



SwissErgo

Schweizerische Gesellschaft für Ergonomie  
Association Suisse d'Ergonomie  
Associazione Svizzera di Ergonomia  
Swiss Ergonomics Association

# Research and Teaching in Human Factors and Ergonomics in Switzerland in 2024 and beyond

Thomas Stüdeli, Eur.Erg., PhD

36. ERGONÓMIAI NYÁRI EGYETEM / 36th Summer University on Ergonomics  
Gyöngyös, 3-4-5 July 2024



**1999** SwissErgo founded, my first exposure to Ergonomics

**2004** IHA from Prof Krueger is closing

**2005** My PhD at ETH Zurich, UFFF!

**2008** CREE representant for Switzerland

**2010** My PostDoc at TU Delft, Nederland, YEAH!

**2014** ["Common concept for Ergonomics / Human Factors education in Switzerland"](#)

AHFE conference, Krakow, Poland

**2024** *How can I support and consult Swiss HFE professionals best in their personal development?*

# European Ergonomist (Eur.Erg.) = Certified Professional in Ergonomics and Human Factors



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EVENTS LOGIN

## Certification for Professional Ergonomists in Europe

An international quality label

Q FIND A CERTIFIED ERGONOMIST HOW TO GET CERTIFIED

Procedure Requirements Courses & Education

How to get Certified  
Don't Hesitate to Ask

**Certification body:** Centre for Registration of European Ergonomists CREE - <https://eurerg.eu/>  
Currently 546 certified professionals from 22 european countries.

# Certification is a Quality Label



Certification with the Eur.Erg. title guarantees that the Professional in Ergonomics and Human Factors:

- has obtained a broad education in Ergonomics and Human Factors at university level
- has at least three years of practical experience as an Ergonomics and Human Factors professional
- has continuously developed his or her skills in ergonomics
- is obligated to conform to a [Code of Conduct](#)

# Professionalism and practice



Eur.Erg.'s are professionals who are experienced in using knowledge from the areas of ***anatomy, physiology, psychology, social organisation and the physical environment to design work systems, activities and tools to optimise human performance and well-being.***

All Eur.Erg.'s have experience in taking full responsibility for the use and application of ergonomics knowledge and methods in practical situations.

**Ergonomists working in research related to practical applications of Ergonomics / Human Factors are equally as acceptable to CREE as are those in professional employment, in consultancies or other businesses.**



# Certification

Registration is valid for a period of 5 years after which renewed assessment has to take place.

***Central to the renewal is an assessment of ongoing training to ensure that the knowledge is kept up-to-date.*** This guarantees continuing professional quality both for the European Ergonomist and their employer or clients.



# SwissErgo



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Association Suisse d'Ergonomie  
Associazione Svizzera di Ergonomia  
Swiss Ergonomics Association

Founded in 1999 with approx. 40 founding members

- Members 2014: 163 (03/2014)  
Members 2024: 120 (03/2024)
- In 2020 introduction of new membership categories:
  - Associate Member
  - Ordinary Member
  - Certified Member

[www.swissergo.ch](http://www.swissergo.ch)

Home Ergonomie News Ausbildung Ergonomen in der Schweiz Verband Mitglieder Deutsch

