International network for junior researchers in ergonomics: a special meeting

February 13 – From 14:30 to 16:00 – Auditorium Brum
Special Session 03

Organizing committee (iea2012@rjce.fr)

- RJCE: François Palaci, Maria Sol Perez Toralla, Stanislas Couix, Vincent Boccara
- Early Career Researchers SIG: Tamsyn Edwards, Claudia Krehl, Victoria Kendrick

Background and aims

To our knowledge, there are two support groups for junior researchers in ergonomics in Europe. In France, the Réseau des Jeunes Chercheurs en Ergonomie (RJCE) was founded in 2008 and numbers about 50 members. In the UK, the Early Career Researchers Special Interest Group has been building since mid 2011 a support network within the Institute of Ergonomics & Human Factors. Both groups aim to establish a community of peers that is supportive socially and technically to promote the sharing of ideas, concepts and theories in all areas of ergonomics in both educational entities and industry. They further aim disseminate research findings and maintain close contacts with industries and practitioners.

Having established contact with each other, the RJCE and the Early Career Researchers SIG are now actively working to build a gateway to a larger worldwide network. The 18th triennial IEA congress at Recife provides the opportunity to create a unique forum for friendly exchanges and dialogues with research students from other countries.
Program

14:30 Introduction, F. Palaci

14:35 Presentation of the RJCE, S. Couix, F. Palaci, M.S. Perez Toralla, V. Boccara

14:40 Presentation of the Early Career Researchers SIG, T. Edwards, C. Krehl, V. Kendrick

14:45 Presentations of the specificities of the ergonomics discipline and of research curricula...
  14:45 in Brazil, R. Caparroz, V. Figueiredo, F.A. Menegon, R. Pierre
  14:50 in France, J. Arnoud, M.S. Perez Toralla, S. Couix, F. Palaci, V. Boccara
  14:55 in Italy, T.C. Callari
  15:00 in South Africa, A. Todd
  15:05 in Sweden, J. Jackson, C. Lodin, D. Srinivasan
  15:10 in Turkey, A. Irmak
  15:15 in the UK, V. Kendrick, C. Krehl, T. Edwards
  15:20 in the USA, J. Bruno


15:40 Next steps towards building an international network of junior researchers in ergonomics: suggestions and open discussion, F. Palaci, C. Krehl
International network for junior researchers in ergonomics

IEA 2012 – Special Session 03
Recife, Brazil, February 13
Background and aims of the session

- Having established contact with each other, the RJCE (France) and the Early Career Researchers SIG (UK) are now working to build a gateway to a larger worldwide network.

- The IEA congress provides the opportunity to create a unique forum for friendly exchanges and dialogues with research students from represented countries.
Objectives of the session

- The main objectives of this special meeting are:
  - To develop links with research students from represented countries
  - To learn about the specificities of the ergonomics discipline and of research curricula in those countries
Program of the session

1. Presentation of the RJCE
2. Presentation of the IEHF Early Career Researchers SIG
3. Presentations of the specificities of the ergonomics discipline and of research curricula in Brazil, France, Italy, South Africa, Sweden, Turkey, UK and USA
5. Next steps towards building an international network of junior researchers in ergonomics: suggestions and open discussion
Contact:

iea2012@rjce.fr
The RJCE: a network for junior researchers in ergonomics

IEA 2012 – Special Session 03
Recife, Brazil, February 13

Stanislas Couix
The RJCE is a network for junior researchers in ergonomics

- Founded in 2008 in France
- Independent from other institutions

**Goals**

- To provide a structure allowing junior researchers:
  - To exchange theoretical and practical knowledge
  - To get to know each other and help each other
- To promote the interests of PhD students
- To promote the development of research, teaching, and practice
Everyday activities within the RJCE

- Mailing-list and newsletter to exchange information and advice: papers, calls for papers, positions…
- Monthly workshop for RJCE members only (including Viva rehearsals)
- Informal meetings and contacts
Past and current projects of the RJCE: a few examples (1/2)

- Public 1-day symposia
  - Ergonomics and design (2010)
  - Ergonomics and HCI (2010)
  - Methods for the analysis of collective activity (2011)

- Workshops for RJCE members only
  - Viva (1 day)
  - Paper writing (2 days)
  - Interview methods (2 days)
Past and current projects of the RJCE: a few examples (2/2)

- Studies about French PhD students in ergonomics
  - Working conditions
  - Preparedness to apply to academic positions
- Identifying education programs involving ergonomics in France
- Making 2 short movies about ergonomics
The RJCE keeps growing

The RJCE currently numbers about 60 members from a variety of labs.

