

## Propagation – Essential to Life on Earth: 51<sup>st</sup> Conference of the International Plant Propagators’ Society – Australia Region

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### Summary

The 51<sup>st</sup> Annual Meeting of the International Plant Propagators’ Society-Australia Region convened on 25 May 2023 at the

Novotel Hotel, Geelong, Victoria, Australia with President Bruce Higgs presiding.

### INTRODUCTION

“Propagation – Essential to Life on Earth” was the theme of the 51<sup>st</sup> Conference of the Australian chapter of the International Plant

Propagators’ Society (IPPS) held in Novotel, Geelong, Victoria during 25 – 27 May 2023. The conference was organised by

Clive Larkman and Dermot Molloy, supported by the dedicated Secretary Pam Berryman. It was packed not only with interesting presentations from a variety of scientists, academics, hands-on nursery managers, company representatives and students, but also with pre- and post-conference tours, the traditional golf competition and a variety of trade displays. This editorial is meant to cover the activities associated with the conference as well as giving a brief run-down of the Conference Proceedings and introducing this year's IPPS Australia award winners.

## PRE-CONFERENCE TOURS

### Pre-conference Tour – Day 1

The state of Victoria represents a meagre 3% of Australia's territory (GA, 2023), but contributes a whopping 37% of the national gross value of nurseries and floriculture produce of AUD 1.9 billion (AV, 2023), the largest of any of the Australian States/Territories. Thus, this state has much to offer

for those seeking knowledge in nursery and floriculture industries, and the Pre-Conference Tour offered participants a firsthand glimpse into the evolving landscape of plant propagation and a unique opportunity to delve into Melbourne's (Capital city of Victoria) diverse horticultural landscape, discover innovative propagation techniques, and engage in enriching discussions with fellow professionals.

### First Stop: Rivers of Yarrambat

Rivers of Yarrambat where the tour began is a renowned garden center and leisure destination with a rich history (Fig. 1). What began as Plenty River Nurseries in 1981, Rivers of Yarrambat has transformed into a multifaceted retail hub, showcasing an array of plants, home decor, and culinary delights (Riversofyarrambat, 2023). The evolution of Rivers of Yarrambat stands as a testament to the resilience and adaptability of horticultural enterprises in meeting the diverse needs of consumers.



**Figure 1.** Rivers of Yarrambat visit by participants of the IPPS conference.

## Second Stop: Alowyn Gardens

Nestled amidst picturesque landscapes of the Yarra Valley, Alowyn Gardens welcomed participants with warm hospitality and captivating stories of its inception (Fig. 2). Established in 1997, the gardens serve as a testament to the transformative power of passion and perseverance. As stewards of biodiversity, the creators of Alowyn Gardens John and Prue Van de Linde have crafted an immersive experience that celebrates the beauty of nature while imparting invaluable insights into gardening and environmental stewardship. Alowyn Gardens is designed along strong symmetrical lines that become blurred by the softness of the spaces and the grace of the trees. Within an

area of approximately seven acres (~ three hectares), there are seven clearly defined areas including a perennial border, a silver birch forest, an inspiring edible garden, a parterre garden and another few display gardens. The formal parterre garden leads you through to a series of smaller courtyards and display gardens. Through all these areas runs a wisteria and rose covered archway of about 100 m with a sunken garden and a classical fountain as a centrepiece. Visitors exit the gardens through an extensive plant nursery full of great plants, many of which feature in the gardens. The nursery tends to favour heat tolerant and frost hardy plants as they recognise the climate is changing towards extremes of temperatures (Alowyn Gardens, 2023).



