

## Winka LE CLEC'H, PhD

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PERSONAL INFORMATION Last Name: LE CLEC'H  
First Name: Winka  
Sex: female  
Date of birth: 07<sup>th</sup> may 1986  
Citizenship: French  
Marital status: single  
Driving License: Category C - Texas

PROFESSIONAL CONTACT INFORMATION **Texas Biomedical Research Institute**  
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RESEARCH INTERESTS Symbiosis, Evolution, Host-parasite interactions, Host specificity, Virulence and transmission, Genetics, Population genomics, Drug resistance, Microbiome

RESEARCH EXPERIENCE **Staff scientist I** **January 2019 to present**  
**Post-doctoral scientist** **March 2013 to October 2018**

**Texas Biomedical Research Institute**, San Antonio, Texas, USA  
Department of Genetics - **Doctor Timothy J.C. ANDERSON**'s laboratory

- **Main research topics:**

- The genetic basis of drug (i.e. Praziquantel, meclonazepam) resistance in the human parasite *Schistosoma mansoni*.
- The genetic basis of virulence and transmission in the human parasite *Schistosoma mansoni*.
- Interaction between the microbiome of the snail intermediate host (*Biomphalaria spp.*) and the schistosome parasite.
- Improvement of the *Schistosoma mansoni* genome using Exome capture libraries, genetic crosses and linkage analysis.
- Population exomics of the human parasites *Schistosoma mansoni* and *Schistosoma haematobium*.

EDUCATION **PhD, Evolutionary and Molecular Biology** (with Honors)  
**October 2009 to December 2012**

**University of Poitiers**, Poitiers, France

- **Ph.D Thesis:** Horizontal transfers of *Wolbachia* in terrestrial isopods: Immediate and evolutionary consequences for both hosts and symbionts.
  - Supervisors: **Doctor Mathieu SICARD** – **Professor Didier BOUCHON**
  - Funding: PhD Research Fellowship – Tutoring Fellowship.
- **Graduate school trainings:**
  - Electron and optical microscopy.
  - Training courses: sustainable development and major environmental issues.
  - Teaching courses.
  - Scientific studies dissemination *via* the "Action-PLUS" meetings.

**M.Sc., Evolutionary Biology and Ecology** (with Honors) – Advisor: **Professor Didier BOUCHON**  
**September 2007 to June 2009**

**University of Poitiers**, Poitiers, France

- **Second Master's thesis:** Infection dynamics of three *Wolbachia*'s strain in the terrestrial isopod *Armadillidium vulgare*. **January 2009 to June 2009**
  - Supervisor: **Professor Frédéric GRANDJEAN**
  - Laboratory: Ecology Evolution Symbiosis, UMR CNRS 6556, University of Poitiers, Poitiers, France.
- **First Master's thesis:** Comparative phylogeography analysis in the host/parasite system *Armadillidium vulgare/Wolbachia*. **April 2008 to July 2008**
  - Supervisor: **Professor Frédéric GRANDJEAN**
  - Laboratory: Ecology Evolution Symbiosis, UMR CNRS 6556, University of Poitiers, Poitiers, France.

**B.Sc., Biology and Geology** (with Honors) **September 2005 to June 2007**

**University of Poitiers**, Poitiers, France

- Biology (Plant and Animal Biology, Molecular and cellular Biology) and Geology.

#### TRAININGS AND CERTIFICATIONS

*Collaborative Institutional Training Initiative (CITI)*

- Investigators, Staffs and Students.
- Working with animals in biomedical research.
- Working with hamsters in research settings.
- Working with mice in research.
- Conflicts of Interest.

*Staff Scientist training at Texas Biomed (2018-2019)*

- Management training.
- Grant writing training.

#### AWARDS

*Travel award*

- Symposium for International Research and Innovations in Schistosomiasis, Washington D.C - USA. **February 2016**
- San Antonio Postdoctoral Research Forum - 1<sup>st</sup> place poster presentation, San Antonio - USA. **September 18<sup>th</sup> 2018**

