



ORGANIZATION OF NEMATOLOGISTS OF TROPICAL AMERICA  
ONTA NEWSLETTER

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53<sup>rd</sup> ONTA ANNUAL MEETING  
CAIRO, Egypt, 2023



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*“Nematodes and food security: urgency, discovery, and global exchange”*



Fig. 1. The Organization of Nematologists of Tropical America (ONTA) in collaboration with the Egyptian Society of Agricultural Nematology (ESAN) will meet in Cairo from 24<sup>th</sup> to 29<sup>th</sup> September, 2023.

53<sup>rd</sup> ANNUAL MEETING ONTA  
CAIRO, EGYPT

Second Announcement



*Fig. 2. Egypt will host the 53<sup>rd</sup> ONTA Annual Meeting from 24-29<sup>th</sup> September 2023 with the theme “Nematodes and food security: urgency, discovery, and global exchange”.*

The **Organization of Nematologists of Tropical America (ONTA)**, the Local Arrangement Committee represented by members of ONTA, and in collaboration with members of the **Egyptian Society of Agricultural Nematology (ESAN)** greet and cordially invite you to participate at the 53<sup>rd</sup> (LIII) ONTA Annual Meeting to be held in Cairo (Fig. 1). The dates will be from 24<sup>th</sup> September to 29<sup>th</sup> September, 2023. The venue for the meeting will be the Hilton Pyramids Golf Hotel <https://www.hilton.com/en/hotels/caipghi-hilton-pyramids-golf/>. The ONTA Annual Meeting in Egypt will simultaneously introduce ONTA members to North Africa and Middle East agricultural regions, which are both important in rapidly adopting advanced agronomic practices to grow crops.

This meeting will allow ONTA members to interact with nematologists from North Africa and Middle East and will stimulate exchange of ideas and nematological experiences. ONTA members will have the unique experience of not only learning new aspects of plant and insect nematology, but having a cultural encounter with one of the cradles of human civilization, with many breathtaking views and a unique opportunity to enrich their educational background.

Egypt is among the top ten countries with the most beautiful tourist places (Fig. 2). The Great Pyramids in Giza, the new Egyptian Museum, the Grand Bazaar marketplace, Luxor temples and tombs, cruising the Nile, diving off the Red Sea coast, exploring Coptic and Islamic Egypt, St. Catherine’s Monastery, and Hurghada, are just few of the many spectacular experiences that are available. The Egypt 2023 ONTA Annual Meeting will be a memorable cultural exchange, cultural exchange being the first essential step in creating the interpersonal and intercultural trust required for the meaningful exchange of scientific knowledge and research opportunities.

Specific information about scientific program, accommodation, registration costs and travel will be provided soon at the ONTA website and through emails.

FROM ONTA'S PRESIDENT



*Fig. 3. Fahiem El-Borai Kora ONTA's President (A) and Prof. Sanna Haroon (B) General Director of the Nematology and Biotechnology Center, College of Agriculture - Fayoum University, Egypt.*

**Dear ONTA members,**

On September 12<sup>th</sup>, 2022, with great sadness and sorrow we received the shocking news from our friends in Chile about the loss of one of our ONTA devoted and dedicated members who has never been late to support and stand for ONTA and their members. Dr Erwin Aballay has left us for a better life, but he will be forever remembered among all of us for his dedication and service through decades to the society and for his generosity and friendship to everyone who met or knew him. Our thoughts and full support for his family and all Chilean colleagues and friends. Our deepest condolences go to his wife and his daughter Luna Aballay. Erwin will be always remembered by us all.

***Advances on the 53<sup>rd</sup> ONTA Annual Meeting in Cairo, Egypt: “Nematodes and food security: urgency, discovery, and global exchange”***

The **Organization of Nematologists of Tropical America (ONTA)** and the **ONTA 53<sup>rd</sup> Annual Meeting Local Arrangements Committee from Egypt** greets you and cordially invites you to participate in the coming ONTA Annual Meeting in collaboration with the **Egyptian Society for Agronematology (ESAN)** to be held in **Cairo, Egypt from 24<sup>th</sup> to 29<sup>th</sup> September 2023 with the theme “Nematodes and food security: urgency, discovery, and global exchange”**. We are working hard to get things done and post the good news as it comes through to our ONTA 2023 meeting website, which will be live soon (Fig. 3).

Egypt's agricultural sector has grown to become one of the most productive in the world. Egypt is now the world's leading export country for very important fruit and vegetable crops such as citrus, potato, strawberry, onions, garlic, and cotton (Fig. 4).



Fig. 4. Egypt exports citrus and strawberries among other commodities.

The agriculture sector in Egypt has been growing steadily and rapidly for the last 20 years. Agriculture is considered a major contributor to the Egyptian economy with over 12% of the country's gross domestic product (GDP). The agricultural sector accounts for almost 40% of all jobs, and over 55 percent of employment in Upper Egypt is agriculture related. In recent years, and to accommodate the increasing population in Egypt and to be food self-sufficient nation, the Egyptian government reclaimed over 2.5 million agricultural acreage and by 2030 to reach 5 million using all modern agricultural practices. Nematode problems are considered to be one of the most important and limiting factors in many of those crops.

Selecting Egypt as the host country for the 2023 ONTA/ESAN meeting will introduce ONTA to North Africa and the Middle East simultaneously, which are both important agricultural regions that are actively modernizing. Having the 2023 ONTA meeting in Egypt will highlight the importance of Nematology to the success of agriculture in these regions. ONTA can use the Egypt 2023 meeting as an effective platform to recruit and expand ONTA membership and to encourage many young scientists in North Africa and the Middle East to study the fascinating and essential area of nematology.

Egypt is one of the cradles of human civilization, with many breathtaking and unique opportunities for tourism. From Cairo, Giza to Luxor, Aswan, village of Abu-Simbel and Sharm El Sheikh cities, there is a lot to see. The Great Pyramids, the new Egyptian Museum, and the Grand Bazaar marketplace, Islamic and Coptic historical sides and Nile cruise are just a few of the many spectacular experiences that are available. The Egypt 2023 ONTA meeting will be an excellent opportunity not only for the memorable cultural exchange but also for social interaction with colleagues and students and an enhanced appreciation of agricultural systems. Cultural exchange is the first essential step in creating the interpersonal and intercultural trust required for the meaningful exchange of scientific knowledge and research opportunities.

### **ESAN Meeting to plan:**

In my last visit to Egypt, I had the honor and privilege to have a great meeting with our ESAN colleagues who I had not seen or met for some time. We came together to welcome you all to Egypt. The meeting was held at **Fayoum University** with a great host and generous welcome from **Professor Sanna Haroon** who is currently the **General Director of the Nematology and Biotechnology Center, College of Agriculture - Fayoum University**. More than 26 universities and national

research centers were present (Fig. 5). We will soon choose the local organizing committee and all related committee that will help to make our joint meeting a big success. Personally, and on behalf of all attendees, I deeply appreciate Professor Haroon for her hospitality and enthusiasm in planning with me and hosting this meeting. Also, The enthusiasm and the happiness I saw on everyone's face made me happy as we are all looking forward to meeting you in Egypt.



*Fig. 5. ESAN colleagues meeting with ONTA's President Fahiem El-Borai Kora was held at Fayoum University, Egypt.*

The 53<sup>rd</sup> ONTA Annual Meeting in collaboration with ESAN will be held at the Hilton Pyramids Golf Hotel, a five-star hotel (<https://www.hilton.com/en/hotels/caipghi-hilton-pyramids-golf/gallery>). **All costs and other related details regarding the accommodation, registration, abstract submission, etc., will be announced soon.**



*Fig. 6. Hilton Pyramids Golf Hotel premises.*

FROM ONTA'S PRESIDENT (cont.)



*Fig. 7. Hilton Pyramids Golf Hotel premises. (cont.)*

**Finally, dear ONTA and ESAN members,** now, the joyful holiday season is just around the corner; may this beautiful holiday season fill your heart with love, your home with joy. Happy holidays and Merry Christmas! Wishing you and your families a happy, healthy, loving, peaceful, and prosperous New Year!