**Figure 2.** Some of the features of Alowyn Gardens that the participants visited before they were treated to lunch.



### Third Stop: Larkman Nurseries

At Larkman Nurseries, participants had the privilege of exploring a family-owned propagation nursery steeped in tradition and innovation (**Fig. 3**). Since its establishment in 1984, Larkman Nurseries has been at the forefront of plant propagation, embracing advancements such as post-entry quarantine and facility modernization. It is one of Australia's leading tubestock nurseries with a 2 million turnover of plants annually. Due to the wide variety of native and exotic genera being propagated (400,000 tubes and 300,000 cuttings at a time), the participants

had a glimpse of several propagation facilities such as fog, mist, cold frame, mist/hot bed, tissue culture and straight heat (Larkman Nurseries, 2023). The nursery is actively involved in the famous Herb and Chilli Festival of Victoria. It was a heartwarming experience for many participants as the owners Clive and Di Larkman are active members of the IPPS; Clive is a Board Member and organizer of the Geelong Conference. The tour provided a glimpse into the meticulous processes and dedication that underpin the success of this esteemed establishment.



**Figure 3.** Visit to Larkman Nurseries in Lilydale near Melbourne, VIC by the conference participants during the pre-conference tour.

### Fourth Stop: Kuranga Native Nursery

The first day of tour culminated with a visit to Kuranga Native Nursery (**Fig. 4**), a sanctuary of rare and indigenous flora nestled in the heart of Mt Evelyn (Kuranga, 2024). The business of the Nursery keeps growing as natives become increasingly popular for both home and commercial gardens across Australia as the effects of drought and hot summers are taking a toll on the exotics and the younger Australians realize the role of

natives and indigenous species in environmental protection. With a passion for sustainability, the nursery uses solar energy and at the same time saves some AUD 13,000 in energy costs (ChoiceEnergy, 2024). The Paperback Café of the Kuranga Native Nursery has curated a menu that celebrates the flavours and nutritious qualities of Australian bush foods. The participants were treated to a sensory journey through Australia's botanical heritage, culminating in a delightful culinary experience infused

with native ingredients sourced from the nursery and the Yarra Valley. Kuranga Native Nursery exemplifies a harmonious fu-

sion of conservation, commerce, and culinary arts, inviting visitors to explore the rich tapestry of Australia's natural heritage.



**Figure 4.** Kuranga Native Nursery in Mount Evelyn was the last stop of the first day of IPPS pre-conference tour of 2023.

### **Pre-conference Tour – Day 2**

The IPPS Australia Pre-Conference Tour continued for a second day in its exploration of Melbourne's horticultural landscape, uncovering new insights and innovations in plant propagation.

#### **First Stop: Norwood Industries**

Norwood Industries, Australia's leading manufacturer of horticultural labels, welcomed participants to its state-of-the-art facilities (**Fig. 5**). Since the 1960s, Norwood has been at the forefront of label printing

technology, revolutionizing plant marketing with its patented tag display methods (Norwood, 2024). With sustainable practices in the forefront of their operations, Norwood has committed to making sure that 100% of its polypropylene waste is recycled in partnership with Garden City Plastics. The tour provided a behind-the-scenes glimpse at Norwood's commitment to quality and innovation, showcasing the company's contributions to the global horticultural industry.





**Figure 5.** Participants had an opportunity to see the operations at Norwood Nursery on the second day of pre-conference tour.

### **Second Stop: Garden City Plastics**

Participants were immersed in the history and innovation of Garden City Plastics (GCP), a pioneering manufacturer of horticultural containers (**Fig. 6**). From its humble beginnings in 1975 to its recent move to a larger manufacturing headquarters, GCP has remained dedicated to sustainability and environmental stewardship and a large proportion of their plastic pots and containers are made from recycled plastic and 100% of their products are recyclable. The tour highlighted the company's efforts to promote recycling and reduce plastic waste,

underscoring its commitment to a greener future for horticulture. Innovation is the key to the success of GCP. Equipped with over 100 injection molding machines, grinders and robots operated using advanced software, GCP provides integrated solutions effectively and timely to its customers (GCP, 2024). More about the plastic recycling in nursery and horticulture industry in Australia can be found in the paper by Mathew Mills in these Proceedings. GCP is one of the major sponsors of IPPS Australia conferences for many years and sponsors the 6 pack – a group of selected youth from the industry.



**Figure 6.** The pre-conference tour participants were able to witness the sustainable practices at Garden City Plastics where they utilize closed loop recycling of plastics in horticulture.

