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Neurospora 2002
Asilomar Conference Centre
March 14 – 17 2002

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Conference Overview

Session one - Genomic Analysis

The first session consisted of talks outlining the current position of the Whitehead Institutes *N. crassa* genome sequencing project and further talks discussing gene finding and gene annotation as well as how to access the online gene list for *N. crassa*. (www.bioinf.leeds.ac.uk)

Session two - Signalling and development

Talks including "The clock in *Neurospora*", "The clock kinase in *Neurospora* circadian clock" and "Roles for WHITE COLLAR-1 in circadian and general photo perception in *Neurospora crassa*" gave a review of the current research into the *N. crassa* circadian rhythms as well as describing novel components involved investigated using genetic and genomic approaches.

Session three - Gene Regulation/Gene Silencing

Talks on the use of unpaired DNA and it's silencing of itself in meiotic prophase as well as the presence of unpaired DNA being necessary but not sufficient to trigger meiotic silencing gave a review of this field as well as outlining current research.

Session four - Organelle Biogenesis/Metabolic Regulation

This session contained a number of talks that were more relevant to my current research, but while none of the processes being discussed were suitable for investigation using my research it did provide a number of people with whom I could discuss possible application of my research. Talks included "Regulation of sulphur metabolism in *Neurospora crassa*" and "Sugar Sensing in *Neurospora*".

Session five - Cell Biology and Morphogenesis

As with the previous session, this one contained a number of talks that were more relevant to my research. With a talk on "Hex1 crystal structure reveals the mechanism of self-assembly and evolutionary origin of Hex1", Hex1 being the mutant strain my research is carried out on.

Feedback from poster sessions and discussions

While the sessions provided an interesting and up to date review of work being carried out by the *Neurospora* community, it was the poster sessions that provided most useful. Listed below are a number of contacts and possible collaborators made and ideas for the possible application of my research.

- **Basic amino acids** – arginine, lysine and ornithine – involved in metabolic pathway, grow on media without nitrogen source. Investigate to see if older, more vacuolated, regions of the mycelium act as stores, therefore having higher concentration than growing tips. (Richard Stockton from Collage of New Jersey is working on the characterisation of efflux of basic of

basic amino acids from the vacuole of *Neurospora crassa*, and has investigated the use of these amino acids as a nitrogen store.

- **Trehalose** – determine concentrations from regions around the mycelium, there are *N. crassa* auxotrophic mutants. May have role in Circadian regulation of stress responses and development, as *N.* clock-controlled gene-9 (ccg-9) encodes trehalose synthase.
- **Cardiolipase** – In *N. crassa* only found on mitochondria, investigate concentration as well as possible change when treated with the fungicide currently under investigation.
- **Heavy metal resistant strains of *N. crassa*** – K. Rashmi from the university of Osmania working with the University of Kansas Medical Center are currently working with cobalt resistant and sensitive strains as well as strains sensitive to other heavy metals. (*cor* is resistant to 10 mM Co^{2+} or 10 mM Ni^{2+}) Investigation into possible localisation of heavy metals in different regions of the mycelium.
- **Actin** – investigate levels at tip growth compared to older mycelium.
- **rt-PCR –** microsampling from single hyphal compartment and carry out rt-PCR, investigate different regions of the mycelium and life cycle.