Fahiem El-Borai Kora

ONTA President (Fig. 3A)



*Fig. 8. Ernesto San-Blas.*

Dear ONTA members,

Since the publication of the ONTA Newsletter last issue, many things have happened in ONTA, some good and some not so good. I want to point out that ONTA Officers have been working within the Executive Committee to tune details and be able to offer ONTA members an unforgettable ONTA Annual Meeting in 2023. Our President Fahiem has done an excellent job in choosing the best venue and dates for the meeting. On the other hand, we received the sad news of the early departure of our dear colleague Erwin Aballay. Erwin was always willing to collaborate with this organization and his actions, on behalf of ONTA, are well known to many of us. He organized two ONTA meetings in Chile (2006

and 2013) and was Vice-President candidate in 2010. I am sure that many of us will miss him.

Next year (2023) we will meet again at the ONTA Annual Meeting; this time in Egypt, a land full of culture and history, after a long pause due to the pandemic. This will be a new opportunity to start conversations, projects and dreams with ONTA colleagues and also nematologists from our guest country, the Egyptian Society of Nematologists, and with scientists attending from other continents. For this reason, I want to invite you all to be part of the organization and raise your proposals to be included in the scientific (and social) program of the meeting in order to make it of the usual highest quality. For a long time one of ONTA's priorities has been to promote the participation of students and early career researchers. From this platform we want to reiterate that commitment, and encourage everyone who can collaborate to raise funds towards sponsorship of students and early career nematologists, and achieve in this way a massive participation of the new generation of nematologists.

Also, I want to take advantage of this space to wish everyone a happy holiday and that the new year comes full of success and joy for you and your families. See you in Egypt!

Respectfully,

Ernesto San-Blas (Fig. 8)  
ONTA Vice-President

FROM ONTA'S VICE-PRESIDENT ELECT



*Fig. 9. Tristan Watson.*

**Greetings ONTA Members,**

Happy Holidays ONTA Members,

I hope you have had a productive year in your nematology endeavors. With COVID-19 restrictions beginning to be relaxed in many countries we are fortunate to begin returning to our normal teaching and research activities. Classrooms are full again and the next generation of nematologists are back in the laboratory gaining the hands-on experience necessary to continue moving our discipline forward. The ONTA executive committee met virtually this past September to discuss details related to our general meeting in 2023. I am pleased to report that final preparations are underway, and I look forward to seeing everyone at the ONTA 2023 meeting in Cairo, Egypt. Have a merry Christmas with your friends and family, and a happy New Year.

Sincerely,

Tristan Watson,

ONTA Vice-President Elect (Fig. 9)





*Fig. 10. Prof. Sanna Haroon and Rosa H. Manzanilla-López. (ONTA Annual Meeting, Cancun, Mexico 2012).*

#### Dear ONTA members,

We are very pleased to be in contact with you through the ONTA Newsletter. In this issue, among other important topics, we will share highlights in the organization of the LIII Annual Meeting of ONTA in collaboration with ESAN, which will be held in Cairo, Egypt, next year. This is the first time that ONTA goes to North Africa and this meeting will increase links between our Organization and the nematologists from this region of the world. ONTA has members from Africa and Middle East, who even have attended our ONTA Annual meetings (Fig. 10). ONTA President Dr Fahiem El-Borai has been very busy with ESAN colleagues to organize a high quality meeting both scientifically and culturally for all delegates attending this important event. We cordially invite you to join ONTA from 24<sup>th</sup>-29<sup>th</sup> September 2023.

We warmly welcome a special contribution to the ONTA Newsletter about the **Nematology Program at Ghent University** in Belgium, which was kindly

submitted by **Inge Dehennin** and **Dora Scott** from the **Nematology Coordination Office at Ghent University (Belgium)**.

We also pay special homage to our dear colleague and friend Erwin Aballay who passed away on 11 September 2022. Erwin was a passionate and great promoter of ONTA in his native Chile and South America. ONTA and many of us will miss him very much.

We congratulate Dr Emma Zavaleta-Mejía, a former ONTA President, on the occasion of her retirement as Professor and Researcher at the Postgraduate College (Colegio de Postgraduados, Mexico). In this issue, Drs Olga Rodríguez and Manuel Valenzuela share with our Newsletter readers the highlights of the homage organized for Emma at the Phytosanitation Institute of the Postgraduates College.

We would also like to share with you in this Newsletter issue some of the experiences of two ONTA colleagues who have worked or continue working in nematology or related areas. Dr Soledad Verdejo-Lucas, a former Institut de Recerca i Tecnologia Agroalimentaria (Spain) researcher, and ONTA President, and Prof. Luis Vicente Lopez-Llorca (University of Alicante, Spain) tell us part of their professional story and career, their passion for science as well as the importance of mentoring the new generations of scientists. One of them, MSc Raquel López Núñez, tells us about her impressions after a research stay in Rothamsted Research Ltd. (UK) as a PhD student.

Finally, we wish you a happy reading, merry festive season and happy New Year 2023!

Kind regards,

Rosa

## GROWING NEMATOLOGY AT UGENT



We warmly welcome a **special contribution to the ONTA Newsletter** about the **Nematology Program at Ghent University** in Belgium, which was kindly submitted by **Inge Dehennin** and **Dora Scott** (Fig. 11) from the **Nematology Coordination Office at Ghent University (Belgium)**. This is an inspiring and international collaborative program for nematology that will keep encouraging nematology building capacity through education and research cooperation among nematologists worldwide. The call for scholarships is open to many countries, including those of Latin America.



Fig. 11. The Nematology Coordination Office at UGent, Dora Scott, left (assistant coordinator) and Inge Dehennin, right (coordinator).

The **Nematology Program at Ghent University in Belgium (UGENT)** in all its formats has, since its inception in 1992, trained almost 400 students over the past 30 years. It remains the only program of its kind in the world, due to the specialized nature of the training and its international approach. In its current format, the **International Master of Science in Agro and Environmental Nematology (IMaNema)** is a dynamic program bringing together internationally renowned staff to train students in the broad field of agricultural and environmental aspects of nematology. The Nematology Research Unit, of which the IMaNema program is a core part, also continues to expand its international networks of alumni and scientists and this has resulted in many fruitful collaborations.

Recently, **IMaNema** announced its collaboration with a new partner: the **Master of Science in Plant Pathology at Moi University in Kenya**, coordinated by the IMaNema alumnus Dr Nijira Nijira Pili. This program has recently upgraded the nematology content in its curriculum, and offers three new course units and the opportunity to do master theses on various aspects of Nematology. The collaboration offers scholarships and travel grants to MSc Plant Pathology students as well as the opportunity to do research at Ghent University, several partner institutes in Africa such as the

International Centre of Insect Physiology and Ecology (icipe) and International Institute of Tropical Agriculture (IITA). Students from the MSc program as well as those from the IMaNema will have the opportunity to follow joint course units together in Kenya at icipe/IITA, allowing for mutual learning.

The IMaNema program at Ghent University was also awarded funding to continue its own activities for another five years. Thanks to the generous sponsorship of the **Belgian donor VLIR-UOS**, the program will continue to provide scholarships and research opportunities to students from across the world at least until 2027. The application for admission to the **IMaNema program and scholarships to start in September 2023 is currently open**. For more information about the program, please go to [www/imanema.ugent.be](http://www/imanema.ugent.be).

The Nematology Coordination Office is also coordinating the **Erasmus+ CBHE project Nematology Education in Sub-Saharan Africa** (or NEMEDUSSA) project. NEMEDUSSA aims to increase awareness of nematodes and expand educational and research capacities in higher education institutes (HEIs) in Sub-Saharan Africa (SSA) in this field. This project is currently developing BSc and MSc modules in Nematology to be either integrated fully into existing BSc and MSc programs or enhance existing course units in nematology at the NEMEDUSSA partner HEIs in SSA. It has also established the **Pan-African Nematology Network**, or **PANEMA** (Fig. 12).



Fig. 12. PANEMA Group meeting.

From 1-3 March 2023, the second PANEMA workshop will be held in Mbombela, South Africa. This workshop, hosted by **University of Mpumalanga**, will bring together trained nematologists, early-career researchers, students, agricultural extension workers and other stakeholders from across Africa and beyond. The workshop aims to have a good balance between seminars and hands-on practice in the field and lab to enhance life-long learning and create opportunities for interactive discussions and networking between stakeholders. It is a platform where students and African nematologists can showcase their projects and research (Fig. 13). Next to nematode-related topics, this workshop will also focus on training in scientific communication skills to create better awareness about nematodes. For more information about the NEMEDUSSA project and upcoming PANEMA events, please see [www.nemedussa.ugent.be](http://www.nemedussa.ugent.be). This project is made possible with support from, and is funded by, the Erasmus+ program of The European Union.

GROWING NEMATOLOGY AT UGENT (cont.)



