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## Foreword

*“What could be more fun than science?”*

Not long before his untimely death, Vince Franceschi was heard to remark, “What could be more fun than science?” His love of, and fascination with, plant physiology and structural cell biology was apparent to all during his professional career. The 14 papers in this special issue of *Functional Plant Biology* are dedicated to the memory of our friend and colleague, Dr Vincent Franceschi (1953–2005). Additionally, this issue is only a small sampling of the positive responses by many scientists, some of whom were unable to provide a contribution in the time-frame that we had envisaged. Other papers will follow!

Vince was raised in Napa, California by Joe and Rita Franceschi. A foundation was laid for his life-long interests in plant cell structure-function relationships between 1977 and 1983 through his Masters Program research with Dr Harry Horner on calcium oxalate crystal formation in plants, his PhD research with Dr Bill Lucas on charasomes in characean algae and phloem transport in the angiosperms, work with Dr Ralph Stocking on chloroplasts, and postdoctoral research at E. I. Du Pont de Nemours with Dr Robert Giaquinta on leaf structure and assimilate partitioning in legumes (e.g. see Franceschi and Horner Jr 1980; Franceschi and Lucas 1980; Franceschi and Lucas 1981; Stocking and Franceschi 1981; Franceschi and Lucas 1982; Lucas and Franceschi 1982; Franceschi and Giaquinta 1983a, 1983b, 1983c; Franceschi *et al.* 1983).

In 1982, Vince accepted a position at Washington State University (WSU) in the Department of Botany. He rose to the rank of Full Professor in 1992 and assumed the Directorship of the WSU Electron Microscopy Center 2 years later, a position he still held at his death. The Department of Botany, along with several other departments, was reorganised into the School of Biological Sciences in 1999. Despite the intensity of his research and instructional load, Vince volunteered in 2001 to assume the Director’s position in the School. Through his stewardship, the School moved forward with the successful addition of new faculty, reassessment of its undergraduate course offerings and a sharper image of its future.

Vince had an extraordinary talent and work ethic. He was noted for his friendly, positive attitude and seemingly he had time for everyone. He was internationally recognised for his research in plant cell biology through his knowledge of plant anatomy and plant structure-function (in which he was acknowledged to be a foremost authority), and his high level of expertise in microscopy and microtechniques. His wonderful micrographs graced a number of prominent scientific journals. The Microscopy Center at WSU gained international recognition through Vince’s leadership and his own research in carbon assimilation and assimilate partitioning, calcium sequestration and metabolism, and plant defense. His prominence in these areas is reflected in three major reviews, written during his last 2 years, *Annual Review of Plant Biology* 2004, ‘Single-cell C<sub>4</sub> photosynthesis versus the dual-cell (Kranz) paradigm’ and 2005, ‘Calcium oxalate in plants: formation and function’, and



*a New Phytologist Tansley Review* 2005, ‘Anatomical and chemical defenses of conifer bark against bark beetles and other pests’ (Edwards *et al.* 2004; Franceschi and Nakata 2005; Franceschi *et al.* 2005).

In addition to his own research program, Vince had an extraordinary record of collaborative research, which included scientists from across the USA and world wide, including Argentina, Australia, Chile, Germany, Iran, India, Israel, Korea, Norway and Russia. In 2004, he was the recipient of the WSU College of Sciences Distinguished Faculty Research Award. The same year, he was included on the ISI list of researchers Most Highly Cited in Animal and Plant Sciences, a distinction based on the high-profile nature of his over 150 publications. In addition to being a dedicated leader and a premier scientist, Vince was respected as a teacher. For many years, he taught Plant Anatomy and courses in Electron Microscopy Technique. Vince was advisor to many graduate students and mentor to many visiting scientists in his laboratory and the Microscopy Center. He was exceptionally generous with his time in teaching techniques and cell biology to any student or researcher who sought his help.

