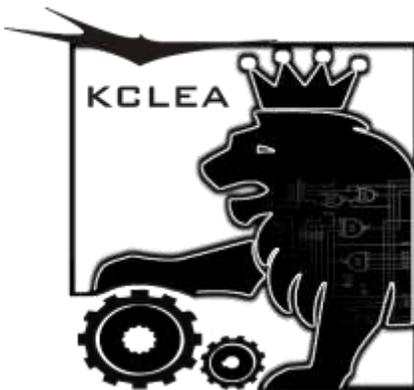

THE KING'S ENGINEER BULLETIN

(late) Spring 2022



Hello again!
Check our WEB site
*for Engineers' Dinner,
AGM, and other events.*



INSIDE

- Reflections of a Past President
- Did You Know ?
Kumar Wickramasinghe FRS
- Did You Know ?
Pickford Robert Waller
- Where are they now ?
Dr John Burton
- Quad Development update
- Obituaries
- In Memory
Ernest Michael Freeman
- Editor's Oddment



Reflections of a Past President *by David Blacoe*



In late November 2018, when I was honoured to be elected as the KCLEA President, nobody could have imagined that the world would be suffering from a pandemic just 16 months later! In February 2020, we enjoyed our last ‘in person’ event, the Annual Lecture, just before the national lockdown. More than 2 years later, we are still struggling to agree with the College a suitable date and venue for this year’s Lecture!

As a nation, we have all learnt the pro’s and con’s of video-conferencing technology (Zoom, Teams, Webinars) but our Association really thrives on the social interaction offered by physical events. However, we have also seen the benefit of online communications, with members able to join events from as far afield as Colombia and Japan.

Even with the re-establishment of the Engineering Department in 2020 and the new General Engineering Degree, we seem to have lost contact with the undergraduate student community. We realise how difficult it has been for the new students with remote teaching as the norm, hence the missing element of social life on campus. However the link has been maintained primarily through the Biomedical Engineering members.

It was with great pleasure that Liz Beckmann was elected as the new KCLEA President in November 2021, since her career provides her with a natural affinity to those Biomed graduates. They are prospectively the new intake as young KCLEA members, given the absence of other graduate engineers in recent years. I look forward to supporting Liz in the new world of hybrid events, online mentoring and rebuilding relationships with staff in the new Engineering Department. Otherwise we must not forget;

‘Who are We’!!

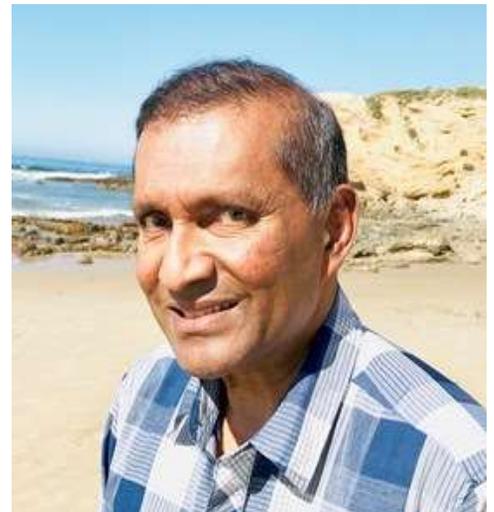


Did you Know ? *King's Engineers* by Keith Newton



Professor Kumar Wickramasinghe FRS

Kumar Wickramasinghe was elected to FRS in 2019. Kumar is an Electrical Engineer/Physicist who has introduced and deployed several molecular resolution microscopes named 'scanning probe microscopes' (SPM) for nanoscale imaging of electrical, optical, magnetic and thermal properties of surfaces. Notable is the Magnetic Force Microscope for quality control in disk drive manufacturing and the Kelvin Probe Force Microscope for imaging charge states and work functions of novel semiconductor and solar cell materials.



He pioneered and led the development and deployment of the vibrating probe (or dynamic mode) atomic force microscope (AFM)– an instrument for non-destructive profiling of surfaces with atomic resolution used in all nanotechnology laboratories today.

