

# Directions



N° 10 - February 2010

Dear IAESTE Alumni

Welcome to this year's first edition of Directions!

We've just returned from a successful exchange conference in Zurich. This year, we took 233 internship offers with us and returned to the UK with the same number of offers overseas for our UK students. We exchanged offers with 57 overseas partners this year, which means we'll be sending students to, and receiving students from, this number of countries. We're currently receiving applications from hundreds of enthusiastic students keen to put their science and engineering skills into practice in destinations across the globe!

We were delighted to meet those who attended our Alumni Christmas gathering in December. It was a wonderful opportunity for people who have experienced the programme in various years to meet and reminisce over some festive food and mulled wine. We'll keep you up-to-date with future social events.

Have you ever wondered - or do you know - what it was like to be an IAESTE trainee in the early years of the programme? A fellow alumnus shares his experiences as a trainee in Canada in the early sixties (page 2). We'd love to hear from more of you, so if you've got a story to share do get in touch.

Could you use your science and engineering skills to inspire young people? On page 4 you can find out about the government-funded STEMNET ambassador programme and how you can get involved and encourage young people in your local community to enjoy science and engineering and consider careers in these areas.

Finally, we are always looking to increase the membership of our alumni group, so if you are still in touch with fellow IAESTE trainees from the UK or overseas, do encourage them to get in touch. They can register via our website or by contacting us directly - details on page 4.

We'll be in touch later in the year to keep you up-to-date with IAESTE news,

Kind regards

Hazel IAESTE UK



## The IAESTE UK Alumni Newsletter *Update from our conference*

The IAESTE Annual Conference is held every year in January. It's an opportunity for representatives from member

countries to discuss and vote on issues relevant to the running of the association and, crucially, to trade internship placements during the exchange sessions. This year IAESTE delegates from over sixty countries attended the seven day event,



*International negotiation at the exchange table*

in Zurich's dynamic Technopark. We exchanged offers with more than fifty countries, including places as far-flung as Tajikistan, Argentina, Japan and Zambia. What happens in an exchange session? Here's a brief overview of what we do:

- All our internship offers are printed in advance.
- We arrange appointment times with other countries.
- One or more members of the UK team go to another country's table with our offers.
- We discuss the type of offers we need from them, based on the numbers of UK students we have registered from the various subject fields.
- We negotiate offers and discuss what the employers need and what student specifications they are looking for. We exchange each UK offer for one offer in the foreign country.
- We return to the UK and publish a list of all the overseas offers to our UK students.

Another key event which took place during the conference is that Pauline Ferguson's six year term as General Secretary of IAESTE A.s.b.l. came to an end and Goran Radnovic, National Secretary of IAESTE Serbia, took over the role. Pauline worked for 15 years delivering the programme in Northern Ireland before taking on this key international position. ●

### Top 5 in 2010

The countries we exchanged the most offers with

- Poland
- Germany
- Switzerland
- Brazil
- Serbia

UK employers offering most placements

- University of Strathclyde
- University of Glasgow
- Imperial College London
- Queens University Belfast
- Cardiff University



Travel to North America was a matter of days, not hours

# IAESTE in 1961

*Aeronautical Engineer David Lovell reflects on his experiences as an IAESTE trainee in the sixties and the result his placement had on his subsequent career*

**D**uring the second year of the Aeronautical Engineering degree I was studying at the University of Bristol I was offered the opportunity of working during the following summer vacation at the National Aeronautical Establishment (NAE - now the Institute for Aerospace Research) within the Canadian National Research Council.

This opportunity was arranged by IAESTE. I was very keen to accept the offer because, while I was also following an undergraduate apprenticeship with Hawker Aircraft Limited (now part of BAE Systems) in parallel with the degree studies, the potential to work in a research environment was outside the experience I would get as an apprentice. Furthermore the financial assistance provided by IAESTE to cover travel costs allowed me to take up the offer without putting myself in debt: I calculated that what I would be paid for the work should cover all living expenses.

## Work

Immediately after the second year exams I sailed from Liverpool to Montreal, passing Quebec on the way up the St Lawrence river. I worked at the Flight Research Department of NAE at Ottawa Uplands Airfield. My work comprised modelling the take-off and landing performance of new concepts for propeller-driven short take-off and landing (STOL) aircraft, to predict which concepts were the most promising. Due to the complexity of the propulsion systems used (which included wings and/or power units that rotated during take-off) it was not possible to model the vehicle dynamics analytically so a time-stepping numerical procedure was necessary to determine the flight trajectory. Of course this was before electronic computers were widely available to engineers so I did all the calculations by hand. Another practical

*“I’ll never forget doing an auto-rotating descent in a Bell 47 helicopter”*

highlight I will never forget is doing an auto-rotating descent in a Bell 47 helicopter, to simulate recovery from engine failure in a tilt-fan STOL aircraft. The test pilot cut the engine, let the rate of rotation of the rotor increase in a near-vertical descent until he was a few tens of feet above the ground when he selected coarse pitch to cushion our landing!

I shared a rented house with four other UK IAESTE engineers: Bryan Smith (a mechanical engineer from Bristol), V.C. Patel (an aeronautical engineer from Imperial College), and two others. The house was a traditional wooden one with a front porch, and had been demolished when I visited Ottawa in the 1990s. As I got to know some of the younger staff at Uplands, I was able to share car transport. I can also recollect driving the post ‘van’ (in fact a large V-8 powered car) between Uplands and Montreal Road on official business. As I had only passed my driving test a few weeks before leaving the UK my abilities with this powerful left-hand drive car were probably suspect! The working conditions were



#### **Exploring the surrounding country**

generally very good; light and spacious, however there was no air conditioning in our building and hence it was standard procedure to stop work if the temperature was 100 deg F and humidity approaching 100%, which typically happened once or twice each summer. Towards the end of my placement I attended a new course on digital computer programming. My initial reaction was that this was exactly what I should have used to speed up the work I had done, but with hindsight I'm sure I would have spent all my time wrestling with computer hardware and software and probably have achieved far less!

