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# 9th Biotechnology Congress

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## Sanaa Haroon

*Fayoum University, Egypt*

## Application of molecular tools and technologies for plant nematode identification in Egypt

Molecular biology and its application have been used as strong tool for research; it provides an understanding of host parasite interaction at molecular level and seeking new means of parasite intervention. We focus on recent progress in the molecular mechanisms of host parasite relationship with special emphasis to nematode as a serious pest to human, animal and plant our research focus on nematode problems in plants. Root Knot considered as one of the most important pest all over the world, many species has been identified to cause problems to field crops, vegetables and fruit trees. Molecular tools were used for nematode identification, Ribosomal DNA for ITs spacer to identify different genera while multiplex test for different species in mixed population. Different population and races within root knot was determined using RAPD technology. Dendrogram was developed to provide analysis the relationship between populations. RFLP technology plays an important role for species analysis; restriction enzymes used to identify species of Root Knot also SCAR techniques were used to obtain special markers for each species. Laser captures Micro dissection (LCM) was used for expression analysis of giant cells that is formed by Nematode. Giant cells were collected using (LCM), RNA was extracted and used to make a cDNA library and expressed sequence technology (ESTs) produced and used for gene ontology analysis (LCM) allowed for the isolation of tissue enriched for giant cell providing material suitable for a variety of molecular analysis. RNAi is also a tool both in cell culture and in living organisms.

### Biography

Sanaa Haroon is a Molecular Nematologist who completed her MS and PhD from Florida University, USA. She is the Director of Nematology and Biotechnology lab, Fayoum University, Egypt. She is the Egyptian Representative in the International Federation of Nematology. She has published 72 papers and was awarded by the Prime Minister in the Global Environmental (Bio control), is a recipient of the Excellence prize 2007 in Molecular Nematology area and National Promotion for Science from the Academy of Science. She has participated in 18 international conferences; Grant coordinator of 16 projects through her scientific life (USA, Germany, Holland, Sweden, European Union). She is also a member in 9 scientific organizations.

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