### **Third Stop: Ball Australia**

Ball Australia welcomed participants to its 40-acre (~16 ha) production facility in Skye, 40 km from Melbourne, offering insights into its mission to lead the research, breeding, production, and marketing of ornamental crops (Fig. 7). With a focus on quality, innovation, and sustainability, Ball Australia has introduced numerous groundbreaking varieties to the Australian market. The tour showcased the company's dedica-

tion to excellence and its ongoing contributions to the horticultural community. With environmentally controlled glasshouses, an automated production facility and state of the art dispatch systems, Ball Australia has the flexibility of growing high-quality plants to supply the growers with plugs all year round. The three parts of the vegetative propagation system developed and used at Ball Australia's Melbourne facility is described in detail by Ian van Zanten in these Proceedings.





**Figure 7.** Some of the facilities visited by delegates at the Ball Australia nursery near Melbourne, Victoria.

#### **Fourth Stop: The Diggers Foundation**

In 1978 Penny and Clive Blazey set up Diggers Club in Melbourne, a commercial business to provide gardeners with all their gardening needs (Fig. 8). Although the Diggers Club was originally a commercial business, preservation and conservation always sat at the core of the Blazey’s vision for Diggers. In 2011, The Diggers Foundation was registered as a non-profit charity and all proceeds are distributed to the foundation to deliver its charitable mission. With the theme of ‘grow with purpose’ as its vision, this charity supports rescuing heirloom seeds through “Support a Seed” initiative (Diggers, 2024), assist communities with “Seed the Future” program (over 1.2 million seeds have been donated to

community groups since 2023), promotes sustainable organic gardening practices, provides education programmes for gardeners as well as preserves heritage buildings they own. The visit to The Diggers Foundation provided a glimpse into its rich heritage and enduring commitment to preservation and conservation. From historic gardens to championing heirloom seeds and advocating for environmental stewardship, The Diggers Foundation has remained at the forefront of promoting biodiversity and sustainability. The tour celebrated the foundation's multifaceted contributions to horticulture and its unwavering dedication to preserving Australia's botanical heritage.





**Figure 8.** At the Diggers Foundation, the participants of the pre-conference tour had the opportunity to take a glimpse of the charitable work being conducted by the foundation and its commitment to sustainability and conservation.

#### **Fifth Stop: Van Loon's Garden Centre**

The IPPS Pre-Conference Tour concluded with a visit to Van Loon's Garden Centre, a hub of inspiration and innovation for gardening enthusiasts (**Fig. 9**). With its diverse

range of products and services, Van Loon's Garden Centre embodies the spirit of community and creativity, inviting visitors to explore the wonders of gardening and horticulture.



**Figure 9.** Van Loon's Garden Centre was the last stop of the pre-conference tour. This nursery attracts lot of crowds for the wide range of plants and the popular café.

## AWARDS

IPPS Australia has a suite of awards for people who excel in propagation-related activities or have contributed to the Society. They are selected by committees appointed by the Board and are honoured at the annual conference.

### Award of Honour

IPPS Australian Region Award of Honour is the highest award. This year's (2023) awardee Ray Doherty (**Fig. 10**) graduated from The University of Queensland with a Bachelor of Science majoring in Biochemistry & Botany in 1973. In the same year he started working with the CSIRO in legume crop research followed by long periods with Lakkari Native Plant Nursery, Jensen International, Newton Container Trees, Leaf Liaisons, Birkdale Nursery and Azalea Grove Nursery. He has undertaken many different roles throughout his career in horticulture; from propagation to retail sales, tree and shrub production, landscape procurement and supply, contract growing, international import and export, product costing and accounting. This broad experience has been available to members of IPPS as we "seek and share". He has taken on various leadership roles in the industry and has provided support and encouragement wherever possible. Ray is a very accomplished member of the society, holding various roles including 2019 conference convenor and chair of the IPPS Australian awards committee encouraging youth in horticultural careers for which he is passionate.