*Fig. 13. A: IMANEMA students on site visit; B: Students attending the PANEMA workshop in 2022.*

## CONGRATULATIONS

Congratulations to **Dr Emma Zavaleta-Mejía on her retirement**. Dr Emma was ONTA Vice-President, President and Past-President (2010-2012). Emma is one of the most recognized and honored plant pathology and nematology scientists of Mexico. **Dr Olga Gómez-Rodríguez**, Coordinator of the Postgraduate Committee of the Phytosanitation-Phytopathology program of the Colegio de Postgraduados (CP), Mexico, kindly accepted to share with ONTA members a review of Emma's academic trajectory. The following semblance was read by Dr Olga (a former graduate student of Emma) on the occasion of the tribute given to Emma at the CP last August.



*“The life of every human being is made up of stages; while someone finishes one stage, someone else begins another. Thus, Dr Emma closes her stage as a phytopathology professional in the Postgraduate Program in Phytosanitary-Phytopathology, CP, Mexico, while there are students who enter and begin their training in this scientific discipline”*  
**Olga Gómez-Rodríguez**

Fig. 14. Dr Emma Zavaleta-Mejía

Family, friends, colleagues, students, research assistants, technicians and support staff of the laboratory of Dr Emma Zavaleta-Mejía (Fig. 14) gathered on 26<sup>th</sup> August 2022 to honor and thank her legacy to plant pathology and nematology, as well as to express their affection to her as former students and colleagues. The event began with an emotive reception for Emma (Fig. 15), who was accompanied on the podium by Dr Daniel L. Ochoa-Martínez (Deputy Director of Education), Dr Olga Gómez Rodríguez (Coordinator of the Postgraduate Committee), Dr Daniel Téliz-Ortíz (Member of the Postgraduate Committee), and MSc Candelario Ortega Acosta representing the Postgraduate Student Committee. They were joined in the audience by Emma's former undergraduate, and graduate master's and doctoral students.



Fig. 15. A: Reception in honor of Dr Emma Zavaleta-Mejía; B: Presentation by Dr Gustavo Mora-Aguilera of the Graduate Program in Phytosanitation-Phytopathology (Colegio de Postgraduados, Mexico).

## CONGRATULATIONS (cont.)

After welcoming the audience, Dr Gustavo Mora-Aguilera gave a briefing of the Phytosanitation-Phytopathology Postgraduate graduate program history (Fig. 15B), followed by Dr Reyna Rojas-Martínez who gave a biographical sketch, highlighting Dr Emma's academic career and achievements (Fig. 16A).



Fig. 16. A: Dr Reyna Rojas-Martínez presentation about the academic career profile of Dr Emma Zavaleta-Mejía; B: Words by the honoree Dr Emma Zavaleta-Mejía to the audience.

Emma (Fig. 16B) was born on the 4<sup>th</sup> June in Jojutla, Morelos (Mexico). She was awarded a biology degree by the Universidad Autónoma de Morelos in 1972, and in 1973 the Mexican Institute of Culture awarded her “The Best Students of Mexico” medal. In 1976, she began her master at the CP former Phytopathology Center (Centro de Fitopatología’) at invitation of Dr Carlos Sosa Moss. Shortly afterwards, in 1977, she completed her master’s degree with honors and joined the CP Teacher’s Training Program. In 1980, she began her doctoral studies at the Department of Plant Pathology of the University of California, Riverside (USA), which she completed with honors. In 1985 she joined the Phytopathology Program as a lecturer and proposed the course “Physiology of Plant-Pathogen Interaction”, which has been taught continuously since 1986. She also begun the research line of “Control and Prevention of Crop Diseases”, thus becoming a pioneer in the search for “Ecological alternatives for the management of plant pathogens”. In 1988 she joined the National System of Researchers (Level I), and in 2005 she obtained the highest distinction of Level III, which she has maintained to date.

Some important activities in which Dr Emma participated included: Jury of the Mexico Award (2007), Vice-President (2009-2010), President (2010-2011) and past-President (2011-2012) of ONTA (Fig. 17) . She also received ONTA’s Bayer Crop Science Award in 2009.

Dr Zavaleta-Mejía is the first woman to receive the National Plant Health Award of Mexico in 2015. As a researcher, Emma published 221 scientific articles in international and national journals that are highly cited. She supervised 71 theses and participated in the Academic Committee of 29 PhD and 50 MSc students as graduate students advisor. She trained many professionals who are currently engaged in teaching, research and consultancy, including officials of national agencies of Mexico and some Spanish-speaking countries in the Americas.

Emma addressed the audience (Fig. 16B) and expressed her gratitude for a full and satisfying life, and acknowledged the work mystique of her mentors Drs Carlos Sosa Moss (see obituary *Nematropica* 29: 1-3) and Jorge Galindo Alonso. She also pointed that this recognition was for her students, laboratory workers, technicians and support staff (Figs 18-20). In her closing remarks she

said that it was time to close this circle, and give opportunity to young people with impetus to contribute to plant health.



*Fig. 17. ONTA Executive Members at the Annual Meeting of the Organization in Quito, Ecuador (2010). From left to right: Drs Nahum Marbán-Mendoza, Renato Inserra, Rodrigo Rodríguez-Kábana, Erwin Aballay, Patricia Stock, Emma Zavaleta-Mejía, Paola Lax.*



*Fig. 18. Former students and collaborators of Dr Emma Zavaleta-Mejía. From left to right: Alejandro Tovar-Soto, Lourdes Cervantes Díaz, Emma Zavaleta-Mejía, Reyna Rojas-Martínez, Olga Gómez-Rodríguez, and Daniel Ochoa-Martínez.*

Luis Yobani Gayosso Rosales, a doctoral student (Fig. 19A) and the last person whose PhD research she directed, said Dr Emma is an example to follow for being a passionate person in what she does and for her human qualities. Emma's former students Dr Lourdes Cervantes Díaz (Research Professor at Autonomous University of Baja California), Dr José Alberto Quintero Benítez (General Director of Agro MIC Online), and MSc Jesús Chávez Alfaro (Syngenta Agro), shared some

anecdotes during their stay in the postgraduate program under the supervision of Dr Zavaleta-Mejía (Fig. 19B).



Fig. 19. Present and former students of Dr Emma Zavaleta-Mejía. A: MSc Luis Yobani Gayosso Rosales, PhD student (Phytosanitation-Phytopathology Postgraduate Program); B: Dr Lourdes Cervantes Díaz (Research Professor at Autonomous University of Baja California, Mexico).

Finally, Dr Daniel L. Ochoa-Martínez addressed the audience to close the event. Afterwards, a toast in honor of Emma was made (Fig. 20A), which was completed by a tour of the exhibition of some of Emma's paintings (Fig. 20B).



Fig. 20. A: Dr Emma Zavaleta-Mejía toast; B: Exhibition of some paintings by Emma Zavaleta-Mejía.

Without doubt, Dr Zavaleta-Mejía is an exceptional woman who excelled as a scientist, athlete and, now, as an artist painter.

Thank you Emma for your life legacy!

#### References

Manzanilla-López, R.H. & Suárez, H.Z. (1999). Carlos Sosa-Moss, founder of Mexican *Nematology*. *Nematropica* **29**: 1-3.



## Mexico

## Dr Manuel Silva-Valenzuela

A tribute was given to Dr Emma Zavaleta-Mejía in an emotional ceremony on the occasion of her retirement and to mark her great scientific and academic achievements, a career that concluded on 26 August 2022. Undoubtedly her personal warmth and scientific rigor are two of the qualities that characterized Emma, qualities that were at the basis of students and staff who were trained in her lab under her supervision. During her career Emma was head of the Laboratory “Dr. Jorge Galindo Alonso” belonging to the Phytosanitation-Phytopathology Postgraduate Program (Fig. 21A) of the College of Postgraduates (PC) Mexico, where she directed and conducted research aimed at understanding the physiology of the plant-pathogen interaction and ecological alternatives for the management of plant pathogens.



A



B

*Fig. 21. A: Commemorative plate of Laboratory “Dr Jorge Galindo Alonso”; B: MSc student Karen Patricia Narciso Ortiz.*

Her philosophy and working ethos will continue under the leadership of Dr Reyna I. Rojas-Martínez, the new head of the laboratory, who has already been in charge of the laboratory doing research to propose alternatives to reduce the phytosanitation problems facing Mexican agriculture. Currently, the team is made up of Dr Victor M. Zúñiga-Mayo (CONACYT Professor), Dr Manuel Silva-Valenzuela (Post-doc) and doctoral students Luis Y. Gayosso-Rosales, Maihualy Martínez Fernández and Brenda Arriaga García, Masters Diana Gutiérrez Esquivel and Karen Patricia Narciso Ortiz, (Fig. 21B ) and the laboratory technician Jorge Osbaldo López Anides (Fig. 22).



