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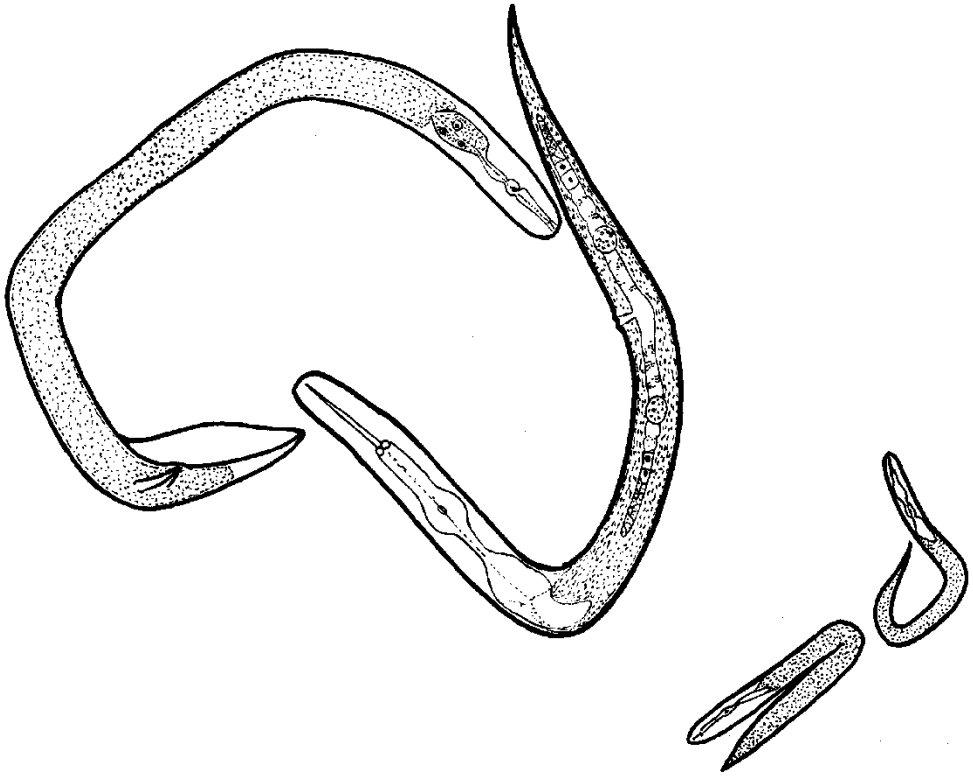
AUSTRALASIAN NEMATOLOGY NEWSLETTER



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From the Editor

Thank you to those of you who made contributions to this current newsletter.

July Issue

The deadline for the July issue will be late June 2014. I will notify you a month in advance so please have your material ready then. Some of you will be going to the ICN meeting in South Africa. I look forward to getting reports of the conference.

Kerrie Davies

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Association News

FROM THE PRESIDENT

It seems that every newsletter brings more sad news. In this case, I have to mention John Marshall, who passed away in January. John was a former president of AAN, councillor for IFNS and a nematologist of some distinction, particularly for his work on Potato Cyst Nematode (PCN). More than all this he was a great bloke; always cheery and highly entertaining. Another colleague that I will miss both personally and professionally.

What of the future? Where are the young to replace the sad losses at the other end of the careers? Struggling away to get a foot in if the experience of my students are anything to go by.

The AAN was formed as a professional body in response to concerns over the future of nematology in the Australasian region. It seems that even many years later that concerns are still there. I hope this doesn't mean that I and others in the offices of AAN have not been doing our jobs, but rather that, like the red queen in Lewis Carroll's *Through the looking glass*, "it takes all the running you can do, to keep in the same place" (Carroll 1871).

While on the subject of travel—which seems to be getting increasingly difficult to get approved—perhaps it is worth remembering that the AAN newsletter is one way to communicate if face to face is impossible. Like everything else in AAN (see below), the format and subject are really informal and flexible, so the topic can be any neat research, any questions that others may be able to help with, or anything at all. This is what the newsletter was set up for, and is perhaps also relevant today with travel budgets being squeezed.

