The increasing problems of providing stable food security to a growing population under conditions of an unstable, erratically changing climate are being confounded by new problems of protecting crops from weeds, arthropods and pathogens, as well as abiotic stresses including heat, cold, salinity, and pollutants. Novel “out of the box” solutions to these problems, beyond those already being used, are the topics of this workshop.

Emyr Davies, Rothamsted
Pollinators, pests and predators; the pesticide conundrum
Vinnie Altstein, Agricultural Research Organization
Rational design of a family of neuropeptide antagonist insect control agents
Shireen Davies, Glasgow
New neuroendocrinological approaches for insect control
Asaph Aharoni, Weizmann
Betalain against pathogens - more than paint
Anne Osbourn, John Innes
Deliverying new plant traits using synthetic biology approaches

Novel Biological Approaches
Jurrian Ton, Sheffield
Exploring and exploiting the plant acquired immune system
Elisa Korenblum, Weizmann
Rhizosphere diversity influences plant metabolome, potentiating stress resistance
Phil Poole, Oxford
Root colonisation and community selection
Amir Sharon, Tel-Aviv University
Isolating endophytes producing biocontrol agents that reduce need for pesticides
Einat Zchori-Fein, ARO Newe Yaa
Insect symbionts as bio-control agents against phloem-restricted pathogens
Robert Jackson, Reading
Novel biological approaches
Raymond St. Leger, Univ. Maryland
Transgenic fungi for arthropod control and growth promotion

"Know thine enemy" to delineate new approaches
Rafi Perl-Treves, Bar-Ilan University
Clustered R genes control disparate pathogens – implications
Eyal Emmanuel, Evogene
Genomics and insect biocontrol

Closing Remarks
Rob Edwards

Conveners
Prof. Robert Edwards, Centre for Synthetic Biology and the Bioeconomy, Head of School – Institute Director, IAFRI, School of Agriculture, Food & Rural Development, Newcastle
Prof. Jonathan Gressel, Plant & Environmental Sciences, Weizmann

Registration and abstract submission for poster session at: http://tiny.cc/nchrey

General
Jonathan Gressel, Weizmann
Problems of crop protection seemingly intractable to conventional solutions

Crop Genetic and Transgenic Approaches
Dudy Bar-Zvi, Ben-Gurion
Modulated protein degradation in plant adaptation to abiotic stress
Ari Sadananam, Durham University
Exploiting protein modification systems to develop new crop protection strategies
Amit Gal-On, Agricultural Research Organization
CRISPR/Cas9 crop resistance against viruses
Neil Brown, Rothamsted
Innovative approaches to combat mycotoxigenic fungi
Adi Avni, Tel-Aviv University
Inducing plant defense responses mediated by MAMP EIX
Catherine Tetard-Jones, Newcastle
Endophytic engineering of plant defences

Novel Chemical and Physical Approaches
Elena Poverenov, Agricultural Research Organization
Edible nanotechnological coatings protect stored fresh products
Renier van der Hoorn, Oxford
New chemical proteomic approaches to investigate the plant-pathogen interface
Zvi Hayouka, HU Jerusalem
Random peptide mixtures control bacterial pathogens
Oren Ostersetzer, HU Jerusalem
Phenyalanine analogues inhibit plant growth and development
Rob Edwards, Newcastle
The chemical control of chemical control

The increasing problems of providing stable food security to a growing population under conditions of an unstable, erratically changing climate are being confounded by new problems of protecting crops from weeds, arthropods and pathogens, as well as abiotic stresses including heat, cold, salinity, and pollutants. Novel “out of the box” solutions to these problems, beyond those already being used, are the topics of this workshop.

Registration and abstract submission for poster session at: http://tiny.cc/nchrey

Sponsors
The (UK) Academic Study Group & The Chorafas Institute for Scientific Exchange

Conference Coordinator & Accessibility Issues
Inbal Azoulay, inbal.azoulay@weizmann.ac.il