*Presentation awards*

- Department of Biochemistry and Structural Biology, Annual Retreat - Best Postdoctoral Fellow Platform Presentation, The University of Texas Health, San Antonio - USA. **October 26<sup>th</sup> 2018**
- Texas Biomedical Research Institute Annual Symposium 2020 - 1<sup>st</sup> place poster presentation (Staff Scientist), Texas Biomedical Research Institute, San Antonio - USA. **February 18<sup>th</sup> to 19<sup>th</sup> 2020**
- Texas Biomedical Research Institute Annual Symposium 2022 - 2<sup>nd</sup> place poster presentation (Staff Scientist), Texas Biomedical Research Institute, San Antonio - USA. **March 16<sup>th</sup> to 17<sup>th</sup> 2022**

## TEACHING

### Graduate

**UT Health**, San Antonio, Texas, USA

- Lecturer
  - MICR5025 - Eukaryotic Pathogens - "The power of genetics in Schistosome parasite" (2020 to present)

### Teaching Tutoring

**October 2009 to September 2012**

**University of Poitiers**, Poitiers, France

- M.S. level
  - Teaching: 2h of Tutorials – 46h of Practical Courses
  - Classes: Ecophysiology, Biostatistics and data analysis, Population genetics, Evolutionary ecology.
  - Main Masters:
    - Research Master in Ecology and Population Biology.
    - Master *Erasmus Mundus* EMAE (European Master in Applied Ecology).
- B.S. level
  - Teaching: 2h of Tutorials – 144h of Practical Courses
  - Classes: Adaptive responses (Histology), Ecology and systematic, Comparative anatomy.
  - Main Bachelors:
    - Bachelor in Biology and Ecology.
    - Bachelor of Sciences and Geology.

## STUDENTS ADVISING

### *Ph.D candidate*

- Stephanie NORDMEYER (UT Health San Antonio/Texas Biomedical Research Institute): Role of the snail microbiome in schistosome parasite infections.

**January 2020 to present**

### *Ph.D students - Texas Biomed Summer Internship*

- Lauren CARRUTHERS (University of Glasgow, UK): The microbiome of the *Biomphalaria* snails anatomy.
- Chrystelle LASICA (University of Perpignan Via Domitia, FRANCE): The genetic basis of *Schistosoma* chronobiology.

**June to August 2019**

### *Bachelor students*

- Nina ENG (Georges Washington University, USA): Identification of loss-of-function mutations conferring Oxamniquine resistance in a Brazilian schistosome population.

**June to August 2014 - May to July 2015**

- Alexandre ZYLINSKY (University of Poitiers, FRANCE): Evolutionary impacts of *Wolbachia*'s injections on the terrestrial isopod *Porcellio dilatatus dilatatus*.

**May to July 2011**

## SERVICE

### Journal reviewer activities

#### *Peer-reviewed Journals*

- **Journal of Invertebrate Pathology**, **Molecular and Biochemical Parasitology**, **Annals of Aquaculture and Research**, **International Journal of Biological Macromolecules**, **Journal of Asia-Pacific Entomology**, **Scientific Reports**, **PLoS One**, **Parasitology Research**, **The Journal of Parasitology**, **Medical Sciences**, **Antioxidants**, **The Open Biomedical Engineering Journal**, **International Journal of Molecular Sciences**, **FASEB Bio Advances**, **Marine Biology**, **Infectious Diseases of Poverty**, **PLoS Neglected Tropical Diseases**, **PLoS Pathogens**, **One Health & Implementation Research**.

*Associate Editor*

- **PLoS Neglected Tropical Diseases.** **June 2020 to present**

*Editorial Board member*

- **Molecular and Biochemical Parasitology.** **July 2021 to present**

**Scientific disseminations**

*Science Festival*

- Presentation of the "Ecology, Evolution and Symbiosis" lab research thematics to general public. **November 2009 and October 2011**

*Action-PLUS*

- Presentation of the "Ecology, Evolution and Symbiosis" lab research thematics and the graduate school to high school students. **January to December 2010**

*Texas Biomed Outreach*

- Presentation of my academic training and current research thematics at *Texas Biomedical Research Institute* to high school and college students. **February 2018 to present**
- Presentation of my academic training and current research thematics at *Texas Biomedical Research Institute* (Presentation: "Snails, parasites and human disease: The Schistosome worm case") to the **SciGirls** group at the Alamo drafthouse, San Antonio.

**July 26<sup>th</sup> 2019**

*Texas Biomed Family Night*

- Set up activities and presentation of my current research on schistosomiasis and schistosome parasites to employees of Texas Biomed and their families.

**August 2018 & October 2019**

*Éducation Française Greater Houston - Scientific workshop*

- Set up activities and presentation of my current research on schistosomiasis and schistosome parasites to french speaking childs (12-16 years old).

