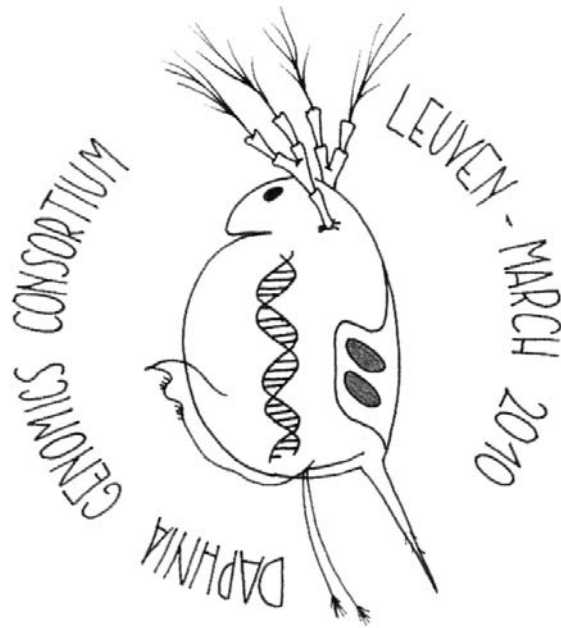


# *Daphnia* Genomics Consortium 2010



## Program

DGC meeting, Leuven, 26-30 March 2010

# Program overview

	Friday 26th March	Saturday 27th March	Sunday 28th March	Monday 29th March	Tuesday 30th March			
8:00	Registration	registration						
8:45		welcoming words						
9:00		Ecology and Evolutionary Genomics	invited speaker <i>(D.Ebert)</i>	Gene expression and Function	invited speaker <i>(C.Laforsch)</i>	Genotype by Environment interaction	invited speaker <i>(M.Pfrender)</i>	Discussion Forum
9:30			invited speaker <i>(A.Tucker)</i>		invited speaker <i>(A.Beckerman)</i>		invited speaker <i>(R.Pirow)</i>	
10:00			oral presentations (1)		oral presentations (1)		oral presentations (1)	
10:20			coffee break		coffee break		coffee break	
10:30			Registration		oral presentations (4)		oral presentations (4)	oral presentations (4)
10:50								
12:10								
13:00	Bioscience symposium	Welcome	excursion (guided_tour_Leuven)	lunch				
13:20		DGC past present and future <i>(L.De Meester &amp; J.Colbourne)</i>						
14:00		registration						
14:30		coffee break	Toxicology & Environmental Genomics	Comparative Genomics and Development		invited speaker <i>(W.K.Thomas)</i>		
15:00		Meeting with other model organisms				Poster presentations	invited speaker <i>(A.Callaghan)</i>	invited speaker <i>(J.Manak)</i>
15:20						coffee break	invited speaker <i>(J.Shaw)</i>	oral presentations (1)
16:00						Poster presentations	oral presentations (1)	coffee break
16:20						Poster presentations	coffee break	oral presentations (4)
17:00		Poster session	oral presentations (5)	Poster session				
18:00		Reception and registration						
18:20								
19:00	Discussion							
20:00		Pub	Pub	Conference dinner & party				
21:00								

# **BioScenter Symposium: Ecological and evolutionary genomics in model organisms**

Friday March 26<sup>th</sup>

10.00-13.00: *Registration*

13.00-13.15: VICERECTOR KAREN MAEX & ORGANIZERS

Welcome

13.15-13.35: LUC DE MEESTER

Introduction to the theme and the model system

13.35-14.30: JOHN COLBOURNE (invited)

The making of model species *Daphnia* for environmental genomics:  
shared efforts, shared rewards

14.30-15.00: *Coffee break*

15.00-15.30: THIERRY VOET (invited)

Single cell genomics reveals chromosome instability in human cleavage  
stage embryos

15.30-16.00: STEIN AERTS (invited)

Computational mapping of genregulatory networks in *Drosophila*

16.00-16.30: PETER VERLEYEN (invited)

From genome to behaviour: the honeybee model

16.30-17.00: DENIS TAGU (invited)

Analysis of phenotypic plasticity of the reproductive mode in the pea  
aphid, using genomic resources

17.00-17.30: JEAN-CHRISTOPHE SIMON (invited)

Population genomics of a terrestrial cyclical parthenogen

18.00-21.00: *Reception & Registration*



# Ecology and Evolutionary Genomics

Saturday March 27<sup>th</sup>

- 8.00-8.45:      *Registration*
- 8.45-9.00:      *Welcoming words*
- 9.00-9.30:      DIETER EBERT (invited)  
                    Mapping phenotypic traits in the *D. magna* genome.
- 9.30-10.00:     ABRAHAM TUCKER (invited)  
                    Population genomics of *Daphnia pulex*.
- 10.00-10.20:    CHRISTOPH R. HAAG  
                    Genetic architecture of fitness in *D. magna*.
- 10.20-10.50:    *Coffee break*
- 10.50-11.10:    JARKKO ROUTTU  
                    Gene mapping of *Daphnia magna* parasite resistance.
- 11.10-11.30:    BENJAMIN LANGE  
                    Host range of a microsporidian parasite.
- 11.30-11.50:    LUISA ORSINI  
                    Ecological genomics in space and time: the signature of natural selection  
                    in wild populations of the water flea *Daphnia magna*.
- 11.50-12.10:    PEPIJN LUIJCKX  
                    Resistance of *Daphnia magna* to a bacterial pathogen is based on few  
                    loci with strong epistasis.
- 12.10-14.30:    *Lunch*