# SwissErgo

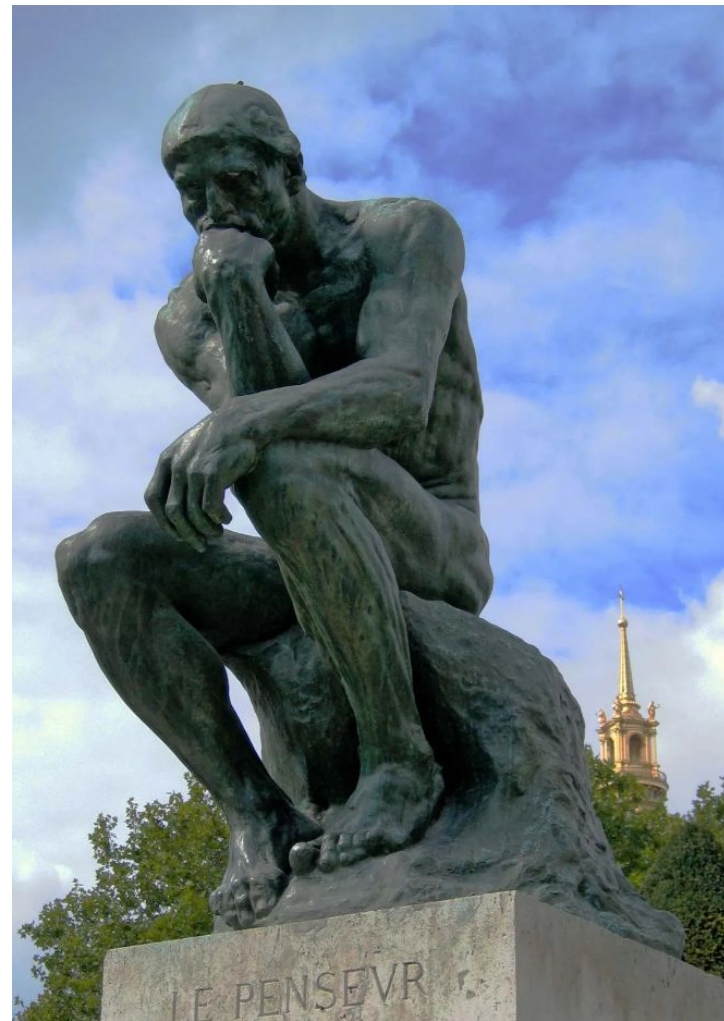
**Schweizerische Gesellschaft für Ergonomie**  
Unsere Vision ist die Anerkennung der Ergonomie als Schlüsseldisziplin und Fachgebiet im Bereich der Gesundheit und Sicherheit am Arbeitsplatz.

SwissErgo ist Mitglied von:

suisse+pro

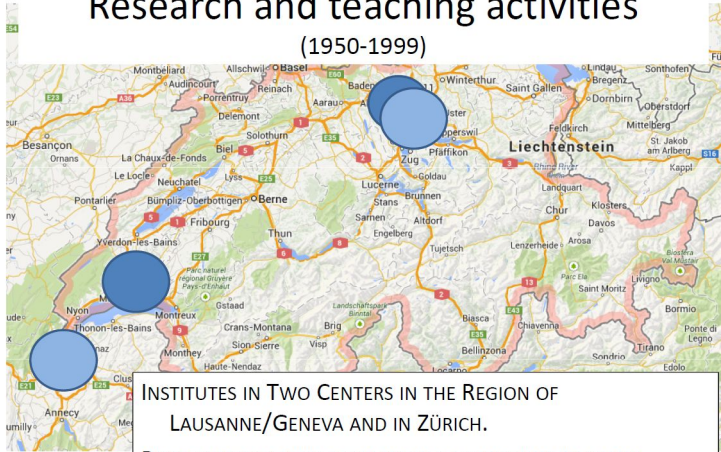
News  
Assemblée Générale /  
Generalsversammlung  
8 März 2024

CENTRE FOR REGISTRATION OF



# Situation / View in 2014

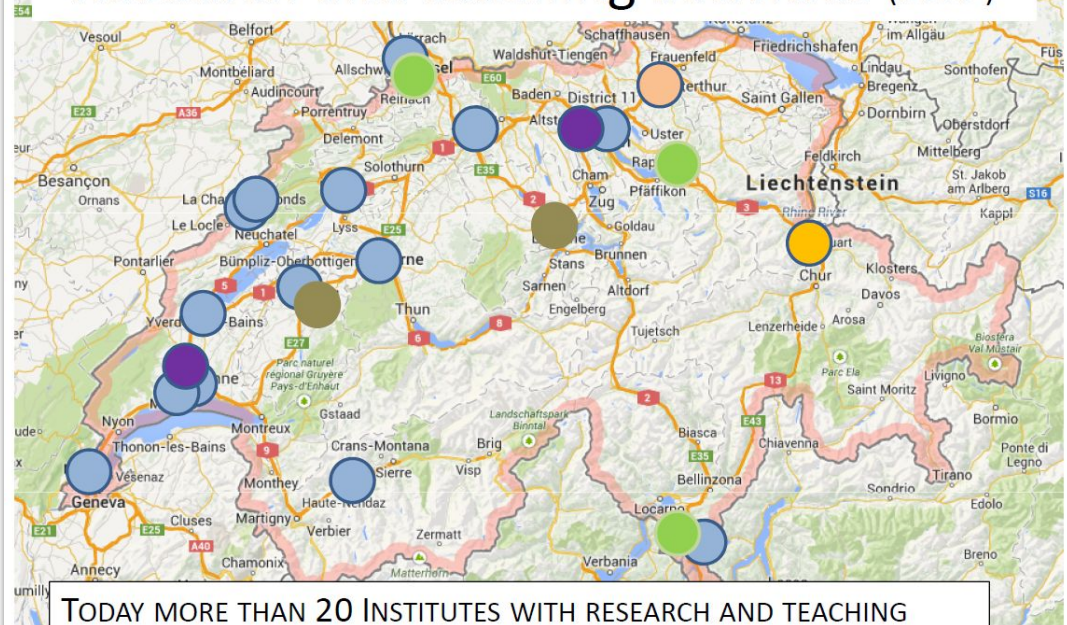
## Research and teaching activities (1950-1999)