Kumar is a Member of the US National Academy of Engineering, Fellow of the National Academy of Inventors, IBM Fellow (Ret) and the recipient of a number of awards including the APS Keithley Award for 'pioneering contributions to nanoscale measurement science through leadership in the development of a range of nanoscale force microscopes that have had a major impact in many areas of Physics', Scientific American 50 award and the IEEE Morris Leeds award.

Kumar read Electrical and Electronic Engineering at King's College London from 1967-70 and then went to UCL to work for his PhD.

Source: [www.https://nano.eng.uci.edu](https://nano.eng.uci.edu)



Did you Know ? *King's Engineers* by Keith Newton



Pickford Robert Waller

Distinguished designer and collector Pickford Robert Waller (1849–1930) was a leading member of the Aesthetic Movement and an early supporter of James Abbot McNeil Whistler (1834–1903). An artist of great versatility, he produced floral designs for wallpaper and fabrics, but he is best known as a prolific designer of books and bookplates: he produced book designs for authors including Hans Christian Andersen, the Brothers Grimm and the poet and dramatist Laurence Binyon.

The Aesthetic Movement championed 'art for art's sake,' emphasising the sensual qualities of art and design rather than any practical, moral or narrative purpose it might have. For a late 19th-century aesthete, though, Waller's background was unusual: he was the son of a builder. Robert John Waller ran a thriving building firm from Lyall Street in London, and when he died in 1892, Pickford Waller continued to run the business. Eventually, though, the arts came to hold more of his attention than bricks and mortar.

As well as being a practising artist himself, Pickford Waller was also an important collector and patron of the arts. In particular, he was an early supporter of James Abbot McNeil Whistler (1834–1903), who he first met as a young man when he visited Whistler's studio with the artist Matthew White Ridley. Waller became an avid collector of Whistleriana, and Whistler's influence can be seen in much of his work.



An admirer of James McNeill Whistler, the designer Waller copied the latter's butterfly symbol transformed into a badge or pin that the artist presented to Waller's wife at a private view as a thank you for flowers. This can be seen in the Metropolitan Museum of Fine Art, New York.

Pickford Robert Waller was a KING'S ENGINEER (1866-67)



Where are they now ? *King's Engineers* Dr John Burton



A short story from Dr John Burton, Mechanical Engineering class of 1961. Robert Stephenson; Colombia & The King's Connection.

After leaving King's in 1961 I went to work on pump development with Peter Selwood (1958-61) in their family firm. Following this experience the British Technical Aid Mission recruited me in 1968 to work in South America. Other than a brief spell back at Selwood's in the 70s the next 14 years were spent in Colombia enjoying a huge variety of work both in university and industry; high tech medical-engineering and in rural development.

It was in rural development that I ran into a gifted Colombian Engineer Mauricio Gnecco, who after graduating had dedicated his career to work amongst the rural poor. Whilst we were working together on river current turbines of the Garman type



I learnt that in the early 1900s Mauricio's great-uncle Diego Jose Fallon, upon being named Colombian Consul in New Orleans, started his journey to post taking all his family down the rio Magdalena on a raft. This couldn't have been a contraption very different from the type of pontoon (photo on next page) that we were using to float the river current turbines on.

The Fallon family it turned out had quite a history in engineering and had, during training, also enjoyed the largess of two notable historical figures, Viscount Chateaubriand (French writer and Diplomat) and Robert Stephenson (British Civil and Mechanical Engineer). Chateaubriand, believing Thomas Fallon to be his illegitimate son, had supported both the Irish mother and son whilst the latter was trained in France as a mining Engineer at the Royal College in Amiens. This enabled Fallon to take up in 1830 the post that Robert Stephenson had recently vacated in Colombia, managing a silver mine in Santa Ana, Tolima.

Cont...



Where are they now ? *King's Engineers* Dr John Burton



Stephenson's 3 years in Colombia, taken probably so that he could escape from his father George's control for a while, were not entirely happy ones. The Cornish miners, brought in once the Spaniards had left after the republic was formed, didn't like receiving orders from a Geordie, also Robert had fallen in love with a Colombian lady who had nursed him to health after illness; however, she didn't like the idea of going to live in Newcastle. Stephenson promised the young lady that if she married and had children he would gladly look after their education in Europe.

