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INTRODUCTION

Winners of the ERS Annual Awards 2007

V.C. Moore and P.S. Burge

The *European Respiratory Review* (ERR) is delighted to publish articles from the winners of the European Respiratory Society Annual Awards 2007. The awardees were invited to include the background to their work, how they thought it might be important to respiratory medicine, the aims of the team in which they work and, finally, to include their award-winning abstract. The present issue of the *ERR* includes the first section of awardee articles; the second section will appear in the next issue of the *ERR*.

The following articles encompass a spectrum of research and provide an insight into work being carried out around the world today. The first section begins with Professor Kjell Larsson's synopsis of the research taking place in the Unit of Lung and Allergy Research at the Karolinksa Intitutet, Sweden (page 15), which he is head of. The unit is particularly interested in innate immunity in pigs, acquired immunity in furred animals, smoking in chronic obstructive pulmonary disease (COPD) and epidemiological studies of obstructive lung disease.

Professor Jonathan Grigg's primary research focus concerns children's exposure to locally derived particulate pollution, which led to his paper on ''Carbon in airway macrophages and lung function in children'' (page 18). He found an inverse association between alveolar macrophages carbon and lung function, and a positive association between modelled exposure to primary particles and alveolar macrophage carbon.

Dr Neeta Kulkarni, a clinical research fellow attached to Professor Grigg's project, has developed the technique of assessing exposure to indoor air pollution in the developing world. In her project entitled ''Airway macrophage carbon: biomarker of exposure to particulate matter air pollution'' (page 20), she quantified carbon in airway macrophages in children and adults, and found that the carbon content was inversely associated with lung function.

Ms Herinaina Rabarimanantsoa presented her abstract, ''Objective evaluation of patient–ventilator interactions during noninvasive ventilation (NIV)'' (page 22), wherein she showed that good patient–ventilator interactions occur when there is a low ventilatory variability and only a few ineffective efforts. She is currently a PhD student in Rouen, France, and her thesis is dedicated to patient–ventilator interactions during sleep. The group to which she belongs has developed an algorithm for the rate of ineffective triggering efforts and the ''Shannon entropy'', which is a statistical measure of the variability of the physiological signal.

Dr Anne Kotaniemi-Syrjänen works as a fellow in the Dept of Paediatrics in the Helsinki University Central Hospital, Finland. Her postdoctoral research, entitled ''Infants with recurrent lower respiratory tract symptoms – who benefits of extensive investigations?'' (page 24), found that environmental tobacco-smoke exposure, the clinical state of the child and the method used all affected the observed measurement of exhaled nitric oxide fraction.

Dr Britta von Ungern-Sternberg is a Consultant Paediatric Anaesthetist at Princess Margaret Hospital for Children, Western Australia. Her research has focussed mainly on the impact of different anaesthetic agents, regional techniques and body positioning on functional residual capacity and ventilation homogeneity. The present work forms part of her project entitled ''Impact of anaesthesia on lung function in children'' (page 26), for which she won her research award. Amongst other things, she found that a deeper level of sedation with propofol in preschool children reduced functional residual capacity and ventilation distribution, and that desflurane anaesthesia causes markedly exaggerated airway narrowing in children with susceptible airways, but bronchoconstricts all children.

Dr S.A.R. Nouraei submitted an abstract entitled ''Results of endoscopic surgery and intralesional steroid therapy for airway compromise due to tracheobronchial Wegener's granulomatosis'' (page 30), which recommended the combination of endotracheal dilatation, conservative laser surgery and steroid therapy as the standard of care for treating airway compromise due to obstructive tracheobronchial Wegener's granulomatosis. Dr Nouraei is continuing her airway research towards an MD thesis investigating the surgical physiology of adult laryngotracheal stenosis.

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STATEMENT OF INTEREST
None declared.