INSTITUTES IN TWO CENTERS IN THE REGION OF LAUSANNE/GENEVA AND IN ZÜRICH. BOTH CENTERS WITH A COMMON BACKGROUND IN WORK PHYSIOLOGY, OCCUPATIONAL HYGIENE AND OCCUPATIONAL MEDICINE.

Human Factors Engineering  
HF&Ergonomics Know-How for Industries

## Research and teaching activities (2000-)



TODAY MORE THAN 20 INSTITUTES WITH RESEARCH AND TEACHING ACTIVITIES IN THE FIELD OF ERGONOMICS/HUMAN FACTORS.

Human Factors Engineering  
HF&Ergonomics Know-How for Industries and Services

 SwissErgo

# Institutes in Ergonomics/Human Factors and related fields in Switzerland (2000-)



- **Université de Genève, FAPSE, unité TECFA (Technologies de Formation et d'Apprentissage)**, Daniel Peraya, Mireille Betrancourt
- **Université de Genève, FAPSE Groupe de recherche Conception Research Activity Training Work (CRAFT)**, Marc Durand, Germain Poizat
- **Université de Genève, Faculté des Sciences Economiques et Sociales, Département de systèmes d'information, ICLE - Institut d'ingénierie des connaissances et logiques de l'espace**, Gilles Falquet
- **Université de Neuchâtel, Institut de psychologie du travail et des organisations**, Marianne Schmid, Adrian Bangerter, Franziska Tschan
- **EPFL, Human Computer Interaction Group**, Pearl Pu, Sylvain Castagnos
- **Université de Lausanne, Institut de santé au travail IST**, Brigitta Danuser
- **HEG - Haute école de gestion Arc, Institut du management et des systèmes d'information, cellule "Santé et société"**, Alain-Max Guenette, Achille Grosvernier
- **HEG - Haute école de gestion Arc, Filière Industrial Design Engineering (IDE), conception ergonomique et design**, Corrado Lafranchi
- **Université de Fribourg, Industrial Psychology & Human Factors**, Tanja Manser
- **Université de Fribourg, Cognitive Ergonomics group**, Jürgen Sauer
- **Universität Bern, Institut für Psychologie**, Norbert K. Semmer, Achim Elfering
- **Fachhochschule Nordwestschweiz FHNW, Hochschule für Angewandte Psychologie Olten**, Heinz Schüpbach, **Institut Mensch in komplexen Systemen**, Toni Wäfler, **Institut für Kooperationsforschung und -entwicklung**, Hartmut Schulze
- **ETHZ, Zentrum für Organisations- und Arbeitswissenschaften, Psychologie der Arbeit**, Theo Wehner
- **Uni Zürich, Gesundheitsforschung und Betriebliches Gesundheitsmanagement**, Georg Bauer
- **La Scuola universitaria professionale della Svizzera italiana (SUPSI), Dipartimento ambiente costruzioni e design (I)**, Paola Canonica
- ...



In 2014  
already  
colourful,  
what  
happened  
in the  
last 10  
years?

# Higher Education in Switzerland 2024

- **12** publicly funded **Swiss universities** (10 **cantonal** universities and 2 **federal** institutes of technology)
- **9** public and **1** private **Swiss Universities of Applied Sciences**
- Other higher education institutions
  - **17 Art and music** (all part to a University of Applied Sciences)
  - **19 Universities of teacher education** (mostly independent institutes)
  - **14 Other institutions** of the higher education sector (business, sport, theology, management, technology, ... mostly part of universities or universities of applied science)
- All are coordinated according the *Federal Act on Funding and Coordination of the Swiss Higher Education Sector, since 2011.*



# Educations for neighboring professions in Switzerland that are recognized by law

- [DAS Work+Health](#) University of Zurich with partners such as University of Lausanne: Diploma of Advanced Studies (DAS) in **Occupational Hygiene** and in **Occupational Medicine**, continuous education grade. 30 ECTS / 900 hours



Schweizerische Gesellschaft für Arbeitsmedizin  
Société Suisse de Médecine du Travail  
Swiss Society of Occupational Medicine