And so, it turned out. Thomas Fallon was the lucky man to claim the Colombian lady's hand and between 1850-58 Stephenson was as good as his word, organising first studies at Stonyhurst College, before training Fallon's son in the carriage works at Newcastle. The whole story is covered in a recent book by Daniel Fallon (*Love's Legacy: Viscount Chateaubriand and the Irish Girl*. 2021 Amazonas Publishing) and which includes unpublished letters from both Chateaubriand and Stephenson. .



Besides the Colombian connection, the interest in this bit of family history for me lies in the new light it throws on the character and personality of that great Engineer Robert Stephenson. Upon receiving Fallon's son into his own London home, he showed great sensitivity in recognising that his talents stretched far beyond Engineering, to Mathematics, music, and poetry. Stephenson bought Diego his first piano and sent him for additional training in music to Italy.

Stephenson obviously had a high degree of confidence in the abilities of his young protégé. It surely was with Stephenson's help that Fallon was awarded the contract with the Spanish Government in the winter of 1857 in relation to the proposed railway between Barcelona and Madrid. Sadly, Diego had to cancel within a few months because his two sisters, studying in Paris became ill: one died and the other he had to bring back to England.

Cont...



Where are they now ? *King's Engineers* Dr John Burton



Again Stephenson, although still recovering from bronchitis and the strain of supporting Brunel in the launch of his great ship; nevertheless, took the Fallons into his home in Gloucester Square, and appointed his own physician to attend to the sick girl. It was decided she should return to Colombia with Diego; sadly, she died at sea in October 1858 and within a year of course the ever generous Stephenson had gone as well.

Diego Fallon never left Colombia again and although he participated in some engineering work and was a founder member of The Colombian Society of Engineers; nevertheless, he became better known as a foremost Colombian poet and musician.

Photograph captions



Preparing a Garman type river current turbine rotor for testing.



Pontoon/raft used for mounting the turbine. Extreme right (standing) Ing Mauricio Gnecco, whose great grandfather Diego Fallon was trained as an Engineer in Stephenson's carriage works in Newcastle. John Burton (1958-61) KCLE seated at the front on the pontoon



Department of Engineering *The Quad development*



Liz Beckmann (President, KCLEA) and Bobby Dixit (Events Secretary, KCLEA) were given a glimpse of how the new home for the Department of Engineering was taking shape. By kind invitation from the Head of Engineering, Professor Barbara Shollock, Liz and Bobby were able to see first hand the current progress of building work. Below are a few random snapshots from the day. Hopefully we will have a more detailed report to give you in the next edition of the King's Engineer Bulletin.





Obituaries

*Engineers who have
sadly died in the past year*



It is with great sadness that we have to report that the KCLEA have received notifications of the following deaths

Name:	Class of:	Year of death:
Roger Arthur Marriott	1967	2021
Rodney John Keast	1961	2022
Derek Harsant Lee	1956	2021
Hugh Duncombe	1952	2022
Ernest Franklin Hooper	1953	2020
Colin Peter Swain	1953	2021
Patrick Sparrow	1957	2021
Bernard Mark Jones	1960	2021
David William Davies	1958	2021
Ernest Michael Freeman *	1958	2022

* See next page

*Ernest Freeman's Funeral will be held on Friday 10 June 2022
at 2.15pm in Hereford. Further information can be obtained
from Keith Newton via the e-mail address kclea@clode.net.*



In Memory



Professor Ernest Michael Freeman

BSc(Eng), PhD, FIET, FEng. FRSA

King's Engineering: 1955-58.



Ernest (Ernie) Michael Freeman died on Friday, May 13th, 2022, in hospital in Merthyr Tydfil after a stroke in January 2022.

