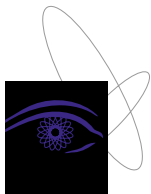


witswords 38

Women in Technology and Science - patron Mary Banotti



WITS
women in technology
and science

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Launch of WITS Role Model Project by Department of Education and Science.



Left to right: Eucharia Meehan, WITS Vice Chairperson, Dr. Cearbhall Ó'Dálaigh, Chief Inspector at the Department of Education and Science & Bláithín Tarpey, WITS Chairperson.

Female scientist and engineer "role models" to be used to tackle low uptake of scientific careers by girls.

On Thursday 7th February, Dr. Cearbhall Ó'Dálaigh, Chief Inspector, with the Department of Education and Science, launched the WITS Role Model Project at a reception in the RDS, Ballsbridge. Minister Michael Woods had intended to launch the project but was unfortunately unable to attend due a delayed flight.

Dr. Cearbhall Ó'Dálaigh, opened his speech by stating that the Department

was very concerned at the decline in students studying science, and in particular the physical sciences. He said that high tech industries were also rightly very worried about this trend and that an effective way of encouraging girls into Science, Engineering and Technology is through contact with Role Models. By supporting this WITS Role Model Project the Department of Education and Science recognises the importance of Role Model Days as one of a series of measures to help ensure equality of opportunity in Science, Engineering and Technology. Bláithín Tarpey, WITS Chairperson concluded

by thanking the Department for their sponsorship of the project and their support for WITS and presented Mr. Ó'Dálaigh with a hard back copy of the 'Stars, Shells and Bluebells'.

The event was very well attended and there was good atmosphere. The invitation list focused mainly on the Institutes of Technology, WITS members and individual concerned about the declining interest in studying science in schools and the knock on effect on uptake of scientific careers. Several Institutes of Technology were represented and were very enthusiastic



Left to right: Helen Hughes WITS, Maureen Bohan of Department of Education and Science, Bláithín Tarpey, WITS Chairperson.

about running their own Role Model Days. WITS was delighted to see staff members from Tralee IT at the event and can confirm that they travelled the furthest to attend! Attendees included members of the recent Task Force on the Physical Sciences and several representatives from industry.

Copies of the Role Model Pack were available for people to peruse and the Role Model Booklet on CD-ROM was shown projected onto a screen. Since the event WITS has had many requests for information from colleges wishing to run their own Role Model Days in the academic year 2002/2003.

Background to the Project

WITS was commissioned by the Department of Education and Science to carry out this project which consists of two parts, a Role Model Pack for third level colleges and a Role Model Booklet in CD-ROM format for secondary schools.

The Role Model Pack explains to third level colleges how and why they should to run a role model day. It provides advice in the planning and running of role model days. A role model day provides a unique opportunity for schoolgirls to meet working women scientists, technologists and engineers. The day is aimed at girls in transition year and fifth year. It allows them to hear about real career paths and to identify with women who have succeeded in both traditional and non-traditional areas.

Every effort is made to illustrate a wide variety of careers and to highlight many which may not require high points. A typical day involves an introduction to career planning, interactive workshops and an informal discussion session.

Responses to the role models days from the participants and from colleges have been enthusiastic. Role model seminars do not concentrate on specific courses and points, but aim to kindle the interest of the participants in a wide range of career options. The role models speak about their day to day life, not just their job description. At the heart of the role model day is the element of personal contact.

In collaboration with colleges, WITS has organised several role model days since 1993. By means of the Role Model Pack it wishes to disseminate the role model concept and methodology to third level colleges around the country so that many more students can bene-

fit. Feedback from secondary students has consistently been positive. Comments such as 'It has given me direction and helped me to realise that all these careers are available for women' and 'It has broadened my image of where science can lead' were received after a Role Model Day organised by Cork Institute of Technology.

