Perhaps more than any other sub-discipline in optometry and vision science, the academic field of cornea and contact lenses is populated by an assortment of extroverted and flamboyant characters who constantly travel the world, entertaining clinicians with dazzling audiovisual presentations, informing them about the latest advances in the field and generally promoting their own scientific agendas. The antithesis of this is Leo Carney (Figure 1), a highly accomplished researcher, teacher, mentor and administrator, who has quietly and with great dignity carved out an impressive career in academic optometry. Indeed, Leo Carney is optometry’s quintessential ‘quiet achiever’.

Early influences
In choosing his profession, Leo would have been influenced by his older brother, Brian, who studied optometry before him and went on to practise in country Victoria. As a student at the Victorian College of Optometry (VCO)\(^a\) in the 1960s, Leo was influenced and inspired, as were so many before and after him, by the evidence-based physiological optics course taught by Professor Barry Cole and the ocular diseases lectures of Professor Barry Collin.

On graduating with a Bachelor of Applied Science (The University of Melbourne) and Licentiate of Optometric Science (VCO) in 1968, Leo commenced a masters degree and soon struck up a good working relationship with Ian Bailey, who had joined the VCO while Leo was in his final year of the optometry course. This turned out to be fruitful and resulted in a critically important but highly controversial publication, which pointed out that the newly-invented soft contact lenses induced significant levels of corneal oedema.\(^1\) Although incurring the wrath of the contact lens industry at the time, this observation alerted clinicians, researchers and contact lens manufacturers to the potential adverse physiological consequences of soft lens-induced hypoxic oedema. The vast majority of contact lens research in the 38 years since that observation has been directed to solving the problem of soft lens-induced hypoxic oedema, which has been achieved this century only with the introduction of highly oxygen permeable silicone hydrogel contact lenses.

Leo’s higher degree research concentrated on developing an understanding of the basis of corneal shape changes with rigid contact lens wear. He was able to demonstrate that these shape changes occurred as a result of the combined influences of physical compression of the cornea and hypoxic oedema. For this important work, Leo was awarded the degrees of Master of Science (Optometry) in 1970 and Doctor of Philosophy (1974) by The University of Melbourne.\(^b\)

\(^a\) The Victorian College of Optometry changed its name to the Australian College of Optometry in October 2009.

\(^b\) A decade later, I completed my PhD under Leo’s supervision. After hand-writing my own thesis prior to the days of computer-based word processing, I searched far and wide for someone who would be prepared to type it. Unable to find a typist in suburban Melbourne, I managed to find one in the far outer suburb of...
Away from academia, Leo was a gifted sportsman, concentrating on athletics (800 metres running) in the Summer and Australian Rules Football in the Winter. In relation to the latter, he was significantly influenced by the sporting prowess of his father, Jack. Being fairly light and fleet of foot in the mould of his father, Leo played on the wing for the A-grade team North Old Boys in the Victorian Amateur Football Association. He won the best and fairest award for the entire A-grade division in 1972. At one stage, he entertained the idea of following his father’s footsteps and playing semi-professional football and trained with Carlton but fortunately for us, when it came to making a choice between concentrating on football or academic optometry, Leo chose the latter.

Ohio, Part 1
In 1974 at a departmental function, Leo announced to surprised colleagues his engagement to Barbara Challman, who was working as a receptionist at the college. After completing his PhD, Leo decided that it was time to broaden his horizons, so the newly-wed Carneys headed for Columbus, Ohio, USA, the home of the well-established and research active College of Optometry at The Ohio State University. Leo teamed up with Dick Hill, one of the doyens of the contact lens field. Here the phrase ‘like attracts like’ is evoked, as like Leo, Dick also has a very quiet, understated manner.

His two years at Ohio seemed to have had a strong formative influence on Leo Carney’s future career. It was during this period that he was exposed to the active world of large-scale academic conferences and continuing education, the latter of which was only in the rudimentary stages of development in Australia. He also gained insights into Dick Hill’s methodological approach to research. This style of research was evident in a series of papers, co-authored with Hill, characterising the normal diurnal patterns of tear pH and the influence of the open and closed lid environment and contact lens wear on tear pH.

After two years in the USA, Leo began to develop a kind of ‘academic schism’, which over the next decade saw him torn between the attractions of carving out an academic career in Australia versus the USA.

A mentor in the making
In 1976, Leo returned to Australia having accepted an appointment as Lecturer in the Department of Optometry at The University of Melbourne. He wasted no time in establishing the Corneal Biophysics Laboratory and took the bold move of simultaneously taking on three PhD students: Rod Fullard, Patricia Kiely and me. With these and subsequent graduate students (Figure 2), Leo embarked on various lines of research relating to corneal anatomy and physiology and published a stream of important scientific papers on these topics.

This early work with graduate students revealed an aptitude for mentorship that became a hallmark of Leo Carney’s career. Leo has taken great pride in his extensive mentoring, always preferring to enjoy the limelight reflecting off his protégés rather than seeking the limelight for himself. The long list of graduate students and junior staff members he has mentored to international prominence is too long to

c. Jack Carney was a champion Australian Rules footballer who, despite his diminutive size—he was only 160 centimetres tall and wore size 3 shoes—was a premiership player in the Victorian Football League (now called Australian Football League) for both Geelong (1931) and Carlton (1938).
d. Dick Hill is generally recognised for his contributions to the field of contact lenses but few realise that he honed his disciplined, methodological approach in his early academic years as an experimental neurophysiologist, spending hours meticulously recording visual fields in the primate cortex.
e. A constant source of bemusement and frustration undoubtedly experienced by all graduate students working with Leo was the constant necessity of deciphering his microscopically tiny and barely intelligible handwritten comments on drafts of theses, manuscripts and other scientific documents.
Leo’s career exposed him to a plethora of activities in which Leo participated still exercising the minds of contact lens clinicians and researchers.