- 2008: 21 members
- 2009: 38 members
- 2010: 48 members
- 2011: 61 members
Towards an international network for junior researchers in ergonomics (1/2)

- Is there any association similar to RJCE in other countries?
  - Beginning of 2011: email to the President of IEA and 47 Federated Societies
  - Very encouraging replies from 14 countries
  - Nothing similar to RJCE
  - Mostly groups of PhD students from the same university

Let us try to build an international network!
Towards an international network for junior researchers in ergonomics (2/2)

- A first milestone at the European level
  - **June 2011:**
    - IEHF Doctoral Consortium (near London)
  - The RJCE established contact with the doctoral students from the UK who were about to found the IEHF Early Career Researchers Special Interest Group

- A second milestone: the co-organization of this session by both the RJCE and the Early Career Researchers SIG

- This session is the third milestone!
Contact:

www.rjce.fr
THE UK EARLY CAREER RESEARCHERS: SPECIAL INTEREST GROUP

IEA 2012 – Special Session 04
Recife, Brazil, February 14

Tamsyn Edwards, Claudia Krehl, Victoria Kendrick
Early Career Researchers: Special Interest Group

Who we are:

- A network for all ergonomics early career researchers in academia & industry
- Formed in June 2011 in response to a lack of communication between ECR in the UK
- Nuno Cebola (Chair)
- 8 committee members
- Part of the Institute of Ergonomics and Human Factors (IEHF)
Early Career Researchers: Special Interest Group

**Aims**
- Establish a community of peers
- Encourage sharing of knowledge and expertise
- Be a support platform to all ergonomics early career researchers in education and industry

**Who can join?**
- All students and recent graduates in Ergonomics or related areas
- Anyone interested in the field of Ergonomics
Early Career Researchers: Special Interest Group

How we achieve our aims:

- Mailing list
  - To join, please email ecr@ergonomics.org.uk

- Monthly column in the Ergonomist
  - For awareness
  - Members can contribute

- Forums for discussion
  - ‘Facebook’ group at ‘early career researchers’
**Early Career Researchers: Special Interest Group**

**Benefits**

- Be part of a UK-wide and international network of ergonomics early career researchers

- Access to discussion forums and ask and answer areas

- Monthly column in the UK *Ergonomist* magazine, so you can keep up to date with our future events.
CONTACT:

ecr@ergonomics.org.uk
International Network for Junior Researchers in Ergonomics: a special meeting

Recife/PE Brazil – February 13th, 2012

Ergonomics in Brazil

Overview

Fabrício A. Menegon – UNIFEI, Federal University of Itajubá, Itabira/MG
Vitor G. C. Figueiredo – UNIFEI, Federal University of Itajubá, Itabira/MG
Rafael Caparroz de Souza – Consultant in Ergonomics, Ribeirão Preto/SP
Raisa Pierre – CESF, Fucapi Superior Institute, Manaus/AM
Ergonomics in Brazil - history

Where? University of São Paulo (USP) with Prof. Sérgio Penna Kehl.


ABERGO (Brazilian Ergonomics Association)? August 31th, 1983 (ISOP/FGV, Rio de Janeiro).

Today? All over Brazil.
Development - from the Academia...