Fig. 22. Emma Zavaleta-Mejía and Reyna Rojas-Martínez' work team. From left to right: Mariana Romo Castillo, Víctor Manuel Zuñiga Mayo, Emma Zavaleta-Mejía, Reyna Rojas-Martínez, Karen Patricia Narciso Ortiz, Luis Yobani Gayosso Rosales, Manuel Silva-Valenzuela, Diana Gutiérrez Esquivel, and Jorge Osbaldo López Anides.

**Table. 1. Current research topics that are carried out at 'Laboratorio Jorge Galindo'**

Post-docs	Research Topic/Project
<b>Victor M. Zúñiga Mayo</b>	<ul style="list-style-type: none"> <li>• Role of endosymbionts, hormones and metal nanoparticles in plant-pathogen-vector interactions</li> <li>• Chilli pepper Jojutla Morelos (<i>Capsicum annuum</i> L.), CJ-2018: a variety resistant to <i>Bactericera cockerelli</i>.</li> </ul>
<b>Manuel Silva-Valenzuela</b>	<ul style="list-style-type: none"> <li>• Evaluation of resistance and/or tolerance of Jojutla criollo pepper (<i>Capsicum annuum</i> L.), CJ-2018 to <i>Phytophthora capsici</i> L.</li> <li>• Biological management of root-knot nematodes through the use of mutualistic endophytic fungi and nematophagous fungi.</li> <li>• Chilli pepper Jojutla Morelos (<i>Capsicum annuum</i> L.), CJ-2018: a variety resistant to <i>Bactericera cockerelli</i>.</li> </ul>
<b>PhD students</b>	
<b>Luis Y. Gayosso-Rosales</b>	<ul style="list-style-type: none"> <li>• Expression of sugar transport genes in plants from <i>Solanum lycopersicum</i> and <i>Capsicum annuum</i> L. inoculated with root-knot nematodes and endophytic fungi.</li> </ul>
<b>Maihualy Martínez Fernández</b>	<ul style="list-style-type: none"> <li>• Diagnosis and description of the causal agents of yellowing of chilli in Durango.</li> </ul>
<b>Brenda Arriaga García</b>	<ul style="list-style-type: none"> <li>• Effect of <i>Trichoderma atroviride</i> and copper oxide nanoparticles on pathogenic <i>Fusarium</i> species of the wheat crop.</li> </ul>
<b>MSc Students</b>	
<b>Diana Gutiérrez Esquivel</b>	<ul style="list-style-type: none"> <li>• Effect of three organic products on strawberry crown rot induced by <i>Neopestalotiopsis</i> sp.</li> </ul>
<b>Karen Patricia Narciso Ortiz</b>	<ul style="list-style-type: none"> <li>• Differential expression of defense genes and transcription factor WRKY in plants of <i>Capsicum annuum</i>, CJ-2018 inoculated with <i>Bactericera cockerelli</i>.</li> </ul>

## Spain

## Dr Soledad Verdejo-Lucas



Fig. 23. A: Dr Soledad Verdejo-Lucas; B: 'Viajes al corazón de la Ciencia' interview published in *La Voz de Almería* Newspaper by Jacinto Castillo (Newspaper image courtesy of J. Castillo and S. Verdejo-Lucas).

**Dr Soledad Verdejo-Lucas** was recently interviewed by Newspaper **La Voz de Almería** (Spain) journalist **Jacinto Castillo Milán**. In this interview she tells the story of a lifetime in nematology viewed from the eyes of a passionate nematologist. A journey that many ONTA Newsletter readers will enjoy reading thanks to Jacinto and Sole who allowed the ONTA Newsletter to reproduce the whole interview entitled '**Viajes al corazón de la ciencia**' in its original Spanish version, which we also included translated in English (Journey to the heart of science) to reach all our readers.

El mar, 29 nov 2022 a las 11:15, Jacinto Castillo (<[jcastillo@lavozdealmeria.com](mailto:jcastillo@lavozdealmeria.com)>) escribió:

*La almeriense Soledad Verdejo Lucas convierte el Habibi\* en un aula sobre el papel de la Ciencia, entendida también como pauta de vida*

### Viajes al corazón de la Ciencia

Los especialistas en nematodos dicen que **“están siempre por los suelos”**, pero eso no es más que una irónica manera de referirse al objeto de su trabajo. Una especie de broma amable para aludir a los organismos que estudian y que viven debajo de la tierra que pisamos, manteniendo una relación estrecha con las plantas.

Soledad Verdejo ha dedicado toda una vida de investigación y estudio a estos organismos, casi desde el origen de su intensa y fructífera carrera científica que partió de un doctorado en Farmacia en Granada. Después, vendría una estancia científica en el Reino Unido como antesala de otras más prolongadas en California. Tras la experiencia en Estados Unidos, volvió a España para trabajar en el IRTA (Institut de Recerca i Tecnologia Agroalimentaria) en Barcelona y en el IFAPA

de su Almería natal. Y, después, artículos de divulgación científica, preparación de congresos y la constante vocación de difundir y compartir conocimientos. Por ejemplo, en el CUAM (Centro Universitario de Analítica Municipal de El Ejido).

Aquel primer viaje a Inglaterra supuso una experiencia importante para Soledad, ya que fue su estreno como viajera en solitario por el mapa científico del mundo. Aun así, sabía perfectamente lo que le esperaba: una sucesión de trabajo y de perseverancia que son dos de los ingredientes imprescindibles para la Ciencia, tanto como los microscopios o los tubos de ensayo.

Cuando Soledad llegó a California comprobó en persona las diferencias entre mundos y conceptos muy distintos. Casi nadie había oído hablar en España de control biológico cuando ella llegó a Estados Unidos, para abordar ese asunto que hoy es recurrente en la provincia. Entonces, era casi una utopía que generaba escepticismo y recelo fuera del ámbito de la Ciencia.

Soledad tiene claro que el compromiso científico merece la pena. Por los frutos de la investigación, pero también por la diversidad de puntos de vista que conlleva. Incluso, por la experiencia de conocer realidades tremendamente diversas. En California se encontró con almendros distribuidos de forma cartesiana, todos iguales en altura y fronda. En Almería se habían quedado esos almendros que eran poco más que arbustos desparramados por los cerros como espectros.

Al otro lado del Atlántico encontró también las dos caras del sueño americano: el seductor caos de Nueva York y la beatífica San Francisco. Igualmente, personas de todos los rincones del globo, compartiendo la pasión del Conocimiento. También los recursos económicos para sacar adelante proyectos de investigación. Recursos que escaseaban en aquella España que aún tenía pendientes demasiadas asignaturas.

El compromiso científico merece la pena, escuchando a Soledad hablar de su vida y sus experiencias personales con la serena precisión de su magisterio natural, convirtiendo el Habibi en una especie de aula improvisada

Soledad cita la pandemia vivida como ejemplo del papel de la Ciencia: las aportaciones de los científicos a lo largo del tiempo permitieron afrontar la gran proeza de contar con una solución contra el coronavirus en un tiempo relativamente breve.

**Jacinto Castillo Milán**

Director de Agricultura 2000

[AGRICULTURA 2000](#)

**LA VOZ DE ALMERÍA**

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On Tue, Nov 29, 2022 at 11:15, Jacinto Castillo (<jcastillo@lavozealmeria.com) wrote:

**Soledad Verdejo Lucas from Almeria turns the Habibi into a classroom on the role of Science, entity also understood as a pattern of life**

**‘Journey to the heart of Science’**

**Specialists in nematodes say that “they are always on the ground”**, but that is only an ironic way of referring to the object of their work. A kind of friendly joke to allude to the organisms that they study and that live under the earth that we walk on, maintaining a close relationship with plants.

**Soledad Verdejo** has dedicated a lifetime of research and study to these organisms, almost from the beginning of her intense and fruitful scientific career that began with a doctorate in Pharmacy in Granada. Later, she would come for a scientific stay in the United Kingdom as a prelude to other stays in California. After her experience in the United States, she returned to Spain to work at IRTA (Institute for Agro-Food Research and Technology) in Barcelona and at IFAPA in her native Almería. And, later, publication of technical and scientific articles, preparation of congresses and the constant vocation of disseminating and sharing knowledge. For example, at CUAM (El Ejido Municipal Analysis University Center).