SSOH | SGAH | SSHT | SSIL  
SWISS SOCIETY FOR  
OCCUPATIONAL HYGIENE

Occupational Hygiene and in Occupational Medicine are recognized as specialist for safety at work (ASA) by Swiss law

- [SUVA course “Specialist ASGS”](#) for **Specialists in Occupational Safety** (and Workplace Health Protection) 26 days course for Labor inspectors (Implementing bodies) and Occupational safety specialist



# Ergonomics / Human Factors definition

**Human Factors and Ergonomics (HFE)** is the scientific discipline concerned with the understanding of **interactions** among humans and other elements of a system, and the profession that applies theory, principles, data, and methods to design in order to **optimize human well-being and overall system performance**. ([International Ergonomics Association](#))

- IEA Definition
- Dul et al papers
  - Systems Approach
  - Importance of Design
  - Balanced focus between performance and well-being
- CREE philosophy - requirements for a broad education in Ergonomics
  - Field of **human cognition, psychology and human behavior?**
  - field of **physiology, anthropometrics, biomechanics, physical workload, and manual handling?**
  - field of **physiology, anthropometrics, biomechanics, physical workload, and manual handling?**

# Neighbouring disciplines: UCD & UX

## User Centered Design

**User-centered design (UCD) is an iterative design process in which designers focus on the users and their needs in each phase of the design process.** In UCD, design teams involve users throughout the design process via a variety of research and design techniques, to create highly usable and accessible products for them. ([Interaction Design Foundation](#))

## User Experience UX

**User Experience (UX)** focuses on product design and captures all of the psychological and behavioral aspects of users' interactions with products. It can be broken down into four constituent elements: **Value** (relates what value the product provides to the user), **Usability** (relates to how easily users can complete their intended tasks using a product), **Adoptability** (relates to users' starting to use a product), **Desirability** (relates to the emotional appeal of a product). ([The Four Elements of User Experience, Frank Guo 2012, adapted](#))

# Neighbouring disciplines: Safety Science and Org Psy

## Safety Science

**Safety Science** is the science and technology of human safety. It extends from safety of people at work to other spheres, such as transport, leisure and home, as well as every other field of man's hazardous activities.

Safety Science is multidisciplinary. Its contributors and its audience range from psychologists to chemical engineers. It covers the physics and engineering of safety; its social, policy and organizational aspects; the management of risks; the effectiveness of control techniques for safety; standardization, legislation, inspection, insurance, costing aspects, human behavior and safety and the like. ([What is safety science? Terje Aven, 2014, adapted](#))

## Industrial and Organizational Psychology

**Industrial psychology** is concerned with describing job requirements and assessing individuals for their ability to meet those requirements. In addition industrial psychology studies and develops ways to train, evaluate, and respond to those assessments.

**Organizational psychology** is interested in how the relationships among employees affect those employees and the performance of a business. This includes studying worker satisfaction, motivation, and commitment. This field also studies management, leadership, and organizational culture, as well as how an organization's structures, management and leadership styles, social norms, and role expectations affect individual behavior.

**Human factors or Engineering psychology** is the study of how workers interact with the tools of work and how to design those tools/technology to optimize workers' productivity, safety, and health. ([The Historical Development Of Industrial And Organizational Psychology, Powers 2019, adapted](#))

# Survey (ongoing, current standing)

- Keyword search:
  - Ergonomics,
  - Human Factors,
  - User Centered Design,
  - Usability,
  - User Experience,
  - Safety Science,
  - Occupational Psychology
- 60 research teams, estimated 80+ in all 12 Swiss Universities and 10 Swiss Universities of Applied Sciences
- [Survey in three languages D / F / E](#)



Research and Teaching in Human Factors and Ergonomics and related disciplines in Switzerland - towards a Swiss HFE map // [Deutsch](#) // [Français](#)

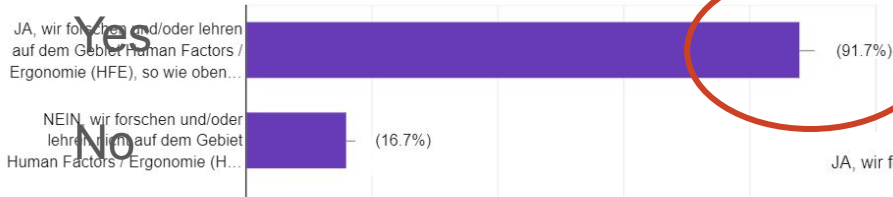
**You and Us:** We have identified you as a researcher and/or teacher in the field of Human Factors and Ergonomics (HFE) or in a related discipline in Switzerland.

