

# CV

## Address

Indiana University  
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**Languages:** English, Greek, French (basic)

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## Academic Career

2018 - Present Postdoc - Indiana University

**Topic:** QTL for sexual dimorphism, local adaptation, sex-specific selection and sex-chromosome evolution in the plant *Silene latifolia* and sexually antagonistic traits in *C. remanei*

**Supervisor:** Lynda Delph

2014 - 2018 Premier Assistant - University of Lausanne

**Topic:** The evolution of homomorphic sex chromosomes in the common frog *Rana temporaria* and the annual plant *Mercurialis annua*

**Supervisors:** John Pannell, Nicolas Perrin

2011 - 2014 Research Fellow - University of St Andrews

**Topic:** Genomic response to experimental sexual selection in *Drosophila pseudoobscura*

**Supervisors:** Michael Ritchie, Rhonda Snook (Sheffield)

2008 - 2011 Research Fellow - University of St Andrews

**Topic:** QTL on pre-mating isolation in *Drosophila montana*

**Supervisors:** Michael Ritchie, Roger Butlin & Jon Slate (Sheffield), Anneli Hoikkala (Jyväskylä)

2003 - 2008 PhD - Queen Mary University of London

**Thesis title:** "The involvement of a sex chromosome fusion and rDNA diversity in the grasshopper *Podisma pedestris* hybrid zone".

**Supervisor:** Richard Nichols

## Distinctions and Awards

2014 Best Friday talk Popgroup 47 (Bath) (£100)

2009 Heredity Fieldwork grant to support sample collection in Finland (£1,500)

2008 Third prize in the Promega Young Geneticist of the Year competition for 2008

2005 Junior Scientist Grant (£300 - The Genetics Society) for 10th ESEB Congress attendance

## Publications

### *In prep*

23. Ma W-J, **Veltsos P**, Sermier R, Toups ME, Rodrigues N, Perrin N. Y-chromosome differentiation masculinizes gene expression on sex chromosomes and is consistent with faster male development in the common frog

22. **Veltsos P**, Li X, Cossard G, Gerchen J, Huang Y, Pannell J. YY individuals are viable but partially fertile in the annual dioecious plant *M. annua*

21. **Veltsos P**, **Rodrigues N**, Studer T, Ma W-J, Sermier R, Leunberger J, Perrin N. Male-specific Y haplotypes are not associated with male benefits

### *In review*

20. **Veltsos P**, **Ridout KE**, Toups M, Gonzalez-Martinez S, Muyle A, Emery O, Rastas P, Marais GAB, Filatov DA, Pannell JR (preparing revision) Hallmarks of early sex-chromosome evolution in the dioecious plant *Mercurialis*