**April 2021**

**Teaching disseminations**

*Open house at the University of Poitiers*

- Presentation of the Bachelor of Science academic training.
- Presentation of the Research Master in Biology, Ecology, Evolution academic training.
- Presentation of the Master *Erasmus Mundus* EMAE (European Master in Applied Ecology) academic training.
- Presentation of the Professional Master in Ecological Engineering academic training.

**Other activities**

*Chairman activity*

- "Evolution of complex traits" session at the **19<sup>th</sup> Evolutionary Biology Meeting** in Marseilles, France, September 15<sup>th</sup> to 18<sup>th</sup> 2015.
- "Malacology and vaccine development" session at the **2<sup>nd</sup> Symposium for International Research and Innovation in Schistosomiasis** in Washington D.C., USA, May 22<sup>nd</sup> to 23<sup>rd</sup> 2018.
- "Vector of transmissible diseases: Molluscs and Insects" session at the **14<sup>th</sup> International Conference on Molecular Epidemiology and Evolutionary Genetics of Infectious Diseases** in Sitges, Spain, November 6<sup>th</sup> to 9<sup>th</sup> 2018.

*Organizing committee membership*

- **Lead of the The Texas Biomed Journal Club** at *Texas Biomedical Research Institute*.  
**February 2018 to present**
- Member of the Outreach committee at *Texas Biomedical Research Institute*.  
**July 2018 to present**
- *2<sup>nd</sup> San Antonio Postdoctoral Research Forum* at the UTHSCSA. San Antonio, TX., USA, September 16<sup>th</sup> 2014.
- *Texas Biomed Research Symposium 2022*. San Antonio, TX., USA, March 16<sup>th</sup>-17<sup>th</sup> 2022.

*Association membership*

- American Society of Tropical Medicine and Hygiene (ASTMH). **2015 to 2016**
- Society for Molecular Biology & Evolution (SMBE). **2017 to present**
- American Society of Parasitologists (ASP). **2017 to present**

RESEARCH GRANTS

*Forum grant from Texas Biomedical Research Institute*

- **The microbiome of the schistosome snail host - Co-PI**  
**November 2014 to September 2016**
  - Grant number: 14-04491
  - Amount: 40,000 dollars
- **Genomic Analysis of schistosome hybridization - Co-I**  
**November 2014 to September 2016**
  - Grant number: 14-04488
  - Amount: 40,000 dollars
- **Genetic manipulation of schistosome parasites - Co-I**  
**October 2015 to September 2017**
  - Grant number: 15-04566
  - Amount: 50,000 dollars
- **Characterization of drug resistance in field-collected schistosomes - Co-I**  
**May 2021 to April 2026**
  - Grant number: 1R01AI160433-01 (NIH/NIAID)

*Cowles and Brackenridge fellowship*

**March 2013 to March 2015**

- **The genetic basis of virulence in the human parasite *Schistosoma mansoni***
  - Grant number: 13-1328.021
  - Amount: 135,926 dollars

PUBLICATIONS

1. *Genomic analysis of a parasite invasion: colonization of the Americas by the blood fluke, Schistosoma mansoni*. Platt II R.N, **Winka Le Clec'h**, Frédéric D. Chevalier, Marina McDew-White, Philip T. LoVerde, Rafael Ramiro de Assis, Guilherme Oliveira, Safari Kinung'hi, Amadou Garba Djirmay, Michelle L. Steinauer, Anouck Gouvras, Muriel Rabone, Fiona Allan, Bonnie L. Webster, Joanne P. Webster, Aidan M. Emery, David Rollinson, Timothy J.C. Anderson. *Molecular Ecology*, Feb 13., 2022.