The 6th International Congress of Nematology is on in early May in Cape Town, South Africa. This is the main international event and showpiece for the discipline of nematology. (Cynics would say it's the only thing that the different societies with their very different cultures can agree on. If you want an example of this have a look at the structure and procedures manual for SON (extensive) and compare it with our own formal structure and procedures (small to the point of invisibility)).

A reminder that any students wanting grants to attend 6th ICN should apply very soon. The application process couldn't be easier or more informal. Write to me or any committee member telling us briefly why you would like to go and any other resources you have managed to get. We are unlikely to be able to fund the total cost, but should be able to provide a substantial amount. The conference organizers may be able to provide a grant as well (see elsewhere in this issue).

The main local meeting of AAN has traditionally been held in association with APPS. The next APPS will be in Perth next year. Nematology papers at APPS have not had their own session for some time now, but there is an opportunity to have a specialist session at the next APPS, so please support it.

The response to the calls from both Sarah and me for expressions of interest in running or participating in a workshop at APPS remains underwhelming, so it looks like it might be

what we think might be interesting. But we would still love suggestions or offers: it's not too late!

Any comments or questions on any of this, please get in touch.

Mike Hodda

Regional News

NEWS FROM THE ACT

CSIRO Ecosystem Sciences

The Canberra nematology group has continued to charge ahead, as anyone trying to contact Mike would have noticed!

The biggest news was that Sunil Singh submitted in August, just under 3.5 years after stepping off the plane. Quite an achievement, considering the thesis consisted of 5 papers, 2 of which were published before submission, with the 3rd being accepted one day after submitting the thesis. The other papers are still in the pipeline. Sunil is now looking for a post-doctoral position (see comments in the President's column). Mike still hopes to get him back, and has applied for funding but is still awaiting the outcome of the funding application.

Natalie Banks continues to find interesting nematodes on produce and interesting networks of movements of that produce. She is on a period of extensive data collection at the moment, so watch this space for when the results are all in. I will not spoil her thunder by telling, but I can tantalize by saying that they are absolutely fascinating, and not what anyone was expecting.

Mike's other student, Kylie Crampton from CSU Wagga, had her PhD candidature confirmed after delivering a very good seminar. She has continued the painstaking search for biological control agents that work against *Pratylenchus* and is making slow progress.

Mike himself has continued to work on higher-level nematode systematics and biosecurity risks, also on training in SE Asia. If this sounds like a very brief description of 6 months work, it is because at the end of each year he has to sit and think to recall for his performance assessment the rapid and constant succession of different activities without any break in between. As stated at the outset, it is all go.

Mike Hodda.

NEWS FROM VICTORIA

DEPI Horsham

Nematology activity at DEPI Horsham again increased during 2013. We recently signed a new 5 year agreement with the GRDC which adds to existing nematology activity. The new 5 year funding is great news for nematology nationally as it involves collaborations with DEPI – Horsham, NSWDPI – Tamworth, QDPI – Toowoomba, SARDI – Adelaide, and AgWA – Perth. As part of the new project, Joshua Fanning has been appointed to the Horsham cereal pathology team.

The Cereal Nematology projects have continued in collaboration with SARDI, screening cereal crops for resistance and tolerance to root lesion nematodes (*Pratylenchus thornei* and *P. neglectus*). Manipulation of nematode numbers following 2012 trials resulted in good separation in nematode populations between high and low nematode plots. Results from testing the tolerance of varieties will be analysed during early 2014. This year, screening for resistance against both *P. thornei* and *P. neglectus* was undertaken in field peas and lentils. Soil samples were analysed using the PredictaB DNA assay at SARDI.

Planning is now underway for 2014 screening trials to occur within the National Nematology program. These will look at yield loss in lentils, chickpeas, field peas and canola with varieties grown under high and low nematode populations, with manipulation of numbers to occur during 2014. Results from these trials will assist growers to control populations of *P. thornei* and *P. neglectus* in the paddock, in addition to minimising losses associated with the nematodes.

Matthew Rodda has been conducting experiments for development of a method to screen chickpea (and *Cicer* wild species) for resistance to root lesion nematode (RLN). Some tweaking of the protocol is still going on, and initial experiments with *P. thornei* are progressing. Analysis of the soil from pot trials is being, and will be, performed by SARDI's PreDicta-B assay. Matthew hopes to have full-scale screening experiments using the method underway in the next six months.