Vincent Franceschi was a prolific scientist whose legacy of work will go on through all his publications, through his influence on colleagues, and through the careers of the many students he mentored. By early 2006, Vince’s friends and colleagues at WSU decided that a Symposium in his honor would be an excellent way to recognise his scientific achievements. On June 9th and 10th, 2006, over 120 of Vince’s colleagues, mentors, students, collaborators, friends and family, representing institutions in several US states and six other countries, participated in the *International Symposium in Memory of*

Vincent R. Franceschi titled “*Plant Cell: Structure-Function Relations*” (for more information and photos see: <http://www.franceschi.wsu.edu>). The four Symposium sessions reflected Vince’s expertise in various areas of plant biology. A highlight of the Symposium was a public ceremony where it was announced that the WSU Electron Microscopy Center would be renamed the “Franceschi Microscopy and Imaging Center”. The Symposium was made possible through the hard work by Vince’s WSU colleagues, and the generous financial support from several of WSU’s administrative units, including the School of Biological Sciences, the Institute of Biological Chemistry, the College of Sciences, the College of Agricultural, Human, and Natural Resource Sciences, the Office of Research and the Office of the Provost. Shortly after the meeting, it was decided to publish a *Functional Plant Biology* special issue in Vince’s memory. As in the Symposium, the collection of papers in this special issue covers research in carbon assimilation; transport, partitioning and storage; calcium sequestration and function; and plant growth and defense.

## References

- Edwards GE, Franceschi VR, Voznesenskaya EV (2004) Single cell C<sub>4</sub> photosynthesis versus the dual-cell (Kranz) paradigm. *Annual Review of Plant Biology* **55**, 173–196.
- Franceschi VR, Horner Jr HT (1980) Calcium oxalate crystals in plants. *Botanical Review* **46**, 361–427.
- Franceschi VR, Lucas WJ (1980) Structure and possible function(s) of charasomes: complex membrane structures found in some characean algae. *Protoplasma* **104**, 253–271.
- Franceschi VR, Lucas WJ (1981) The glycosome of *Chara*: ultrastructure, development and composition. *Journal of Ultrastructure Research* **75**, 218–228.
- Franceschi VR, Lucas WJ (1982) The relationship of the charasome to chloride uptake in *Chara corallina*: physiological and histochemical investigations. *Planta* **154**, 525–537.
- Franceschi VR, Giaquinta RT (1983a) The paraveinal mesophyll of soybean leaves in relation to assimilate transfer and compartmentation. I. Ultrastructure and histochemistry during vegetative development. *Planta* **157**, 411–421.
- Franceschi VR, Giaquinta RT (1983b) The paraveinal mesophyll of soybean leaves in relation to assimilate transfer and compartmentation. II. Structural metabolic and compartmental changes during reproductive growth. *Planta* **157**, 422–431.
- Franceschi VR, Giaquinta RT (1983c) Specialized cellular arrangements in legume leaves in relation to assimilate transport: comparison of the paraveinal mesophyll. *Planta* **159**, 415–422.
- Franceschi VR, Wittenbach VA, Giaquinta RT (1983) The paraveinal mesophyll of soybean leaves in relation to assimilate transfer and compartmentation. III. Immunohistochemical localization of specific glycopeptides in the vacuole after depodding. *Plant Physiology* **72**, 586–589.
- Franceschi VR, Krokene P, Christiansen E, Krekling T (2005) Anatomical and chemical defenses of conifer bark against bark beetles and other pests. *New Phytologist* **167**, 353–376.
- Franceschi VR, Nakata P (2005) Calcium oxalate in plants: formation and function. *Annual Review of Plant Biology* **56**, 41–71.
- Lucas WJ, Franceschi VR (1982) Organization of the sieve-element walls of leaf minor veins. *Journal of Ultrastructure Research* **81**, 209–221.
- Stocking CR, Franceschi VR (1981) Some surface characteristics of the chloroplast envelope. *American Journal of Botany* **68**, 1008–1014.

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