



Ergonomics education in Switzerland

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President SwissErgo



2nd International Conference
"Contemporary Ergonomics challenges in Europe"
26th of November, 2015



Agenda

- Ergonomics in Switzerland (SwissErgo)
- Ergonomics Education in Switzerland (1952-)
 - History
 - Current state
- Educational concept of SwissErgo (2014-)
 - History (2013-2014)
 - Concept
 - Results of the consultation (2014-2015)



SwissErgo Verbandsstrategie/stratégie de l' association 2013-2018

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| <p>Kommunikation / Publicrelations & Politik</p> <ul style="list-style-type: none"> – Aktive und aktuelle Informationsplattform für alle Parteien und Partner-Parteien auf dem Internet (Webseite, XING, LinkedIn) – SwissErgo als Integrator für Parteien und Partner-Parteien im Sinne einer Dachorganisation – Aufbau einer Netzwerke unter Partner-Parteien (z.B. Verwaltung (SUVA, SECO, EKAS, BAG), Universität, Branchen und Industrieverbände, Fachorganisationen (SwissErgo) und des Internationalen Ergonomischen Bundes (IEA, FEES, CREE) | <p>Communication, relations publiques et politique</p> <ul style="list-style-type: none"> – Plateformes d'information disponibles sur Internet (site Internet, XING, LinkedIn) pour les acteurs du domaine de l'ergonomie. – SwissErgo se profile comme une organisation fédérative qui vise à fédérer tous les acteurs du domaine de l'ergonomie. – Mise en place d'un développement d'un réseau de réseaux institutionnels (SUVA, SECO, EKAS, BAG), issus de l'industrie, des organisations professionnelles (par SwissErgo) et des associations nationales d'ergonomie (IEA, FEES, CREE) |
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Develop and maintain a network with partner organizations (such as educators in HFE)



SwissErgo Verbandsstrategie/stratégie de l' association 2013-2018

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| <p>Aus- und Weiterbildung & Qualitätssicherung</p> <ul style="list-style-type: none"> – Anerkennung von Aus- und Weiterbildungen aufgrund festgelegter Kriterien: MAS A+G / DAS A+G, CAS Luzern/Neuchâtel, CAS Vaud/Lausanne / Landquart – Etablierung eines modularen Ergonomie-Weiterbildungskonzepts für Berufsleute: Ergonomie-Basiskurs, Ergonomie-Aufbaukurs für bestimmte Fachthemen – Unterstützen der Partner im Lobbying für Professuren, Forschungsgelder auf dem Gebiet Ergonomie – Human Factors, Arbeitswissenschaft, Engineering | <p>Formation de base, formation continue et assurance qualité</p> <ul style="list-style-type: none"> – Reconnaissance, sur la base de critères définies par SwissErgo, des formations entrant dans le champ de l'ergonomie comme par exemple: MAS A+G / DAS A+G, CAS Luzern/Neuchâtel, CAS Winterthur / Lausanne / Landquart. – Mise en place de formations continues modulaires: bases en ergonomie, thèmes spécialisés, ... – Appuyer les partenaires professionnels et de fonds de recherche en ergonomie, Human Factors, science du travail et Engineering. |
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**Recognition of educations
Develop modular educations
Lobbying for professorships**



SwissErgo Verbandsstrategie/stratégie de l' association 2013-2018

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| <p>Organisation & Dienstleistungen</p> <ul style="list-style-type: none"> – Anpassung der Verbandsstrukturen an die aktuellen und zukünftigen Bedürfnisse, insbesondere Präzisierung der Mittlereinstufungskategorien und Einführung neuer Mitgliedsarten – Anbieten anerkennter Ergonomie-Weiterbildungskonzepte, Arbeitswissenschaft, Gesundheitswissenschaften – Optimierung der Rahmenbedingungen für den Vorstand, damit der längerfristig ohne bedeutende Einbussen funktioniert. | <p>Organisation & services</p> <ul style="list-style-type: none"> – Adaptation de notre structure associative aux besoins actuels et futurs au travers d'une clarification des statuts actuels des différents membres et du développement de nouvelles catégories de membres. – Offrir en Suisse en ergonomie aussi reconnu par les autorités nationales de santé et sécurité au travail – Optimisation des conditions cadres de fonctionnement du Comité afin d'en garantir son bon fonctionnement à long terme. |
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Offer a "professional diploma" for ergonomists which is recognized by the Swiss authorities dealing with occupational health and safety.



