

# CURRICULUM VITAE of Dr. Lubos Hes, Ctext FTI

Date and place of birth: 28.01.1944 in Prague, Czech Republic, e-mail: [lubos.hes@gmail.com](mailto:lubos.hes@gmail.com)

## Education:

| <b>Year:</b> | <b>Degree:</b>    | <b>Institution:</b>              | <b>Field of study:</b>     |
|--------------|-------------------|----------------------------------|----------------------------|
| 1999         | Full Prof.        | Techn. Univ. Liberec, Czech Rep. | Text. Science & Technol.   |
| 1995         | Assoc. Prof. hab. | Univ. of MINHO, Portugal         | Clothing Physiology        |
| 1994         | Assoc. Prof. hab. | Technical University, Liberec    | Thermal Comfort of Fabrics |
| 1993         | D.Sc.             | Technical University, Liberec    | Measurements on Textiles   |
| 1984         | Assoc. Prof.      | Technical University, Liberec    | Textile Technology         |
| 1977         | Ph.D.             | Techn. Univ. Brno, Czech Rep.    | Thermal Proc. of yarns     |
| 1968         | M.Sc.             | Technical University, Liberec    | Design of Text. Machines   |

## Professional career:

**2000 - 2009 TU Liberec** Dept. of Textile Evaluation, Faculty of textiles (Head of the Dept. till 2007).

**1992-1999 Univ. do Minho Portugal** Invited Assoc. Prof. of the Department of Textile Engineering  
*Tuition:* Winding, Texturing, Nonwovens. Clothing Comfort, *Supervision:* MSc and PhD thesis. Comfort measuring instruments design

**1990 (3 months) UNDP Delhi** United Nations expert on mission in India. Chief Technical Advisor for modernisation of Indian textile machinery and technology

**1984-1990 TU Liberec** Head of the Department of Non-woven textiles. *Tuition:* Technology of Nonwovens, Texturing and Thermal Processing of Textiles

**1980-1984 Res. Inst. Text. Mach. Liberec** Project Leader (Yarn texturing machines) till 1980. Assoc. Head of Dept. for Finishing Technologies. Design of instruments for the measurement of yarn and fabric temperature.

## Membership in professional societies

*Fiber Society, Princeton, USA* (since 1989).

*Textile Institute Manchester* (Secretary of Czech section), 2008 received the highest award, honorary FTI

*ESPC - European Soc. For Protective Clothing*

*TC 38, WG-38 – Thermoreg. Properties of Fabrics – ISO Group*

## Editorial boards:

*TEXTILIA* textile professional journal (Brasil, 1998 - 2002),

*Fibres and Textiles* (Slovakia, 2002 - 2007)

*Research Journal of Textiles and Clothing* (Hong Kong, 2005 - 2008)

*Journal of Natural Fibres* (USA, since 2005),

*Fibres and fabrics in Turkey*, Izmir (since 2007)

*Journal of Textile Bioengineering* (Hong Kong, since 2009), NEW

*Textile Research Journal* (Princeton USA, since 2009), NEW

## Research and development activities:

**Patents granted: 55**, incl. 7 patents in Western Europe and Japan, 2 pat. USA, 4 licences of know how sold.

**New devices applied in Textile Industry:** 2 kinds of yarn texturing machines, 2 kinds of fabric thermal treatment machines, 11 different measuring instruments, together about 130 pieces in Europe, USA, Canada, Asia, Brasil and Australia

**Invited to lecture in professional courses + to establish research projects:** India IIT Deelhi (1990, 2001-2006, altogether 8 weeks), Taiwan TTRI (1997 - 2004, 1 month/year), Canada St. Hyacinthe (1999), Hong Kong PolyU (2000, 2 months), Dresden TU, ITB (2001 - 2007, 1 month/year), Turkey (2 -3 weeks / year since 2002),

**PhD evaluator:** 4 x Deakin Univ., Australia; 1 x Port Elisabeth Univ., RSA; 3 x ITB Dresden, Germany; 4 x Hong Kong Polytechnic; 1 x Kumaraguru College, India.

**Languages:** Czech, English, German, Portugues, Russian (active knowledge), Spanish (passive knowledge)

## Publications (altogether about 260):

**Books: 4** – Yarn Texturing Machines, Prague 1990 (in Czech), Yarn Texturing Technol. EUROTEX 1994 (in

English), Thermal Comfort of Garments Made of Textured Yarns, China Text. Inst., Taipei 1998 (in Chinese), Fundamentals of Clothing Comfort, CTI Taipei 2000 (in Chinese), Clothing Comfort, TU Liberec 2005 (in Czech).