That first trip to England was an important experience for Soledad, since it was her debut as a solo traveller on the scientific map of the world. Even so, she knew perfectly well what was waiting for her: a succession of work and perseverance that are two of the essential ingredients for Science, as much as microscopes or test tubes.

When Soledad arrived in California, she saw in person the differences between very different worlds and concepts. Almost no one had heard of biological control in Spain when she arrived in the United States, to address this issue that is recurring in the province today. So, it was almost a utopia that generated scepticism and suspicion outside the field of Science.

Soledad is clear that the scientific commitment is worth the effort, not only because of the fruits of the research, but also because of the diversity of points of view that it entails. Also, for the experience of knowing tremendously diverse realities. In California, she found almond trees distributed in a Cartesian fashion, all equal in height and foliage. In Almería, however, almond trees were little more than shrubs scattered over the hills like ghosts.

On the other side of the Atlantic, she also found the two faces of the American dream: the seductive chaos of New York and the beatific San Francisco. Likewise, people from all corners of the globe, sharing the same passion for Knowledge. In addition, the economic resources to carry out research projects were available, resources that were scarce in a Spain that still had too many other subjects pending.

The scientific commitment is worth it, listening to Soledad talk about her life and her personal experiences with the serene precision of her natural teaching, turning the Habibi\* into a kind of improvised classroom.

Soledad cites the pandemic she experienced as an example of the role of Science: the contributions of scientists over time have made it possible to face the great feat of developing a solution against the coronavirus in a relatively short time.

\*Habibi is an Arabic word that can be translated as ‘beloved’ (note R. H. Manzanilla-López)

Spain

Prof. Luis Lopez-Llorca

To continue important life journeys stories as told by nematologists themselves, we also present this short story to our ONTA readers entitled ‘Fields of gold’ by Prof. Luis Lopez-Llorca (Fig.).



Fig. 24. Luis Lopez-Llorca (second from left to right) at ONTA’s Annual meeting in Varadero, Cuba (2025). He is accompanied by Ileana Dobles, Martín Junchaya and Luis Pocasangre.

**FIELDS OF GOLD,  
a Tale of Nematodes and Fungi**

Luis V. Lopez-Llorca<sup>1</sup>

<sup>1</sup>Department of Marine Sciences and Applied Biology, Laboratory of Plant Pathology, Multidisciplinary Institute for Environmental Studies (MIES) Ramon Margalef, University of Alicante, 03080 Alicante, Spain.

It is sometime in the eighties. I sit in a green van in Eastern Scotland while we drive along the fields. They are now bare since it is autumn and winter is quickly approaching. We stop around in all farms and always *sing* the same tune: “We have been given by MAFFS the name of your estate for growing cereals continuously for at least 10 or more years” “Do you mind if we take a few soil samples for research purposes only? We will not damage your fields at all”. We make ticks in a rugged list every time we sample soil. Abernyte, Lonforgan, Errol, Glendoick, Glencarse, Inchtur, Spittalfield,...all hosting cereal fields. Then later in the lab, just like a gold digger during the *rush*, I start sieving. Endless afternoons, sitting...and sieving. My stereomicroscope, just like an easy friend, opens the doors of the soil-a true microcosm-for me. I start watching my “treasures”. Some small mineral bits have escaped the fluidity effect of a column (“The Trudgill Tower”) devised by and named after my then Head of Department (Prof. D.L. Trudgill, then at the Scottish Crop Research Institute) for extracting nematodes from soil. Then I scan lots of lighter peat, which make the Scottish *malts* so

good. My sight spots my first cyst. It is lemon-shaped, belongs to *Heterodera avenae*, the cereal cyst nematode (CCN). His *saga* has been there for as long as agriculture in this Scottish land. The evening falls very quickly so high up north. The BBC on the radio is my only companion in the deserted glasshouses where this lab is. As days go by, my '*lemon treasures* (*Heterodera cysts*) grow in numbers. I keep them in watch glasses or best in deeper cyst dishes (never seen them before) in a fridge. It is full of containers with round cysts of *Globodera* spp., the potato cyst nematode. This nematode is the true *star* for most researchers of our lab. Their handling is at an industrial scale, unlike my manual work with CCN. Days later I start dissecting the cysts. Hundreds of shiny, fully embryonated eggs-containing second-stage juveniles appear. They are folded twice and a half their length. I always envisage them as expert 'yogis' performing a difficult 'asana'. Some eggs are empty shells and slowly moving J2 confirm the nematodes were only *meditating* in anabiosis within their mother cysts. Other eggs are full of small *raspberry-like* structures, which are extremely shining under the microscope spotlight. These do not carry larvae inside.

My project involves studying the microbial ecology of the cysts in the soil and in the roots. I have started with the soil part. I record all the features of the cysts with the stereo and light microscope but they do not render the depth of field I need. I am introduced to Mr G.H. Duncan, microscopist at the Virology Department ("upstairs", from us in Zoology). He handles with other colleagues the transmission electron microscopes (TEM) of the virologists. The protocol for sample preparation and the immense magnification of TEM made me think that anyway this was too high a jump from my light microscope micrographs. George then explains to me that he is also in charge of a small Jeol Scanning Electron Microscope, which is hardly used. I get used to the darkness behind the JEOL curtain and I spend many afternoons with my copper stubs, my eggs and my cysts. At the same time I get in touch with the mycologists and soon I get to their kitchen and start making media and pouring plates. I plate my nematode eggs on media devised by Dr J. Duncan and I soon discover that some generate fluffy cottony stuff. I had never seen a fungus so my mind is now full of eggs which bear larvae and others which give birth to fungal colonies. I discover that what was described in England also happens in Scotland, despite being different Kingdoms with separate traditions, different money bills and even rugby national teams☺. Natural biocontrol also takes place in this far north country. My SEM produces tons of images which I assemble like pieces of a puzzle. I count egg-infection and I discover it is inversely related to nematode populations. Lotka and Volterra would have loved working with fungi and nematodes after their Canadian hares and predators in the lonesome Hudson Bay...

One day just like in Boxing Day, everybody is excited for the purchase of a new Scanning Microscope. The new machine will be replacing the small and old JEOL. It is a Cryo-SEM which allows samples to be viewed fresh, using only ice as fixative. We go to Edinburgh University and get acquainted with a similar machine they have there. Soon we have ours operative. I book myself to the new one which has attracted the attention of Senior Researchers. I have sometimes to stand in line but it is worth it. My fields of gold have now plants. The nicest farmers allow us to pull a few plants, to study their roots. I then see white blobs in them which I am told are "white females", meaning immature. My years in the Faculty of Biology learning Embryology from a silver book, with examples from the sea urchins are nothing. It is fascinating to repeat the dissection I did months back with the cysts now with their young white relatives. The contents are an illustration of what mitosis is and its consequences. Eggs are darker than those from cysts, more ovoid and turgent, full of life. Some have two cells, others four and yet others far too many to be figured out. Some slender females have none. "They are virgin ones", so I am told. Other well-developed females have no eggs inside but round structures smaller than eggs instead. I have discovered females infected not by a fungus, like those in cysts, but by a then recently described new species of an Oomycete. *Nematophthora* *gynophila* they call it. In Latin the "surname" tells how cheeky the beast is, since it likes females☺.

One day after observing a fungus infected egg with the cryoSEM I have suddenly the idea of doing what is unexpected. How about mixing my SEM with my culturing? The egg and for that matter the fungus developing from it had withstood  $-130\text{ C}$ , some plasma with a rain of gold colloid and a high vacuum. Well my beloved readers I cannot tell you what I felt when some days later my frozen, electrocuted and vacuumed fungus in a CCN egg grew on my water agar plate. This sufficed that day to decide I was going to devote my research to fungi, these lovely “spaghetti-like” creatures.

In one of my long talks to George I managed to explain him that I wanted everything at the same time, the root, the nematode and the fungus. With the new CryoSEM that became possible. I also wanted to see them from the inside. George put in motion an old cryostat which was also very little used and we started chopping roots and the females or cysts they contained. I saw some immature females healthy with no fungus inside, others with part of the eggs infected and still others with most eggs destroyed. Regarding cysts some which had escaped infection had eggs with larvae inside and those coming from diseased females only contained sick eggs.