Joshua Fanning, Matthew Rodda and Grant Hollaway

DEPI Crop Health Services

In mid-March this year, we were relocated from Knoxfield to the new AgriBio Building at the Bundoora campus of La Trobe University. Our new laboratories are spacious and well equipped with a range of modern facilities that can provide for the processing of a far greater volume of samples than our previous lab.

Nematology staff are occupied with PCN soil samples, as well as general nematode samples including those from vegetables, pines, field crops, turf, and ornamentals. Annually we receive from 2,000 - 3,000 PCN soil samples from seed potato growers for phyto-sanitary certification for interstate transport and export purposes.

An important priority at present is the documentation of diagnostic protocols, as we are moving towards NATA accreditation of our laboratory.

The DEPI nematode reference collection consists of over 9,000 permanent-mounted glass microscope slides, of a very wide range of predominantly plant-parasitic nematode species. Details of all specimens are captured in a computer database. This collection is of critical importance for the rapid and accurate identification of new samples. It functions as an essential reference tool for quarantine, diagnostic, research and extension work on economic species relevant to Victorian agriculture, forestry and conservation. Although the majority of

specimens are locally-detected species, the exotic specimens in our collection are of particular value for quarantine purposes and for identifying new incursions.

Please note our new contact details:
Department of Environment and Primary Industries
Crop Health Services
AgriBio Building
La Trobe University
5 Ring Road
Bundoora
VIC 3083
Phone: (03) 9032 7515
Fax: (03) 9032 7604

Lila Nambiar and John Wainer

NEWS FROM SOUTH AUSTRALIA

The University of Adelaide

In the last 6 months, the review of *Fergusobia* (with Leigh Nelson, David Yeates, Gary Taylor, Robin Giblin-Davis and others) was finally accepted (*Biol. J. Linn. Soc.*). Kerrie now has only one manuscript describing new species of *Fergusobia* to complete. After 20 years or so working with these nematodes, this feels rather odd, and she is thinking of other things she can do with the accumulated data. Not good at letting go…….

During a trip to the UK in January 2014, Kerrie met up with Adrian Evans and his wife Pat. Adrian is preparing to teach nematology in the Agricultural School at Harper Adams University College in Shropshire. Since Adrian's retirement, nematology is no longer taught at Silwood Park, the rural campus of Imperial College, London. As in Australia, interest in and funding for nematology within universities seems to be in decline in the UK.

Kerrie and 'Fred' Bartholomaeus continue to struggle with the revision of the genus '*Schistonchus*', which is paraphyletic.

Kerrie Davies

South Australian Research and Development Institute

SARDI has a number of Nematology projects within the Sustainable Systems division.

Katherine Linsell has continued work on the collaborative project between Biological Crop Protection (Graham and Marcelle Stirling) and SARDI, which is developing DNA tests for the rapid assessment of free-living nematode communities in Australian cropping soils. A multivariate statistical analysis approach was used to analyse the data collected from various environments (soil type, rainfall region) under different management practices (tillage, rotation, fertiliser, stubble) across multiple years. Two key drivers identified to be influencing changes within free living nematode (FLN) communities were soil type which is linked to regional rainfalls, particularly 1-3 months prior to crop sowing, and the application of certain nutrients, particularly N, P, S and Cu. A Bray–Curtis measure of similarity characterised the contribution of each species/genus driving the changes between each

management/environmental treatment and seventeen FLN species were identified as good indicators. Nine DNA tests have been developed incorporating eleven of the FLN indicators and are predicted to detect more than 80% of the FLN species present in Australian cereal cropped soils. There was a very strong correlation between FLN community structures obtained from the manual count & DNA tests which is super exciting. The 2014 focus is on developing DNA tests for the six remaining indicators along with collecting soil from fertiliser trails to further investigate nutrient inputs and their influence on FLN communities.