2. *Snails, microbiomes and schistosomes: a three-way interaction?* **Winka Le Clec'h**, Stephanie Nordmeyer, Timothy J.C. Anderson, Frédéric D. Chevalier. *Trends in Parasitology*, Feb 18:S1471-4922(22)00030-7, 2022.
3. *Genetic analysis of praziquantel resistance in schistosome parasites implicates a Transient Receptor Potential channel.* **Winka Le Clec'h**, Frédéric D. Chevalier, Ana Carolina A. Mattos, Amanda Strickland, Robbie Diaz, Marina McDew-White, Claudia M. Rohr, Safari Kinung'hi, Fiona Allan, Bonnie L. Webster, Joanne P. Webster, Aidan M. Emery, David Rollinson, Amadou Garba Djirmay, Khalid M Al Mashikhi, Salem Al Yafae, Mohamed A Idris, Hélène Moné, Gabriel Mouahid, Philip LoVerde, Jonathan S. Marchant, Timothy J.C. Anderson. *Science Translational Medicine*, Dec;22, Vol. 13(625), 2021.
4. *Genetic architecture of transmission stage production and virulence in schistosome parasites.* **Winka Le Clec'h**, Frédéric D. Chevalier, Marina McDew-White, Vinay Menon, Grace-Ann Arya, Timothy J.C. Anderson. *Virulence*, Dec;12(1):1508-1526, 2021.
5. *The hemolymph of Biomphalaria snail vectors of schistosomiasis supports a diverse microbiome.* Frédéric D. Chevalier, Robbie Diaz, Marina McDew-White, Timothy J.C. Anderson, **Winka Le Clec'h**. *Environmental Microbiology*, Dec;22(12):5450-5466, 2020.
6. *Striking differences in virulence, transmission, and sporocyst growth dynamics between two schistosome populations.* **Winka Le Clec'h**, Robbie Diaz, Frédéric D. Chevalier, Marina McDew-White, Timothy J.C. Anderson. *Parasites & Vectors*, Vol. 12(485), 2019.
7. *Oxamniquine resistance alleles are widespread in Old World Schistosoma mansoni and predate drug deployment.* Frédéric D. Chevalier, **Winka Le Clec'h**, Marina McDew-White, Vinay Menon, Meghan A. Guzman, Stephen P. Holloway, Xiaohang Cao, Alexander B. Taylor, Safari Kinung'hi, Anouk N. Gouvras, Bonnie L. Webster, Joanne P. Webster, Aidan M. Emery, David Rollinson, Amadou Garba Djirmay, Khalid M. Al Mashikhi, Salem Al Yafae, Mohamed A. Idris, Hélène Moné, Gabriel Mouahid, P. John Hart, Philip T. LoVerde, Timothy JC. Anderson. *PLoS Pathogens* 15(10), 2019:e1007881.
8. *Ancient hybridization and adaptive introgression of an invadolysin gene in schistosome parasites.* Roy Neal Platt, Marina McDew-White, **Winkla Le Clec'h**, Frédéric D. Chevalier, Fiona Allan, Aidan M. Emery, Amadou Garba, Amina A. Hamidou, Shaali M. Ame, Joanne P. Webster, David Rollinson, Bonnie L. Webster, Timothy JC. Anderson. *Molecular Biology and Evolution*, msz154, June 2019.
9. *Genetic crosses and linkage mapping in schistosome parasites.* Timothy JC. Anderson, Philip T. LoVerde, **Winka Le Clec'h**, Frédéric D. Chevalier. *Review - Trends in Parasitology*, Vol. 34(11), 982-996, 2018.
10. *Whole genome amplification and exome sequencing of archived schistosome miracidia.* **Winka Le Clec'h**, Frédéric D. Chevalier, Marina McDew-White, Fiona Allan, Bonnie L. Webster, Anouk N. Gouvras, Safari Kinunghi, Louis-Albert Tchuem Tchuente, Amadou Garba, Khalfan A. Mohammed, Shaali M. Ame, Joanne P. Webster, David Rollinson, Aidan M. Emery, Timothy J.C. Anderson. *Parasitology*, 1-9, 2018.
11. *Phenotypic shift in Wolbachia virulence towards its native host across serial horizontal passages.* **Winka Le Clec'h**, Jessica Dittmer, Maryline Raimond, Didier

