



IN MEMORIAM

In memoriam Prof. Peter T. Macklem, 1931–2011: a tribute from the European Respiratory Society

M. Decramer*, C. Roussos[#] and J. Hogg[†] on behalf of the ERS Steering Committee⁺

It is our sad duty to announce the passing of Prof. Peter T. Macklem to the readers of the *European Respiratory Journal* (ERJ) and the members of the European Respiratory Society (ERS). Peter Macklem passed away suddenly at home on Friday February 11, 2011, at the age of 79 years. His passing is an immense loss to the ERS and to the whole respiratory community, for which he was one of the main sources of inspiration, creativity and innovation. Getting to know him as both a person and a scientist was an exquisite experience and he will be sadly missed by everyone who came in contact with him.

Born in 1931, Peter grew up in Kingston, ON, Canada where he attended Queen's University and obtained a Bachelor's degree in 1952. He then entered McGill University Medical School (Montreal, QC, Canada), where he obtained an MDCM in 1956. Following residency training in internal medicine at the Royal Victoria Hospital (Montreal), he became a research fellow in the Cardio-Pulmonary Service then headed by David Bates, where he was introduced to the study of lung mechanics by Dr Margo Becklake. This subject rapidly became the scientific love of his life and a constant theme of the many areas of pulmonary medicine and physiology that he contributed to. He became a fellow of the Royal College of Physicians and Surgeons of Canada by examination in 1963 and was appointed an Instructor in Medicine and Clinical Assistant at the Royal Victoria Hospital, after a fellowship with Jere Mead at the Harvard School of Public Health in Boston, MA, USA, with whom he maintained lifelong contact and whom he greatly respected.

Following this seminal experience, Peter returned to Montreal where he quickly developed into an outstanding clinical scientist with deep interests in both basic research and academic leadership. He followed David Bates as the Director of the Respiratory Division at the Royal Victoria Hospital in 1967 and was appointed Professor in the Dept of Medicine, McGill University and Senior Physician at the Royal Victoria Hospital in 1972. His leadership skills led to the establishment of the Meakins-Christie Laboratories at McGill, where he served as founding director in 1972–1979. He was appointed Physician-in-Chief, Royal Victoria Hospital in 1979 and Chair

of Medicine at McGill in 1980. In 1985, he was appointed Massabki Professor of Medicine; and in 1987 was named Physician-in-Chief of the Montreal Chest Hospital. He was the principal investigator of a successful grant application in the Canadian National Centers of Excellence competition that provided the resources to develop Inspiraplex, a pan-Canadian Respiratory Health Network of Centres of Excellence that served to integrate advances in basic and clinical science in respiratory medicine into the economic activity of Canada.

In all of these endeavours, he achieved standards of excellence that had a strong impact on the whole medical community. He was an innovative and creative pioneer who generated inspiring impulses that stimulated the creativity of the rest of the world. He became a giant of respiratory medicine, by generating conceptual frameworks around flow limitation in airways [1], equal pressure points, small airways and the site of airflow obstruction in chronic respiratory disease [2, 3] and asthma [4], effects of smoking on the small airways [5], frequency dependence of resistance [6], collateral ventilation [7] and interdependence of lung-units [8], mechanisms of bronchodilation [9], and respiratory muscle function and fatigue and its role in the development of respiratory failure [10, 11]. This was all reported in a total of over 300 full-length papers published in the foremost medical journals, such as *New England Journal of Medicine*, *Science*, *Journal of Clinical Investigation*, *Journal of Applied Physiology*, *American Journal of Respiratory and Critical Care Medicine*, *Thorax*, *ERJ* and many others. These concepts had a profound impact on respiratory medicine and research across the globe.

But Peter was much more than a scientist. He was a superb academic leader, inspiring countless physicians in Canada, and around the globe. His pioneering approach also made him one of the most audacious scientific minds, driven by an intense curiosity and boldness. He was enormously respected as a scientist and widely recognised for his achievements both in Canada and internationally. He was a medallist of the American College of Chest Physicians (1979), a fellow of the Royal Society of Canada (1982), an Officer in the Order of Canada (1988), a John B. Sterling medallist (1991), an award honoring an outstanding graduate of Queen's University, a Trudeau medalist of the American Lung Association (1999), and an ERS Congress Chairman Awardee (2008). He received honorary doctorates from the Université Libre de Bruxelles (1987) and the University of Athens (1997). He was a great advocate for research funding and participated actively in public policy debates on funding of research [12, 13]. He devoted

*University of Leuven, Leuven, Belgium. [#]University of Athens, Athens, Greece. [†]University of British Columbia, Vancouver, Canada. ⁺A list of the members of the ERS Steering Committee can be found in the Acknowledgements section.

CORRESPONDENCE: M. Decramer: Respiratory Division, University Hospital, Herestraat 49, 3000 Leuven, Belgium. E-mail: marc.decramer@uzleuven.be



FIGURE 1. Prof. Peter T. Macklem, 1931–2011.

much time to the development of medical research in Canada. He was an outstanding scientific debater and it was very rewarding for all of us to see that he remained highly active in the scientific debate until the end of his life [14]. This recently published comment was also a good example of his brightness and sharpness in seeing links and developing coherent frameworks in theories and hypotheses, as he immediately advanced a mechanistic explanation for the frequent exacerbator chronic obstructive pulmonary disease phenotype, which he related to nonmyelinated bronchial or alveolar C-fibre afferents.

