

**Erasmus Intensive Program (IP) under European lifelong learning program**

## **Moving in old age – interdisciplinary approaches to the study of ageing**

**March 10<sup>th</sup> – 28<sup>th</sup> . 2014**



**DRAFT VERSION 18-02-2014**

## IP: Moving in old age – interdisciplinary approaches to the study of ageing March 10<sup>th</sup> – 28<sup>th</sup> -2014

March 10 <sup>th</sup> – 16 <sup>th</sup>	Monday 10 <sup>th</sup>	Tuesday 11 <sup>th</sup>	Wednesday 12 <sup>th</sup>	Thursday 13 <sup>th</sup>	Friday 14 <sup>th</sup>	Saturday 15 <sup>th</sup>
09.15 – 10.00	Welcome PC, HE, TS & KF	Study time	Study time	Daniela Caporossi: The Biology of Aging: old theories and new discoveries	Andrea Macaluso: Muscle strength, power and adaptations to resistance training	
10.15 – 11.00	Paolo Caserotti Epidemiology of Ageing	Henning Eichberg: Ageing and movement in the history of knowledge and in social history	Henning Eichberg: Ageing and movement in cultural history		Kim Brixen: Osteoporosis	
11.15 – 12.00						
12.00 – 12.45						Site visit at: Møntergården
12.45 – 13.30						
13.45 – 14.30	Bus depart for Odense welcome	Management of older adults in DK: the role of the public health care sector (Jenny Havn) Odense municipality 1. Preventive home visit 2. rehabilitation pathway	Henning Eichberg: Ageing and movement in cultural anthropology	Barbara Wessner: Ageing organs and exercise: a cellular approach	Seminar series (1) (12.30 - 14.30 - U140 <b>Prof. Daniela Caporossi:</b> Resistance training in the elderly: redox homeostasis and molecular adaptation <b>Prof. Barbara Wessner</b> Research Platform Active Ageing - Influence of strength training and nutritional supplementation on physical performance and molecular markers in institutionalized elderly <b>Prof. Andrea Macaluso:</b> Adaptations to speed training with body weight unloading in older women	
14.45 – 15.30	Odense Welcome					
15.45 – 16.30	Free	Paolo Caserotti Body composition and ageing (14.30-16.30)	Study time	Study time	Free: Gym reserved for the students	
			Welcome dinner at "Den Grimme Ælling" (18.30)			

Daniela Caporossi (DC); Barbara Wessner (BW); Andrea Macaluso (AM); Kim Brixen (KB); Giuseppe De Vito (GD); Annemarie Koster (AK); Paolo Caserotti (PC); Bjarne Ibsen (BI); Maja Pilgaard (MP)  
Karen Ranberg Andersen (KA) Lars Hvid (LH) Henning Eichberg (HE) Marika Berchicci (MB) Kim Brixen (KB); Jenny Havn (JH) Mathias Skjødt (MS) Kristian Traberg (KT) Karsten Froberg (KF); Thomas Skovgaard (TS)

### Seminar series (1) (12.30 - 14.30 - U140)

**Daniela Caporossi:** Resistance training in the elderly: redox homeostasis and molecular adaptation

**Barbara Wessner** Research Platform Active Ageing - Influence of strength training and nutritional supplementation on physical performance and molecular markers in institutionalized elderly

**Andrea Macaluso:** Adaptations to speed training with body weight unloading in older women

## IP: Moving in old age – interdisciplinary approaches to the study of ageing March 10<sup>th</sup> – 28<sup>th</sup> - 2014

