

CURRICULUM VITAE of ENRICO TAM

Personal Details

Name / surname: Enrico Tam; Date of Birth: 1971; Nationality: Italian; Address: Verona, Italy
Telephone: +39 045 8425149 (work) e-mail: enrico.tam@univr.it ;

Education and Qualifications

2006-2011: Since October 2006 to October 2011, **Assistant Professor** at the Sport Science Faculty of the University of Bologna, Department of Human and general Physiology

2005-2006: Research Assistant **Post-doc**, Département des Neurosciences centre de médecine universitaire, Université de Genève (Switzerland). Project research director: Prof. G. Ferretti.

2005: **PhD** in Biomedical Science and Biotechnology; section of Human Physiology, Department of Biomedical Science and Technologies, University of Udine (Italy). Final project: “Cardiopulmonary effects of simulated microgravity (S.T.B.R. short term bed rest) on cardio pulmonary system in humans: responses to exercise. (Supervisor: Prof. Carlo Capelli).

2001: **Degree** in Sport Science, University of Urbino (Italy): 110/110 cum laude. Final project: “Kinetic analysis of oxygen consumption in ergometric test at maximal and supramaximal intensities” (Supervisor: Prof. Carlo Capelli and Prof. Piero Benelli).

1999: **Degree** in Physical Education (I.S.E.F.: Superior Institute for Physical Education), University of Urbino (Italy): 110/110 cum laude, final project: “Thermogenesis of brown fat and physical exercise: evidences of oxidative physiologic stress” (Supervisor: Prof. Giovanni Cucchiari).

Current position and research projects

Since October 2011, **Assistant Professor** of the University of Verona, Department of Neurological, Neuropsychological, Morphological and Movement Sciences.

Current projects:

- Regulation of oxygen transport during exercise in humans.
- Regulation of circulation in humans.
- Limitation to maximal oxygen consumption in humans.
- Man’s adaptation to extreme environments (microgravity, breath-hold underwater diving).
- Energetics of human locomotion.

Founded projects

2009- Project Title: Effectiveness of exercise and socializing activities in the *major depression* in the elderly. Multicenter randomized controlled study. Scientific coordinator of the research unit of the Department of Human and General Physiology: EnricoTam.

This unit have been involved in data collection and analysis of heart rate variability data (index of functional activity of the autonomic nervous system). The study was funded 26. 06. 2009 Reg PG 2009 144395, this research unit have been attributed Eur 26,800 and Eur .19,035 annual scholarship.

Professional Experiences

- 1) Training about different techniques used in *bed-rest* studies (1 week, 2001), Department of Physiology, University Medical Centre, Geneva, Switzerland.
- 2) Participation at the post *bed-rest* meeting about long-term *bed-rest* studies (1 week, 2002), MEDES (Institut de Médecine et de Physiologie Spatiales), Toulouse, France.
- 3) Studies about cardiovascular consequences of short-term *bed-rest* in humans (2 months 2001-2003); DLR (Deutsches Zentrum für Luft- und Raumfahrt), German Aerospace Center, Köln, Germany.
- 4) Research project: “Effects of inertial Loading for prevention of sarcopenia in old people”, Institute for Biophysical and clinical Research into Human Movement, Manchester Metropolitan University, Alsager, UK. Supervisors: Prof. A.J. Sargent and Prof. M.V. Narici; 8 months: September 2003 - May 2004.
- 5) Research project: “Effects of hyper gravity on the oxygen consumption during muscular exercise in humans”. Director: Prof. Guido Ferretti University of Geneva; Co-investigators:

Prof. Carlo Capelli University of Udine (Italy) and Prof. Dag Linnarsson, Department of Physiology and Pharmacology, Karolinska Institute, Stockholm, October 2004 and February 2005.

- 6) Research project: Cardiovascular and pulmonary responses during and after breath hold diving and bioenergetic of apnea immersion in top-level athletes. Director: Prof. Guido Ferretti. Barcelona (Spain), April 2006, April 2007.
- 7) Research project: Effects of the gravity acceleration on human cardiovascular system during muscular exercise. This project is supported by ESA (European Space Agency) (Switzerland) 2005-2006.
- 8) Energetic cost and efficiency of locomotion in Top-level Kenyan (Kalenjin) and Caucasian marathon. (Kenya 2007, St. Moritz 2007, Brescia 2007).