**Figure 10.** Ray Doherty with the Award of Honour trophy of IPPS, Australia.

### Edward and Mary Bunker Award

The focus of the Edward and Mary Bunker Award is to recognize an outstanding contribution demonstrating the IPPS motto 'To Seek and To Share' for the betterment of the industry at large. The selection criteria include any of the following or related categories:

- Innovation and development in plant propagation, production, or nursery systems,
- Mentoring new propagators, promoting horticultural training, education and extension,
- Plant breeding that has impacted Australian or International markets or resulted in the introduction of new plants or varieties to Australia,



- Facilitation of market access within Australia or internationally,
- Innovation or problem solving in any aspect of business including health and safety, transport, logistics, supply chain management, new technologies, etc.

The award is open to non-members helping raise awareness and recognition of IPPS throughout a wider expanse of horticultural industries.

The recipient of 2023 was Jane Edmanson, a horticulturalist, author, and television and radio personality (**Fig. 11**). As of 2018 Jane is best known across Australia as the presenter for the ABC TV program Garden-

ing Australia. She is a recipient of Australian Honours in 2004 for “service to horticulture, particularly through the promotion of environmentally sustainable gardening practices, and the encouragement and education of young gardeners”. She has authored many books: *The Australian Garden*, *Cheap and Easy Propagation*, *Working Manual for Gardeners*, *The New Zealand Garden*, *Jane Edmanson's Favourite Plants* to name a few. More details on her career from growing up in Mildura on the banks of the Murray River caring for citrus and other fruit in her parents’ orchards to her present-day activities of radio and TV broadcasting can be found in these Proceedings, based on her talk at the presentation ceremony.



**Figure 11.** Jane Edmanson (left) receiving the Edward and Mary Bunker Award from the President of IPPS Australia Bruce Higgs.

## Steve Vallance Pewter Tankard Award

In 1979 the Great Britain & Ireland Region of IPPS, presented the pewter tankard to Australian Region, to be used as an annual award to recognise the contributions of one of our members to the society. It was regularly awarded until 1991. It was then paused until 2010, when at the Freemantle conference, it was awarded to Steve Vallance. Steve really embodied the ideals of the award, contributing without fanfare, but with commitment. In honour of Steve, and the way he went about his 'seeking & sharing', in 2017 the award was renamed the Steve Vallance Tankard.

Tony Vander Staay, Immediate Past President of IPPS Australia was the recipient of the award in 2023 (**Fig. 12**). Looking through past awardees his father was one of the early recipients of this award. Covid presented its difficulties during his Presidency, but he was willing to adapt and adopt new ways to keep the society functioning and he has been of great assistance to the Board and Chair in running the Society in those uncertain years.

## Rod Taellis Memorial Youth Award

IPPS recognizes outstanding achievements by the younger members of the industry. One way the Society achieves this is through the Rod Taellis Memorial Youth Award which is presented annually to the most commendable achievement by a person under 30 years who is working within or studying horticulture in Australia. The award is named after one of the Society's most respected members, Rod Tallis. Rod was a committed nurseryman with a passion for plant propagating, inspired enthusiasm for the IPPS and had a keen interest in the youth of the industry.



**Figure 12.** Tony Vander Staay (left) at the award ceremony receiving Steve Vallance Pewter Award from the President of IPPS Australia Bruce Higgs.

He was the mainstay in many of the early conferences and played a particularly supportive role in running the Sydney Conference in 1981. His commitment and passion were an inspiration to many plant propagators. The winner of Rod Tallis Award will have completed a research project, written an article or series of articles or developed a new process or product. They may be enrolled in an academic institution or maybe a hands-on role in a nursery. Over the years many of the previous winners have proceeded on to establish very successful careers in horticulture and have also become leaders of this society. The winner is invited to the annual conference to present a paper on their research or achievements and receives a one-year membership to IPPS and a commemorative plaque.

The winner of the award in 2023 was Elliott Olumuyiwa Akintola (**Fig. 13**) Agronomist and Category Manager for Plant Health and Protection at Garden City



Plastics for his research on the changes in volatile substances in tomato roots under three levels of phosphorus nutrition. Using an optimised headspace solid-phase micro-extraction (HP-SPME) technique combined with gas chromatography-mass spectrometry (GC-MS), Elliott demonstrated the manipulation of volatilomic pathways by tomato roots adapting to changes in phosphorus levels. Under limited phosphorus, the plant was making sacrifices to increase the signals for arbuscular mycorrhizae associations. The results were presented by Elliot at the Annual Conference after the award was presented to him and the full paper of this interesting research is published in the current Proceedings.