March 17 <sup>th</sup> – 23 <sup>th</sup>	Monday 17 <sup>th</sup>	Tuesday 18 <sup>th</sup>	Wednesday 19 <sup>th</sup>	Thursday 20 <sup>th</sup>	Friday 21 <sup>th</sup>	Saturday 22 <sup>th</sup>
09.15 – 10.00	TESTING session from 9-12 testing older people (HANC) Paolo Caserotti Lars Hvid Mathias Skjødt	Per Aagaard Aging in the Neuromuscular System - Effects of Physical Activity and Training	Annemarie Koster Physical activity epidemiology – The use of accelerometry	Giuseppe De Vito Cardiovascular-pulmonary system: aging, effect of exercise and physical activity	Meeting old age Site visit at the Odense municipality (training+ recreational activities) Paolo Caserotti- Odense municipality (Jenny Havn)	Caserotti Exercise for body weight management: what works?
10.15 – 11.00			Aging, Socioeconomic aspects and health			
11.15 – 12.00			LG Hvid: Effects of disuse and aging on muscle function – from the single fiber to the whole muscle level			
12.00 – 12.45	Dialogue with older people: HANC project					
12.45 – 13.30	Maja Pilgaard : Sports participation of elderly – sociology	Annemarie Koster The consequences of obesity in old age	Study time	Study time	<b>Seminar series (2) (12.30 - 14.30 U140)</b> <b>A Koster:</b> Sedentary behavior as a health risk factor independent of physical activity <b>G De Vito:</b> Neuromechanical aspects of aging. <b>Marianne Andersen:</b> Testosterone and body composition in ageing men. <b>LG Hvid:</b> Functional implications of disuse and retraining in older individuals	
13.45 – 14.30						
14.45 – 15.30	Henning Eichberg: Ageing as disability or risk factor?	Henning Eichberg: Ageing in social psychology	Bjarne Ibsen: Ageing in sports policy	Henning Eichberg: Diversity – Which activities for which elderly people		
15.45 – 16.30			Study time	Study time	Free: Gym reserved for the students	

Daniela Caporossi (DC); Barbara Wessner (BW); Andrea Macaluso (AM); Kim Brixen (KB); Giuseppe De Vito (GD); Annemarie Koster (AK); Paolo Caserotti (PC); Bjarne Ibsen (BI); Maja Pilgaard (MP)  
Karen Ranberg Andersen (KA) Lars Hvid (LH) Henning Eichberg (HE) Marika Berchicci (MB) Kim Brixen (KB); Jenny Havn (JH) Mathias Skjødt (MS) Kristian Traberg (KT) Karsten Froberg (KF); Thomas Skovgaard (TS)  
**Seminar series (2) (12.30 - 14.30 U140)**

**Annemarie Koster:** Sedentary behavior as a health risk factor independent of physical activity

**Giuseppe De Vito:** Neuromechanical aspects of aging

**Marianne Andersen:** Testosterone and body composition in ageing men.

**Lars Hvid:** Functional implications of disuse and retraining in older individuals

## IP: Moving in old age – interdisciplinary approaches to the study of ageing March 10<sup>th</sup> – 28<sup>th</sup> .2014

March 24 <sup>th</sup> – 28 <sup>th</sup>	Monday 24 <sup>th</sup>	Tuesday 25 <sup>th</sup>	Wednesday 26 <sup>th</sup>	Thursday 27 <sup>th</sup>	Friday 28 <sup>th</sup>	Saturday 29 <sup>th</sup>
09.15 – 10.00	Kristian Traberg: Literature review	Karen Randberg Andersen Ageing and health – appreciation from a holistic view	Workshop dealing with students presentations	Students presentations	Exams	
10.15 – 11.00						
11.15 – 12.00	Henning Eichberg: Fieldwork – meeting elderly people		Workshop dealing with students presentations		Evaluation	
12.00 – 12.45						
12.45 – 13.30	Paolo Caserotti Henning Eichberg: Case Marie – interdisciplinary approaches  Paolo Caserotti Henning Eichberg: Natural science and cultural studies in dialogue	Marika Berchicci Neurocognitive changes with aging: physical active and exercise as countermeasure	<b>Seminar series (3) (12.30 - 14.30 U55</b> <b>Kaare Christensen:</b> Physical and cognitive functioning among the growing population of the oldest-old: A Failure of Success or a Success of Success? <b>M Berchicci:</b> The benefits of physical exercise on the aging brain: The role of the prefrontal cortex <b>Paolo Caserotti:</b> Active life-style intervention in public health care settings for older adults with poor physical function: the HANC project.	Students presentations	Departure	
13.45 – 14.30						
14.45 – 15.30			Students presentations			
15.45 – 16.30	GYM: Exercise for older adults (15.30-17.00)	Study time				
				Farewell party		

Daniela Caporossi (DC); Barbara Wessner (BW); Andrea Macaluso (AM); Kim Brixen (KB); Giuseppe De Vito (GD); Annemarie Koster (AK); Paolo Caserotti (PC); Bjarne Ibsen (BI); Maja Pilgaard (MP)  
Karen Ranberg Andersen (KA) Lars Hvid (LH) Henning Eichberg (HE) Marika Berchicci (MB) Kim Brixen (KB); Jenny Havn (JH) Mathias Skjødt (MS) Kristian Traberg (KT) Karsten Froberg (KF); Thomas Skovgaard (TS)

### Seminar series (3) (12.30 - 14.30 U55

**Kaare Christensen:** Physical and cognitive functioning among the growing population of the oldest-old: A Failure of Success or a Success of Success?