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Michelle Chatwin works as a Clinical Physiotherapist at the Royal Brompton Hospital, London, UK. Her abstract, entitled ''Analysis of emergency helpline support for home ventilator dependent patients: risk management and workload'' (page 33), investigated 1,211 adult and paediatric patients receiving home ventilation and found that a significant workload exists in supporting these patients, particularly from the point of view of technical problems with the machines.

Dr Waldemar Tomalak wrote an abstract entitled ''Virtual respiratory system for interactive e-learning of spirometry'' (page 36). The system created and discussed therein can be used in medical schools and postgraduate education for teaching purposes. It shows and describes the thoracic anatomy and what lung function would be like in specific diseases. Users are able to modify the system to simulate resistance in specific areas of the lungs to see what happens. A basic version is available for students and physicians to try from the following websites: www.spirometry.ibib.waw.pl and www.zpigichp.edu.pl

Melda Saglam is a research assistant working in the cardiopulmonary Rehabilitation Unit at the School of Physical Therapy and Rehabilitation, Ankara, Turkey. The primary focus of her research was the investigation of respiratory muscle training in cardiothoracic surgery. Her abstract, entitled ''Relationship between respiratory muscle strength, functional capacity and quality of life in preoperative cardiac surgery patients'' (page 39), discusses the discovery that pulmonary function test results were significantly correlated with the 6-min walk distance achieved and that respiratory muscle strength was not related to quality of life or physical activity level, amongst other outcomes.

Dr Gabor Hovarth works in the pulmonology Dept at the Semmelweis University School of Medicine, Budapest, Hungary. His research activities focus on the airway actions of inhaled corticosteroids. His abstract, ''Rapid corticosteroid effect on long-acting β_2-agonist disposal by smooth muscle cells in the airway: a new paradigm of inhaled combination therapy'' (page 41), suggested that corticosteroids rapidly interfere with the disposal of cationic bronchodilators in the airway through organic cation transporter 3 inhibition, supporting their use in asthma.

Dr Yuji Watanuki entered an abstract entitled ''Effects of pneumococcal vaccine in patients with chronic respiratory disease'' (page 43), which compared a vaccinated group against a nonvaccinated group of outpatients aged >60 yrs old with COPD. The results showed that the incidence of bacterial and pneumococcal respiratory infection decreased in the vaccinated group compared with those who were not; therefore, this is useful knowledge to have when treating elderly patients with COPD.

Anne Månsson's abstract, entitled ''Activation of eosinophils *via* Toll-like receptor (TLR)3, TLR7 and TLR9: link between viral infection and asthma?'' (page 46), showed that cells stimulated with Poly (I:C), R-837 and CpG (viral products) had prolonged survival, showed upregulation of the cluster of differentiation molecule (CD)11b and increased secretion of interleukin-8. The TLR system may, therefore, be an important mechanism of eosinophil activation linking viral infections with exacerbations.

Andrea Malizia is a research fellow working as part of the Advanced Lung Disease and Lung Transplant Programme, University College Dublin, Republic of Ireland. His PhD research studies the molecular aspects underpinning Herpesviridae infection in idiopathic pulmonary fibrosis. His abstract, entitled ''Viral infection drives tissue fibrosis *in vitro*'' (page 49), forms part of this lung transplant programme. His work has led to the discovery of a novel mechanism of tissue fibrosis from the activation of the noncanonical Wnt signalling pathway by the Epstein–Barr virus in epithelial cells.

Lastly, we hear from Karine Botturi, who has been working as a PhD fellow studying the immunological mechanisms leading to chronic lung rejection and asthma at the Marseille Medical School in France. Her research, discussed in the abstract entitled ''Dendritic cells commit T-cells to a tolerant phenotype in tolerant lung transplant recipients'' (page 51), compared healthy lung transplant recipients with those with bronchiolitis obliterans syndrome. During the course of her research, she found that dendritic cells from healthy recipients use a CD80/CD86-CTLA4 axis to induce a tolerant T-cell phenotype; her award-winning abstract formed part of that work.