Skills

- Measuring of Oxygen Consumption (Quark b²; K4 b², Douglas Bags)
- Estimation of VO_{2max},
- Lactate threshold, MLSS.
- Measuring of arterial pulse pressure and CO by Portapres.
- Analog/digital acquisitions: System MP100 and software AcqKnowledge.
- Blood lactate analysis.
- Hemoglobin concentration analysis.
- CO (Cardiac Output) open-circuit acetylene uptake method.
- Determination of α coefficient of acetylene solubility.
- Determination Residual lung volume determined by helium dilution method.
- Determination of lung volumes determined by spirometry.
- Cybex Norm Isokinetic dynamometer, measuring force, power, velocity, torque.
- Basic abilities in the system for motion analysis SIMI use.
- High abilities in the SRM system use (torque and force at the pedal).
- Ultrasound System AU5 EPI Esaote, measure of muscular pennations angle and tendon elongation.
- MRI System MRIE-Scan XQ Esaote, muscular skeletal and tendon analysis
- Knowledge of Fly-Wheel Ergometry [FWE] – Yo-Yo.
- Tesys System (Force cell) and Delos Postural System.
- High knowledge of computers and Operative System: Win 9x, Win2000, Win Xp, OSX, Linux.
- High knowledge of Suite Office
- High knowledge on developing routines to acquiring analog signals (Lab View, National Instruments).
- NIRS. (Near Infra-red Spectroscopy), acquisition, analysis and management.

Publications

1. **Enrico Tam**, Marcel Azabji Kenfack, Michela Cautero, Federic Lador, Guglielmo Antonutto, Pietro Enrico Di Prampero, Guido Ferretti and Carlo Capelli, *Correction of cardiac output obtained by Modelflow® from finger pulse pressure profiles with a respiratory method in humans*, Clinical Science 106, 371-376 (2004). [IF 2012, 4.317].
2. Marcel Azabji Kenfack, Federic Lador, Marc Licker, Christian Moia, **Enrico Tam**, Carlo Capelli, Denis Morel and Guido Ferretti, *Cardiac output by Modelflow® method from intra-arterial and fingertip pulse pressure profiles*, Clinical Science 106, 365-369 (2004). [IF 2012, 4.317].
3. Michela Cautero, Pietro E di Prampero, **Enrico Tam**, Carlo Capelli, *Alveolar oxygen uptake kinetics with step, impulse and ramp exercise in humans*, Eur. J. Appl. Physiol., 95, 474-485 (2005). [IF 2012, 2,147].
4. Renza Perini, Adelaide Tironi, Michela Cautero, Antonio Di Nino, **Enrico Tam**, Carlo Capelli, *Seasonal training and heart rate and blood pressure variabilities in young swimmer*, Eur. J. Appl. Physiol., 25 April 2006, (2006). 2006 Jul;97(4):395-403. Epub 2006 Apr 25. [IF 2012, 2,147].