**Australia beckons once again**

Leo returned to Australia in January 1992 to take up appointment as Professor and Head of Optometry at QUT. He was lured back by the challenge of the appointment and by a desire for him and Barbara to raise their children, now about to enter high school, in a great part of the world that had a markedly warmer environment than Columbus Ohio.

Perhaps one of his greatest achievements at QUT was his leadership of the Centre for Eye Research, which was one of the first three research centres established at QUT. Leo served as Director of the Centre and nurtured an impressive growth in activity over the next decade in terms of research staff, scientific publications and research income. The Centre for Eye Research firmly harnessed the capabilities of optometrically-driven vision research in QUT and was undoubtedly a key factor in the decision of QUT to establish the Vision Domain (essentially the rebranded name of the Centre for Eye Research) as one of the five foundation research domains, when it launched the $75 million Institute of Health and Biomedical Innovation in 2006. Leo served as Foundation Vision Domain Leader for the next two years.

His experiences in the USA also taught Leo the benefits of developing collaborations with our sister profession, ophthalmology. Against an unfortunate backdrop of political and professional antagonism among Queensland ophthalmology, especially in relation to the development of therapeutics rights for optometry, Leo initiated and nurtured a number of alliances with some of the more enlightened members of that profession, who became increasingly involved in research, teaching and continuing education at QUT.

The senior managerial and service experiences Leo gained in the USA also prepared him well for other challenges and leadership positions that were to lie ahead. He threw himself into a full gamut of university, professional and research leadership roles, including: Acting Executive Dean, Faculty of Health (occasional, 2005–2009); Chairman, University Human Research Ethics Committee (2007); Member, Optometrists Registration Board of Queensland (1993–2007); Inaugural Chairman, Queensland Vision Initiative (2003–2004) and Chairman of the Examination Committee (1996–2007) and Examination Eligibility Committee (1996–2003) of The Optometry Council of Australia and New Zealand. He has also served on a variety of international committees, advising overseas universities on matters relating to curricula, examination policies and research activity.

**Other notable achievements**

Leo Carney has been the recipient of numerous prestigious awards. For his teaching he received the Herbert G Mote

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f. Professors Michael Collins and Nathan Efron, and Adjunct Professor Noel Brennan (formerly Associate Professor at The University of Melbourne), all of whom are now at, or closely associated with, QUT, and Associate Professor Rod Fullard (University of Alabama, USA).

g. Professors David Atchison and Joanne Wood, Associate Professor Katrina Schmid and Adjunct Professors Peter Swann and Jan Lovie-Kitchin. Jan and Peter are now retired.

h. Four years earlier, QUT acquired university status and changed its name from the Queensland Institute of Technology to the Queensland University of Technology.
Distinguished Faculty Member Award (Ohio State University, 1976); for research he received the Waterworth Memorial Lecture Award (Australia and New Zealand Association for the Advancement of Sciences, 1984), the Max Schapero Memorial Award (American Academy of Optometry, 2001) and the Gold Medal of the British Contact Lens Association (2004). In the area of professional service he received the Honourable Bill Hayden AC Queensland Optometrist of the Year Award (2004). He has published more than 160 refereed scientific papers, five book chapters and 60 professional articles and abstracts; supervised 11 doctorate and 12 masters students; examined 40 internal and external research theses; and won competitive research grants from peer-reviewed funding bodies such as the National Institutes of Health (USA), the National Health and Medical Research Council (Australia) and the Australian Research Council.

It should also be recognised that, throughout his career, Leo always contributed significantly to undergraduate teaching programs. He delivered lectures, demonstrations, workshops and tutorials on a wide variety of topics, including contact lenses, physiological optics, geometric optics, applied optics, ophthalmic prosthetics, clinical optometry, eye disease, ocular physiology, ocular anatomy and professional studies.

In recognition of a lifetime of sustained publication of important scientific papers in the ophthalmic literature, Leo was admitted to the degree of Doctor of Science at QUT in 2001. This award was especially noteworthy as it was the first higher doctorate awarded by the university.

Leo retired in 2008, so that he could spend more time with Barbara, his children Rebecca, a lawyer with a special interest in health law, and Sarah, an Administration Officer at Griffith University, and their grandchild. He remains involved in postgraduate student research and in editorial roles for journals.

On his retirement and in recognition of his distinguished academic service to the university, the council of QUT conferred the title of Professor Emeritus on Leo Carney—a just reward for the outstanding career of Australian optometry’s ‘quiet achiever’.

REFERENCES

i. The degree of Doctor of Science is awarded only on the recommendation of a panel of distinguished international researchers working in the field. One panel member wrote: ‘Professor Leo Carney is one of the world’s outstanding optometric academics. One is hard pressed to find a better balance of scholar, researcher, educator and contributor to science, his students and his profession’.