**Figure 13.** Elliot Olumuyiwa Akintola (centre) receiving Rod Tellis Award at the 2023 IPPS Conference in Geelong, Victoria.

## **IPPS Conference Youth Initiative (6 Pack) and South African Exchange**

The Support Team and South African Exchange are two programs that are designed to offer two exciting opportunities to new propagators. The Support Team program involves selecting passionate young propagators relatively new to the industry to attend the Annual Conference. Part of the program involves these propagators assisting with the day to day running of the conference. They are affectionately named the 6 pack (**Fig. 14**).

The South African Exchange involves selecting one young propagator to travel to South Africa and stay with local nurseries and to then attend the annual conference in Australia. IPPS Australia hosts one from South Africa in exchange. The 6 pack of 2023 included the two South African exchangees and four young propagators selected by the Committee appointed by the Board of IPPS Australia.

## **Anita Boucher Award for the best paper of the conference**

Each year, a committee consisting of the Editor, Newsletter Editor and a representative from the Hort Journal Australia selects the best paper, announced at the gala dinner. Each presentation is scored on three criteria: a) The quality of presentation, b) The quality of the content, and c) The potential impact of the work in the short or mid-term for the horticultural industry at large or a particular segment of it.



**Figure 14.** The 6 Pack of 2023 IPPS Conference – from left Joshua Taylor, Sharline Alison, Dolly Prosper, Stephanie Hastie (South African Exchange Awardee from Australia), Laura Coyle and Sizwe Ndabeni (South African Exchange Awardee from South Africa).

The 2023 award for the best paper was awarded to Andrw Laidlaw of the Royal Botanic Gardens Victoria for his paper on the “Importance of Plants in the Landscape”. Andrew is a qualified landscape architect and horticulturalist with over thirty years of experience in the industry. Andrew is well known for his in-depth knowledge of plants, design, and his innovative approach to the design process.

His presentation on the importance of plants in the landscape was an informative and well-deserved winner of the IPPS 2023 Best Conference Paper and is published in these Proceedings.

### **Peter Smith Perpetual Golf Trophy**

It has been a tradition of the IPPS Australia to have a golf tournament among willing participants before the conference. The 2023 trophy was won by Josh Waterworth, Director of Waterworth’s Nursery, Glasshouse Mountains in Queensland (**Fig. 15**).



**Figure 15.** Josh Waterworth (right) receiving the Peter Smith Perpetual Golf Trophy from Tony Vander Staay, the immediate past president of the Society.



## Honorary Membership Award

IPPS Australia awards honorary memberships to its members who have immensely contributed to horticulture industry. In 2023 two Honorary Membership Awards were announced:

Peter Ollerenshaw was one of the recipients (**Fig. 16**). Peter began work as a horticulture apprentice with Canberra City Parks in 1964 and then worked at the Canberra Botanic Gardens for most of his apprenticeship continuing there for 10 years. After a 2-year stint at Monaro Nursery in charge of plant production he returned to the Australian National Botanic Gardens (ANBG) in Canberra for 11 years, firstly as

an overseer in the gardens and then at the nursery. He was supervisor in charge of gardeners both at ANBG Canberra and the Jervis Bay annexe. In 1989 Peter left the Gardens to establish Bywong Nursery concentrating on Australian plants. He is renowned for breeding many new cultivars. Peter attended the first meeting of IPPS in 1973 and has been Australian President and International director of IPPS and has served on industry related bodies. He is a past recipient of the Australian Award of Honour. Peter has always been prepared to share his knowledge with others and has been an advocate for the society for many decades.



**Figure 16.** Peter Ollerenshaw (centre) receiving honorary membership of IPPS, Australia at its 51<sup>st</sup> conference in Geelong, Victoria.