Diffusion of Ergonomics in Brazil

CNAM/Paris, 1974
Prof. Alain Wisner

POLI / USP, 1960
Prof. Sérgio Penna Kehl

ESDI / UERJ, 1966
Prof. Karl Heinz Bergmiller

USP / Ribeirão Preto, 1973
Prof. Rozestraten
Prof. Stephaneck

ISOP / FGV, 1973
Prof. Franco Seminério

COPPE / UFRJ, 1970
Prof. Itiro Iida

Source: adapted from MORAES and SOARES, Ergonomia e Intervenção Ergonomizadora: pesquisa e ação tecnológica. In press.
…to industries

Nowadays

• Small/medium industries, different segments;
• Food industry;
• Energy industry (oil, off-shore, electrics);
• Mining;
• Aeronautics industry;
• Automotive industry;
• Agriculture;
• Commerce;
• Services (health services, Post, public services).

Main purposes: analysis of work tasks and activities to attend to legal aspects, health surveys.

Intervention: designing process, workspace arrangements and layout, work organization, work process, factory modeling.
Ergonomists in Brazil

Where do they work?

- Universities;
- Research centers;
- Industries;
- Consultancy offices.
Ergonomics in brazilian companies
How to become a researcher in ergonomics in Brazil

• Undergraduation in production engineering, design, architecture and some health careers (psychology, physiotherapy, nursing, physical education);

• Lato Sensu courses in Ergonomics;

• Masters degree and/or PhD programs:
  • University of São Paulo
  • Federal University of São Carlos
  • Federal University of Rio de Janeiro
  • Federal University of Minas Gerais
  • Federal University of Santa Catarina
  • Federal University of Rio Grande do Sul
  • Federal University of Pernambuco
  • Federal University of Viçosa
  • Others...
Today research in Brazil

• Work Ability and Fatigue in aircraft assembly workers – Fabrício Menegon and Frida Fischer

• Work Ability and Fatigue in iron mining workers in Itabira/MG – Fabrício Menegon and Vitor Figueiredo

• Anthropometric data for the design of a car cockpit – Fabrício Menegon and Vitor Figueiredo

• Impacts of introducing a new tool for the manual harvesting of sugar cane: the contribution of the ergonomic analysis – Rafael Caparroz de Souza, José Geraldo Abbade Filho e Viviane Silva
Contact

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An overview of ergonomics in France

Justine Arnoud
The rise of ergonomics in France

- Emergence in the 1950’s
  - 1955: “L’analyse du travail” Ombredane & Faverge

- Its origins
  - Occupational health: Hygienist approach
  - Engineering: Productivity approach
  - Industrial psychology: Evaluation and recruitment

- The French-speaking ergonomics
  - Focuses on the analysis of operators’ real activity ≠ laboratory
  - Complementary to the approach of Human Factors
Where do ergonomists work in France?

- Industry
- Transportation (aviation, railway…)
- Services (hospitals, municipalities, call centers, administration…)
- Training programs
- Consumer products
- Army
- …
Education in ergonomics

AMIENS
• Université Picardie

CAEN
• CNAM-Caen

RENNES
• Université Rennes 2

NANTES
• CNAM-Nantes

POITIERS
• Université Poitiers

BORDEAUX
• Université Bordeaux 2

ALBI
• Université JF. Champollion

TOULOUSE
• CNAM-Toulouse
• Université Toulouse 2

LILLE
• Université Lille 3

PARIS
• CNAM-Paris
• Université Paris 1
• Université Paris 5
• Université Paris 8
• Université Paris 10
• Université Paris 11

METZ
• Université Metz

DIJON
• Université Bourgogne

LYON
• Université Lyon 2

NICE-SOPHIA
• Université Nice

AIX-EN-PROVENCE
• CNAM-Aix
• Université Provence
A variety of ways to become a researcher

Initial discipline
- Psychology
- Engineering
- Physiology
- Economics & management
- Occupational Health
- Design
- Sport sciences
- Computer Sciences
- Architecture
- Others...