Sjaan Davey and Alan McKay in collaboration with DEPI Horsham are continuing to work on a GRDC-funded project screening cereal cultivars for resistance and tolerance to the root lesion nematodes (*Pratylenchus thornei* and *P. neglectus*) and the cereal cyst nematode (*Heterodera avenae*) in the field. In 2013 two trials to test the tolerance of current and newly released cereal varieties to both CCN and *P. neglectus* were completed. Results suggest that in combination the excellent 2013 season and low initial nematode populations limited yield loss in both trials. Two new *P. neglectus* tolerance trials have been set up for evaluation of tolerance in current and newly released cereal varieties in 2014. It is anticipated that 3 more *P. neglectus* trials will be set up in 2014 for tolerance evaluation in 2015.

Paul Bogacki is investigating the effect of break crops on *Pratylenchus* multiplication as part of a 5 year project funded by GRDC. The project will focus on NVT trials where *Pratylenchus* are the predominant soil-borne pathogen to assess crop performance and identify varietal differences. Preliminary results from 2013 NVT trials of canola, peas, lentils, and faba beans will be presented.

Katherine Linsell and Sjaan Davey

NEWS FROM BELGIUM

BSES

Lea Meagher has an Erasmus Mundus Scholarship to undertake a Master of Science in Nematology at Ghent University in Belgium. She sent the following report:

As a component of the Master of Science in Nematology is to complete a semester outside of Belgium, this semester I have been at the University of Evora in Portugal. Evora itself is a lovely little World Heritage city, surrounded by medieval walls and aqueducts and full of picturesque cobble-stone streets, whitewashed buildings with colourful window and door frames and exceptionally friendly, relaxed people, good food and fantastic Fado music! The Mitra campus, which is where the Nemalab is situated, is about 12km outside of the city. The scientific facilities are modern and the university itself is surrounded by the Montado, the landscape of Cork and Olive trees.

As most of you are aware, pine wilt disease, for which *Bursaphelenchus xylophilus* is the pathogenic agent, was first detected in Portugal in 1999. This semester we have learnt much about the PWD complex, not just about the nematode but also the vector, bacteria and molecular components related to phylogeny and also effectors. This information was enthusiastically provided by Professors Manuel Mota, Solange Oliveira and Dr. Marek Tomalak. Biocontrol of nematodes was also a relevant topic this semester and all aspects of Biocontrol were taught by Professor Diogo Figueiredo, while information about fungi was from Professor Celeste Silva. Less nematode-based courses included physiology of plants under biotic stress, taught by Professor Alexandra Costa, and plant viruses and vectors taught by Professors Maria Ivone Clara and Maria Rosário Félix. Patrick Materatski, a PhD student from Brasil, gave an interesting seminar on the response of nematode assemblages after a major collapse in seagrass beds.

This semester I have also been preparing a literature review which contributes towards my thesis. I will commence work on it next semester in Belgium. My thesis, the molecular basis for lifespan extension of *Caenorhabditis elegans* in axenic medium, will be conducted at the Laboratory of Aging Physiology and Molecular Evolution under the supervision of Bart Braeckman and Huaihan Cai. I'm looking forward to an interesting and challenging final semester.

Lea Meagher

Obituary

JOHN WILLIAM MARSHALL

1946–2014

Colleagues and friends were shocked by the sudden death of John Marshall on 4 January in Christchurch, New Zealand, after a very short illness. His highly energetic approach to life, passion for science and absolute commitment to translating research results into advice for growers were legendary amongst his New Zealand colleagues, extensive network of nematologists and crop protection specialists around the world, and industry contacts.

His career began with DSIR's Crop Research Division at Lincoln in November 1973 as he was completing his Masters thesis in the Zoology Department at the University of Canterbury, on 'A biological investigation of the Leeston Drain, Canterbury, New Zealand'. As the Acting Director noted at the time, on his recommendation to appoint John as a plant breeder for potato, "Mr Marshall is currently completing a MSc thesis. Although he has no experience in potato breeding, he is keen to progress." And progress he did. By 1976 John had made the transition to Scientist, Plant Diseases Division, and was already focusing on potato cyst nematode (PCN) in South Island potato crops. He engaged very effectively with potato growers around the Marshlands area on the outskirts of Christchurch and with breeders seeking to incorporate nematode resistance into new potato cultivars. His application to undertake a PhD on the ecology of PCN in the South Island was confirmed by 1978.