5. Carlo Capelli, Guglielmo Antonutto, Marcel Azabji Kenfack, Cautero Michela, Frederic Lador, Christian Moia, **Enrico Tam**, Guido Ferretti, *Factors determining the kinetics of $V'O_2$ max decay during bed-rest: implications for $V'O_2$ max limitation*, Eur. J. Appl. Physiol., 98: 152 – 160, 2006 22 August 2006, (2006). [IF 2012, 2,147].
6. V. Cettolo, M. Cautero, **E. Tam**, M. P. Francescato, *Mitochondrial coupling in humans: assessment of the P/O₂ ratio at the onset of calf exercise* Eur. J. Appl. Physiol., 99: 593-604 April 2007, (2007) [IF 2012, 2,147].
7. P. Zamparo, L. Sepulcri, **E. Tam**, M. Serratore, C. Capelli. Effects of intermittent exercise (shuttle runs) training on young basketball players. *Coaching and Sport Science Journal*, 2,1: 32-39, printed June 2007. (2007)
8. Carlo Capelli, Guglielmo Antonutto, Michela Cautero, **Tam Enrico**, Guido Ferretti. Metabolic and cardiovascular responses during sub-maximal exercise in humans after 14days of head-down tilt bed rest and inactivity. *European Journal of Applied Physiology* Eur J Appl Physiol. 2008 Nov;104(5):909-18. (2008) [IF 2012, 2,147].
9. Lador F, **Tam E**, Azabji Kenfack M, Cautero M, Moia C, Morel DR, Capelli C, Ferretti G. Phase I dynamics of cardiac output, systemic O₂ delivery, and lung O₂ uptake at exercise onset in men in acute normobaric hypoxia. *Am J Physiol Regul Integr Comp Physiol*. Aug; 295: R624-632. (2008) [IF 2012, 3,336].
10. Gladys L. Onambélé, Constantinos N. Maganaris, Omar S. Mian, **Enrico Tam**, Enrico Rejc, Islay M. McEwan, Marco V. Narici, *Neuromuscular and balance responses to flywheel inertial versus weight training in older persons*. Journal of Biomechanics 41: 3133–3138 (2008) [IF 2012, 2,434].
11. Vallais F., Aletti F., Baselli G., **Tam E.**, Cautero M., Pagani M., Capelli C., *Model Based Processing of CardioVascular Variability Applied to Bed-Rest Case Studies* Computers in Cardiology, 35:129–132, ISSN 0276–6574 (2008) [IF 2012, 0,21].
12. Capelli C., Adami A., Antonutto G. , Cautero M., **Tam E.** , *Oxygen deficits and oxygen delivery kinetics during submaximal intensity exercise in humans after 14 days of head-down tilt-bed rest*. Eur J Appl Physiol 107:51–59 (2009) [IF 2012, 2,147].
13. Gladys L. Onambélé, Constantinos N. Maganaris, Omar S. Mian, **Enrico Tam**, Enrico Rejc, Islay M. McEwan, Marco V. Narici *Response to the letter of Tibor Hortobagyi and colleagues*, Journal of Biomechanics 42: 957(2009) [IF 2012, 2,434].
14. Bonjour Julien, Capelli Carlo, Antonutto Guglielmo, Calza Stefano, **Tam Enrico**, Linnarsson Dag, Ferretti Guido, *Determinants of oxygen consumption during exercise on cycle ergometer: The effects of gravity acceleration*. Respiratory Physiology & Neurobiology 171 (2010) 128–134 (2010) [IF 2012, 2,242].
15. Di Leo A., Gatta G., di Michele R., Cortesi M., da Boit M., **Tam E.**, Merni F. Valutazione della soglia anaerobica attraverso la variabilità della frequenza cardiaca. SCIENZA & SPORT, vol. 8, p. 26-29, ISSN: 2039-0726 (2010)
16. Di Michele, R, Gatta, G, Di Leo, A, Cortesi, M, Andina, F, **Tam, E**, Da Boit, M, and Merni, F. *Estimation of the anaerobic threshold from heart rate variability in an incremental swimming test*. J Strength Cond Res 26(11): 3059–3066, (2012) [IF 2012, 1,831].
17. Bringard Aurelien; Adami Alessandra; Moia Christian; Fagoni Nazzareno; **Tam Enrico**; Ferretti Guido. *LBNP Effect On Rapid Changes In Stroke Volume And Cardiac Output At Exercise Onset* MEDICINE AND SCIENCE IN SPORTS AND EXERCISE Volume: 44 Supplement: 2 Pages: 882-882 MAY (2012) [IF 2012, 3,710].
18. **Enrico Tam**, Huber Rossi, Christian Moia, Claudio Berardelli, Gabriele Rosa, Carlo Capelli & Guido Ferretti. *Energetics of running in top-level marathon runners from Kenya*. Eur J Appl Physiol Nov; 112 (11):3797-806 (2012) [IF 2012, 2,147].
19. Frédéric Lador, **Enrico Tam**, Marcel Azabji Kenfack, Michela Cautero, Christian Moia, Denis R. Morel, Carlo Capelli, Guido Ferretti. *Cardiac output, O₂ delivery and VO₂ kinetics during step exercise in acute normobaric hypoxia*. Respiratory Physiology & Neurobiology. Apr 1;

186(2):206-13 (2013) [IF 2012, 2,242].