He remained first and foremost a physician and hence, he was an exceptional advocate of multidisciplinary and integrative research. A translationalist *avant la lettre* who had great doubts about the enormous investments that were being made into cell and molecular biology research. This research undoubtedly led to great increments in knowledge, but did not as yet deliver its promises to translate those in improved health. That is why he developed his thinking on homeostasis, which led him to the conclusion that “to focus on the moves of the individual pieces without understanding the strategy misses the point” [13]. His point of view is now shared by many. Because of his combined interest in medicine and science, he was an extraordinary physician–scientist, a species that he later called endangered [15]. Indeed, all across the globe it became increasingly difficult for medical graduates to combine a medical with a research career, and to become motivated for medical research. This is all the more regrettable because these physician–scientists could play a prominent role in the translational process, which is still deficient. Peter observed with great regret the growing divide between basic science and clinical medicine, one of the major problems in medical research of our time. His public policy and societal interest also led him to be the President of the Thousand Islands Area

Resident’s Association and the spearhead of the campaign to identify the St. Lawrence River as Canadian Heritage River, which are tokens of his social commitment.

But above all, Peter was a superb human being. He was an enthusiastic, passionate and generous man, who shared his – mostly brilliant – ideas with colleagues and fellows and as such, gave them the innovative sparkle that often advanced their careers substantially and to which they were all too often not capable themselves. He fostered them and their careers as if they were his own children. In that sense, many of our colleagues owe him eternal gratitude. His warm and extrovert personality turned the Meakins-Christie Laboratories into a warm nest, almost like a family, and all of those who were ever part of it became proud members of the Meakins-Christie brotherhood for the rest of their lives. The ever successful reception at the annual American Thoracic Society meeting testifies to that. His invitations to his exquisite house in the Thousand Island region, where many of us spent unforgettable hours, are another example of his warm generosity. He had a broad interest in various fields of science and politics. He was an avid reader and highly interested in international affairs, and was a great supporter of the ideas of freedom and democracy.

Finally, Peter was a successful family man. He was the loving husband of Joy, who supported him in his career, devoted father of David, Katherine, Patrick, Jennifer and Ann, and grandfather of 11 children. He took great pleasure in spending time with them and saw this as an important mission in his life. He will be sadly missed by all of them and on behalf of the ERS and the whole global respiratory community, we respectfully offer our sincere condolences to Peter’s family for the passing of this great and remarkable man.

ACKNOWLEDGEMENTS

Marc Decramer is current ERS President, Charis Roussos is a former ERS President, Jim Hogg is a long-time friend, and all three were deeply influenced by Peter Macklem while they served as his research fellows.

The members of the ERS Steering Committee are N.M. Sifakas (University of Crete, Heraklion, Greece), K.F. Rabe (University of Kiel, Kiel, Germany), F. Blasi (Università degli Studi di Milano, Milan, Italy), M. Gaga (7th Respiratory Medicine Dept and Asthma Centre, Athens, Greece), G. Joos (Ghent University Hospital, Ghent, Belgium), L.P. Nicod (Centre Hospitalier Universitaire Vaudois, Lausanne, Switzerland), P. Palange (“La Sapienza” University, Rome, Italy) and Y. Sibille (Université Catholique de Louvain, Louvain, Belgium).

REFERENCES

- 1 Macklem PT, Fraser RG, Brown WG. Bronchial pressure measurements in emphysema and bronchitis. *J Clin Invest* 1965; 44: 897–905.
- 2 Macklem PT, Mead J. Resistance of central and peripheral airways measured by a retrograde catheter. *J Appl Physiol* 1967; 22: 395–401.
- 3 Hogg JC, Macklem PT, Thurlbeck WM. Site and nature of airway obstruction in chronic obstructive lung disease. *N Eng J Med* 1968; 278: 1355–1360.
- 4 Despas PJ, Leroux M, Macklem PT. Site of airway obstruction in asthma as determined by measuring maximal expiratory flow

- breathing air and a helium–oxygen mixture. *J Clin Invest* 1972; 51: 3235–3243.
- 5 Dosman J, Bode F, Ghezzi RH, *et al.* The relationship between symptoms and functional abnormalities in clinically healthy cigarette smokers. *Am Rev Respir Dis* 1976; 114: 297–304.
 - 6 Grimby G, Takishima T, Graham W, *et al.* Frequency dependence of flow resistance in patients with obstructive lung disease. *J Clin Invest Med* 1968; 47: 1455–1465.
 - 7 Hogg JC, Thurlbeck WM, Macklem PT. The resistance of collateral channels in excised human lungs. *J Clin Invest* 1969; 48: 421–431.
 - 8 Menkes H, Lindsay D, Wood L, *et al.* Interdependence of lung units in intact dog lungs. *J Appl Physiol* 1972; 32: 681–686.
 - 9 Irvin C, Boileau R, Tremblay J, *et al.* Bronchodilatation: non-cholinergic, nonadrenergic mediation demonstrated *in vivo* in the cat. *Science* 1980; 207: 791–792.
 - 10 Roussos CS, Macklem PT. Diaphragmatic fatigue in man. *J Appl Physiol* 1977; 43: 189–197.
 - 11 Roussos CS, Macklem PT. The respiratory muscles. *N Eng J Med* 1982; 307: 786–797.
 - 12 Macklem PT. Science: the broader context. *Science* 1996; 273: 1158b.
 - 13 Macklem PT. Con: Greater funding of cell and molecular biology has not delivered what was promised to respiratory medicine. *Am J Respir Crit Care Med* 2004; 169: 438–439.
 - 14 Macklem PT. Susceptibility to exacerbation in COPD. *N Eng J Med* 2010; 363: 2670–2671.
 - 15 Macklem PT. Trouble in academe. *Clin Invest Med* 1985; 8: 85–88.