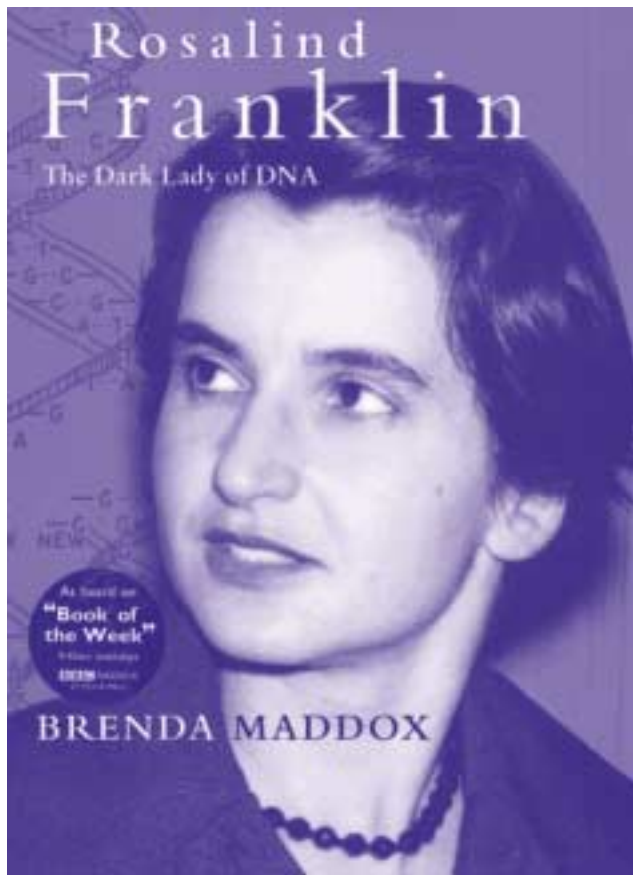
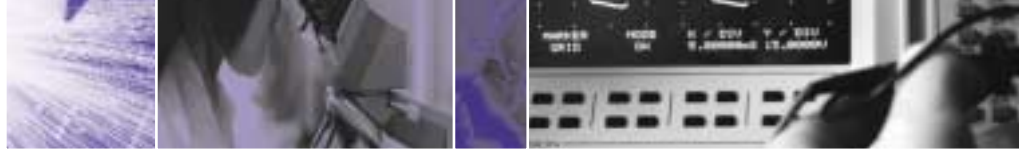
The Role Model Booklet produced by WITS is in CD-ROM format and contains career profiles of women working in science, engineering or technology (SET). Forty women working in SET share their work experiences and tell of the day to day reality of their jobs. They provide a picture of the wide variety of rewarding, exciting and well paid jobs which a scientific, engineering or technological training provides. The Booklet contains profiles of jobs as diverse as animal nutritionist, art conservator, computer software specialist, meteorologist, electrician and civil engineer

The low uptake of science and technology subjects by girls in schools and at third level is cause for concern for the future, from both the economic and the social perspective. It is hoped that the Role Model Booklet will encourage girls to consider science and technology as real career options. The CD-ROM will be circulated by the Department of Education and Science to all secondary schools.

WITS would like to particularly thank Maureen Bohan of the Department of Education and Science for her constant support throughout the project. For more information about the project contact wits@iol.ie



Attendees at the Role Model Launch.



The Dark Lady of DNA- Rosalind Franklin

Reviewed by Mary Mulvihill

was probably triggered by the radiation she worked with.

Brenda Maddox, award winning biographer of Nora Barnacle, sets the record straight with this sympathetic yet balanced account of Franklin's life and work. Given full access to personal letters, and with the co-operation of friends, family and former colleagues, including Crick and Watson,

tions to our understanding of the structure of viruses when cancer struck.

It is salutary to be reminded what women faced then: Cambridge University, where Franklin attended Newnham College, did not award degrees to women until 1948; at King's College, where Franklin conducted her groundbreaking DNA work, the senior common room, where researchers met and 'networked', was men-only. Women scientists were still rare, and more harshly judged than their male counterparts.

Franklin was a skilled crystallographer, and crucially it was she who discovered that there are two crystalline forms of DNA. Where others took blurred photos of both types mixed, Franklin achieved sharp images of each separately. But she and her King's College colleague Maurice Wilkins soon antagonised each other. Wilkins, who dubbed her "the dark lady", broke ranks, sharing her data and photographs with Watson and Crick at Cambridge. Wilkins later shared the Nobel prize with them too.