Mr W Robertson, our electron microscopist in Zoology, explained to me the secrets of TEM. I painfully, after losing many early infected eggs, managed to embed and cut ultrathin sections of some CCN well-fungal-infected eggs for TEM. Crossing another curtain I was for the first time with the Zoology TEM machine. It sounded to me like at first like an X-ray medical surgery. The TEM allowed us to see that the fungi from the Fields of Gold were breaching the nematode egg shell. Walter pointed to low electron density areas in our TEM micrographs. We worked out that the fungus degrades the components of egg-shells while or before penetrating them.

Reading in the SCRI library I discovered that in Lund University (Sweden), just across the sea from us in Scotland, they had also discovered in their own *Fields of Gold*, eggs, females and cysts infected with the fungus with raspberry-like resting spores so called chlamydospores. My fungal cultures from infected nematodes were sent to the CMI for help with their identification. Dr B.L. Brady, mycologist expert in *Verticillium*, studied the fungi from *The Fields of Gold*. She was on the verge of retirement and sent cultures to Prof. W. Gams working at the CBS in the Netherlands for final opinion. Walter named some of them as a new species (*Pochonia rubescens* Zare, W. Gams & Lopez-Llorca, CBS 110436), which was also present in Southern Sweden. After my thesis, back in Spain, Dr (not yet then) Juana Paez, a good nematologist working with CCN in Seville (several thousand km south from my Bonnie Scottish Fields) was introduced to me by my *Maestro* Prof. A. Alfaro (UPV, Valencia, Spain), a very good Plant Pathologist. The story got repeated. Same actors (fungi, nematodes and cereals) but adapted to survive hot summers (more than  $40^{\circ}\text{C}$ ). The Spanish fungi were infecting cereal cysts in fields of gold close to fields with bulls grazing on them. When you saw them, they looked as meek as the black-faced sheep that placidly spend their lives up north in Scotland. So my dear readers, I can tell you every time I hear *Fields of Gold* sung, a lot of Good Plant Pathology vibrations come to my mind.

Sant Joan d'Alacant, SE Spain  
October 2022

**PS. This tale is dedicated to my dear fellow nematologists and Mycologists of SCRI and Rothamsted, back in the eighties of last century. It is aimed now for mentoring young nematologists and mycologists, the future of our beloved profession and passion.**



**Further reading**

More stories of Luis' journey can be found in the book '**Fitolabook**' ...30 years dreaming, thinking researching and discovering together. You can get access through UA repository where the Fitolabook (Fig. 25) is deposited in Spanish and English versions <http://hdl.handle.net/10045/122188>

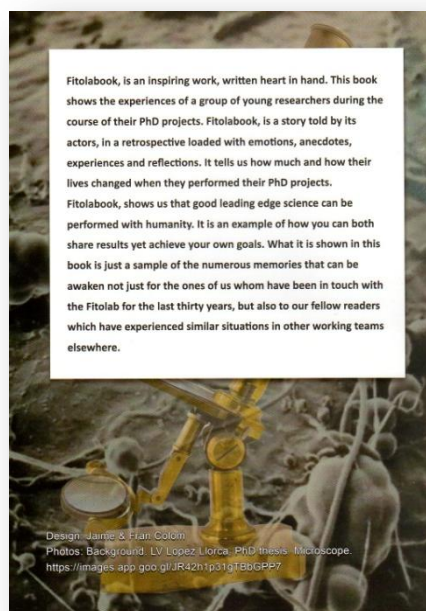
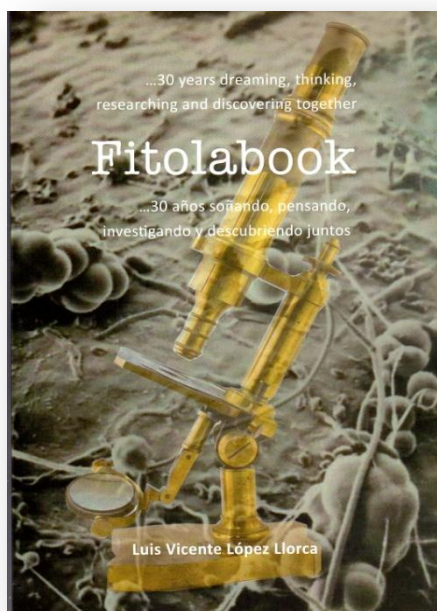


Fig. 25. *Fitolabook* covers.

## Raquel López Núñez



Fig. 26. Raquel López Núñez and David Withall.

A couple of weeks ago I had the pleasure to meet again and talk with MSc Raquel López Núñez at Rothamsted Research Ltd. and hearing about her experiences as a PhD student of going abroad to work and learn in another laboratory, in another language and another culture. Raquel is also a Luis Lopez-Llorca PhD student who just completed a research stay of three months in the UK at the lab of Dr David Withall ([https://www.rothamsted.ac.uk/our-](https://www.rothamsted.ac.uk/our-people/david-withall-0)

[people/david-withall-0](https://www.rothamsted.ac.uk/our-people/david-withall-0)). Dr Withall, a biological and synthesis chemist, is a research scientist who works in the Pest-Host-Interaction Team of Rothamsted.

Raquel currently works researching chitosan formulations that are compatible with biological control agents. Raquel worked formerly as a research assistant at the Laboratory of Phytopathology of the University of Alicante, Spain (Fig.). Her determination to get a scholarship abroad won her a FEM scholarship in 2021. She came in September 2022 to Rothamsted and carried out part of her PhD research program. Her experience in Rothamsted, which was challenging at times, required from her to put into practice many of her professional skills but also acquire new ones. Her stay at Rothamsted has been very productive, and she would like to encourage other graduate students to live by themselves the experience by going abroad: “I encourage everyone who wants to dedicate themselves to research to fight for it and leave fear behind. Do not be obsessed with following a single path because there may be others that lead you to the same goal and the road may be longer but at the same time more rewarding and fruitful”.



Fig. 27. A. Raquel and Ana Lozano Soria giving a practical demonstration of chitosan formulation during a chitosan workshop in the Fitolab (Alicante 2020); B: View of Alicante University campus.

USA

Pat Donald

Society of Nematologists Meeting 2022  
Anchorage AK, USA

September 26-29, 2022 was the first time the **Society of Nematologists** have met in Alaska. It was a great venue with plenty of scenic distractions in addition to great presentations. The local arrangements committee did a great job. The response of membership is seen by the number of people who attended (Fig. 28). For more information go to Society of Nematologists home page and click on NNL 68(3).



*Fig. 28. Group photo SON meeting Anchorage, Alaska (USA) by JDE (courtesy of Pat Donald).*

**The 62<sup>nd</sup> Society of Nematologists meeting will be held 10-14 July, 2023 in Columbus, OH, USA.**

**Kenneth R. Barker (1932-2022)**

Fig. 29. Kenneth R. Barker.

Kenneth Reece Barker (Fig. 29) passed away on August 22, 2022. Ken was born in Benham, Wilkes County, North Carolina, USA, on 1 February 1932 to Bertha Angeline Pruitt and Benjamin Harrison Barker. Ken was part of a large, loving family that ran a small tobacco farm where he quickly learned the value of hard work and the contributions of agriculture to his family and community. A visit to his high school from a North Carolina State University extension plant pathologist, Dr Howard Garriss, convinced Ken to enroll as an undergraduate student in Agricultural Education at NC State University in 1952 – Ken was the first in his family to attend college. Ken was encouraged to take a course in plant pathology taught by Dr Arthur Kelman during his undergraduate studies at NC State, and from that point on, he was hooked. Ken was a student at NC State during the genesis of one of the premier plant nematology programmes in the nation led by Dr C.J. Nusbaum. After earning a B.Sc. degree in Agronomy in 1956, Ken entered a M.Sc. programme under the mentorship of Dr J.N. Sasser at NC State. Ken's M.Sc. thesis focused on the nature of resistance to the stem and bulb nematode, *Ditylenchus dipsaci*, including investigations of variability in pathogenicity of

*D. dipsaci* isolates in different host plant species.

Upon receiving his M.Sc. degree in Plant Pathology in 1959, Ken honored his commitment of service in the U.S. ROTC Reserves. Ken was encouraged to seek his doctoral studies at a different institution, and he chose to conduct his Ph.D. studies at the University of Wisconsin-Madison under the guidance of the famous plant pathologist, Dr J.C. Walker. Ken studied diseases of bean and potato caused by the fungal pathogen, *Pellicularia filamentosa* (*Thanatephorus cucumeris*), for his dissertation research and completed his Ph.D. degree in 1961. Ken had the opportunity to conduct some special projects in nematology with Dr Gerald Thorne during his time as a graduate student in Wisconsin, and combined with his experience in nematology at NC State, Ken was immediately offered the position of Assistant Professor at UW upon receipt of his Ph.D. Ken built a teaching and research program in nematology at UW that included nematode parasites across a range of agricultural and natural plant species.