By the early 1980s, John's outstanding ability to communicate his findings to others had been noted, with the Deputy Director of MAF commending John for his ability to speak clearly and concisely and use effective graphs, and commenting that he "came across well". That was just the beginning; technology transfer was to be a key feature of John's career. His commitment to deliver research that would solve industry problems was well recognised with one of his manager's commenting in 1980 that "Without his forceful perseverance substantiated by sound knowledge, the South Island programme on PCN would never have started".

In 1984 John was given approval to travel to the USA, Canada, UK and Europe for 40 days. This was to be amongst the first of many international trips to meet experts in his fields of interest, keep up with the latest science and technology, and search for applications that could help New Zealand growers improve the yield and quality of their crops.

John's entrepreneurial bent was also emerging at this time; he became involved in the importation of garlic cultivars and their assessment for commercialisation in New Zealand. Collaborations with international colleagues around the development of molecular approaches to detect and identify PCN and develop resistance to it in potato germplasm were well established in the 90s, bringing new knowledge of this pest to New Zealand scientists and industry as well as new sources of research funding. At the time, securing overseas funding for New Zealand research was quite revolutionary as was recognising the importance of molecular biology to plant pathology. The primers that he and colleagues developed for identifying PCN have been used worldwide and are still the basis for the separation of the species in the European and Mediterranean Plant Protection Organization (EPPO) protocol.

Following John's death, Terry Hill (Executive Director of the Irrigated Agriculture and Diversification section of the Western Australian Government's Department of Agriculture and Food) commented that: "John played a pivotal role in the containment and management of PCN after its discovery in Western Australia in 1986. Through the ongoing surveillance and maintenance program developed with the assistance of John, Western Australia was officially declared free from PCN in 2010, a world first achievement." He went on to say that the combination of John's knowledge, friendliness, indefatigability and confidence were a delight to experience and his efforts were rewarded with success and sincere friendships.

John's high energy levels, originality of thinking, openness to other points of view, capacity to gain new skills rapidly and considerable enthusiasm were legendary and often led his less entrepreneurial colleagues into collaborations that were well "outside the square".

His work during the 1990s expanded to develop solutions to crop protection problems in the carrot and mushroom industries. He had also shown leadership in bioethics and established a committee to reflect community interests in science and technology.

John's ability to champion ideas and recruit resources to explore them was well recognised. By the late 1990s he had become Group Leader of a team at the New Zealand Institute for Crop & Food Research Ltd that applied molecular detection and quantification to a wide range of pathogens and pests. A particular achievement was publishing the first paper to outline a protocol for detecting powdery scab on potato tubers.

John retired from his role as Senior Scientist and Leader of the Quantitative Microbiology Group at Crop & Food Research in June 2006. He continued to work as a consultant to industry and with research colleagues at Lincoln University's Plant Bioprotection Centre of Research Excellence.

He also pursued a number of hobbies throughout his adulthood, including woodwork, sculpture and pottery, reflecting his very creative and free-spirited approach to life. His quirky sense of humour, ability to engage sincerely with people and his spontaneity are traits we will all remember him for.

Compiled by colleagues and friends at The New Zealand Institute for Plant & Food Research Limited.

6th ICN, South Africa

The organization of the 6th ICN is well under way. Deadlines are approaching and abstracts are rolling in. The deadline for abstracts is the 31st of January 2014. Not that far away, so if you still thinking about it, please write your abstract and send it.

The student grant applications are also closing on the 31st of January, for those students that would love to come to the meeting but have no funds secured, please apply through the 6th ICN website today! We are getting more funds in every week so you really stand a chance of getting support. We have changed the wording on the website and although preference will be given to students from developing countries, everyone has a chance to get support. Also, if you have received partial funding but need a little extra help, apply for the student grant adding that you only need a certain amount. We cannot help if we are not aware of you. Those that applied elsewhere and are still waiting for an answer, apply through our website and mention the other possible funding. We would like to help 50 students to attend the 6th ICN.

The scientific programme showing the names of the chair and co-chairs of each session is on the website. We are planning to have 2 sessions for each of the 15 themes. Although we have placed each one into the programme, sessions might be switched around a little bit to suit everyone. We will have four workshops including '*Meloidogyne* races', 'Hoplolaimidae and Pratylenchidae', 'Cyst nematodes' and a working group meeting by Bayer, our lead sponsor.