- Bouchon, Mathieu Sicard. *Proceedings of the Royal Society Biology*, Vol. 284(1859), 1076, 2017.
12. *Independent origins of loss-of-function mutations conferring oxamniquine resistance in a Brazilian schistosome population.* Frédéric D. Chevalier, **Winka Le Clec'h**, Nina Eng, Anastasia R. Rugel, Rafael Ramiro de Assis, Guilherme Oliveira, Stephen P. Holloway, Xiaohang Cao, P. John Hart, Philip T. LoVerde, Timothy J.C. Anderson. *International Journal of Parasitology*, Vol. 46(7), 417-424, 2016.
  13. *Real-time PCR for sexing Schistosoma mansoni cercariae.* **Winka Le Clec'h**, Frédéric D. Chevalier, Ana Carolina Alves de Mattos, Philip T. LoVerde, Timothy J.C. Anderson. *Molecular and Biochemical Parasitology*, Vol. 205(1-2), 35-38, 2016.
  14. *Characterization of hemolymph phenoloxidase activity in two Biomphalaria snail species and impact of Schistosoma mansoni infection.* **Winka Le Clec'h**, Timothy J.C. Anderson, Frédéric D. Chevalier. *Parasites & Vectors*, Vol. 9(32), 2016.
  15. *The hematopoietic organ: A cornerstone for Wolbachia propagation between and within hosts.* Christine Braquart-Varnier, Maryline Raimond, Gaetan Mappa, Frédéric D. Chevalier, **Winka Le Clec'h**, Mathieu Sicard. *Frontiers in Microbiology*, Vol. 6, 2015.
  16. *Bidirectional cytoplasmic incompatibility caused by Wolbachia in the terrestrial isopod Porcellio dilatatus.* Mathieu Sicard, Didier Bouchon, Laura Ceyrac, Roland Raimond, Magalie Thierry, **Winka Le Clec'h**, Isabelle Marcadé, Yves Caubet, Pierre Grève. *Journal of Invertebrate Pathology*, Vol. 121, 28-36, 2014.
  17. *Strength of the pathogenicity caused by feminizing Wolbachia to Porcellio dilatatus: strain or dose effect?* **Winka Le Clec'h**, Maryline Raimond, Didier Bouchon, Mathieu Sicard. *Journal of Invertebrate Pathology*, Vol. 116, 18-26, 2014.
  18. *Multi-infection of feminizing Wolbachia strains in natural populations of terrestrial isopod Armadillidium vulgare.* Victorien Valette, Paul-Yannick Bitomé-Essonno, **Winka Le Clec'h**, Monique Johnson, Nicolas Bech, Frédéric Grandjean. *PLoS One*, 8(12), 2013:e82633.
  19. *Feminizing versus non feminizing Wolbachia strains horizontally transferred in Porcellio d. dilatatus: from harmless passengers to pathogens.* **Winka Le Clec'h**, Maryline Raimond, Sylvain Guillot, Didier Bouchon, Mathieu Sicard. *Environmental Microbiology*, Vol. 15, 2922-2936, 2013.
  20. *Cannibalism and predation as paths for horizontal passage of Wolbachia between terrestrial isopods.* **Winka Le Clec'h**, Frédéric Chevalier, Lise Genty, Joanne Bertaux, Didier Bouchon, Mathieu Sicard. *PLoS One* 8(4), 2013:e60232.
  21. *High virulence of Wolbachia after host-switching: when autophagy hurts.* **Winka Le Clec'h**, Christine Braquart-Varnier, Maryline Raimond, Jean-Baptiste Ferdy, Didier Bouchon, Mathieu Sicard. *PLoS Pathogens* 8(8), 2012:e1002844.