Bodies of SwissErgo



- **SwissErgo General Assembly** (yearly): ALL MEMBERS (approx. 160, present 20-50)
- **SwissErgo Committee** : Thomas Stüdeli, Urs Kaufmann, Christine Delessert, Christine Villaret, Patrick Baur.
Visiting members: Sandrine Corbaz-Kurt, Dagmar Fünffinger.
- **CREE National Accreditation Board** : Marino Menozzi D/I, Rafaël Weissbrodt F/D, Marc Arial F/E, Thomas Stüdeli D, Christian Voirol F (chair)
- **Representatives/Delegates** : CREE - Christian Voirol F (chair of NAB), IEA - Maggie Graf (E/D/F), FEES - Marino Menozzi (D/I), Suissepro (Occ. Med, Occ. Hyg, Work psy, ...) Céline Dubay (F/D)



Agenda

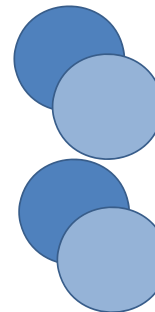
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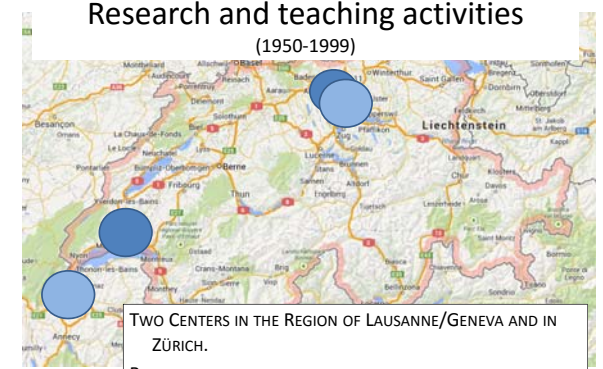
Ergonomics in Switzerland (1950-1999)



- Institut for **Hygiene and Work Physiology**, ETH Zürich (Etienne Grandjean 1950-1983, Helmut Krueger 1983-2005)
- Insitutute for **Work Psychology**, ETH Zürich (Ewald Ulich -1998, Theo Wehner -2014, Gudela Grote)
- Institut for **Occupational Medicine and Ergonomics**, University of Geneva (Paule Rey 1969-1994)
- Institut for **Health at Workplace**, University of Lausanne (Michel Guillemin 1984-2005, Brigitta Danuser 2005-).



Research and teaching activities (1950-1999)



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.

1952-1990



- University Institutes with research and teaching activities.
- Education of HFE in multiple faculty / departments within their university.
- Active participation in IEA events and committees from representatives of 3 out of 4 centers.
- Strong network on national and international level.

TWO CENTERS IN THE REGION OF LAUSANNE / GENEVA AND IN ZÜRICH.

BOTH CENTERS WITH SIMILAR BACKGROUNDS.



Ergonomics in Switzerland (2000-)



- Only one out of four institute (IST Lausanne) remains from the four traditional centers.
- Several other/new university institutes take over the „gaps“ in research and teaching.

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



Ergonomics in Switzerland (2000-)



- These new institutes have research and teaching activities in related fields such as: **Psychology, Informatics, Social sciences, Design, Medicine (occupational -, social -, prevention -), Engineering and Management.**
- No or only little participations in IEA activities and only little interaction among each others.