20. M. B. Murri, M. Amore, M. Menchetti, G. Toni, F. Neviani, M. Cerri, M. BL Rocchi, D. Zocchi, L. Bagnoli, **E. Tam**, A. Buffa, S. Ferrara, M. Neri, G. S. Alexopoulos, S. Zanetidou. *Physical Exercise for late-life major depression: the SEEDS study* BJ Psych 24 accepted, Nov 2014 [IF 2012, 7,991]
21. Timothée Fontolliet, Vincent Pichot, Guglielmo Antonutto, Julien Bonjour, Carlo Capelli, **Enrico Tam**, Jean-Claude Barthélémy, Guido Ferretti. *Effects of gravitational acceleration on cardiovascular autonomic control in resting humans* Eur J Appl Physiol 26 January 2015 [IF 2012, 2,147]
22. Paolo Bruseghini, Elisa Calabria, **Enrico Tam**, Chiara Milanese, Eugenio Oliboni, Andrea Pezzato, Silvia Pogliaghi, Gian Luca Salvagno, Federico Schena, Roberto Pozzi Mucelli, Carlo Capelli. *Effects of eight weeks of aerobic interval training and of isoinertial resistance training on risk factors of cardiometabolic diseases and exercise capacity in healthy elderly subjects* Oncotarget, Advance Publications 2015 accepted May 06, 2015 [IF 2012, 6,64]
23. **Tam E**, Bruseghini P, Calabria E, Fanò G, Grassi B, Pietrangelo T, Pogliaghi S, Reggiani C, Salvadego D, Schena F, Toniolo L, Vernillo G, Capelli C. *GOKYO KHUMBU/AMA DABLAM TREK 2012 – Effects of physical training and high-altitude exposure on oxidative metabolism, muscle composition, and metabolic cost of walking in women* Eur J Appl Physiol. 2015 Sep 8 [Epub ahead of print] [IF 2012, 2,147]
24. S. Lopez, Jan G. Bourgois, E. Tam, P. Bruseghini, C. Capelli. *Cardiovascular and metabolic responses to on-water upwind sailing in optimist sailors*. International Journal of Sports Physiology and Performance 2015 Oct 22 [Epub ahead of print] [IF 2014 2.662]
25. Zandonai T., **Tam E.**, Bruseghini P., Pizzolato F., Franceschi L., Baraldo M., Capelli C., Cesari P., Chiamulera C., *The effects of oral smokeless tobacco administration on endurance performance* Journal of Sport and Health Science (2016), doi: 10.1016/j.jshs.2016.12.006 2016
26. Aurélien Bringard, Alessandra Adami, Nazzareno Fagoni, Frédéric Lador, Christian Moia, Denis R. Morel, **Enrico Tam**, Guido Ferretti. *Dynamics of arterial baroreflex resetting at exercise onset in humans*. Eur J Appl Physiol DOI 10.1007/s00421-017-3564-6 Accepted: 7 February 2017
27. Milanese C, Cavedon V, Sandri M, **Tam E**, Piscitelli F, Boschi F, Zancanaro C. *Metabolic effect of bodyweight whole-body vibration in a 20-min exercise session: A crossover study using verified vibration stimulus* PLoS ONE 13(1):e0192046, January 31, 2018

Abstract and Congress Communications

- 1) Bruseghini P., **Tam E.**, Calabria E., Pogliaghi S., Rossi A., Capelli C., *Effect of high intensity training and isoinertial training on intermuscular adipose tissue in older adults*. Op-pm10 physiology: age II, 24th - 27th June 2015, Malmö – Sweden 20th Annual Congress of the European College of Sport Science.
- 2) Capelli C., Lopez S., Bourgois J., **Tam E.**, *Cardiovascular And Metabolic Responses During On-Water Upwind Sailing In Optimist Sailors*. MO-PM41 Training and Testing: Endurance & Clinical. 24th - 27th June 2015, Malmö – Sweden 20th Annual Congress of the European College of Sport Science.
- 3) Zandonai T., Bruseghini P., **Tam E.**, Capelli C., Chiamulera C., *Peripheral and central effects of smokeless tobacco on exercise endurance in men*. e-poster PP-UD12, 24th - 27th June 2015, Malmö – Sweden 20th Annual Congress of the European College of Sport Science.
- 4) **Enrico Tam**, Paolo Bruseghini, Elisa Calabria, Chiara Milanese, Silvia Pogliaghi, Federico Schena, Carlo Capelli. *Effects of High-intensity-interval-training (HIT) on Cardiovascular Fitness and Cardiometabolic Risk in the Elderly*. Tracking Number: 14-SA-1653-ACSM ACSM Annual Meeting, May 27-31, 2014.
- 5) Silvia Pogliaghi, **Enrico Tam**, Carlo Capelli. *Effect of Incomplete Recovery On Vo₂-on Kinetic during Moderate-intensity Exercise Transitions in Healthy Males*. Tracking Number: 14-SA-2047-ACSM. ACSM Annual Meeting, May 27-31, 2014.
- 6) P. Bruseghini, E. **Tam**, E. Calabria, S. Pogliaghi, L. Dal Sacco, C. Capelli. *Effect of hiking training at high-altitude on V'O₂ and Q' kinetics in healthy sedentary women*. V Congresso Nazionale SISMES · Pavia, Italy 27-29 September 2013.