Maddox suggests that Franklin bore the trio no grudge, and that Watson was plagued by guilt – caricaturing 'Rosy the witch' being perhaps his way of justifying their actions.

Rosalind Franklin: The Dark Lady of DNA by Brenda Maddox, HarperCollins 380 pp hardback, price £stg20

This is the story of Rosalind Franklin, who played a crucial role in Watson and Crick's 1953 discovery of DNA's double helix. For it was she who took the crucial x-ray photographs of DNA which revealed its helical structure. But Watson and Crick, who won the 1962 Nobel prize for their discovery, had used her work without permission, and Watson, in his dramatic 1968 book, *The Double Helix*, sidelined Franklin as "Rosy the witch" and a frigid frump.

It led to something of a controversy about how the scientific establishment treated, not just Franklin, but women scientists in general. By then, though, Franklin was 10 years dead, killed at 37 by ovarian cancer which, tragically,

she brings Rosalind to life.

Franklin, born in 1920 to a well-to-do London-Jewish family, was forthright, argumentative and uncompromising – which some would find difficult – and determined to be a scientist. Sadly, her popular image owes much to Jim Watson's book, which painted her as unattractive and unco-operative, hoarding crucial information which, it was suggested, she did not understand.

The controversy which that book provoked, sadly overshadowed Franklin's work as one of the world's best x-ray crystallographers and an international expert on the structure of coal, who was making major contribu-



In recent years, Crick and Watson have publicly acknowledged that Franklin's photographs were crucial to their discovery. Notebooks of Franklin's found in 1974, reveal she was probably as close as they were to the solution. But so too were others - helices were "in the air" then.

In March 1953 Franklin moved to Birkbeck College. There, under the colourful Irish scientist JD Bernal, she began investigating the structure of viruses, and entered into friendly collaboration with Watson and Crick. Much good work was cut short when she took ill, though one of her team, Aaron Klug, later won a Nobel in 1982.

Some say Franklin should have won a Nobel too, but prizes are never awarded posthumously, and others were also overlooked, notably Oswald Avery, the person who first proved that DNA was the genetic material.

There is scope, however, to criticise the Nobel system: it canonises and rewards the few (mostly men), giving winners an international stage and political clout; the prizes are limited to three people, yet scientific research now is mostly done by big teams; and the old boys' network rules: surviving laureates influence nominations, and Wilkins' name was added in 1962 after much canvassing.

Franklin has won belated recognition: her portrait hangs in London's National Portrait Gallery, alongside Watson, Crick and Wilkins, King's

College recently opened the Franklin-Wilkins Building, and now there is this readable biography.

Mary Mulvihill, science writer and former research geneticist, was a founder of WITS and its first chairperson.

WITS Competition!

WITS has one copy of the book "Rosalind Francis - The Dark Women of DNA" by Brenda Maddox to give away to a lucky member. Please send a postcard to WITS, PO Box 3783, Dublin 4, by 31st August 2002, indicating your name and address.

A copy of the book will be sent to the first card drawn out of a hat.

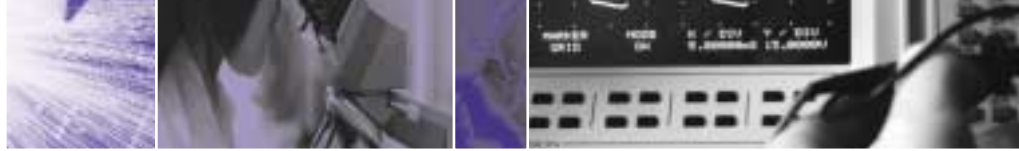
An interesting conference

This is a reminder that the 12th International Conference of Women Engineers and Scientists (ICWES12) was held from Saturday, July 27 to Wednesday, July 31, 2002, in Canada's capital city, Ottawa, Ontario, Canada.