Master's degree

Ergonomics

PhD candidate

Post-Doc

Researcher career

Private sector R&D

Academic University Research institutes

Other discipline
Some current research topics

- **Industrial work process**
  - ‘Ergonomics contribution to a continuous design process in a lean production industry’
  - ‘Collective management of uncertainty in high-risk industries’

- **Training & skills development**
  - ‘Learner drivers skills development during initial training’

- **Services activity**
  - ‘Shared Services Center and work sustainability’

- **Human Computer Interaction**
  - ‘The ergonomist as a co-designer: which contribution to needs analysis in the design of industrial computer systems’

- **Risk management & safety in transports**
  - ‘Socio-technical study about subcontracting impact on railway safety at the RATP’
Contact:

www.rjce.fr
International network for Junior Researchers in Ergonomics
Introduction

- Ergonomics demands in Italy up to late ‘70ies:
  - a strong request for redesigning large industrial processes
  - strong tensions between social actors
  - technical and organizational approach in redesigning working conditions

- SIE: founded in 1961
Ergonomics at LIDEA

INTERDEPARTMENTAL LABORATORY OF APPLIED ERGONOMICS
LIDEA: the structure

Dpt. of Psychology
Prof. Alessandra Re (Eur.Erg.)

Dpt. of Life Sciences and Systems Biology
Prof. Enrica Fubini (Eur.Erg.)
Dr. Margherita Micheletti Cremasco (Eur.Erg.)

Research group: Dr. Silvia Gilotta, Dr. Cristiano Occelli; Dr. Simone Benedetto, Dr. Marco Pedrotti; Phd students: Federica Caffaro, Tiziana C. Callari, Caterina Petrigni, Costanza Riccioli; Alessia Lorè, Ilaria Scandiuazzi
Thank you for your attention!

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An overview of ergonomics in South Africa

Andrew Todd
Department of Human Kinetics and Ergonomics
Rhodes University
Grahamstown
SOUTH AFRICA
Ergonomics in South Africa

• Still in its infancy

• Wyndham and Strydom (1960s)

• 1985 – First ergonomics conference and society inaugurated

• ESSA not accepted as federated society of IEA until 1994:
  • Hal Hendrick keynote address at the ESSA conference in Grahamstown
Ergonomics in South Africa

• Early days:

  • primarily academic focus:

    • 1983 - University of Cape Town (Bob Bridger)

    • Ergonomics South Africa journal launched in 1989

    • 1996 – Rhodes University (Pat Scott and Jack Charteris)

    • 1998 – Hosted the Global Ergonomics conference in Cape Town
ESSA today:

- Through Rhodes University numerous active ergonomists

- Forestry, automotive, mining and military all making extensive use of ergonomists

- Membership around 100

- Certification still required
• Academia:
  • Rhodes university offers only full time course
  • Undergraduate degree in Human kinetics and ergonomics
  • Postgraduate degrees in Ergonomics in the science faculty
Ergonomics in South Africa

• Path to becoming a researcher:
  • MSc/PhD in ergonomics required from Rhodes university

• Take students with undergraduate degrees in cognate disciplines

• CSIR, MRC and Ergotech all provide opportunities for research in ergonomics
Ergonomics in South Africa

• Current research projects:
  • The African worker – gaining an understanding of the physical, psychological and socio-economic constraints within the South African context
  • Physical demands of pushing and pulling tasks within South Africa
  • Understanding the impact of health status of work performance in South Africa
  • Hospital ergonomics/Fatigue and shift work analysis
Contact Details

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Ergonomics in Sweden

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Ergonomics at the societal level

• Ergonomics education begins in primary school
  – Part of physical education programme
• General ergonomics awareness is very high
  – Ex. Bank tellers, supermarket checkout workers, construction workers, baggage handlers
Ergonomics in the Legislature

• In the national legislation ergonomic risk assessment tools are present
• In the national legislation it states that proper work technique education is mandatory for employees
  – ’How to perform your job in a healthy way’
  – Students are viewed as ’employees’
• Generous social health plan for occupational injury (on paper)
  – Need scientific evidence for exposure
  – Lacking in many areas
Ergonomics Education

• Most ergonomists have background education first as:
  – Physiotherapist
  – Occupational therapist or
  – Engineer