- 7) P. Bruseghini, E. Calabria, **E. Tam**, S. Pogliaghi, C. Capelli, *Effect of high-intensity-interval-training (HIT) on maximal aerobic power and ventilatory threshold in older adults*. 64th National Congress of the Italian Physiological Society Italy, Portonovo, Ancona, Italy 18-20 September 2013.
- 8) Cortesi M., Zamparo P., **Tam E.**, da Boit M., Gatta G. *The effect of wearing a synthetic rubber suit on hydrostatic lift and lung volume*. In: KJENDLIE P.L., STALLMAN L.K., CABRI J.. Biomechanics and Medicine in Swimming XI . Oslo, 16-19 June 2010, vol. XI, p. 57-59, OSLO: Norwegian School of Sport Science (2010)
- 9) Aletti F, Ferrario M, **Tam E**, Cautero M, Cerutti S, Capelli C, Baselli G, *Identification of vascular responses to exercise and orthostatic stress in bed rest-induced cardiovascular deconditioning*. In: -. Proceedings of Engineering in Medicine and Biology Society, 2009. EMBC 2009. Annual International Conference of the IEEE. Minneapolis, Minnesota, USA, 2-6 Settembre 2009, p. 5332-5335, doi: 10.1109/IEMBS.2009.5332690. (2009)
- 10) **Tam Enrico**, Fierravanti Daniela, Moia Christian, Rossi Huber, Berardelli Claudio, Rosa Gabriele, Capelli Carlo, Guido Ferretti, *Running Economy Of Elite East African Runners*. Medicine & Science in Sports & Exercise: Volume 40(5) Supplement 1 May 2008p S67.
- 11) Capelli Carlo, Guido Ferretti, Christian Moia, Gabriele Rosa, Huber Rossi, **Tam Enrico**, *Running economy at altitude*; Mountain, Sport & Health Rovereto (TN) (Italia) 18-20 Ottobre 2007 P53.
- 12) Fierravanti Daniela, **Tam Enrico**, Moia Christian, Rossi Huber, Berardelli Claudio, Rosa Gabriele, Capelli Carlo, Ferretti Guido. *Fractional utilisation of maximal aerobic speed in top level Kenyan marathon runners*; Mountain, Sport & Health Rovereto (TN) (Italia) 18-20 Ottobre 2007 P37.
- 13) C. Capelli, L. Sepulcri, **E.Tam**, P. Zamparo. Energy balance of supramaximal intermittent exercise. *Med Scie Sports Exerc* 38 (5): S515, 2006
- 14) O. Genton, B. Najafi, **E. Tam**, C. Moya, G. Ferretti, K. Aminian, *Estimation de la dépense énergétique pendant la marche a partir d'un capteur inertiel*. Symposium DISS / ARESS Ginevra (Svizzera) Novembre 2006.
- 15) M Azabji-Kenfack, Fagoni N, **Tam E**, M Cautero, F Lador, C Moia, C Capelli, D Linnarsson, G Ferretti. *Effects of bed rest and posture on the kinetics of O₂uptake and cardiac output*. Atti del "11th Annual Congress European College of Sport Science". Losanna 5 - 8 Luglio 2006, P71.
- 16) **Enrico Tam**, N. Fagoni, M. Azabji Kenfack, M. Cautero, F. Lador, C. Moia, C. Capelli and G. Ferretti, *Effects of prolonged bed rest on the cardiopulmonary response to postural changes in humans*; ECSS (European College of Sport Science), Losanna (Svizzera), Luglio 2006. P278.
- 17) **Tam Enrico**, Capelli Carlo, Antonutto Guglielmo, Azabji Kenfack Marcel, Cautero Michela, Lador Frédéric, Moia Christian, Ferretti Guido, *Factors determining the kinetics of v'o₂max decay during bed-rest: implications for v'o₂max limitation*, Poster presentation, USGEB 2006, CMU Ginevra (Svizzera), Febbraio 2006.
- 18) Bonjour Julien, **Tam Enrico**, Grazzina Francesco, Antonutto Guglielmo, Capelli Carlo, Montmerle Stéphanie, Linnarsson Dag, Ferretti Guido, *The effects of gravity acceleration on the cardiopulmonary response to exercise*; Poster presentation, USGEB 2006, CMU Ginevra (Svizzera), Febbraio 2006.
- 19) **Tam Enrico**, Antonutto Guglielmo, Cautero Michela, Ferretti Guido and Capelli Carlo, *Effects of short term bed – rest on exercise response in humans*, presentazione orale II.5 sessione (Studi simulati). Benefits of Human Presence in Space; Historical, scientific, medical, cultural, and political aspects 15th IAA Humans in Space Symposium, Graz (Austria), p.179-182, Maggio 22-26, 2005.
- 20) Carlo Capelli, Paola Zamparo, Michela Cautero, **Enrico Tam**, *Les aspects energetiques des competitions de natation* Les entretiens de l'INSEP, Francia, Maggio 17-20, May 2005.
- 21) **Tam Enrico**, Narici Marco V., Capelli Carlo, Pearson Gladys L., *Inertial loading in old age: training adaptations* ECSS (European College of Sport Science), Clermont-Ferrand (Francia), 3-6 Luglio 2004. P324.