**Marika Berchicci:** The benefits of physical exercise on the aging brain: The role of the prefrontal cortex

**Paolo Caserotti:** Active life-style intervention in public health care settings for older adults with poor physical function: the HANC project.

### **Teaching rooms:**

#### **Teaching classes**

N.B Unless specified, all teaching classes are in teaching room U56.

#### **Seminars:**

Friday 14<sup>th</sup> March 12.30-14.30, Lecture hall U140

Friday 21<sup>th</sup> March 12.30-14.30, Lecture hall U140

Wednesday 28<sup>th</sup> March 12.30-14.30, Lecture hall U55

### **Literature Biological area original articles/reviews (in progress)**

- 1 Aagaard P, Magnusson PS, Larsson B, Kjaer M, Krstrup P. Mechanical muscle function, morphology, and fiber type in lifelong trained elderly. *Med Sci Sports Exerc* 2007; 39(11):1989-1996.
- 2 Aagaard P, Suetta C, Caserotti P, Magnusson SP, Kjaer M. Role of the nervous system in sarcopenia and muscle atrophy with aging: strength training as a countermeasure. *Scand J Med Sci Sports* 2010; 20(1):49-64.
- 3 Berchicci M, Lucci G, Pesce C, Spinelli D, Di RF. Prefrontal hyperactivity in older people during motor planning. *Neuroimage* 2012; 62(3):1750-1760.
- 4 Berchicci M, Lucci G, Di RF. Benefits of physical exercise on the aging brain: the role of the prefrontal cortex. *J Gerontol A Biol Sci Med Sci* 2013; 68(11):1337-1341.
- 5 Caserotti P, Aagaard P, Larsen JB, Puggaard L. Explosive heavy-resistance training in old and very old adults: changes in rapid muscle force, strength and power. *Scand J Med Sci Sports* 2008; 18(6):773-782.
- 6 D'Aquila P, Rose G, Bellizzi D, Passarino G. Epigenetics and aging. *Maturitas* 2013; 74(2):130-136.
- 7 Di Russo F, Taddei F, Apnile T, Spinelli D. Neural correlates of fast stimulus discrimination and response selection in top-level fencers. *Neurosci Lett* 2006; 408(2):113-118.
- 8 Ferrari AU, Radaelli A, Centola M. Invited review: aging and the cardiovascular system. *J Appl Physiol* (1985 ) 2003; 95(6):2591-2597.
- 9 Forte R, De Vito G. Heart rate variability in exercise and various physiological conditions. *Research Signpost: New Insight into Cardiovascular Apparatus During Exercise Physiological and Physio-Pathological Aspects* 2007.
- 10 Jin K. Modern Biological Theories of Aging. *Aging Dis* 2010; 1(2):72-74.
- 11 Koster A, Caserotti P, Patel KV, Matthews CE, Berrigan D, Van Domelen DR et al. Association of sedentary time with mortality independent of moderate to vigorous physical activity. *PLoS One* 2012; 7(6):e37696.
- 12 Kuk JL, Saunders TJ, Davidson LE, Ross R. Age-related changes in total and regional fat distribution. *Ageing Res Rev* 2009; 8(4):339-348.
- 13 Liochev SI. Reactive oxygen species and the free radical theory of aging. *Free Radic Biol Med* 2013; 60:1-4.
- 14 Macaluso A, De VG. Muscle strength, power and adaptations to resistance training in older people. *Eur J Appl Physiol* 2004; 91(4):450-472.
- 15 Murabito JM, Yuan R, Lunetta KL. The search for longevity and healthy aging genes: insights from epidemiological studies and samples of long-lived individuals. *J Gerontol A Biol Sci Med Sci* 2012; 67(5):470-479.
- 16 Narici MV, Maganaris C, Reeves N. Myotendinous alterations and effects of resistive loading in old age. *Scand J Med Sci Sports* 2005; 15(6):392-401.
- 17 National Institute on Aging. *Biology of Aging - Reserach today for a better tomorrow* . 2011.
- 18 Owen N, Sugiyama T, Eakin EE, Gardiner PA, Tremblay MS, Sallis JF. Adults' sedentary behavior determinants and interventions. *Am J Prev Med* 2011; 41(2):189-196.
- 19 Pate RR, O'Neill JR, Lobelo F. The evolving definition of "sedentary". *Exerc Sport Sci Rev* 2008; 36(4):173-178.
- 20 Petrella JK, Kim JS, Tuggle SC, Bamman MM. Contributions of force and velocity to improved power with progressive resistance training in young and older adults. *Eur J Appl Physiol* 2007; 99(4):343-351.
- 21 Posner JD, Gorman KM, Klein HS, Cline CJ. Ventilatory threshold: measurement and variation with age. *J Appl Physiol* (1985 ) 1987; 63(4):1519-1525.
- 22 Rodeheffer RJ, Gerstenblith G, Becker LC, Fleg JL, Weisfeldt ML, Lakatta EG. Exercise cardiac output is maintained with advancing age in healthy human subjects: cardiac dilatation and increased stroke volume compensate for a diminished heart rate. *Circulation* 1984; 69(2):203-213.
- 23 Seynnes O, Fiatarone Singh MA, Hue O, Pras P, Legros P, Bernard PL. Physiological and functional responses to low-moderate versus high-intensity progressive resistance training in frail elders. *J Gerontol A Biol Sci Med Sci* 2004; 59(5):503-509.
- 24 Simpson RJ, Lowder TW, Spielmann G, Bigley AB, LaVoy EC, Kunz H. Exercise and the aging immune system. *Ageing Res Rev* 2012; 11(3):404-420.
- 25 Singh MA. Exercise comes of age: rationale and recommendations for a geriatric exercise prescription. *J Gerontol A Biol Sci Med Sci* 2002; 57(5):M262-M282.
- 26 Vincent HK, Raiser SN, Vincent KR. The aging musculoskeletal system and obesity-related considerations with exercise. *Ageing Res Rev* 2012; 11(3):361-373.
- 27 Visser M, Schaap LA. Consequences of sarcopenia. *Clin Geriatr Med* 2011; 27(3):387-399.