Ken was recruited back to NC State University as a faculty member in 1966 by the Head of Plant Pathology, Dr Don Ellis. There, Ken joined a nematology 'dream team' at NC State that included C.J. Nusbaum, J.N. Sasser, Hedwig Hirschmann, Anastasios (Tasso) Triantaphyllou, and several extension faculty members with emphases on plant nematology. One of Ken's early missions at NC State was to develop and implement a nematode advisory service in North Carolina that had been envisioned by Dr Nusbaum. Ken established a world-class research program in the ecology, population dynamics and management of plant-parasitic nematodes across a wide range of nematode and agricultural plant species that produced a tremendous volume of peer-reviewed journal publications, books and book chapters. Benchmark research articles that he published with collaborators on 'The interrelationships

of *Meloidogyne* species with flue-cured tobacco' (1981) and 'Influence of planting date on population dynamics and damage potential of *Pratylenchus brachyurus* on soybean' (1985) made Ken the only two-time recipient (1982 and 1986) of the Best Economic Paper Award from the Society of Nematologists. The data generated from the research of Ken and other nematologists at NC State laid the foundation of the North Carolina Nematode Assay Lab that was formalized by the NC Department of Agriculture in 1974 and currently processes more than 50,000 samples per year that are submitted by growers, industry scientists and agricultural professionals.

Ken served as the graduate coordinator in NC State Plant Pathology for 12 years, and he mentored numerous graduate students through his own program who graduated into careers as university faculty members, industry specialists and government scientists. Ken considered these interactions as the most rewarding of his career, and we are fortunate that many of the scientists that he mentored have continued to make major contributions to the science of nematology and attend our professional meetings to this day. Ken became an integral member of the US AID-sponsored 'International *Meloidogyne* Project' led by J.N. Sasser at NC State from 1975-1985 that included more than 100 participating scientists from over 70 countries world-wide. Another highlight of Ken's career was conducting collaborative research with IMP scientists that brought him to countries around the world. Ken served as a co-editor on Volume II (Methodology) of the *Advanced Treatise on Meloidogyne* published by the IMP in 1985.

Ken served the science of nematology before and after his retirement in 1998 not only as a world-class researcher and scholar, but in multiple efforts as a member of his profession. He served as an Editor-in-Chief of the *Journal of Nematology* from 1975-1977, and as Vice-President (1978) and President

(1979) of the Society of Nematologists (SON). Ken was a founding member of the International Federation of Nematology Societies (IFNS) in 1996 and served as the inaugural IFNS President from 1996-2002. Ken was awarded the honor of Fellow of the SON (1986) and the American Phytopathological Society (1980), and he was selected as an Honorary Member of SON in 1993. Ken's exceptional professional reputation and scholarship earned him an invitation to publish a rare prefatory chapter in the 2003 *Annual Review of Phytopathology* entitled 'Perspectives in Plant and Soil Nematology' (Barker, 2003) that remains relevant to this day. Ken was also invited in 2015 to prepare a video legacy of his career through NC State Libraries that provides a more candid view of his life in his own words (<https://d.lib.ncsu.edu/collections/catalog/mc00449-oh-barker-20150303>).

Throughout his prestigious career, Ken remained a devoted family man. He was married to his lovely wife, Betty, since 1958 and they raised two wonderful daughters, Elizabeth and Nicole. Their families grew to include four grandchildren and together they all enjoyed the beaches of North Carolina as well as attending NC State Wolfpack football and basketball games. Ken was active as a member and in leadership roles in the Raleigh Moravian Church and he particularly enjoyed participating in giving back to the community through church activities. Ken and Betty continue to give back in spirit through several generous endowments including the Kenneth and Betty Barker Student Travel Award through APS (<https://www.apsnet.org/members/give-awards/donate/giving/funds/Pages/Barker.aspx>). The K.R. Barker-IFNS Endowment through the SON Cobb Foundation ([https://www.nematologists.org/Cobb\\_Endowments](https://www.nematologists.org/Cobb_Endowments)), and the Kenneth R. Barker Plant Pathology Graduate Endowment at NC State University (<https://go.ncsu.edu/ken-barker-plant-path-grad>).

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Obituary courtesy of *Nematology*

Davis, E. L. (2022). Kenneth R. Barker (1932-2022). *Nematology* 24(10): 1195-1196. doi:

<https://doi.org/10.1163/15685411-00003563>

**Erwin Aballay (1961-2022)**by **Gabriela Lankin and Ernesto San-Blas***Fig. 30. Erwin Aballay Espinoza*

It is with great sadness that we received the news of our friend and colleague Erwin Aballay passing away on 11 September 2022.

Erwin began his studies in Agricultural Engineering at the University of Chile in 1979. He was a skinny young man of 18 years old, with a great love for music, culture, friendship and justice. In 1986, after working as an assistant at the same University, he was hired as an academic, where he would continue working until his last days. Erwin completed his Master degree in 2001 and his PhD in 2012 at the Swedish University of Agricultural Science (Uppsala, Sweden) and being one of the few Chilean specialists in nematology. At the University of Chile, Erwin became Full-time Professor; he was also Director of the Department of Plant Protection and President of the Academic Evaluation Committee of the Faculty, among other relevant academic positions.



*Fig. 31. A: Erwin attending a viva at the University (image courtesy Fahiem El-Borai Kora); B: Erwin as a jury member at students best poster competition in Cancun, Mexico (2012).*

With great commitment and perseverance, he transformed his laboratory into a center of reference in Chile and Latin America and generated bonds of affection with colleagues from many corners of the planet, who have mourned his death, expressing their admiration for the great friend and scientist he was (Fig. 32). During his professional life, Erwin participated as principal investigator and co-investigator in several research projects related to the diagnosis and different control methods of plant-parasitic nematodes of fruit and vegetables crops, among which are alternatives to chemical control, such as resistant rootstocks, soil solarization, organic amendments and Chilean native flora as potential nematicides. He also studied the Rhizobacteria associated with *Vitis vinifera* and their incidence on *Xiphinema index* and the development of the root system; he also studied entomopathogenic nematodes for the control of pests of agricultural crops. He applied all this knowledge in private consultancies to agricultural producers.



Fig. 32. A: Erwin at the day out of the ONTA meetings in Viña del Mar, Chile (2005) and (B) La Joya, Arequipa, Peru (2018).

He made stays in numerous research centers in different countries, he was the author or co-author of more than 40 publications in peer-reviewed scientific journals and numerous extension articles, he was a member of several national and international scientific societies, being a very active member of ONTA, where he was a Vice President candidate (2008). He was also part of the *Nematropica* Editorial Board; in 2005 he organized the XXXVII ONTA Annual Meeting in Viña del Mar, Chile (which earned him the ONTA Special Award for his organizational and scientific skills), and in 2013 he was member of the Local Arrangements Committee that organized the 45th Annual Meeting in La Serena, Chile.

His closest collaborators and students feel that, more than a workplace, Erwin offered them a meeting place and friendship, with space to share, get to know each other, laugh, create strong affective ties, which ended up turning the group into a true family that transcends his time at the Faculty at the University of Chile. Today they all feel deeply grateful and fortunate to have learned and worked alongside such a great person, professional and specialist. They remember him with great affection and admiration and as a team they will maintain his great legacy.



Erwin caused a great impact on those of us who were fortunate enough to know him and to receive the gift of his kindness, his smile, his equanimity, his generosity and his empathy on a daily basis. From every corner of the world we will always remember him with love.

### Friendships

#### Nahum Marbán-Mendoza

I met Erwin at an ONTA meeting in Brazil. He arrived late and without a reservation. He knew me from literature and gave my name to the organizers. That night, Fabio and some Guatemalan colleagues were already in my room. From that day on, great friendships were born (Fig. 33). Erwin was in a cooperation program with a group of Swedish nematologists different from those in Lund. I think some of them have passed away. Erwin had taxonomic training with them and I remember a contribution of *Xiphinema americanum sensu lato* from Chilean fields. His great contribution was the chemical and non-chemical control of nematodes associated with wine vines and fruit vines. In every meeting he presented his work always with new products or application modifications. He was an advisor to Bayer almost always and trained many young people in the practical side of phytonematology.