**Published**

19. **Veltsos P** (2018) Not all sex-biased genes are the same. *New Phytologist* **221**(1): 10
18. Ma WJ, **Veltsos P**, Sermier R, Parker DJ, Perrin N. (2018) Evolution and developmental dynamics of sex-biased gene expression in the common frogs with proto-Y chromosomes. *Genome Biology* 19(1): 156
17. Ma WJ, **Veltsos P**, Troups MA, Rodrigues N, Sermier R, Jeffries DL, Perrin N (2018) Tissue specificity and dynamics of sex-biased gene expression in a common frog population with differentiated, yet homomorphic, sex chromosomes. *Genes* 9(6): 294
16. **Veltsos P**, Cossard G, Beaudoin E, Beydon G, Savova-Bianchi D, Roux C, González-Martínez SC, Pannell JR (2018) The size and content of the sex-determining region of the Y chromosome in dioecious *Mercurialis annua*, a plant with homomorphic sex chromosomes. *Genes* 9(6): 277
15. **Veltsos P**, Fang Y, Cossins AR, Snook RR, Ritchie MG (2017) Mating system manipulation and the evolution of sex-biased gene expression in *Drosophila*. *Nature Communications* 8(1):2072
14. Rodrigues N, Studer T, Dufresnes C, Ma W, **Veltsos P**, Perrin N (2017) *Dmrt1* polymorphism and sex chromosome differentiation in *Rana temporaria*. *Molecular Ecology*. 26(19): 4897-4905 <https://doi.org/10.1111/mec.14222>
13. Ala-Honkola O, Ritchie MG, **Veltsos P** (2016) Postmating-prezyotic isolation between two allopatric populations of *Drosophila montana*; fertilisation success differs under sperm competition. *Ecology and Evolution* doi: 10.1002/ece3.1995
12. **Veltsos P**, Gregson E, Morrissey B, Slate J, Hoikkala A, Butlin RK, Ritchie MG (2015) The genetic architecture of sexually selected traits in two natural populations of *Drosophila montana*. *Heredity* 115(6): 565-572 doi: 10.1038/hdy.2015.63
11. **Troups M, Veltsos P\***, Pannell JR (2015) Plant sex chromosomes: Lost genes with little compensation. *Current Biology* 25(10) R427-430 \***Shared co-authors**
10. Tyukmaeva VI, **Veltsos P**, Slate J, Gregson E, Kauranen H, Kankare M, Ritchie MG, Butlin RK Hoikkala A (2015) Localization of QTL for diapause and other photoperiodically regulated life-history traits important in adaptation to seasonally varying environments. *Molecular Ecology* 24: 2809-2819
9. Ala-Honkola O, **Veltsos P**, Anderson H, Ritchie M (2014). Copulation duration, but not paternity share, potentially mediates inbreeding avoidance in *Drosophila montana*. *Behavioral Ecology and Sociobiology* 68(12) 2013-2021
8. Bailey NW, **Veltsos P**, Tan YF, Millar AH, Ritchie MG, Simmons LW (2013) Development of tissue-specific transcriptomic resources in a non-model insect, the field cricket *Teleogryllus oceanicus*. *G3*, 3(2): 225-230 DOI: 10.1534/g3.112.004341
7. **Veltsos P**, Wicker-Thomas C, Butlin RK, Hoikkala A, Ritchie MG (2012) Sexual selection on song and cuticular hydrocarbons in two distinct populations of *Drosophila montana*. *Ecology and Evolution* 2: 80-94. DOI: 10.1002/ece3.75
6. **Veltsos P**, Ritchie MG (2011) Sympatric Speciation. In: eLS 2011, John Wiley & Sons, Ltd: Chichester <http://www.els.net/> [DOI:10.1002/9780470015902.a0001749.pub2]
5. **Veltsos P**, Keller I, Nichols RA (2009) Geographically localised bursts of ribosomal DNA mobility in the grasshopper *Podisma pedestris*. *Heredity* 103: 54-61
4. **Veltsos P**, Keller I, Nichols RA (2008) The inexorable spread of a newly arisen Y chromosome. *Plos Genetics* 4 (5): e10000082
3. Keller I, **Veltsos P**, Nichols RA (2008) The frequency of rDNA variants within individuals provides evidence of population history and gene flow across a grasshopper hybrid zone. *Evolution* 64 (4): 833-844
2. Keller I, Chintauan-Marquier IC, **Veltsos P**, Nichols RA (2006) Ribosomal DNA in the grasshopper *Podisma pedestris*: Escape from concerted evolution. *Genetics* 174 (2): 863-874.
1. Watts PC, **Veltsos P**, Soffa BJ, Gill AB, Kemp SJ (2004) Polymorphic microsatellite loci in the black-and-gold chromis, *Neoglyphidodon nigroris* (Teleostei: Pomacentridae). *Molecular Ecology Notes* 4 (1): 93-95.

## **Conferences and Workshops**

I regularly attend Popgroup and ESEB. I have given more than 23 talks in national and international meetings, including being invited in workshops.