### **Literature Biological area textbooks (in progress)**

#### **The Epidemiology of Aging**

Newman, Anne, Cauley, Jane A. (Eds.) 2012, XVII, 610 p. 111 illus., 56 illus. in color. ISBN 978-94-007-5061-6

## Chapters:

### Part 1 Methods

**Chapter 1.** The Demography of Aging – Jane A. Cauley, DrPH

**Chapter 4.** Target populations, recruitment, retention, and optimal testing methods: Methodological issues for studies in the epidemiology of aging - Elsa S. Strotmeyer, PhD, MPH, Rachel E. Ward, MPH

**Chapter 7.** Assessing Functional Status and Disability in Epidemiologic Studies - Jack M. Guralnik, MD, PhD, Kushang V. Patel, PhD, Luigi Ferrucci, MD, PhD

**Chapter 8.** Comorbidity and Multimorbidity - Anne B. Newman, MD, MPH

### Part 2. Aging, Geriatric Syndromes and Common Conditions

**Chapter 16.** Body composition and aging - Marjolein Visser, PhD, Tamara B. Harris, MD, MS

**Chapter 17.** Epidemiology of Falls and Mobility Disorders - Katherine Ritchey DO, Stephanie Studenski MD MPH

**Chapter 28.** Osteoporosis - Jane A. Cauley, DrPH

#### Physical Dimensions of Aging.

Waneen W. Spirduso, Karen L. Francis, Priscilla G. MacRae 2005 (eds.): Champaign/Ill.: Human Kinetics, 2<sup>nd</sup> Ed. ISBN-13: 9780736033152