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



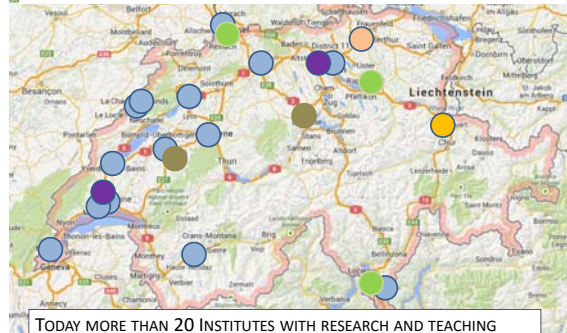
Institutes in Ergonomics/Human Factors and related fields in Switzerland (2000-)



- Université de Genève, *FAPSE, unité TECA (Technologies de Formation et d'Apprentissage)*, Daniel Peraya, Mireille Betancourt
- Université de Genève, *FAPSE Groupe de recherche Conception Research Activity Training Work (CRAFT)*, Marc Durand, Germain Pizat
- 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 Bangster, Françoise Tichan
- 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 Guenet, Achille Grovemer
- 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 Ellering
- Fachhochschule Nordwestschweiz FHNW, *Hochschule für Angewandte Psychologie Otten*, Heinz Schlipbach, *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
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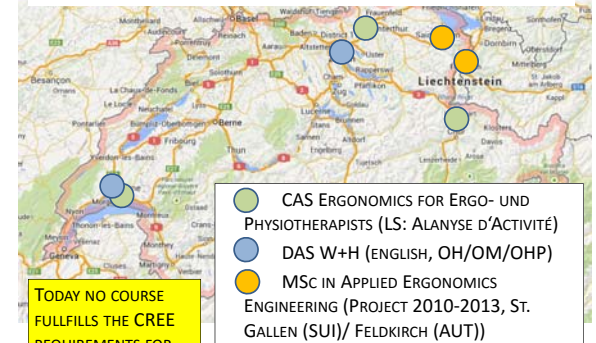
Research and teaching activities (2000-)



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



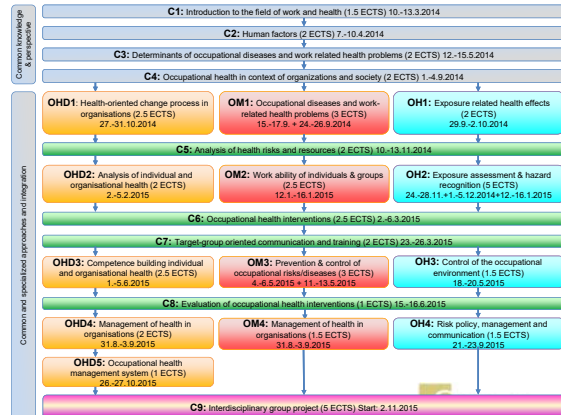
Actual courses in Ergonomic (2013-)



TODAY NO COURSE FULLFILLS THE CREE REQUIREMENTS FOR CERTIFICATION.



Curriculum DAS Work + Health 2014-2015



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Educational concept (1)



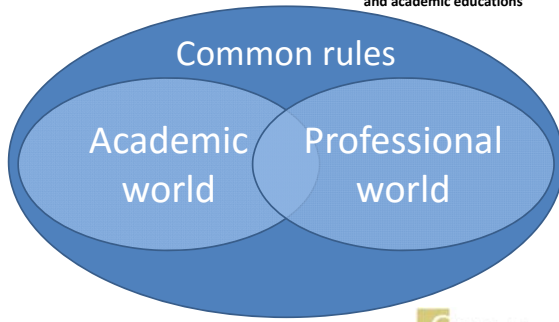
History

- Concept developed based on SwissErgo strategy 2013-2018
- Working group started in 2012 with members from committee (changing members)
- Drafted and finalized in 2014, accepted by the SwissErgo committee in May 2014



Educational concept(2)

Common concept for professional and academic educations



Main elements of the concept (1)