On the Wednesday you can choose between 4 options for a field trip. Please do not ask which one is the nicest because each one will give you a splendid experience of the beautiful Cape! The visits to these beautiful spots are free of charge. If the weather permits, all participants will end the day of the field trips together on Table Mountain to see the sunset.

Keynote Speakers

Every day a few keynote speakers will get the opportunity to talk to us in a plenary session about their field of specialization, covering important aspects of nematology research. After the plenary sessions we will divide into four concurrent sessions.

Our keynote speakers will span all areas of Nematology and will be:

Aurelio Cianco

Aurelio's scientific interests concern the study of the rhizosphere microbiology and nematode micro-parasites, as well as biological control issues and sustainable agricultural production. Aurelio started the study, in collaboration with R. Mankau, of the nematode parasitic bacteria of the genus *Pasteuria* which lead to research on antagonistic microorganisms and biological control agents. He studied host-parasite relationships with non-linear models describing the relationship between bacteria, fungi and nematodes in soil. He also developed, for the first time (1993), new techniques and noninvasive methods based on Atomic Force Microscopy (Nanoscope) or Photon Emission Microscopy. These applications yielded the first in vivo and high resolution observations on nematodes, bacteria and microorganisms, and other organic molecules (enzymes, antibodies) in conditions close to those found in nature. His work therefore focused on the diagnosis of nematodes and associated microorganisms, on plant pathogens including viruses, and on applied aspects of biological control through microbial detection, and genomic or transcriptome analyses. He is interested in the study of natural substances with nematicidal action, including mycotoxins and substances of plant origin. At the moment he is the research group leader and responsible for sub-project: "Study and development of innovative strategies for plant protection", within the framework of the CNR Project "Sustainability of the agro-industrial system".

Larry Duncan
Larry received a Ph.D from UC Riverside in 1983 and went to study nematode pests in the African Sahel in Senegal. When soil fumigants were deregistered he was hired by the University of Florida to manage burrowing nematodes in citrus. His research focuses on the ecology and management of plant parasitic nematodes of citrus and the ecology of entomopathogenic nematodes and their potential role in citrus integrated pest management. Specific projects relate to phylogenetics and PPN, population assessment of nematode and insect pests, crop loss assessment, soil borne food web dynamics and IPM tactics. He was Editor-in –Chief of Nematropica and is author of more than 150 scientific publications dealing with nematodes and insects.

David Chitwood
David received a B.S. in Mathematics and a Ph.D. in Plant Pathology from the University of Maryland. After working as a postdoctoral associate at Beltsville, he joined the Insect and Nematode Hormone Laboratory in 1982. In 1989, he joined the Nematology Laboratory and assumed the position of Research Leader a few years later. His research interests are: Development of environmentally safe control methods for plant-parasitic nematodes, based upon unique aspects of their biochemistry. Nematode biochemistry, especially the biosynthesis and function of steroids, sphingolipids, and other lipids. The isolation and identification of nematode-antagonistic compounds from fungi and plants.

Haddish Melakeberhan
Dr Haddish Melakeberhan, a native of Eritrea and a naturalized US citizen, is an Associate Professor in the Department of Horticulture at Michigan State University (MSU). He holds Diplomas in Agriculture (Ambo, Ethiopia) and Crop Protection (Harper Adams, England), and M. Sc. (Imperial College, England) and Ph. D. (Simon Fraser, Canada) in Nematology. Dr. Melakeberhan's research focus has been on understanding plant-nematode-soil-nutrient interactions at the organism and ecosystem levels with the goal of developing integrated and sustainable nematode, nutrient cycling, and soil health management in cropping systems. In addition to numerous research reports, Dr. Melakeberhan has authored/co-authored 160 refereed articles, book chapters, extension bulletins, and conference abstracts. He has presented 41 invited talks, taught courses in nematology, plant pathology and crop production and protection,and trained five postdocs, and six graduate students. Dr. Melakeberhan has been an ad-hoc reviewer for 25 international journals, a review panelist of several federal funding agencies, and is a member of many professional societies. As an active member of SON, Dr. Melakeberhan has served in the Industry, Plant Resistance and Honors and Awards Committees, Executive Board, and IFNS Council (2002-2006). He continues to be an active promoter of North-South interactions to advance nematology globally.