# Poster Presentations

Saturday March 27<sup>th</sup>

- 14.00-14.30: *Registration continues*
- 14.30-15.30: ECOLOGY AND EVOLUTIONARY GENOMICS & GENE EXPRESSION AND GENE FUNCTION
- Aurora Geerts: The genomics underpinning adaptive responses to global warming.
- Pia Kreuzer: Grubbing in mud - Has Global warming already left traces in *Daphnia's* genome?
- Julia Reger: Mapping the geography and genetics of fear - a case study with predators and prey
- Sarah Rousseaux: Association between species diversity and genetic diversity in a zooplankton metacommunity
- Isa Schön: Putative ancient asexual *Darwinulidae* (Crustacea, Ostracoda) go genomics
- Alexander Wacker: Essential resources in *Daphnia* - evolutionary aspects?
- Joost Vanoverbeke: Clonal selection and genetic drift in cyclical parthenogens – the interplay between neutral and selective processes
- Mathilde Cordelier: Differential gene expression profiles in response to temperature changes in a large lake Cladocera species, *Daphnia galeata*.
- Florian Leese: Predator-induced defences in *Daphnia pulex*: Selection and evaluation of internal reference genes for gene expression studies with real-time PCR
- Yasuhiko Kato: Sequence divergence and expression of a transformer gene in the branchiopod crustacean, *Daphnia magna*
- Hitoshi Miyakawa: Chaoborus-induced polyphenism is regulated by the juvenile hormone pathway in *Daphnia pulex*
- Kevin Pauwels: Unraveling mechanisms underlying antipredator responses in *Daphnia magna*: a proteomic approach
- Johannes Strauss: A novel pigment-dispersing hormone in multiple interneurons of the *Daphnia* brain and visual ganglia, some displaying circadian rhythmicity
- Tokishita Shin-ichi: Temporal and spatial expression of Boule homologs during embryogenesis and gametogenesis in *Daphnia magna*.
- Isabel Vanoverberghe: The development of transgenic *Daphnia* in the *Daphnia-Pasteuria* interaction
- Evelyne Vanvlasselaer: Trapped in diapause? Can we resurrect old dormant eggs of the waterflea *Daphnia magna*
- Linda Weiss: The Neurohormone Dopamine influences Life-History Traits and inducible morphological Defense Structures against *Chaoborus* spec. in *Daphnia pulex*
- Gang Wu: Plant LEA-like genes activated in post-diapause embryo of *Artemia franciscana* against water stress

- 15.30-16.00: *Coffee break*
- 16.00-17.00: TOXICOLOGY AND ENVIRONMENTAL GENOMICS OF NATURAL AND HUMAN STRESSORS, GENOTYPE BY ENVIRONMENT INTERACTIONS & COMPARATIVE GENOMICS AND DEVELOPMENT
- Jana Asselman: Metallothionein expression in *Daphnia pulex* under stress: functional characterization of a gene with high ecotoxicological relevance
- Dörthe Becker: Reactive oxygen species (ROS) and redox buffers as an interface between stress sensing, signaling and physiological responses in *Daphnia magna*
- Anke Cielen: Gene-expression patterns of combined stressors in *Daphnia magna*
- Jo Devrieze: Putting evolutionary principles into ecotoxicology: at which concentration of cadmium can we expect natural selection in a natural *Daphnia magna* population?
- Nathalie Dom: Toxicogenomics used as a biology-based alternative method to investigate the mode of action of structural analogues.
- Taisen Iguchi: Molecular impact of juvenile hormone agonists on neonatal *Daphnia magna*
- Benjamin Nota: Gene expression analysis reveals a gene set discriminatory to different metals in soil
- Marlies Messiaen: Do natural and human stressors explain the observed genetic variation of Cd tolerance within and between *Daphnia magna* populations
- Gessica Gorbi: Effects of crowding and food limitation in two different clones of *Daphnia magna*
- Yann Reydelet: Proteomic analysis of short-term heat stress response in two *Daphnia pulex* clones
- Torrance C. Hanley: The interaction of food quality, predation, and genotypic variation: the effects of ribosomal DNA intergenic spacer length on *Daphnia* life history response
- Kan Liu: Analysis and comparison of a set of expressed sequence tags of the parthenogenetic water flea *Daphnia carinata*
- Kuchi Srikeerthana: Comparative inter-genome analysis using ESTs to identify new immune genes in *Daphnia pulex*
- Way Sung: Synteny between *D. pulex* and *D. magna* physical maps
- Hangxiao Zhang: A comparative analysis of the *Artemia* mitochondrial genomes
- 17.00-18.00: *Posters discussion*