Several times, at junctures, he organized ONTA meetings with our seal: professional meetings of great camaraderie in beautiful places of his beloved homeland. He was a very important asset to the organization; always discreet and deeply committed. Surely many will have fond memories of Erwin, a great wine tasting friend.



Fig. 33. Erwin and Nahum at the ONTA Annual Meeting in Montreal (2016).

## Colleagues

### Juan Carlos Magunacelaya



*Fig. 34. From left to right: Soledad Verdejo-Lucas, Juan Carlos Magunacelaya and Alejandro Esquivel. ONTA Annual Meeting (Varadero, Cuba, 2016).*

It is unfortunate that people die young, partly because life tells us that it is the older ones who should die and that the young survive us. The death of a young man like Erwin hurts all the more because he could have given so much more. Erwin passed away very young, only 61 years old, which in nematological science is a short time, given the long time it takes to train a nematologist in this beautiful discipline, the innate difficulties that nematodes constantly present to us, and the proper training that allows a good practice of the profession.

I shared several years with Erwin at the University of Chile (Fig. 34), and along the way we were sometimes colleagues and sometimes competitors, and in both cases Erwin was a good professional. I am very sorry to see him go and I hope that time, almost as a contradiction in terms, will bring comfort to his family.

## Family

### Luna Aballay

ONTA was very important to him. He was always aware of what was going on, he told me about the congresses and how much fun he had in those places. I have found many pictures of him at the many congresses he attended, pictures where everyone is very happy.



*Fig. 35. Luna, Erwin and ONTA members at the Annual Meeting in Costa Rica (2019). Image courtesy of Helen Elizabeth Guardia Casas.*



*Fig. 36. ONTA Annual meeting at La Serena, Chile (2013).*



*Fig. 36. Workshop on of plant-pathogenic nematodes molecular diagnostic at the Phytosanitation Center of Mexico City (2010).*

## Book review

**ROLAND N. PERRY, DAVID J. HUNT & SERGEI A. SUBBOTIN (Eds).** *Techniques for work with plant and soil nematodes.* Wallingford, UK, CAB International, 2021, 312 pp. ISBN: 9781786391759 ePub 9781786391773. Price: £95.00; €110.00; \$130.00

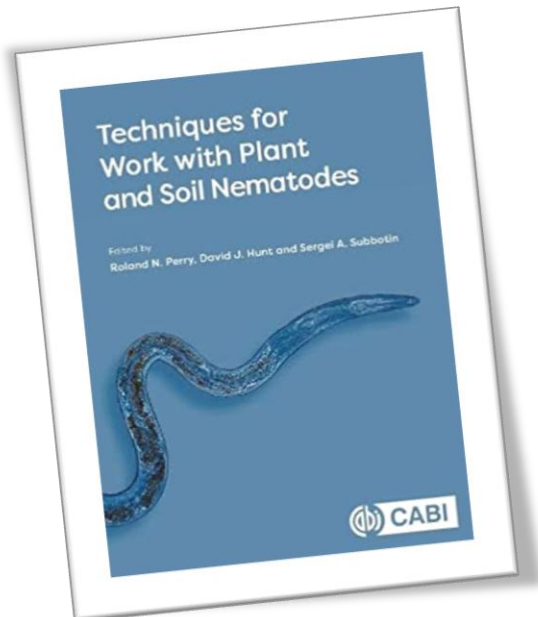


Fig. 37. *Techniques for work with Plant and Soil Nematodes.*

It was a great pleasure to receive and review *Techniques for work with plant and soil nematodes* (Fig. 37). Indeed, no sooner than it had been unwrapped from the stiff cardboard packaging, I found myself leafing through the pages to look for information on extraction methods for one of our newest Ph.D. students, who is working on stubby root (*Trichodorus* spp.) and needle nematodes (*Longidorus* spp.). For many years, our group, like others, have referred to the MAFF/ADAS Reference Book, *Laboratory methods for work with plant and soil nematodes* edited by John Southey (1986) for standard methodology. Despite being a ‘fount of knowledge’ for all things nematology, this book was desperately in need of an update with regard to more recent techniques (35 years’ worth) and also the unavailability of noxious reagents that have been banned subsequently due to their risk to human health and/or the environment. Despite the similar titles, the current book differs from the book edited by Southey in a number of ways. Firstly, and as expected, there is a far more comprehensive and up-to-date range of content to assist those studying plant-parasitic and free-living nematodes. The book covers everything from sampling, extraction, traditional enumeration, handling, preparation of mounts and nematode measurements, in addition to electron microscopy, resistance screening, molecular techniques, staining chromosomes and even designing assays to assess behaviour and physiology. This extensive range of topics provides everything needed to support those who are new to nematology, such as postgraduate students, as well as those with experience. As well as having a good topic range, this book is easier to use than the book by Southey or unpublished manuals for nematology courses. Each chapter has a helpful introduction that provides background based upon reviewed literature and the personal experiences of the author(s). Before progressing to the individual techniques/methods, I would recommend taking the time to read the introductory material, as it contains general principles and guidance on selecting specific methods. The techniques themselves are laid out with the details of the materials needed and stepwise instructions for performing the task. There are often useful introductory notes that provide the reader with a critical

evaluation of the technique, *e.g.*, suitability for nematode genera, links to websites for supplies and technique modifications or variations. Details on topics such as the best nematode picks are simple, but important – I will certainly be looking to obtain some EndoHandles for our group! Moreover, the book is packed with color photographs, schematic diagrams, graphs and tables of collated information. These figures add quality and improve accessibility; a photograph or diagram is really helpful when trying a new technique or assay in the laboratory.

As already indicated, the book has chapters on modern techniques that would otherwise only be available in a condensed form through peer reviewed publications, or in unpublished research group literature. An example would be the chapter on resistance screening, which describes and illustrates a range of different set ups, such as closed container systems, seedling growth pouches and the ‘Roottrainer book’ used by the James Hutton Institute for screening resistance to potato cyst nematodes. For molecular diagnostics, there are helpful notes on DNA extraction and PCR, as well as a fantastic table that collates the currently available published universal (ribosomal RNA genes) and species-specific primer pairs. The final chapter provides detail on DNA sequencing and phylogenetic analysis covering everything from choice of programs to management of sequence data and searching of sequence databases *i.e.*, BLAST.

I have no doubt that *Techniques for work with plant and soil nematodes* will be an invaluable reference to both students and experienced nematologists for identifying traditional and molecular techniques. This is not a book that will sit pristinely on our bookshelves; it is a book that will travel in and out of the laboratory or back home for some evening study.

MATTHEW A. BACK

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Book review courtesy of *Nematology* Vol. 23 Issue 7 (2021)



payment; 3) wire transfer. Janete Brito and Renato Inserra have full codes for wiring if requested.

Please give generously to support the activities and projects of the ONTA Foundation.

**Get busy! ONTA Foundation, Inc. status is clear and high. Open your wings and take a flight!**

Dear ONTA member,

ONTA Foundation is ready for a campaign to request donations and expand its contributor base in a big way. ONTA Foundation can receive funds through several means: 1) checks made out to the ONTA Foundation and mailed to Janete Brito (Fig. 38); 2) credit card, same information required as for membership



*Fig. 38. Janete Brito.*



Dear ONTA Member,

A list of active members with their e-mail addresses and countries has been posted on the ONTA website (<http://www.ontaweb.org/onta-membership-directory/>). Please verify your membership status on the posted list. Contact Julia Meredith ([jmeredith@cox.net](mailto:jmeredith@cox.net)) if your membership status is not updated.

Thanks,

Julia Meredith  
ONTA Acting Secretary



*Fig. 39. Julia Meredith.*

ONTA NEWSLETTER INVITATION

Dear ONTA member,

Do you have a passion for nematodes and nematology? Would you like to share nematology news and pictures with our ONTA members? If so, welcome aboard!

We would like to extend to you a warm invitation to send or share information for our next ONTA Newsletter issue.

Please contact us. We are looking forward to hearing from you and to learn about your local nematology events and news.

Thanks,

Rosa (ONTA Newsletter editor)



*Fig. 40. Rosa H. Manzanilla-López.*

ACKNOWLEDGEMENTS

The ONTA Newsletter editor would like to thank all ONTA Newsletter contributors for sending and sharing information and images through May-December 2022.



Fig. 41. Christmas card Courtesy of Walter Peraza (National University of Costa Rica).



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