#### **Extra-curricular Activities**

The group of us sharing the house in Ottawa took full advantage of the weekends and holidays to explore the surrounding country. We bought an old Buick saloon and made trips to Quebec City, Montreal and Niagara Falls. On a visit to the Canadian Film Theatre in Ottawa we befriended an electronic engineer who very generously invited us to join his family for a weekend at their log cabin in the wilds of northern Ontario. I learnt to water ski round their local lake, but also managed to acquire some leeches in the process!

#### **On the Way Home...**

Having completed my agreed time working in Canada I wished to make the most of being in North America, so instead of booking to return by boat from Montreal to Liverpool I planned a more circuitous route. I first went by Greyhound Bus to

Boston. From there I took another Greyhound Bus to New York. On the way I saved accommodation costs by sleeping on the buses. In New York itself I did not sleep very much, as after sightseeing (Empire State Building etc) I spent the evenings through to the early mornings at some famous jazz venues. I saw the Miles Davis Quintet at Village Vanguard and the Count Basie Orchestra at Birdland. Just before leaving by boat from New York I went to the visitors gallery of the General Assembly of the UN and heard some of the eulogies being given for Secretary General Dag Hammarskjold who had died in a plane crash a few days earlier. I sailed on the Queen Elizabeth for Southampton. I did not get much sleep on the way back, partly because we sailed through a hurricane on the east coast of the USA, but mainly because I discovered that there were several

other undergraduates on the boat, also returning to the UK from vacation work. Most of the day (and night) was occupied by playing bridge, as there were always four players available.

#### **Longer term effects**

I think two aspects of my placement had long-term effects. I encountered a 'can-do' attitude for the first time outside university. I think this had a positive influence on my subsequent career as an aeronautical engineer. I developed a broader perspective of both people and engineering; the experience of being able to actually see and do things that I had before only read about or known at third hand.

As a result when I had completed my Bristol degree, the apprenticeship at Hawkers, and was following a postgraduate course at Imperial College London, top of my list of potential employers were RAE

Farnborough and NAE Ottawa. I had an offer from RAE but heard nothing from Ottawa until a month before I was due to start work at Farnborough. NAE offered me a job but unfortunately by this time I had committed to staying in the UK, and was in the process of completing the purchase of a house in Hampshire.

As the aerospace industry in Canada suffered a major retrenchment later in the 1960s, my career has almost certainly been more fulfilling in the UK than it would have been in Canada. In subsequent years as I became more involved in the management of research I am sure the early experience in Canada was an important influence when I set up collaborative research arrangements with many countries, including Canada. ●



*Enjoying the social side of the IAESTE experience*



**STEM  
AMBASSADORS**  
ILLUMINATING  
FUTURES



*“When I talk to young people there are always some that have a ‘light bulb’ moment and realise that science is exciting.”*

Heather William, a senior medical physicist and STEM Ambassador, is pictured in a gamma camera at the Manchester Royal Infirmary, holding a nuclear medicine bone scan.



Photo STEMNET/Richard Cannon

## Inspiring Young People

### The STEM Ambassadors Programme

STEM Ambassadors are people from Science, Technology, Engineering and Mathematics (STEM) working backgrounds who volunteer their time to act as inspiring role models for young people (5 – 19 year olds).

Ambassadors are involved in a wide range of activities such as giving careers talks, helping with projects in after-school STEM Clubs and judging competitions.

They also support and inspire teachers in the classroom and help them update their knowledge of contemporary science, technology and research.

You can volunteer your time as a STEM Ambassador whether you are retired, at the height of your career, or undertaking training – you will all help to make a real difference.

What is in it for you?

- Enjoying a sense of achievement
- Gaining a fresh perspective on day-to-day work when seen through the eyes of students
- Helping to make a difference in the local community
- Developing new skills and confidence

The STEM Ambassadors Programme is coordinated nationally by STEMNET and managed locally by a network of STEM Ambassador contract holders.

To find out more, or to register as a STEM Ambassador, please visit the STEMNET website: [www.stemnet.org.uk](http://www.stemnet.org.uk)

## How you can help IAESTE

As an alumni member there are plenty of ways you can support the programme:

- **Become an IAESTE employer**  
Join the increasing list of companies and academic institutions that benefit from having a foreign trainee during the summer. You'll also be helping UK students gain overseas experience. For more details and case studies have a look at our website:  
[www.iaeste.org.uk/p/employers](http://www.iaeste.org.uk/p/employers)
- **Provide accommodation**  
As our range of UK placements increases, we're always on the lookout for accommodation for our foreign trainees. If you could rent a room in your house or know of any student accommodation available in the summer months please get in touch.
- **Promote IAESTE to others**  
If you work in an academic institution, encourage undergraduate students to apply. Contact us for further details.
- **Get new alumni to register**  
Get in contact with old IAESTE friends and encourage them to sign up
- **Share a story**  
Tell us about your IAESTE experience, and send some photos too!

### IAESTE UK contact details

Alumni pages on our website:  
<http://www.iaeste.org.uk/p/alumni.html>

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