#### Chapters:

**Chapter 2.** Individual Differences

**Chapter 6.** Balance and Posture

**Chapter 9.** Health, Exercise, and Cognitive Function

**Chapter 11.** Physical Function of Older Adults

## Literature humanistic area

### Compendium includes:

1. Andersen, Bjarne et al. 1990: *The Elderly in Motion*. Odense: Odense University Press, 48 pp
2. Brownell, Susan 1995: *Training the Body for China. Sports in the Moral Order of the People's Republic*. Chicago & London: University of Chicago Press, 277-288
3. Eichberg, Henning 2010: "Sports in the life cycle. Diversity in and of ageing." In: *Bodily Democracy. Towards a Philosophy of Sport for All*. London: Routledge
4. Fairhurst, Eileen 1998: "'Growing old gracefully' as opposed to 'mutton dressed as lamb'. The social construction of recognising older women." In: Sarah Nettleton & Jonathan Watson (eds.): *The Body in Everyday Life*. London & New York: Routledge, 258-275
5. Featherstone, Mike og Hepworth, Mike 1991: "The mask of ageing and the postmodern life course." In: Mike Featherstone, Mike Hepworth & Bryan S. Turner (eds.): *The Body. Social Process and Cultural Theory*. London: Sage, 371-389
6. Hoff, Morten 2003: "'Like a thief in the night' A qualitative investigation of experiences and narratives related to bodily ageing and physical activity." Summary of the ph.d. dissertation: "*Som en tyv om natten.*" *En kvalitativ undersøgelse af oplevelser og narrativer forbundet med krop, aldring og fysisk aktivitet*. Odense: University of Southern Denmark, Institut for Idræt og Biomekanik, 333-336
7. Ibsen, Bjarne 2004: "*Senior sport and the challenge for organised sports.*" (First provisional publication in: *International Journal of Eastern Sport & Physical Education*, Suwon/Korea, 2, 1: 20-30)
8. Katz, Stephen (2000): "Busy bodies. Activity, aging and the management of everyday life." In: *Journal of Ageing Studies*, 14, 2: 135-152
9. Larsen, Knud 1999: The sporting life-course: A longitudinal study of life-course and generational patterns of adult sport and fitness participation. (= Idrætsforsk skrifter. 6) Gerlev: Bavnepanke
10. Öberg, Peter & Lars Tornstam 1999: "Body image among men and women of different ages." In: *Ageing and Society*, 19: 629-644
11. Phillips, Edwards M., Jefferey C. Schnider & Greg R. Mercer 2004: "*Motivating elders to initiate and maintain exercise.*" In: *Archives of Physical Medicine and Rehabilitation*, vol. 85, supplement 3, 15 pp
12. Povlsen, Jørgen 2000: "Representations of the body in old age – cultural and social change." In: Jørn Hansen & Niels Kayser Nielsen (eds.): *Sports, Body and Health*. Odensen: Odense University Press, 71-87
13. Schefold, Reimar 1992: "Shamans on Siberut. Mediators between the worlds" In: Charles Lindsay & Schefold: *Mentawai Shaman – Keeper of the Rain Forest. Man, Nature, and Spirits in Remote Indonesia*. New York: Aperture, 105-117
14. Tulle-Winton, Emanuelle 2000: "Old bodies." In: Phillip Hancock (ed): *Body, Culture and Society – an Introduction*. Buckingham: Open University Press, 64-83, 123-136

**Literature about interdisciplinary understanding**

15. Johansson, Charity 2003: "Rising with the fall. Addressing Quality of Life in physical frailty." In: *Topics in Geriatric Rehabilitation*, 19, 4: 239-248
16. Lupien, S. J. & N. Wan 2004: "Successful ageing: from cell to self." In: *Philosophical Transactions of the Royal Society London*, B, 359: 1413-1426
17. Jespersen, Ejgil & Mike McNamee 2008: "Philosophy, adapted physical activity and dis/ability." In: *Sport, Ethics and Philosophy*, 2, 2: 87-96
18. Chang, Milan et al. 2003: "The association of physical performance level with attitude toward exercise in older adults." In: *Journal of Aging and Physical Activity*, 11: 254-264

**Further recommended reading**

19. Povlsen, Jørgen, Signe Mellemegaard & Ning de Coninck-Smith 1999 (eds.): *Childhood and Old Age. Equals or Opposites?* Odense: Odense University Press
20. Bøje, Claus, Henning Eichberg & und Kirsten Roessler 1998: *Ældreidræt. Fornuft – forhekselse - forventning*. Vejle: DGI forskning
21. Mette Krogh Christensen 2002 (red.): *Aldring og bevægelse i idræt*. Århus: Klim.