteddfod of Wales. This week-long annual peripatetic event draws in excess of 250,000 people of all ages to locations across Wales (<http://www.eisteddfod.org.uk/english/2015/>). In 2015 the National Eisteddfod was held in Meifod, Maldwyn, mid Wales. In recent years the LSW has sponsored an annual lecture at the National Eisteddfod and in 2015 the LSW has also offered its annual National Eisteddfod lecture as part of the IYOL activities. This lecture was delivered (in Welsh) by K Alan Shore.

Supportive Organisations

- The second organisation which enthusiastically embraced the IYOL was the Welsh Optoelectronics Forum (<http://www.wof.org.uk/home/>). The Forum is a consortium of Welsh companies, University research groups, users and support organisations, formed following the impetus of activities in north Wales, and is dedicated to the development and profitability of the opto-electronics sector in Wales and internationally. Alongside the several anniversaries which underpin the choice of 2015 as the IYOL, it happens that 2015 marks 20 years of activity by the Welsh Optoelectronics Forum (WOF).
- 2015 also is the 10th anniversary of the establishment by WOF of the Photonics Academy for Wales. It is natural therefore that both these organisations will contribute to IYOL events.



- An approach was made to the Chief Scientific adviser for Wales (CSAW) Professor Julie Williams for both moral and financial support for IYOL events and specifically for the formal launch of the IYOL in Wales which is described in more detail below. One records with great appreciation the support thereby forthcoming.

One may say that many of the foregoing organisations would have been fully expected to join IYOL activities. It is pleasing to record that support has come from rather unexpected directions.

Supportive Organisations



- The National Museum of Wales (<http://www.museumwales.ac.uk/>) – and in particular Dr Jana Horak - has embraced the IYOL with considerable imagination and energy. Dr Horak has organised a number of events under the title 'Geology and Light' in the period June - August 2015.
- The North Wales International Music Festival – led by Anne Atkinson - adopted light as the motif for its events in September/ October. It happens that there has historically been a strong link between the Welsh Optoelectronics Forum and the North Wales Music Festival. However WOF cannot claim any credit for the decision by Anne Atkinson to adopt light as a theme for the 2015 North Wales Music Festival. It appears that Anne Atkinson picked up early indications of the IYOL and decided to use it for the festival.
- A centre for sailing, officially opened in December 2015 at Pwllheli, north Wales includes photonics exhibits as part of its on-going activities.

2. Programme of Events

PAWB has worked with several organisations and individuals to devise a programme of events which are focussed on conveying the significance of light and its technologies to a broad swathe of the population. The target was to have an event per month somewhere in Wales – this target was easily exceeded with about 20 events having been undertaken. In addition Wales involvement in the International Year of light was promulgated internationally including one presentation in China. These events take into account the bi-lingual nature of Wales with significant events being delivered in the Welsh language. Arrangement and delivery of the events has largely been undertaken on a voluntary basis albeit with some funding having been obtained from supportive bodies and organisations.

The following are events in which PAWB was active or of which it is aware

2.1 Activities

1. December 2014 Learned Society of Wales Schools Christmas Lecture 'Chemistry and Light'.



20th /21st January IYOL Launch UNESCO Paris



Programme of Events

2. 5th February IYOL Launch Wales, Cardiff (see section 2.2 below)



3. 31st March - 2nd April SIOE Conference Cardiff

4. 16th -18th February PAWB Photonics Project Master Class led by Ray Davies–students from Friars School, Bangor



Programme of Events

5. 4th March OpenIQE Photonics Innovation Camp – OpTIC : PAWB Display



6. 14th March Hidden Worlds Exhibition –Bangor Science Festival



7. 25th March EESW Project Presentation Day at Venue Cymru, Llandudno Projects : *Roof Prism Optical Compass; Fibre Optic Laser Speckle Cardiopulmonary Resuscitation (CPR); Blind Person's Stair Ascending/Descending Sensor, Ray Davies, PAWB*



Programme of Events

8. 21st April "Surprised by Light" – Phoenix Society – Kidderminster

9. 16th June Bright Lights and Engineering, Knowledge Transfer Network, OpTIC Glyndwr, St Asaph



10. 20th June/25th July/ 15th August Geology and Light : National Museum of Wales, Cardiff, Ray Davies, PAWB



Programme of Events



11. 29th June – 2nd July : Educational and Training in Optics and Photonics (ETOP) 2015 Bordeaux, France : presentation by K Alan Shore



12. 5th -10th July Desborough College Photonics Course, Ray Davies,PAWB

13. July-August PAWB Master Classes for schools and colleges: Ray Davies



Programme of Events

14. 1st – 8th August National Eisteddfod of Wales (Meifod): Learned Society of Wales Annual Eisteddfod Lecture: "Grym Golau (The Power of Light)" lecture by K Alan Shore; chair Professor Ken Morgan



15. 2nd September, 'International Year of Light ' lecture by K Alan Shore, Taiyuan University of Technology, Shanxi, China



Programme of Events

16. 17th September: National Research Network in Advanced Engineering sponsored public lectures on photonics technologies: Dylan Thomas Centre Swansea "The Year of Light" lecture by K Alan Shore