The ICWES12 Conference brings together engineers, scientists, social scientists and students to challenge the world to a new vision of women's roles and contributions in the areas of science, engineering and technology.

ICWES12 received a record amount of full paper submissions, with 7 plenaries per day and symposiums on Ethics & Science, Global Climate Change, and Women's Studies.

The ICWES12 Conference Banquet featured the Canadian Space Agency Astronaut, Julie Payette, presented pictures of the Earth as Seen from space. For more information about ICWES12 and the conference, please visit the ICWES12 website at www.icwes12.org.



On June 7th a social event for WITS members, both new and old took place in the Kingsley Hotel, Cork. This event was organised by Bernie Manning and Catherine Frehill, both members of the Region. The main focus of the event was to update Cork members on current WITS activities and to acts as a catalyst for future events in the Region.

Following a brief welcome and introduction to WITS from Bernie Manning, Blaithin Tarpey outlined the main project currently engaging the energies of the Executive, i.e. the Talent Back Project which is explained further in the article below. Helen Hughes described the Role Model Project and the next phase of encouraging and assisting colleges to run their own Role Model Days.

A very interesting discussion took place following the presentations. One of the WITS members present said that she has studied Computer Science as a result of attending a Role Model Day in Cork Institute of Technology in 1996. She said that she hadn't been thinking along those career lines, but when one of the role models made computers sound so fascinating she was hooked and applied for the course! It was nice for everybody to hear in a concrete way, that Role Model days are really effective.

There were also suggestions for events people would like to see organised in the region. One of the suggestions was a Role Model Evening for members where speakers would present a summary of their current position and what skills/qualifications they feel helped along the way. We are currently looking for suggestions for possible speakers at such an evening which is being planned for November 2002. All suggestions to:
bernie_manning@yahoo.com

Cork Social Event



Above from left to right: Catherine Frehill, Tina Storey, Blaithin Tarpey at Cork social event



Above and right: Other WITS members at Cork social event...





Study Stresses Importance of Support Networks for Female Engineers

By Elizabeth F. Farrell

Female engineering students are more likely to complete a degree when they have strong social support networks within the engineering field, according to a report released Wednesday.

The report, titled "Women's Experiences in College Engineering," was based on a study conducted over a three-year period by the Goodman Research Group Inc. in Cambridge, Mass., with financing from the National Science Foundation and the Alfred P. Sloan Foundation. The study's findings are based on data collected from more than 20,000 female undergraduates, and faculty members and administrators at 53 colleges and universities.

According to the report, mentor programs, opportunities to network with practicing female engineers, and clubs like the Society for Women Engineers – which has branches and arranges activities and schedules speakers at numerous engineering schools – are the types

of efforts that make women feel confident and valuable to the field, thus increasing the likelihood that they will stick with engineering.

For those familiar with the plight of engineering schools – which currently have an average female population of about 20 percent at a time when other historically male-dominated fields such as law and medicine have almost reached gender parity – these findings confirm the conclusions engineering students and faculty have drawn from anecdotal evidence.

"There aren't really any surprises in these findings," said Irene F. Goodman, one of the co-authors of the study. "The significance of the survey is the weight of statistical proof it carries by showing that the social environment of the school is related to the persistence of female students on such a large scale."

Although support groups and other efforts to draw more women to the field have existed for years, Ms. Goodman said the study helps to further debunk outmoded notions of why women are leaving engineering and also encourages schools to expand their support efforts for women.

For instance, the study provides evidence that women aren't dropping out of engineering programs because of poor academic performance, finding instead that two-thirds of women who dropped out of engineering had A or B averages.

With that in mind, the authors of the report suggest that self-esteem issues are affecting females to a larger extent than their male counterparts, and they stress the need to educate engineering faculty members about such issues.

Copies of the report can be ordered online at <http://www.grginc.com/>

Check out the findings and recommendations of the Task Force on the Physical Sciences on this website: www.sciencetaskforce.ie

Symposium of the Microscopical Society of Ireland

The forthcoming symposium of the Microscopical Society of Ireland take place in Galway on 28th to 30th August.

