



The Abdus Salam
**International Centre
for Theoretical Physics**



This is to certify that

Ali ABDELAAL

participated in and completed the
**Joint ICGEB-ICTP-APCTP Workshop on Systems Biology and
Molecular Economy of Microbial Communities**

Co-sponsors:
International Centre for Genetic Engineering and Biotechnology (ICGEB)
Asia Pacific Center for Theoretical Physics (APCTP)

3 - 7 July 2017

ICTP, Trieste, Italy

Directors: D. Segre' (Boston University), S. Levin (Princeton University),
V. Venturi (ICGEB), Pan-Jun Kim (KAIST)
Local Organizer: M. Marsili

Fernando Quevedo, Director



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Systems Biology and Molecular Economy
of Microbial Communities**

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Trieste, 6 July 2017

TO WHOM IT MAY CONCERN

This is to certify that

Dr. Ali Abdelaal, Assistant Professor, Damietta University, Egypt and
ICGEB, Integrative Biology Department, Microbial Engineering Group,
New Delhi, India

attended the Joint ICGEB-ICTP-APCTP Workshop on Systems Biology and
Molecular Economy of Microbial Communities held at the Abdus Salam
International Centre for Theoretical Physics from 3 - 7 July 2017, and
presented a poster entitled *Global patterns of pectin degradation revealed through
metagenomic mining*.

Yours sincerely,

Erica Sarnataro

Workshop Secretary