17. 25th September Lightfest @ Aston University, Birmingham

18. 1st October North Wales Music Festival: PAWB Workshop for Schools including performance of optical music led by Ray Davies at St Asaph Cathedral; featured also by Science Café, Radio Wales



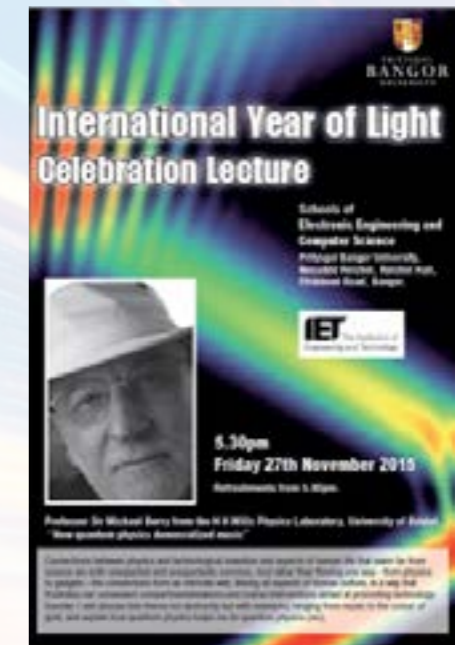
Programme of Events

19. 20th November : Lecture at Ysgol Bro Morgannwg, Barry by K Alan Shore



20. 27th November 2015 Bangor University Annual Engineering Public Lecture : Sir Michael Berry, Bristol University " Quantum Mechanics and the Democratization of Music"

PROFESSOR SIR MICHAEL VICTOR BERRY, FRS
Melville Wills Professor of Physics (Emeritus), University of Bristol



Programme of Events

21. 2nd December Official Opening of the Plas Heli sailing centre, Pwllheli, north Wales



Wind is integral to sailing. The large Danpalon drum of the new Plas Heli Sailing Centre provides an opportunity to transform the space into a light box at night, displaying a visual representation of the wind through data responsive lighting.

22. 14th/15th December PAWB EESW Photonics Project Mentoring Sessions for Coleg Menai students led by Ray Davies



2.2 IYOL Wales Launch

It is wished to draw particular attention to the IYOL Wales Launch. The event took place on the 5th February in the Pierhead Building, which is adjacent to the Welsh Senedd – the home of the Welsh Assembly in Cardiff Bay. The event was formally sponsored by Mrs Edwina Hart Welsh Government Minister for the Economy, Science and Transport. The launch event was addressed by Mrs Hart, Professor Julie Williams, Chief Scientific Adviser for Wales ; Karin Burger of SPIE Europe ; Dr Louise Jones of the Knowledge Transfer Network and Dr Beth Taylor of the Institute of Physics who chairs the UK organising committee for the IYOL. The event was chaired by Prof Alan Shore of PAWB. The event also included displays and exhibits by photonics companies and supporting organisations.

- The Learned Society of Wales, who exhibited at the event, also supported the costs of Simon Gough Photography who provided several of the following images.
- Karin Berger contributed very generously of her time in organising the event and notably for ensuring that all the logistics associated with the exhibits were efficiently undertaken. SPIE also provided the background displays used at the launch.
- Thanks are due to Dr Zubaida Sattar and Daniel Roberts for bringing some examples of Photonics Academy of Wales @ Bangor (PAWB) activity to the IYOL Wales launch. Dr Sattar is a Ser Cymru Advanced Engineering NRN post doctoral researcher ; Dan is a PhD student supported by y Coleg Cymraeg Cenedlaethol.

IYOL Wales Launch



Speakers at the Wales Launch of the IYOL, Cardiff, February 2015 from left to right : KAS ; Dr Louise Jones ; Professor Julie Williams, Mrs Edwina Hart, Karin Berger and Dr Beth Taylor
Learned Society of Wales /Simon Gough Photography

IYOL Wales Launch



Attendees at a company display :
Learned Society of Wales /Simon Gough Photography



Karin Berger speaking at the IYOL Wales Launch :
Learned Society of Wales /Simon Gough Photography



Visitors at the Photonics Academy of Wales @ Bangor (PAWB) display being enlightened by (left) Daniel Roberts and (right) Zubaida Sattar
Images from Toby Shannon, IoP

3. Legacy

Being aware of the importance of creating an on-going interest in the topics treated during the International Year of Light, attention is being given to legacy activities beyond 2015. At this stage it is perhaps sufficient to indicate briefly that PAWB has the ambition to establish a Photonics Design Challenge as a means for engaging young people in hands-on photonics. The mechanism for implementing that challenge is under active consideration.

In order to conclude one returns to the beginning and the global launch of the IYOL in Paris. The IYOL was in great measure the idea of the European Physical Society president Professor John Dudley. It is worth therefore recalling remarks made by John in relation to the global launch in Paris:

*"As light becomes a key cross-cutting discipline of science and engineering in the 21st century it is more important than ever to build world-wide educational capacity through activities targeted on science for young people, by addressing issues of gender balance in science and to focus especially on promoting education in developing countries and emerging economies.
We will have only one International Year of Light and it is up to us to make the most of it."*

It is considered that Wales has played its part in this important year.

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