Danny Coyne
Danny Coyne has worked in tropical agriculture since 1989, beginning as a village extension office in rural Tanzania. He has spent most of his working life traversing Africa, working at both the national programme and international research institute levels. With specialization in nematology, he is one of few nematologists in Africa. Of late he has broadened into the wider field of soil health in relation to plant host-pest-antagonist relations and the ecological aspects. Training underscores all of his work, whether at the farmer, technician, or academic level.

Howard Atkinson
Prof. Howard Atkinson founded the Plant Nematology lab in Leeds University. The Leeds group research fundamental aspects of plant/ nematode interactions using the knowledge to design novel methods of control. Howard has applied plant biotechnology to nematode control since this became a possibility. A particular interest is to adapt the technology to make it appropriate, biosafe and freely available to subsistence growers. We seek to eliminate the considerable contribution plant nematodes make to world food insecurity.

Andrea Skantar
Dr Andrea M. Skantar has been a Research Molecular Biologist in the Nematology Laboratory of the USDA Agricultural Research Service, Beltsville, MD, USA since 1997. Her research includes molecular diagnostics and phylogenetic analysis of plant-parasitic nematodes of regulatory and agronomic concern, including species that affect alfalfa, forage grasses, and their rotation crops. She has also been heavily involved in the molecular diagnostics of potato cyst nematodes recently detected in the U.S. Andrea currently serves as Secretary of SON, Senior Editor for the Journal of Nematology and Editor for Nematology.

Luis Pocasangre
Luis Pocasangre received his PhD in nematology/plant pathology at the Universität Bonn, Germany on the "Biological enhancement of tissue culture plantlets with endophytic fungi for the control of the burrowing nematode *Radopholus similis* and the Panama disease *Fusarium oxysporum f.sp. cubense*". He has been an associate Scientist at INIBAP/CATIE since 2000 and is responsible for the coordination of banana and plantain research projects of the International Network for the Improvement of Banana and Plantain at the Regional Office for Latin America and the Caribbean INIBAP/LAC and is also responsible for the International MUSA Testing Programme (IMTP) for Latin America. As an Associate Professor of CATIE he is responsible for the induced resistance research line which includes: a) Induced resistance to Panama disease (FOC) b) Enhancement of banana tissue culture through endophytic fungi c) Studies on suppressive soils to nematodes. He also teaches the postgraduate courses: nematology and tissue culture and is actively involved with MSc students.

Pierre Abad
After a Ph.D at the University of Paris-XI Orsay and a two-year post-doctorate in genetics, Pierre Abad joined INRA in 1986 as a senior researcher at the Station de Nématologie et Génétique Moléculaire des Invertébrés in Antibes, later becoming its director in 1993. In the early 2000s, as part of the Sophia Agrobiotech project, Pierre Abad established a research strategy on the study of the interaction mechanism between plants and their closely-associated microorganisms in parasitic or symbiotic relationships. Subsequently, and in a more integrated vision, he was responsible for research policy on the protection of plants based on agro-ecological approaches where the natural processes of ecosystems and associated organisms are used to improve crop protection.

Director of UMR IPMSV in 2004, then of UMR IBSV in 2008, since 1st January 2012, Pierre Abad has been director of the new Sophia Agrobiotech Institute responsible for research issues on the health of plants and the environment.

Started over twenty years ago, the work of Pierre Abad's team focuses on the study of the molecular dialogue between the plant and root-knot nematodes. Pierre Abad's team studies both partners in this interaction and analyses the events that lead either to the development of disease or the plants' resistance.

Have a look at the web site: www.6thicn.com . If you encounter any problems with the website please do not hesitate to contact Susie Prangley at info@6thicn.com or myself at mieke@arc.agric.za

Mieke Daneel

(January 2014)

Other News

If you want to check out some interesting Nematology articles get reading below!

Borgonie G, Garcia-Moyano A, Litthauer D, Bert W, Bester A, van Heerden E, Moeller C, Erasmus M, Onstott TC (2011) Nematoda from the terrestrial deep subsurface of South Africa. Nature 474:79-82

Barry M (2007) The tail end of guinea worm - Global eradication without a drug or a vaccine. New England Journal of Medicine 356:2561-2564