- 08.2017 **Talk:** 'Evolution of semi-independent homomorphic Y chromosomes in an annual plant species complex', 16th ESEB (Groningen)
- 01.2017 **Talk:** '*Comparison of gene expression between XX and XY males in the common frog*', 50th Popgroup (Cambridge, UK)
- 11.2016 **Talk (invited):** '*Transcriptomic response to courtship in D. pseudoobscura*', Visit on 'The mechanism of the behaviour regulation and its research method in pest or insect' (Guangzhou, China)
- 06.2016 **Talk (invited):** '*Sexual selection and homomorphic sex chromosomes*', Xishuangbanna Tropical Botanical Garden (Xishuangbanna, China)
- 06.2016 **Talk:** '*Investigation of a homomorphic Y chromosome*', Sex determination workshop (la Sage, Switzerland)
- 12.2015 **Talk:** '*Investigation of a homomorphic Y chromosome in an annual plant*', 49th Popgroup (Edinburgh, UK)
- 08.2015 **Talk:** '*Sex-biased expression as a sexually antagonistic trait*', 15th ESEB (Lausanne, Switzerland)
- 01.2014 **Talk:** '*Genomic response to experimental sexual selection*', Popgroup 47 (Bath, UK)
- 09.2013 **Talk:** '*Genomic response to experimental sexual selection*', Ento '13 (St Andrews, UK)
- 08.2013 **Talk:** '*DNA sequence response to experimental sexual selection*', 14th ESEB (Lisbon, Portugal)
- 12.2012 **Talk:** '*Are QTLs for behavioural variation within populations different to between populations?*', 46th Popgroup (Glasgow, UK)
- 01.2012 **Poster:** '*Genetic maps of reproductively isolated populations of Drosophila montana*', 45th Popgroup (Nottingham, UK)
- 01.12 Association for the Study of Animal Behaviour (London, UK)
- 08.2011 **Talk:** '*QTLs for courtship song and CHCs in natural populations of Drosophila montana*', 3th ESEB (Tuebingen, Germany)
- 04.2011 Transposable elements: Their functional and evolutionary biology (Genetics Society, Edinburgh, UK)
- 03.2011 **Talk:** '*Speciation through behaviour*', Scottish Conference on Animal Behaviour (St Andrews)
- 01.2011 **Talk:** '*Selection and population differentiation for song and cuticular hydrocarbons in Drosophila montana*', 44th PopGroup (Hull, UK)
- 09.2010 **Talk:** '*Selection and population differentiation for song and cuticular hydrocarbons in Drosophila montana*', New directions in sexual selection: unifying behavioural and genomic approaches (Bath, UK)
- 01.2010 Workshop: Genetics and Genomics of speciation (Peak District, UK)
- 01.2010 **Talk:** '*Differential introgression of ribosomal DNA subgroups across a hybrid zone in the grasshopper Podisma pedestris*', 43rd Popgroup (Liverpool, UK)
- 11.2009 Genetics and the causes of evolution: 150 years of progress since Darwin (Royal Society)
- 08.2009 **Poster:** '*Distinct genetic determination of cuticular hydrocarbon profiles in divergent D. montana populations*', 12th ESEB Congress (Turin, Italy)
- 08.2009 **Talk:** '*Studying natural variation in reproductive isolation characters with QTLs*', The role of behaviour in Speciation (St Andrews, UK)
- 04.2009 Workshop: Theory of Speciation (Groningen, The Netherlands)
- 09.2008 Workshop: Challenges in speciation research (Sheffield, UK)
- 05.2008 New frontiers in epigenetics (Genetics Society, UK)
- 02.2008 Genes & Behaviour Gordon Research Conference Lucca (Barga, Italy)
- 12.2007 **Talk:** '*Evidence of selection on rDNA in the P. pedestris hybrid zone*', 41st PopGroup (Warwick, UK)
- 11.2006 **Talk (Invited):** '*The inevitable accession of XY systems*', (Promega Young Geneticist of the Year 2008 finalist) Mammalian genetics and development (Genetics Society, London)
- 11.2006 Comparative genomics and diversity (Genetics Society, UK)

- 10.2006 Nature, nurture or neither: Genetics in the post genome era
- 9.2006 **Talk:** *'Ribosomal DNA and reproductive isolation in the grasshopper Podisma pedestris'*, L.E.R.N conference (London, UK)
- 07.2006 **Poster:** *'A tool to better understand early sex chromosome evolution'*, BBSRC evolutionary genetics summer school (Edinburgh, UK)
- 02.2006 **Talk:** *'The effects of a sex chromosome fusion in a naturally occurring hybrid zone'*, Royal Entomological Society Postgraduate forum (London, UK)
- 12.2005 **Talk:** *'Simulating a hybrid zone between two different sex chromosome system populations'*, 39th PopGroup (Edinburgh, UK)
- 11.2005 2nd Speciation Symposium (Natural History Museum, London, UK)
- 11.2005 C.E.E Evolutionary inferences from phylogenetic trees (London, UK)
- 09.2005 **Talk:** *'Ribosomal RNA and reproductive isolation in the grasshopper Podisma pedestris'*, L.E.R.N conference 2005 (London Evolutionary Research Network)
- 09.2005 **Talk:** *'Ribosomal RNA and reproductive isolation in the grasshopper Podisma pedestris'*, 11th meeting of PhD students in evolutionary biology (Bordeaux, France)
- 08.2005 **Talk:** *'Ribosomal RNA and reproductive isolation in the grasshopper Podisma pedestris'*, 10th ESEB Congress (Krakow, Poland)
- 03.2005 Life at the Boundaries: the physics of survival and endurance (Geological Society of London)
- 02.2005 **Poster:** *'Grasshoppers, rDNA and FISH'*, Royal Entomological Society Postgraduate Symposium (London, UK)
- 12.2005 **Poster:** *'Grasshoppers, rDNA and FISH'*, 38th PopGroup (Reading, UK)
- 11.2004 A walk from the wild side: the genetics of domestication of livestock and crops (Genetics Society, UK)
- 11.2004 Evolution and Medicine (London, UK)