

Iranian Resercher Resident Abroad		◀
Third Winner	Rank	◀
Basic Research	Category	◀
Dr. Acram Taji	Researcher	◀
Australian Citizen (borne in Iran)	Nationality	◀
University of New England, Australia	University	◀
Plant tissue culture and in vitro plant breeding	Project Title	◀
Abstract		◀



Over 100 years ago, Haberlandt envisioned the concept of plant tissue culture and provided the groundwork for the cultivation of plant cells, tissues and organs in culture. Initially plant tissue culture arose as a research tool, and focused on attempts to culture and study the development of small, isolated cells and segments of plant tissues. At the peak of the plant tissue culture era in the 1980s, in a relatively short time, many commercial laboratories were established around the world to capitalise on the potential of micropropagation for mass production of clonal plants for the horticulture industry. However, experience has since shown that micropropagation is not a universal panacea. Today plant tissue culture applications encompass much more than clonal propagation. The range of routine technologies has expanded to include anther culture, somatic embryogenesis, in vitro pollination and fertilisation as well as the application of bioreactors to mass propagation. Perhaps the greatest value of these tissue culture technologies lies not so much in their application to mass clonal propagation but rather in their role underpinning developments and applications in plant improvement, molecular biology and bioprocessing, as well as being a basic research tool. Our research in the past quarter of century has exploited an array of in vitro techniques in propagation and breeding of a large number of plant species leading to the release of new varieties of Australian native plants with floricultural potential.



Khwarizmi International Award