We are the national accreditation body of the Centre for Registration of European Ergonomists ([CREE](#)). As part of SwissErgo ([Swiss Ergonomics Association](#)), we certify Swiss experts in the field of HFE. As part of our certification work, we advise these professionals on their ongoing professional development. We are therefore very interested in your work.

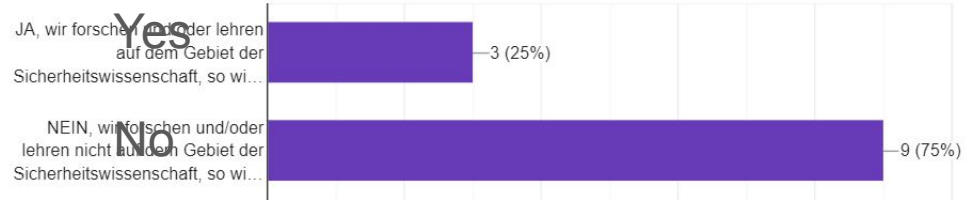
We ask you to complete this short survey. It will take no longer than 10 minutes. You are also welcome to share this survey within your organization and your network.

**Background:** Human factors and ergonomics have existed as a modern academic discipline since Wojciech Jastrzębowski described the "science of work" in 1857. Over the past 167 years, the discipline has developed a variety of tools and methods. HFE, like the world of work itself, has constantly evolved and new related

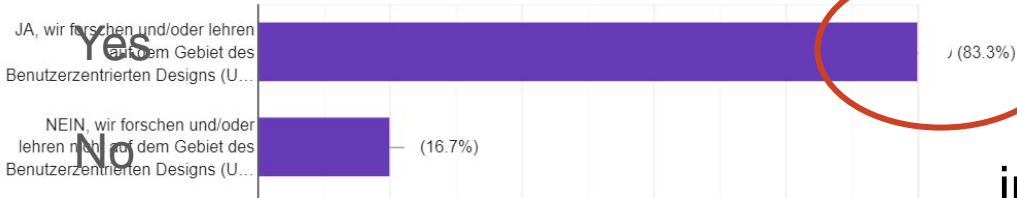
# We do research and/or we teach in HFE



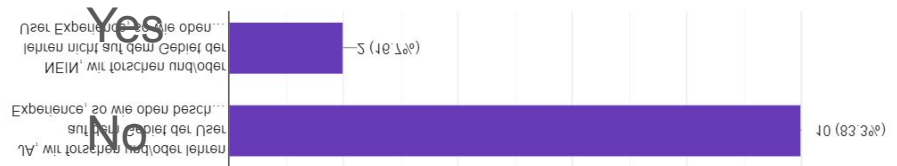
## ... in Safety Science



## ... in User Centered Design



## ... in User Experience



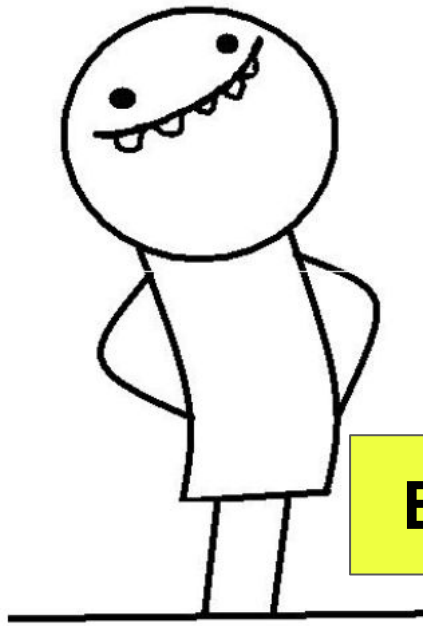
## ... in Occupational Psychology



# Research and Teaching in Human Factors and Ergonomics in Switzerland in 2024

- It's more colorful than ever - the HFE-diversity index is increasing in Switzerland!
- It's diverse, but it's perceived as Human Factors and Ergonomics
  - Systems Approach
  - Importance of Design
  - Balanced focus between performance and well-being
- It's in line with the CREE philosophy - requirements for a broad education in Ergonomics
  - human cognition, psychology and human behavior
  - physiology, anthropometrics, biomechanics, physical workload, and manual handling
  - work organization, human-system interaction, collaboration, communication

To be continued ...



**Be proud to be an**  
(educated)

**Ergonomist / Human Factors Specialist**

act accordingly  
and **show it!**