Peter Waugh who served in three IPPS Regions was the other recipient of honorary membership. He was a passionate member of the New Zealand Region for many years serving as President and Inter-

national Director. He then became instrumental in establishing Japan Region and has made outstanding contributions to IPPS for over thirty years.

## CONFERENCE PRESENTATIONS

The conference presentations were held on 25<sup>th</sup> and 26<sup>th</sup> May 2023 at the Novotel Hotel, Geelong, Victoria. With three sessions for each day and three presentations for each session, there were a total of 18 presentations. We have grouped the presentations according to their theme and give highlights below.

### Methods of Propagation

David Hancock is the founder of Natural Area Nursery in Western Australia (WA), one of the largest environmental contractors and consultants in WA with over 100 staff producing over 1.2 million plants from over 350 native species for restoration projects. David's commitment to developing propagation methods for hard to root species has earned him much respect within IPPS (of which he is a long-standing member) and beyond. In his presentation on "Provenance Propagation Methodology of Perth Bushland Species from Seed", David emphasised the importance of keeping records of germination outcomes of seeds from different locations, time of collection, seed processing technique and methodology of seed germination. As a result of this meticulous record keeping, the nursery is now well positioned to supply plants that were hard to propagate a decade ago. David presented selected case studies of valuable bushland species for which propagation methods have been developed in the recent times. Full paper of his presentation is available in these Proceedings.

Amanda Shade, also from WA is the Nursery Curator and Manager of Living Collections for the Botanic Gardens and Parks Authority of Kings Park. Amanda highlighted the unique nature of nurseries of botanic gardens as they have opportunity

and responsibility within the industry as the primary producers for organisations that hold documented collections of living plants for the purposes of scientific research, conservation, display, and education. Her presentation covered all these aspects, and the details can be found in these Proceedings.

The presentations on propagation at this conference were absorbing as each of them dealt with nurseries catering to different customers with distinct products. Ian van Zanten's presentation was on ornamentals. After more than 20 years as head nursery manager and head grower for a finished nursery supplying big box retailers in the United States and Canada Ian joined Ball Australia in 2020 and the participants had the opportunity to visit its Victoria facility during the pre-conference tour as already mentioned here. Ian is the Growing Manager of Ball Australia operations, and his presentation covered the vegetative production program at this facility using cuttings. He identified three parts of this operation: mother stock production, sticking cuttings and finishing. Details of these three parts are presented in his full paper in these Proceedings. More about the Ball Australia operations including videos can be found in their website (Ballaustralia, 2024).

Tony Hughes is a lecturer at the local Training and Further Education (Gordon TAFE) college in Geelong and at the same time runs his own propagation nursery, propagating 'difficult' native species, both herbaceous and tree species. His presentation was on grafting native species from drier areas of Australia for better survival in the wet and colder climate of Victoria making these beautiful ornamentals available in the market as grafted plants. His full paper with colour photos of the two



species *Eremophila* (Scrophulariaceae) and *Prostanthera* (Lamiaceae) he used as examples is available in these Proceedings. It is interesting to note that for *Eremophila* spp. the best rootstock is *Myoporum insulare* or *M. montanum*, also from Scrophulariaceae.

Peter Lewis, Rod Tallis award winner in 1984 took to consulting work overseas, mainly in Asia and the Middle East after many years of teaching and then managing Birkdale nursery's interests in China. His presentation was based on his consulting work for Landscape Nursery a subsidiary of Red Sea Global, wholly owned by the Public Investment Fund of the Kingdom of Saudi Arabia (KSA). The Landscape Nursery has a target of growing 25 million native plants by 2030 for greening of two world-leading destinations announced by the Crown Prince of KSA - The Red Sea (coastal) and Amaala (inland) (RSG, 2024). The desert environment in KSA whilst spectacular is very challenging for the plant production. With diversification of the KSA economy towards a more environmentally sustainable and healthy place to live, greater emphasis is now being placed on using the native flora from the region to revegetate the desert environment. Some of the key characteristics of the climate and environment in the Red Sea region in which this research work was undertaken includes 360 days of sunshine, hot summer temperatures for extended periods (40 – 50 °C), warm winter temperatures (> 15 °C), regular high winds with blowing sand and very low rainfall (< 10mm /yr) with extreme thunderstorms. These conditions result in high daily evaporation rates (up to 15mm a day), soil is generally a fine particle, poorly draining sand with high total dissolved salt concentrations (>2500 ppm), high Ph >7

and high soil sodicity. Peter in his presentation gave details of native species with high ornamental and ethnobotanical potential that were propagated in the nursery and the challenges they encountered in planting them out in the desert and keeping them alive until established.