- One common concept for professionals and academic educations.
- Three levels of education foreseen (in Switzerland):
 - For professionals with further education in HFE (courses from 2 to 15 days / 1 to 6-7 ECTS)
 - For HFE academics with an BSc, CAS, DAS (courses with 15+ ECTS)
 - For HFE academics with an MSc or MAS level (60+ ECTS) (Certified Professional Ergonomists, equivalent to CREE (Eur.Erg.) certification)



Main elements of the concept (2)



- Education providers declare all educational activities
 - Competencies - based on the "Core Competencies of Ergonomics" IEA [1]
 - Content - based on the "Areas of Knowledge" from CREE [2]
- SwissErgo is coordinating and promoting
 - a broad education in HFE in order to achieve a "unique combination of three fundamental characteristics" of our profession [3].
 - "Code of conduct for Ergonomists" [4].



IEA HFE identity [1]

(Dul et al 2012)

- HFE has a unique combination of three fundamental characteristics:
- it takes a systems approach
 - it is design driven and
 - it focuses on two closely related outcomes: performance and well-being.



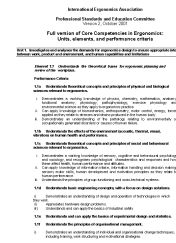
Dul et al: A strategy for human factors/ergonomics: developing the discipline and profession, *Ergonomics*, 55 (2012) 4, 377-395.



IEA HFE core competencies [2]

(IEA 2001)

- Units (9)
- Elements
- Performance criteria



International Ergonomics Association (2001) Full version of Core Competencies in Ergonomics: Units, elements, and performance criteria, Professional Standards and Education Committee, Version 2, October 2001.



Areas of Knowledge [3]

(CREE 2013, in place much earlier)

- Principles of Ergonomics Elements
- Populations and General Human Characteristics
- Design of Technical systems
- Research, evaluation and investigative techniques
- Professional Issues
- Ergonomics: Activity and/ or Work Analysis
- Ergonomic Interventions
- Ergonomics: physiological and physical aspects
- Ergonomics: psychological and cognitive aspects
- Ergonomics: social and organisational aspects



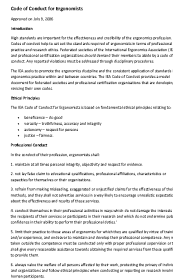
Center for Registration of European Ergonomists (2013) Requirements for Registration of European Ergonomists (Eur.Erg.), Areas of Knowledge (Appendix B) Version 13.2, Following CREE meeting 42 2013.



IEA Code of conduct [4]

(IEA 2006)

- Introduction
- Professional conduct
- Research conduct



International Ergonomics Association (2006) Code of Conduct for Ergonomists, Approved on July 9, 2006.



Main elements of the concept (3)



- Must "items" in all educations
 - Basics in HFE (20-40% of the time)
 - Work (eg systems approach)
 - Human (eg anthropometry, cognition)
- Must "items" in specific educations when
 - Identity of HFE is essential / missing in the past
 - Official requirements related to HFE (eg methods) are in place in standards, guidelines or laws



Main elements of the concept (4)



- Inclusion of courses in related field or specializations, for the engineering part e.g.
 - Human Computer Interaction
 - User Centered Design
 - Man Machine Interaction
- Promotion of the different educations within an "Network of Education in HFE in Switzerland"
- Offer the possibility to collect different (smaller) educations within the network and acquire a tailored education



Resultat de la processus de consultation (2014-2015)



Common goals / motivation (+)

- Identification with HFE (is big)
- Development of HFE curriculum (help is welcome and needed)
- Enrichment of education with partners from/together with different backgrounds (is very welcome)



Resultat de la processus de consultation (2014-2015)



Challenges / current „Stones on our way“ (-)

- New „law on univesities and high schools“ in 2015
- How to organize the modularity of education?
- How much mobility is still attractive?
- How many partners for one educational program are managble?
- Language issue. Do our students/educators need to be fluent in D/F and E, or even I?



Quelle fierté d'être ergonomome!

Be **proud** to be an
(educated)
Ergonomist,
act accordingly
and **show it!**

