



ENTOMOPATHOGENIC NEMATODOLOGY SHORT COURSE
04 – 08 July 2022
University of Stellenbosch, J S Marais Building, Victoria Street
Practical Laboratory

DAY 1: MONDAY 04 JULY

BROAD INTRODUCTIONS

| Date/Time | Type of activity | Topic | Person Responsible |
|--|-------------------------|--|---------------------------|
| 08:00 – 09:00 | Introduction | Introductions and logistics | AP Malan and C Kapp |
| 09:00 - 09:30 | Theory | Introduction to insect parasitic nematode | AP Malan |
| 10:00 - 10:30 | TEA | | |
| <u>SAMPLING FOR THE ISOLATION OF EPNs</u> | | | |
| 10:30 - 11:00 | Theory | Introduction to entomopathogenic nematodes | AP Malan |
| 11:00 – 12:00 | Theory | Working with microscopes | A Botha |
| 12:00 - 13:00 | Theory | Theory of sampling, baiting, white traps, storage | N Stokwe |
| 13:00 - 14:00 | LUNCH | | |
| 14:00 - 14:30 | Theory | Surveys for EPN occurrence and distribution | AP Malan |
| 14:30 - 15:00 | Practical | Demonstration of soil baiting / white traps / collecting / storage | NF Stokwe and C Kapp |
| 15:00 - 15:30 | TEA | | |
| 15:30 - 16:30 | Practical | Baiting own samples | C Kapp |



DAY 2: TUESDAY 05 JULY

UNDERSTANDING THE BIOLOGY OF ENTOMOPATHOGENIC NEMATODES

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|----------------------|--------------|---|----------|
| 08:00 - 09:00 | Theory | Life cycle, biology and ecology | AP Malan |
| 09:00 - 10:00 | Practical | Dissections of infected wax moth larvae | AP Malan |
| 10:00-10:30 | TEA | | |
| 10:30-13:00 | Practical | Morphological identification | AP Malan |
| 13:00-14:00 | LUNCH | | |
| 14:00-15:00 | Theory | Symbiotic bacteria | MD Dunn |
| 15:00-15:30 | TEA | | |
| 15:30-16:30 | Practical | Isolation and preservation | MD Dunn |

DAY 3: WEDNESDAY 06 JULY

MOLECULAR CHARACTERIZATION OF ENTOMOPATHOGENIC NEMATODES

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| 08:00 - 08:30 | Practical | DNA extraction | R Knoetze |
| 08:30 - 09:00 | Theory | PCR: Theory and application | R Knoetze |
| 09:00 - 11:00 | Practical | PCR demonstration | R Knoetze |
| 11:00 - 11:30 | TEA | | |
| 11:30 - 12:30 | Theory | Molecular identification and phylogeny | R Knoetze |
| 12:30-13:00 | Practical | Preparing of an agarose gel | R Knoetze |
| 13:00 - 14:00 | LUNCH | | |
| 14:00 - 15:00 | Practical | Loading a gel | R Knoetze |
| 15:00 - 15:30 | TEA | | |
| 15:30 - 16:30 | Practical | Visualisation of DNA bands on agarose gel | R Knoetze |



DAY 4: THURSDAY 07 JULY

MASS CULTURE AND FORMULATION

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|----------------------|--------------|-------------------------------------|------------|
| 08:00 - 09:00 | Theory | Laboratory screening | L Mathulwe |
| 09:00 - 10:00 | Practical | Demonstration | L Mathulwe |
| 10:00 - 10:30 | TEA | | |
| 10:30 - 11:00 | Theory | Culture in shake flasks | MD Dunn |
| 11:00 - 13:00 | Practical | Demonstration | MD Dunn |
| 13:00 - 14:00 | LUNCH | | |
| 14:00 - 15:00 | Theory | Formulation | M Dunn |
| 15:00 - 15:30 | TEA | | |
| 15:30 - 16:30 | Practical | Formulation video/ Demonstration | M Dunn |

DAY 5: FRIDAY 08 JULY

REGISTRATION, GENERAL DISCUSSION, QUIZ

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| 08:00 - 09:00 | Theory | NEMBA Act | W Beukes |
| 09:00 - 10:00 | Theory | Registration and logistics for international EPN sales | M Wolfarter |
| 10:00-10:30 | TEA | | |
| 10:30 - 11:00 | Theory | Introduction to mollusc parasitic nematode (MPN) | A Pieterse |
| 11:00 - 13:00 | Practical | Analyse own soil samples | C Kapp |
| 13:00 - 14:00 | LUNCH | | |
| 14:00 - 15:00 | Theory | Quiz/Evaluation | C Kapp |
| 15:00 - 15:30 | TEA | | |
| 15:30 - 16:30 | Discussion | General | Everyone |

Further information contact:

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