The MSI tries to provide researchers on the island of Ireland who use any

form of microscopy in their studies with a forum for discussion, debate and collaboration. They welcome interest from researchers in any field of study. The society would very much welcome more female members.

More information may be found at the society website www.nuigalway.ie/msi



WITS receives funding for new Talent Bank Project.



MAKING' has been successful in receiving funding of approximately €80,000. This project is to review the usage of the existing WITS Talent Bank, and to update and expand the existing WITS Talent Bank from 94 women to 200.

multi-nationals. The talent bank is now out of print despite regular demands for copies from state agencies. Some of the larger government departments requested multiple copies and WITS has been unable to satisfy demand.

In February 2002, WITS was delighted to be informed that it has been successful in receiving funding from the Department of Justice, Equality and Law Reform for the Project to update the Talent Bank. It is proposed that 1000 copies of the new updated Talent Bank will be produced to include 200 profiles of women prepared to sit on boards and the expanded resource will also include a wider range of expertise and more women working in industry.

WITS recently sought applications for a Project Manager who will be appointed by August. The first stage of the project, the assessment of the usage of the existing Talent Bank will then commence. It is expected that the updated Talent Bank will be available in mid 2003.

The On 5th January 2001 WITS put in two proposals to the Dept of Justice, Equality and Law Reform. The funding of different projects is £23.2 million for the period 2000-2006, and is in the Equality for Women Measure of the Regional Operational Programmes under the National Development Plan. The Measure is funding projects which address barriers to women entering and advancing within the labour market, business and the whole area of decision making and is intended to make equality of opportunity a reality for a much greater number of women.

WITS' proposal for a Project called 'WOMEN in SET into DECISION

Many nominating bodies in Ireland and Europe have difficulty in locating suitable women for boards and committees. In order to redress this problem in 1998 the WITS Talent Bank was launched. It gives background information on 94 women who are qualified and willing to participate on the Boards of State Agencies, education bodies, local government bodies and other councils. These women are prepared to contribute at the highest level of policy making and are employed in industry, education, research.

200 copies of the Talent Bank were produced and disseminated to nominating bodies industries and larger

Calling all subscriptions

2002 WITS Membership/ Renewal form

Membership is open to women from all areas of science, technology and engineering in Ireland.

Name

Occupation

Organisation

Home Address

Work Address

Please tick which address should be used for correspondence

Home Work Email

Contact Phone Nos:

(h)

(w)

(fax)

(e-mail)

New Member Renewal (tick one)

FEES:

Full member €38

Student/unwaged/retired/overseas €12.50

Please send me a receipt

or a full invoice (tick one)

I, (signature)

wish to become a member of WITS and I

enclose € membership fee.

Date

Send the completed form,
and Cheque/PO payable to WITS, to:

**WITS Membership Secretary,
PO Box 3783, Dublin 4**

Please indicate if you are not willing to have
your details distributed to other members:



wits bits

IMPORTANT NOTICE TO WITS MEMBERS

WITS would like to promote networking among its members and hopes to post members details on the WITS website www.witsireland.com. Members will then be able to access other members contact details and area of expertise. Access to the members section of the website will be password protected. If you do not wish for your details to be available to other members please let WITS know by 15th September 2002.

WITs was at ...

A seminar on Developing an Action Plan for Projects funded under the Equality for Women Measure organised by WRC Social & Economic Consultants Ltd. on March 14th in Dublin Castle.

The launch by Ms Mary Harney, Tanaiste of the "Report of Women in Management in Irish Business" at IBEC on March 19th.

The launch by Ms Mary Harney, Tanaiste of the Irish Chapter of Women in Technology International (WITI) a U.S. based network organisation for women working in the information technology sector, hosted by Dell Ireland at O'Reilly Hall, UCD on April 10th.

A meeting with eminent researcher and Professor of Physics at University of Colorado, Dr. Margaret Murnane, by invitation of the Irish Research Council for Science, Engineering and Technology (IRCSET).

WITS New Phone Number

WITS' office has moved and WITS new phone number is
(01) 230 0999.

The e-mail address wits@iol.ie remains