• Ergonomics specific education is primarily at the masters or PhD level
  – Ergonomic principals are included in many undergraduate study levels
Ergonomics Research

- Centre for Musculoskeletal Research – University of Gävle: [www.hig.se\cbf](http://www.hig.se\cbf)
- Seven regional Occupational and Environmental Medicine Clinics
- Four larger technical universities: KTH, Lund, Chalmers, Luleå
- Additional smaller research groups
An Overview of Ergonomics in Turkey

Ahsen IRMAK
1961 - Studies on Ergonomics by ITU and Ministry of Labour
1971 - Ergonomics lesson - METU
1974 - IEA founding member
1975 - Ergonomics Lab
1984 - 1st Turkish-German Symposium on Ergonomics
1987 - 1st National Ergonomics Congress
First... First... First...

- 2005 - Occupational Therapy Association of Turkey
- 2006 - WFOT membership of Turkey
- 2010 - H.U. Faculty of Health Sciences Occupational Therapy Department
Today

- Lecturer = Researcher
- Technopolis
Ergonomics

Engineering
- Industrial Design Engineering
- Industrial Product Design

Health
- Occupational Therapy
Where Ergonomics has been taught

- Istanbul Technical University
- Middle East Technical University
- Mimar Sinan University
- Gazi University
Occupational Therapy Department

- Hacettepe University - 2010
- 4-year
- Preventive Occupational Therapy and Environmental Arrangements
Master Program at Occupational Therapy Department

- Hacettepe University
- 2-year
- 21 credits

First Year Lessons | Second Year Thesis | Master Thesis Exam
Doctoral Program at Occupational Therapy Department

- Hacettepe University
- 4-year
- 30 credits

First 2 Year Lessons

Second 2 Year Thesis

Doctoral Thesis Exam

Doctoral Efficiency Exam

First 2 Year Lessons
Recent Studies

- Ergonomic evaluation of workplaces & schools
- Ergonomics factor in the workplaces
- Effects of ergonomics training
- Ergonomic properties of mosques
- Workplace furniture design
Contact

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Thanks...
ERGONOMICS IN THE UNITED KINGDOM

IEA 2012 – Special Session 04
Recife, Brazil, February 13

Tamsyn Edwards, Claudia Krehl, Victoria Kendrick
Where it started:

- Initial gestation period traceable to WW1: formation of the Health of Munitions Workers’ Committee,
- Major development of modern ergonomics spurred by WW2 (1939-45)

Ergonomics society:
- Officially created on 17 September 1949
Initially taught as part of other subjects
- Now Ergonomics is a subject in itself

Number of undergraduate courses available in 2012
- **Design Ergonomics** (Loughborough University)
- **Ergonomics - Human Factors Design** (Loughborough University)

And:
- **Product Design** (Middlesex University)
- **Transportation** (University of Ulster)
- **Interior Architecture** (Newcastle University)
- **Furniture and Fine Product** (Newcastle University)
ERGONOMICS IN THE UNITED KINGDOM

Where do Ergonomists work in the UK

Areas of research:
- Accessible design
- Driving
- Early Career Researchers
- Ergonomics 4 Schools
- Environmental
- Healthcare
- Human Computer Interaction
- Maritime
- Motorcycle
- Nuclear
- Occupational Safety & Health
- Sports
**Ergonomics in the United Kingdom**

Where do Ergonomists work in the UK

**Then**
- Challenge to improve efficiency of wartime soldiers and better design their fighting equipment
- Traditionally focus is on: work stations, tools and equipment, work systems and environments ~ machines

**Now**
- Increasingly concerned for cognitive aspects: cognitive ergonomics
- Progression of use with technologies – GPS, usability, etc.
- Where is used the most?
  - Transportation and technology
ERGONOMICS IN THE UNITED KINGDOM

Institute of Ergonomics and Human Factors
- Subsocieties - 12 Subgroups, including healthcare, HCI, maritime and nuclear

Linking the partnership between industry and academia
Ergonomics in the United Kingdom

