Electronic Engineering is many things
Dr. Anil Kokaram, EEE Department
www.mee.tcd.ie/~sigmedia

• Engineering: solving problems, creative, vital
• Electronic Engineering is not the same as it used to be: Technology convergence
• This part of 1e8 gives some example of diversity : film and video processing
• Electronics is not just one career!

Books

• Two Dimensional Signal and Image Processing, J. Lim, Prentice Hall
• Introduction to Image Processing, Gonzalez and Wintz, Prentice Hall
• Image Processing, The Fundamentals, Maria Petrou, Wiley
Diversity:

How come an EEngineer can win an Oscar?

To Dr. Bill Collis, Simon Robinson, Ben Kent and Dr. Anil Kokaram for the design and development of the Furnace integrated suite of software tools that robustly utilizes temporal coherence for enhancing visual effects in motion picture sequences.

The Furnace toolset’s modularity, flexibility and robustness have set a high standard of quality for optical flow-based image manipulation.

Convergence of Technologies

Telecomms

Computer Interconnect

Medical Systems

Computing

Intelligence

Games

BANKING

Video

TV

Consumer Electronics

Movies and cinema

1985
Convergence of Technologies

1995

Convergence of Technologies

Information Technology
EEE at the heart

2000

Information: music, voice, video, text, temperature, Pressure, speed, size, colour ….
Electronics changing the world

- Electronics: a disruptive technology
- Changes the way you live
- Promoting Equality, Impact on Standard of Living, On use of leisure time

Medical Electronics:
- Ultrasound, NMR, Xrays,
- Keyhole Surgery, Digital Records, Gene Sequencing

1878 1995
- VCR Tape
- DVD 1999
- Telephone and Mobile

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What the EEE Department at TCD does

- Hardware design (=design of chips) for hearing aids, biomedical systems: heart monitors
- Device Physics: Liquid Crystal Displays for flat screen viewing, smaller devices for faster more powerful computers
- Information Engineering: Movie Special Effects, Image processing for Medical Images, Video for mobile phones, Technological Art, Music Technology, Reconfigurable Radio (free mobile phones!!!)

www.mee.tcd.ie

www.sigmedia.tv
You may be interested in one of...

- Can I get a job when I graduate?
- What kind of job would that be?
- What’s the salary like?
- What happens in the lecture courses?
- What will I learn?

So ...

- Jobs
- McLaren
- Sony, BBC
- Electronics
- The movies
- Investment Banking
- www.thefoundry.co.uk
- TV
- Medicine
**Career Paths: Academic**

- **EE UGRAD**
  - 3 years
- **EE PhD**
  - 4 years
- **Research Fellow**
- **Lecturer**
- **Professor**
- **1998**

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**Academic EE path: what they don’t tell you**

- Teaching AND Research AND Consulting: CCL, Benz etc etc
- Funded Research: EU Projects, SFI (Sigmedia over 2M Euros over last 6 years)
- Funded travel
  - San Diego, San Francisco, New York, Palm Springs, CA, LA, Greece, Paris, La Rochelle, Porto, Lisbon, Barcelona, Copenhagen, Singapore, Trinidad
- Sigmedia PhD students travelled to San Diego, Trinidad, Poland, London this year alone.
- Start your own company
Do EE and win an Oscar

- 1996-1999? Bill Collis at The Foundry
- … and the Matrix

Bill Collis Career

EE UGRAD 3 years
EE PhD 4 years
Snell and Wilcox 5 years

THE FOUNDRY 2000
- Researcher
- Chief Operating Officer

The Foundry bought by Digital Domain 2007
EE versatile, broad, job security through adaptation