# Gene expression and Gene function

Sunday March 28<sup>th</sup>

- 9.00-9.30: CHRISTIAN LAFORSCH (invited)  
Molecular basis of inducible defenses in *Daphnia*.
- 9.30-10.00: ANDREW BECKERMAN (invited)  
Predator induced gene expression in developmental hormone pathways.
- 10.00-10.20: D. CAROLINA PEÑALVA-ARANA  
Extrachromosomal DNA transformations with multigenerational stability in eyeless clones of *Daphnia pulex*.
- 10.20-10.50: *Coffee break*
- 10.50-11.10: HEINRICH DIRCKSEN  
Genomics, transcriptomics and peptidomics reveal *Daphnia pulex* neuropeptides and protein hormones closer related to insect than to decapod.
- 11.10-11.30: ANKE SCHWARZENBERGER  
Gene expression in *Daphnia*: response to cyanobacterial protease inhibitors.
- 11.30-11.50: ELLEN DECAESTECKER  
Candidate immunity gene expression in the ecological genetics model *Daphnia*.
- 11.50-12.10: FEI LIU  
Diapause associated gene regulation networks of *Artemia franciscana*.
- 12.10-15.00: *Lunch & Excursion*

# Toxicology and Environmental Genomics of Natural and Human Stressors

Sunday March 28<sup>th</sup>

- 15.00-15.30: AMANDA CALLAGHAN (invited)  
Linking transcriptomic profiles to population effects in *Daphnia magna*.
- 15.30-16.00: JOSEPH R. SHAW (invited)  
Genomic basis for evolved metal tolerance in *Daphnia pulex*.
- 16.00-16.20: WILLIAM S. BALDWIN  
Annotation and phylogenetics of the nuclear receptors and cytochromeP450s.
- 16.20-16.40: *Coffee break*
- 16.40-17.00: DARREN J. BAUER  
Use of RNA-seq to identify *Daphnia* genes involved in resistance to toxic *Microcystis aeruginosa*.
- 17.00-17.20: BETTINA ZEIS  
Acclimatory responses of the *Daphnia pulex* proteome to changes of oxygen and temperature conditions.
- 17.20-17.40: MIEKE JANSEN  
Gene-expression profiles in response to three different stressors.
- 17.40-18.00: MICHIEL B. VANDEGEHUCHTE  
DNA methylation and transgenerational effects of exposure in *Daphnia magna*.
- 18.00-18.20: NADINE TAYLOR  
Discriminating the modes of action of toxicants via changes in the daphnid metabolome.

# Genotype by environment interactions

Monday March 29<sup>th</sup>

- 9.00-9.30:      MICHAEL PFRENDER (invited)  
A Functional Ecological Genomic Perspective on Genome by Environment Interaction
- 9.30-10.00:    RALPH PIROW (invited)  
Molecular and physiological responses of *Daphnia pulex* to acid stress.
- 10.00-10.20:   JUSTYNA WOLINSKA  
Genotype-environment interactions can alter selection in a host-parasite system.
- 10.20-10.40:   *Coffee break*
- 10.40-11.00:   STUART R. DENNIS  
Phenotypic convergence under predation risk.
- 11.00-11.20:   JEFFRY L. DUDYCHA  
Differential gene expression and adaptation to resource environment.
- 11.20-11.40:   JOACHIM MERGEAY  
Priority effects in arctic settings and sexual strategies.
- 11.40-12.00:   KATRIN P. LAMPERT  
A test of genetic differences for overwintering strategies in *Daphnia pulex*.
- 12.00-14.00:   *Lunch*

# Comparative Genomics and Development

Monday March 29<sup>th</sup>

- 14.00-14.30: W. KELLEY THOMAS (invited)  
Heterozygosity in the Xinb31 X linb1 cross: the *Daphnia magna* mating panel
- 14.30-15.00: JOHN MANAK (invited)  
The use of cutting-edge genomics technologies to annotate and characterize genomes:  
Lessons from water fleas, sea squirts, flies and beetles.
- 15.00-15.20: CHRISTOPH MAYER  
Genome-wide analysis of tandem repeats in *Daphnia pulex* - a comparative approach.
- 15.20-15.40: *Coffee break*
- 15.40-16.00: YASHIRO SHIGA  
Co-option of a conserved gene regulatory module during the evolution of wings, carapace and other flat outgrowths.
- 16.00-16.20: FRANCE DUFRESNE  
Unusual duplications of the insulin receptor in *Daphnia pulex*.
- 16.20-16.40: PETRA UNGERER  
Neurogenesis in the water flea *Daphnia magna* (Crustacea, Branchiopoda).
- 16.40-17.00: JING SUN  
Role of mitochondria in post-diapause reactivation of *Artemia* encysted embryos.
- 17.00-18.00: *Posters discussion*
- 20.00-onward: *Social dinner & Party*