Ernie came to King's in 1955 to read Electrical Engineering. After taking a 1st class degree in 1958 he continued at King's as a tutorial student in 1958-59 and a lecturer after that until 1970. During this time, he carried out research for his PhD from 1958 – 64 and a Graduate Apprenticeship at AEI Rugby from 1960 – 65. In 1970 he took a Reader's post at Brighton Polytechnic, the new University of Brighton, where he remained until 1973. In 1973 he joined Imperial College London as Reader in the Electrical Engineering department, becoming Professor of Applied Electromagnetics in that department in 1981 until his retirement in 2005 and Emeritus Professor after that. In 2007 he became a Visiting Professor at the Wolfson Magnetics Centre, Cardiff University.

Ernie was also a Vice President of Infolytica responsible for the UK based European office. With the late Professor Silvester and Dr. David Lowther, he had co-founded Infolytica Ltd. (UK) and Infolytica Corporation (Canada) in 1978. He was also Director of 'Infologic Design Limited' from 1991 to 2017 and an Independent Consultant on Marine Electromagnetics from 1988.

The 180+ papers listed in his CV testify to his breadth of interest in solving field problems. The topics vary from algebraic analysis of machines, through CAD developments and applications, to the more esoteric topics such as the possibility of electromagnetic pre-cursors for seismic events. The running theme through all of his work has been the presentation of electromagnetic field solving techniques into more readily usable forms.

Continued.....



In Memory



Professor Ernest Michael Freeman

BSc(Eng), PhD, FIET, FREng. FRSA

King's Engineering: 1955-58.



.....*Continued*

Professionally, he was much involved with the IEE (London), serving as Chairman of the Electromagnetics Group S8, and later as Chairman of the Science, Education and Technology Division of the IEE. He was a Fellow of the IEE from 1978.

In 1987, he was elected as Fellow of the UK Royal Academy of Engineering. He served, at one time or another, on most of the appropriate electromagnetics committees in the UK. In 1997, he co-chaired the Marelec'97 conference on electromagnetics in a marine environment and was a standing chairman for Marelec'99.

For further details, please see his "Who's Who" entry.

Keith Newton

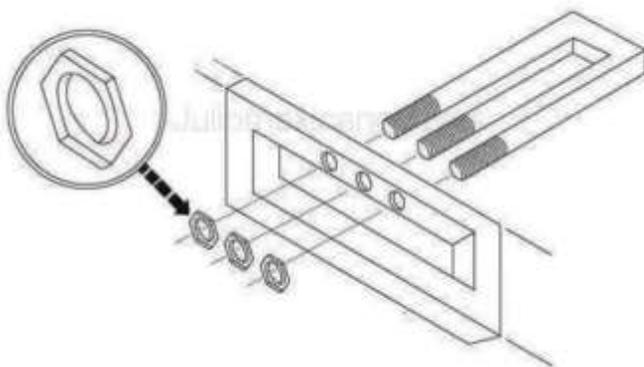


Editor's Oddment by Mike Clode



Now where was I ? I hope this edition of the Bulletin finds you well and that things are getting back to normal; well a new normal at least. Despite there not being a King's Engineer Bulletin, the KCLEA Committee have continued to meet throughout the pandemic via Zoom and we also held the AGM on Zoom last November. Whilst this kept things ticking over it is not the same as meeting up at the Strand site. The Committee are hopeful of things getting back to normal, though the use of Zoom in future 'hybrid' meetings is being considered. This approach would also be very useful for the AGM too. Event dates are still under discussion due to the uncertainty of normality returning but as soon as we finalise these they will appear on our WEB site: www.kclea.org.

A delivery of new KCLES hoodies arrive in 2012. Here I am modelling the hoody, in my office, with Soon-Ling Choong (the students' favourite member of support staff) and a colleague who is still lecturing at King's.



I worked in the Design Drawing Office at Brown Lenox & Co Ltd during the summer of 1982. For twelve weeks I sat at a parallel action drawing board creating BS308 drawings of Rock Crusher Machine elements. The figure to the left freaks me out the more I look at it !!

If you have any contributions to the Engineering Alumni of King's please e-mail me at kclea@clode.net. I am happy to consider contributions of all types, especially self indulgent ones. I wish you all the very best and look forward to hearing from you.