Ways to become a researcher in the UK

- What is the path to a research career in ergonomics?
  - Undergraduate degree (3 years, plus an optional year in industry)
  - Postgraduate study (MRes)
  - PhD (3 years funded research)
  - Postdoctoral research positions
  - Chartered membership (2-3 years supervised)

- Are there any companies doing research in your country?
  - Transportation: Network Rail (signage)
  - Sporting clothing: Decathlon and Adidas
  - Car manufacturers: Nissan, Honda, Jaguar-Landrover, Volvo
  - Mobile phones: Orange
## Ergonomics in the United Kingdom

### Today research in the UK

<table>
<thead>
<tr>
<th>Loughborough University</th>
<th>Nottingham University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design Ergonomics</td>
<td>Complex systems, safety and human behaviour</td>
</tr>
<tr>
<td>Environmental Ergonomics Research Centre (thermal comfort and sports clothing)</td>
<td>Transportation human factors, including aviation, rail and road</td>
</tr>
<tr>
<td>Transport Safety Research Centre (driver safety and passenger comfort)</td>
<td>Inclusive design</td>
</tr>
<tr>
<td>User Centred Design</td>
<td>Human factors in novel technologies</td>
</tr>
<tr>
<td></td>
<td>Human factors in design</td>
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THANK YOU FOR LISTENING
An overview of ergonomics in the USA!

Jennifer Bruno Garza, ScD Candidate, HSPH
IEA Presentation, Student Section
February 13, 2012
Ergonomics in the USA

World War II – Human Factors in the Military

1957 – First meeting of Human Factors and Ergonomics Society

Currently – more than 70 graduate programs in:
- Ergonomics
- Human Factors
- Industrial Safety/Engineering
- Psychology
- Public Health

Frank and Lillian Gilbreth – Early 1900’s

Peacetime – Application of Human Factors to non-Military
Where do ergonomists work in the USA?

- Electronics
- Loss prevention
- Computer industry
- Government
- Consulting
- Hospitals
- Academia

- Ergonomics and Public Health!
Today’s Research/Practice in Ergonomics

• Collaboration on a GLOBAL level!
  – Industry
  – Academia
  – Healthcare
  – Policy
  – International

Apple, Chevron, CNA, Dell, Ergotron, Exxon Mobil,
Genentech, Herman Miller, HP, Knoll, Microsoft, Remedy
Interactive, Steelcase, Synaptics
Thank you for your attention.

• Your questions are welcome!

• Contact: Jennifer Bruno Garza, jbruno@hsph.harvard.edu
Next steps towards building an international network of junior researchers in ergonomics
Suggestions and open discussion

IEA 2012 – Special Session 03
Recife, Brazil, February 13
An international network

- For junior researchers in ergonomics worldwide
- Not too time consuming (participation + management)
- Cheap enough for research students
- Aiming at enabling junior researchers to:
  - Share information (congresses, positions, teaching opportunities…)
  - Share resources (papers, free & open source scientific software…)
  - Ask questions on particular topics
  - Discuss specific researches, methodologies, software…
Three types of questions to address

1. Organization
2. Technical framework
3. Relations with the IEA
1. Organization

- A few questions to be answered during the congress
  - Who is willing to build and then manage/moderate the network?
  - Who is willing to participate in the network once it is operational?
  - Shall we adopt a pragmatic or institutional approach?
  - Who can become a member, i.e. who is a ‘junior researcher’?
  - Should not the network have a ‘representative’ for each participating country?
  - What could be a good name for the network?
2. Technical framework

- **Requirements**
  - Based on an existing technical framework
  - Easily accessible anywhere
  - Easy to participate and to manage: no specific skills

- **Possible solutions**
  - One or several mailing list(s)?
  - Specific forum on the IEA website?
  - LinkedIn / Google+ / Twitter / Facebook?
3. Relations with the IEA

- Organizing junior researchers special sessions at next IEA congresses?
- Turning the junior researchers network into an IEA standing committee?
- Using resources from the IEA technical framework?
Contact:

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