



# Celebrating the Career of Dr. John R. Garratt: Long-Term Proponent of Boundary-Layer Meteorology and International Man of Mystery

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Published online: 10 June 2022

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Dr. John R. Garratt's name has been synonymous with Boundary-Layer Meteorology—the journal and the discipline—for over 40 years. John first joined the Editorial Board of *Boundary-Layer Meteorology* (BLM) in 1982; he served as an editor of the journal for 25 years and to this day plays a vitally important role in preserving the journal's aesthetic consistency and article quality. Over the course of his career, John made wide-ranging contributions to the discipline with seminal articles on flux–profile relations, landscape heterogeneity, and roughness modelling. He published several review articles that continue to serve as benchmark citations in contemporary research. His textbook “The Atmospheric Boundary Layer”, published by Cambridge University Press in 1992, figures prominently in the reference collections of scientists, university instructors, and meteorology practitioners around the world.

John was born in Birmingham, United Kingdom, in 1945. After primary school and grammar school, he read physics at Imperial College, London (1963–66), progressing to a doctorate and Assistant Lecturer in Imperial's Department of Meteorology (1966–70). Immigration to Australia followed in 1970, where John first took on a postdoctoral fellowship in the Commonwealth Scientific and Industrial Research Organisation (CSIRO), followed by a permanent CSIRO research position until his retirement in 2000. Thus, CSIRO shaped his career, with steady promotion to a Chief Research Scientist in 1995, and two sabbatical years: 1980–81 at the National Center for Atmospheric Research (NCAR) with John Wyngaard and 1987–88 at the Colorado State University (CSU) with Roger Pielke. In the late 1980s, his lecture courses on turbulence at Monash University in Melbourne and at CSU served as a basis for the aforementioned textbook.

When John joined the CSIRO Division of Atmospheric Physics, initially to work with Graeme Pearman on precision atmospheric CO<sub>2</sub> measurements, he joined a stellar cohort of micrometeorologists, whom Bill Priestley, the Divisional Chief, had gathered at the Aspendale Laboratory in Melbourne. In addition to Priestley, Reg Taylor, Arch Dyer, Bruce Hicks, Eric Webb, and Graeme Pearman all went on to become household names in our

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discipline and formed a fertile environment, in which John's skills were focused and developed. The International Turbulence Comparison Experiment (ITCE), planned and led by Arch Dyer and John Garratt, took place in 1976 near Deniliquin, New South Wales, a landscape as flat as Kansas. On one memorable occasion, John drove up in the divisional car, whereupon the hot exhaust set the grass on fire, adding a change of roughness and albedo to the otherwise perfectly homogeneous site. Fortunately, prevailing winds were kind and ITCE was not compromised by this piece of excitement. Later, in the early 1990s, when Australia's program in climate change and climate modelling, initiated by Graeme Pearman and led from Aspendale, had reached the stage of needing a modern soil–vegetation–atmosphere transfer (SVAT) model, the task fell to a small group comprising John Garratt from CSIRO in Aspendale with Mike Raupach and John Finnigan from CSIRO in Canberra. Unfortunately, Mike and John Finnigan put all their efforts into trying to parametrize horizontal heterogeneity—a task that is still beyond current climate models—and the project was only rescued when John Garratt went away, sat down, and in one week wrote a complete state-of-the-art SVAT model, which was to serve as the workhorse for the next three generations of CSIRO general circulation models.

John will be remembered as one of the most skilled micrometeorologists of his generation, combining an encyclopaedic knowledge of his discipline with the mathematical skills that allowed him to make advances at scales from the roughness sublayer to the structure of the entire convective boundary layer. Those of us who worked closely with him will remember as well an unflinching commitment to rigour combined with an open and friendly personality, which made collaboration a real pleasure.

John has made a huge contribution to the success of this journal over the more than 25 years that he has been Editor and Co-Editor of the journal. He has also published many papers on his research, but for many in the academic world, especially for university instructors of atmospheric science, the most significant of John's contribution has been his book "The Atmospheric Boundary Layer" published by Cambridge University Press in 1992. The appearance of John's book in 1992 was a game-changing event. To this day, John's book covers most—if not all—of the material needed at a university level in a well-structured and well-presented way. Other texts preceded it and others have followed, but Garratt (1992) remains arguably the best.

As *Boundary-Layer Meteorology* Editor, John has been particularly recognized for his relentless commitment to technical quality of the articles and their compliance with the journal's publishing guidelines. For many years, manuscript revision based on bluntly-worded proofs from John was practically a rite of passage for doctoral students in the discipline (readers will note the correct use of hyphenation, em dash, and en dash throughout this note.) This commitment to quality has been foremost in maintaining the journal's reputation for excellence, which has become especially important in recent years given the seemingly-endless creation of new journals. *Boundary-Layer Meteorology* started publication under the editorship of Ted Munn in 1970. Ted's opening preface, dated November 1969, stated that the journal would be "concerned with physical and biological processes in the lowest 1000 m of the atmosphere" and added: "most life exists within this relatively thin skin of air". Half a century later this statement remains true, and the journal has played a vital role in reporting progress in the study of this complex environment. Ted remained as Editor until Volume 74 in 1995, when, after more than 25 years, he decided to step down to spend more time on his research and writing. It was at this time that Peter Taylor and John Garratt took over as Co-Editors-in-Chief, with John later remaining as sole Editor-in-Chief until 2014. It can be reasonably estimated that John has edited and checked the proofs of at least 2500 *BLM* articles, maintaining throughout a singular focus on quality that is truly extraordinary.

John's large presence within the community stands in contrast to the relative sparsity of biographic information available on his career, which greatly confounded the preparation of this note! It is for this reason that John is considered an international man of mystery. In the last 5 years, he and Graeme Pearman have finally completed a set of articles on their CO<sub>2</sub> work begun 50 years ago. The most recent publications cover the historical context of measurements in Australia, and the environmental influences on CO<sub>2</sub> transfer to a wheat crop.

In his spare time, John has engaged in a variety of extracurricular activities, from playing soccer, volleyball, golf, and bridge, to travelling, reading various forms of literature, and music. However, he has also graciously devoted his time to *Boundary-Layer Meteorology* for four decades. It is fitting, therefore, to permanently chronicle John's efforts in the pages of this journal. On behalf of the research community—past, present, and future—we thank John for his efforts and wish him all the very best in retirement.

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