1. **British Society for Parasitology Conference: Parasites online: How much variation in drug response is found in schistosome populations?** **Winka Le Clec'h\***, Frédéric D. Chevalier, Robbie Diaz, Amanda Strickland, Madison Morales & Timothy J.C. Anderson. Virtual meeting, June 21<sup>st</sup> to 27<sup>th</sup> 2021.
2. **Molecular Helminthology - Invited plenary speaker: Genetic approaches to understanding drug resistance in Schistosome parasites.** **Winka Le Clec'h\***, Frédéric D. Chevalier, Philip LoVerde, Jonathan S. Marchant & Timothy J.C. Anderson. Virtual meeting, June 2<sup>nd</sup> to 4<sup>th</sup> 2021.
3. **Molecular Parasitology: Genetic analysis of transmission stage production and virulence in schistosome parasites.** **Winka Le Clec'h\***, Frédéric D. Chevalier, Marina McDew-White, Vinay Menon, Grace-Ann Arya & Timothy J.C. Anderson. Virtual meeting, September 21<sup>st</sup> to 24<sup>th</sup> 2020.
4. **Anthelmintics: Discovery to Resistance IV: The genetic basis of praziquantel resistance in Schistosoma mansoni.** **Winka Le Clec'h\***, Frédéric D. Chevalier, Marina McDew-White, Robbie Diaz, Amanda Strickland, Meghan Guzman, Ana Carolina Alves de Mattos, Philip T. LoVerde & Timothy J.C. Anderson. Santa Monica, USA, February 3<sup>rd</sup> to 7<sup>th</sup> 2020.
5. **Anthelmintics: Discovery to Resistance IV: Oxamniquine resistance alleles are widespread in Old World Schistosoma mansoni and predate drug deployment.** Frédéric D. Chevalier\*, **Winka Le Clec'h**, Marina McDew-White, Vinay Menon, Meghan Guzman, Stephen P. Holloway, Xiaohang Cao, Alexander B. Taylor, Aidan M. Emery, David Rollinson, Salem Al Yafae, Hélène Moné, Gabriel Mouahid, P. John Hart, Phillip T. LoVerde & Timothy J.C. Anderson. Santa Monica, USA, February 3<sup>rd</sup> to 7<sup>th</sup> 2020.
6. **American Society for Microbiology - Texas Branch 2019 Fall Meeting - Invited speaker: The genetic basis of praziquantel resistance in Schistosoma mansoni.** **Winka Le Clec'h\***, Frédéric D. Chevalier, Marina McDew-White, Robbie Diaz, Amanda Strickland, Meghan Guzman, Ana Carolina Alves de Mattos, Philip T. LoVerde & Timothy J.C. Anderson. San Antonio, USA, November 7<sup>th</sup> to 9<sup>th</sup> 2019.
7. **Molecular Helminthology: An Integrated Approach - Invited speaker: The genetic basis of praziquantel resistance in Schistosoma mansoni.** **Winka Le Clec'h\***, Frédéric D. Chevalier, Marina McDew-White, Robbie Diaz, Meghan Guzman, Ana Carolina Alves de Mattos, Philip T. LoVerde & Timothy J.C. Anderson. San Antonio, USA, April 7<sup>th</sup> to 10<sup>th</sup> 2019.
8. **14<sup>th</sup> International Conference on Molecular Epidemiology and Evolutionary Genetics of Infectious Diseases: The blood microbiome of Biomphalaria snails: the missing link in snail-schistosome interactions?** **Winka Le Clec'h\***, Marina McDew-White, Robbie Diaz, Timothy J.C. Anderson & Frédéric D. Chevalier. Sitges, Spain, November 6<sup>th</sup> to 8<sup>th</sup> 2018.
9. **14<sup>th</sup> International Conference on Molecular Epidemiology and Evolutionary Genetics of Infectious Diseases: Oxamniquine resistance alleles are widespread in Old World Schistosoma mansoni and predate drug deployment.** Frédéric D. Chevalier\*, **Winka Le Clec'h**, Marina McDew-White, Vinay Menon, Meghan Guzman, Stephen P. Holloway, Xiaohang Cao, Alexander B. Taylor, Aidan M. Emery, David Rollinson, Salem Al Yafae, Hélène Moné, Gabriel Mouahid, P. John Hart, Phillip T. LoVerde & Timothy J.C. Anderson. Sitges, Espagne, 6-8 Novembre 2018.
10. Department of Biochemistry and Structural Biology, Annual Retreat: *The genetic basis of praziquantel resistance in Schistosoma mansoni.* **Winka Le Clec'h\***, Frédéric D. Chevalier, Marina McDew-White, Robbie Diaz, Meghan Guzman, Ana Carolina Alves de Mattos, Philip T. LoVerde & Timothy J.C. Anderson. San Antonio, USA, October 26<sup>th</sup> 2018.
11. The 2<sup>nd</sup> Symposium for International Research and Innovation in Schistosomiasis: *The genetic basis of praziquantel resistance in laboratory selected Schistosoma mansoni.* **Winka Le Clec'h\***, Frédéric D. Chevalier, Marina McDew-White, Robbie Diaz, Meghan Guzman, Ana Carolina Alves de Mattos, Philip T. LoVerde & Timothy J.C. Anderson. Washington, D.C., USA, May 22<sup>nd</sup> to 23<sup>rd</sup> 2018.