- 22) G. Pearson, M. Narici, A. Minetti, C. Maganaris, A. Mollinello, **E. Tam**, *The Rehabilitation of Sports Muscle and Tendon Injuries*, International Congress on Sports Rehabilitation and Traumatology, Milano (Italia), Aprile 2004.
- 23) Perini Renza, Tironi Adelaide, Cautero Michela, **Tam Enrico**, Capelli Carlo, di Prampero Pietro E., *Effects of seasonal training on resting autonomic control of heart rate in young athletes*, ECSS (European College of Sport Science), Salisburgo (Austria), 09 Luglio 2003. P110-01.
- 24) Antonutto G., M. Cautero, **E. Tam**, and C. Capelli, *Effects of short term bed – rest on maximal aerobic power and maximal cardiac output in humans*. 2° European Congress “Achievements in Space Medicine into Health Care Practice and Industry”, Berlino (Germania), Marzo 2003.
- 25) Ferretti G, Lador F, Azabji M, Moia C, **Tam E**, Cautero M, Fusi S, Antonutto G, Capelli C., *The time course of the decrease in maximal oxygen consumption during long-term bed rest in humans*, Riunione congiunta della Physiologiacl Society e della Società Italiana di Fisiologia, Liverpool (Gran Bretagna), Luglio 2002.
- 26) Cautero M, Antonutto G, Fusi S, **Tam E**, di Prampero PE, Linnarsson D, Ferretti G, Capelli C., *Oxygen uptake kinetics at the onset of step-exercise before and after short duration bed-rest in humans*, ESA-Life Science Congress, Stoccolma (Svezia), Giugno 2002.
- 27) Frédéric Lador, Marcel Kenfack Azabji, Christian Moia, **Enrico Tam**, Dag Linnarsson, Carlo Capelli and Guido Ferretti, *Dynamics of cardiac output during postural changes in resting humans*; Congresso 2002, Tolosa (Francia), 2002.

Member

- SIF *The Physiological Society of Italy*, member, since 2008
- SISMES *Italian Society of Physical Education and Sports*, member, since 2007
- ECSS *European College of Sport Science*, member, since 2006

Verona 20th December 2017

Enrico Tam