With over 30 years of experience in plant biotechnology research and research management at several leading nurseries such as Yuruga and Fleming's, and currently serving as the Research Manager at Skybury, Dr Puthiyaparambil Josekutty shared his own experience and lessons learned in the true spirit of IPPS, "Seek and Share". His presentation, also available as a full paper in these Proceedings, contains many aspects of propagation for farms using tissue culture techniques. He discussed important aspects of quality assurance, genetics, production of high-health plants, quarantine during import and export of plant material and the use of tissue culture technologies for crop improvement. He used examples from horticultural crops such as avocado, banana and papaya for which he has a reputation in micropropagation.

## **Presentations from Award Winners**

### **Rod Teallis Award**

Elliott Olumuyiwa Akintola was the winner of the award and his full paper titled "Identification of Changes in the Total Volatile of Tomato Plant Roots in Response to Phosphorus Availability" is published in these Proceedings.

### **Edward and Mary Bunker Ward**

The winner of the Edward and Mary Bunker award was Jane Edmanson, and at the award ceremony Clive Larkman described

Jane as an epitome of the IPPS motto 'To Seek and To Share'; while practicing horticulture she spent time teaching and in media. She described her involvement in horticulture at the conference and an extended summary of the speech is published in these Proceedings.

### **Anita Boucher Award for the Best Presentation**

This award recognises the best presentation at the conference. It is awarded based on a marking system by a three-judge panel considering the content, presentation, and its impact on the industry in the short and medium term. The winner was Andrew Laidlaw, Landscape Architect at the Royal Botanic Gardens Victoria (RBGV) for his presentation on "The Importance of Plants in the Landscape". He described different projects he undertook over the last 25 years within RBGV as well as for Global Gardens of Peace (an Australian charity that creates gardens to support vulnerable communities around the globe) in Australia and overseas. Full paper covering a number of interesting projects is published in these Proceedings.

### **South Africa Exchange (Australian award)**

Stephanie Hastie from TAFE in Adelaide, South Australia had the opportunity to spend, in her own words, three fascinating weeks in South Africa visiting a range of nurseries, botanic gardens and areas with natural vegetation. Stephanie's visits and her experience in South Africa is now written into a full paper and published in these proceedings. Every year an enthusiastic young Australian gets this opportunity to visit South Africa thanks to the vision of IPPS to encourage youth in horticulture.

### **South Africa Exchange (South Africa Award)**

Thandisizwe Siphenkosi Ndabeni was the recipient of the award from South Africa to visit Australia. His three weeks in Australia took him from Western Australia to Victoria and from there to South Australia - three important and diverse horticultural hubs of the continent. He participated in the pre-conference tours and at the conference he shared his experience visiting nurseries and travelling in Australia. His presentation is published as a full paper in these Proceedings.

### **Conservation, Restoration and Collection**

At the Annual Conference of 2023 diverse themes in conservation from collection of plants, restoration of flora in environments damaged by human activity, conservation in botanic garden settings as well as sustainable management of nursery waste through recycling were presented.

Danielle Saintpierre is the Technical Director at SIRAS Pacifique, a New Caledonian company specialising in environmental conservation and mine site restoration. Nickel ore mining in New Caledonia, a French territory, has led to serious degradation of soil and its unique vegetation leading to considerable damage to the ecosystems and biodiversity of the island. Danielle's presentation emphasised the value of native and endemic species in restoration of these sites and the results of revegetation efforts, particularly using hydroseeding technique. Her full paper with details of this work is illustrated with many photos of mining sites that have been degraded and the results of restoration work undertaken by her team.