**Theses, UNIDO reports: 7, papers on large internat. conferences: 90, papers in Czech language: 91**

**Papers in International Journals: 45, selected papers published in refereed internat journals as follows:**

Tzanov T., Hes, L. et al: Quality Control of Silicone Softener Application. Text. Res. J. **68**, 1998, p. 749-755

Hes, L., Fatima, M., Cavaco-Paulo, A.: The Effect of Selected Mechanical Properties on the Level of Puckering of Cotton fabrics after Washing. Int. J. of Clothing Sci. and Technol., **9**, 1997, No.3, p. 188-192

Hes, L., Hejzlarová, H.: Thermal-contact properties of PES/Wool woven fabrics under simulated wear. Textile Asia **27**, 1996, No.11, p. 53-56

Hes, L., De Araújo, M., Storová, R.: Thermal-Comfort Properties of Socks Containing PP Filaments. Textile Asia **27**, 1996, No. 12, p. 57-59

Hes, L., De Araújo, M., Djulay, V.: The Effect of Mutual Bonding of Textile Layers on Thermal – Insulation and Thermal – contact Properties of Fabric Assemblies, Textile Res. Journal **66**, 1996, p. 245-250

### **Major achievements:**

**Recently designed textiles, whose originality has been confirmed by patents or pat. applications:**

1. Single – layered socks with special structure with increased sweat conduction and offering dry feeling even in wet state. Patented in all European countries through the MOIRA company. The socks are successfully commercialized.
2. Garment protecting against high solar radiation, with increased free convection cooling. Prototype evaluated in cooperation with the Dresden University.
3. Very dense fabric with pore dimensions under 1 micrometer, woven by means of a new weaving technology patented in Czech Republic and Taiwan. Useful for airbags, medical fabrics, clean rooms etc. Know-how sold to Taiwan.
4. Super cooling fabric – under development.
5. New high tenacity sewing thread with complicated structure based on Lyocel – European patent.

**Commercialized patented original instruments:**

1. ALAMBETA fast working computer controlled tester of thermal-contact and thermal insulation properties of fabrics, 35 pieces sold, the first non-destructive tester of this kind on the market
2. PERMETEST fast working high precision non-destructive computer evaluated tester of thermophysiological properties of fabrics, 40 pieces sold, the first non-destructive tester of this kind
3. PERMESEAT the first tester in the world, which evaluates full thermophysiological comfort of car seats, prototype sold to the EGE university
4. SKINBOX, cheap vertical skin model, used in ITB Dresden, TU Liberec and EGE university, Turkey
5. UNITORQ hardness tester for yarn packages, 35 pieces sold in Portugal, 15 in the rest of the world.
6. FRICTORQ (co-author Dr. Lima), precision fabric friction tester, used in U-Minho Portugal and EGE university
7. FYT fast yarn thermometer, license sold to the BARMAG company, Germany. The measuring principle used the MONFORS company (Germany) in stenters.
8. AIRUN air permeability tester for fabrics, 1 tester working at the TU Liberec, 1 sold to the Bolton univ.
9. HEAT MASTER contactless thermometer for rotating drums, licensed to the APPLIC comp. CZ
10. Thermal conductivity tester for carbon composites – completed and sold to the Univ. of Aachen
11. Contactless autocalibrating pyrometer, using a new principle patented in Europe, applicable with advantage in textile stenters and drying machines – under marketing procedure.

**Scientific achievements:**

1. Introduction of thermal absorbtivity - a new parameter of warm-cool feeling of fabrics (on INDEX 1987, Genf), based on the ALAMBETA instrument and used by many researchers—see on GOOGLE
2. Introduction of moisture absorbtivity - a new parameter of complex moisture transfer between the simulated skin and a fabrics – see in Proc. Conf on the Engineered Fabrics, UMIST 1999.
3. Development a new theory of mechanical structure of yarn packages (with Prof. P. Ursiny), published several times in Melliand Textilberichte in German language
4. Development a new theory of heat transfer into running texturized filaments, presented at the Dornbirn conference in 1982 + 5 times in the Melliand Textilberichte in German
5. Development of a new theory of radiation heat transfer in nonwoven webs (with J. Stanek), presented at the INDA conference, Philadelphia 1991
6. Presentation of the first reliable experimental analysis of thermophysiological properties of fabrics in wet state based on own fast working instruments ALAMBETA and PERMETEST (see in Proc. of the AUTEX conf. in Tampere, 2007).