Botanic gardens play a vital role in plant conservation as they hold seed banks, herbaria, and ex situ plant collections. Ex-situ conservation has become urgent with climate change threatening plant communities in their natural environments. However, with climate change the botanic gardens need to assess the suitability of plants for coming decades and require a landscape succession strategy. Clare Hart, Manager for Horticulture at RBGV presented the landscape succession strategy (LSS) for RBGV established back in 1846. With 20 plant collections, 6000 trees representing 190 countries of the world it is Melbourne's green space and the challenge is to keep it green under climate change. Hence the need for a LSS as the temperatures are increasing and rainfall is decreasing.

Considering this challenge, on 28<sup>th</sup> April 2016, RBGV announced LSS that will guide its management through climate change into the next century. Clare emphasised the need to understand the history of the garden and the climatic era in which it was established, which is no more. Although the New Zealand collection for example is at high risk, she emphasised its value for understanding how New Zealand taxa respond to warmer conditions, identifying what plants are more vulnerable and what plants will thrive under climate change. Nevertheless, the LSS will manage the overall succession of the current landscape towards one that by 2090 is dominated by species more likely to be resilient under the projected climate, yet maintaining its landscape character i.e., changing now in order to stay the same. In addition to plants from drier and warmer areas of Australia, some areas of Argentina, USA, Mexico, the Mediterranean and West and South Africa offer plants that are suited for the

succession plan. RBGV's LSS initiative was the catalyst for the First Botanic Gardens Climate Change Summit held in Melbourne in December 2018 with participants from 13 botanic gardens that have the climate predicted for Melbourne in several decades. The declaration signed by all the participants was the steppingstone for the Climate Change Alliance of Botanic Gardens currently having 400 members representing over 90 countries (CCABG, 2024). Since then, CCABG has launched the Landscape Succession Toolkit that allows botanic gardens and arboreta a framework by which to adapt to the climate crisis and transition their landscapes and plant collections to ones that will continue to thrive in the future climate. Details of the work carried out at the RBGV on LSS has been described in detail by Symes and Hart (2021).

Alistair Watt from Otway Ridge Arboretum has been on plant collection missions in the Pacific Rim including New Caledonia, Fiji, Chile, New Zealand etc. since 1985 and some of his more than 200 new species introductions are displayed in different collections in RBGV and in Geelong Botanic Gardens as well as Sydney, Adelaide and Hobart botanic gardens. Some specimens are from direct introductions while others are from re-propagated plants. Alistair in his presentation, now published as a full paper in these Proceedings has given lists of all species introduced during his travels and describes where these introductions can be found in Australia. It could be possible that some of these species are in the lists of plants suitable for planting under the LSS of botanic gardens and arboreta.

Matthew Mills is a consultant in operations and strategic management with clients in packaging, manufacturing, agricul-

ture and retail sectors. With 30 years of experience in these sectors (of which 14 at Board level) he has developed a deep understanding of delivery of sustainable profit strategies in a circular economy. His presentation encompassed the initiatives in Australia to manage disposal of plastics used in horticulture in an environmentally responsible way. He described in detail the PP5 initiative, a joint venture between Norwood Industries, Garden City Plastics, and Polymer Processors. As a joint venture, the goal is to build an innovative infrastructure that allows the industry, and the communities that operate within, to sustainably consume and reuse PP5 plastics. The PP5 initiative is now in its advanced stages, and it costs the industry the same to recycle used industry PP5 as it does to source it from outside sources. It is anticipated that by 2025 the industry recycled PP5 will be cheaper than purchasing outside the industry so that the savings can be passed on to growers. The other advantage is of course reduced plastic pollution and reduced landfill fees.

In an enlightening talk, Clive Larkman described how the plant retailing businesses in Australia managed to sustain their businesses through diversification of their products and services. Desire to have edible and ornamental plants in home gardens and inside dwellings made the plant retailing business flourish and in addition, people's desire to socialise around food made the natural transition of garden centres to multifaceted retailers with garden ornamentals, cafes and restaurants. Clive emphasised with examples how growing plants is the key to a happy and healthy society, reminding the participants the theme of 2023 IPPS Australia Conference - plants and their propagation is essential to life.

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