12. The 2<sup>nd</sup> Symposium for International Research and Innovation in Schistosomiasis: *The blood microbiome of Biomphalaria snails: the missing link in snail-schistosome interactions?*. Frédéric D. Chevalier\*, Marina McDew-White, Robbie Diaz, Timothy J.C. Anderson & **Winka Le Clec'h**. Washington, D.C., USA, May 22<sup>nd</sup> to 23<sup>rd</sup> 2018.
13. 92<sup>nd</sup> Annual Meeting of the American Society of Parasitologists: *Genetic analysis of transmission stage production in schistosome parasites*. **Winka Le Clec'h**\*, Frédéric D. Chevalier, Marina McDew-White, Vinay Menon & Timothy J.C. Anderson. San Antonio, TX., USA, June 27<sup>th</sup> to July 1<sup>st</sup> 2017.
14. 92<sup>nd</sup> Annual Meeting of the American Society of Parasitologists: *A journey into the blood microbiome of Biomphalaria snails, intermediate host of the human blood-fluke Schistosoma mansoni*. **Winka Le Clec'h**\*, Timothy J.C. Anderson & Frédéric D. Chevalier. San Antonio, TX., USA, June 27<sup>th</sup> to July 1<sup>st</sup> 2017.
15. The Symposium for International Research and Innovation in Schistosomiasis: *Independent origins of loss-of-function mutations conferring oxamniquine resistance in Brazilian schistosome parasites*. **Winka Le Clec'h**\* Frédéric D. Chevalier, Nina Eng, Anastasia R. Rugel, Rafael Ramiro de Assis, Guilherme Corrêa-Oliveira, Stephen P. Holloway, Xiaohang Cao, John Hart, Philip T. LoVerde & Timothy J.C. Anderson. Washington, D.C., USA, February 3<sup>rd</sup> to 4<sup>th</sup> 2016.
16. The Symposium for International Research and Innovation in Schistosomiasis: *Genetic analysis of transmission-related traits in schistosome parasite*. **Winka Le Clec'h**\*, Frédéric D. Chevalier, Marina McDew-White & Timothy J.C. Anderson. Washington, D.C., USA, February 3<sup>rd</sup> to 4<sup>th</sup> 2016.
17. Invited speaker at 2<sup>nd</sup> International Congress on Bacteriology and Infectious Diseases: *From vertical to horizontal transmission: when the Wolbachia endosymbiont turns to a deadly pathogen for its hosts*. **Winka Le Clec'h**\*. Chicago, Ill. USA, November 17<sup>th</sup> to 19<sup>th</sup> 2014.
18. 8<sup>th</sup> Network meeting of sustainable ecological interactions: *Horizontal transfers of Wolbachia in Porcellio dilatatus : proximal and distal consequences on partners life history traits*. **Winka Le Clec'h**, Romain Pigeault, Elmina Mottin, Christine Braquart-Varnier, Didier Bouchon & Mathieu Sicard\*. Bordeaux, France, February 4<sup>th</sup> to 6<sup>th</sup> 2013.
19. Invited speaker at Texas Biomedical Research Institute: *Virulence and transmission of Wolbachia, a bacteria that manipulates host reproduction* : **Winka Le Clec'h**\*. San Antonio, TX., USA, August 21<sup>st</sup> 2012.
20. 7<sup>th</sup> International Wolbachia conference: *High virulence of Wolbachia after host switching: tolerance versus lethal autophagy*. **Winka Le Clec'h**\*, Christine Braquart-Varnier, Maryline Raimond, Didier Bouchon & Mathieu Sicard. Oleron island, France, June 7<sup>th</sup> to 14<sup>th</sup> 2012.
21. COST-FA0701 Final meeting: *Experimental evolution on symbiosis*. **Winka Le Clec'h**, Joanne Bertaux, Didier Bouchon & Mathieu Sicard\*. Oleron island, France, June 7<sup>th</sup> to 14<sup>th</sup> 2012.
22. 7<sup>th</sup> Network meeting of sustainable ecological interactions: *Tolerance vs resistance: when Wolbachia kills its new hosts*. **Winka Le Clec'h**\*, Christine Braquart-Varnier, Maryline Raimond, Didier Bouchon & Mathieu Sicard. Rennes, France, February 6<sup>th</sup> to 8<sup>th</sup> 2012.
23. 7<sup>th</sup> Network meeting of sustainable ecological interactions: *Experimental evolution of Wolbachia endosymbiont*. **Winka Le Clec'h**, Joanne Bertaux, Didier Bouchon & Mathieu Sicard\*. Rennes, France, February 6<sup>th</sup> to 8<sup>th</sup> 2012.
24. Jacques Monod Conferences - Coevolutionary arms race between parasite virulence and host immune defence: challenges from state of the art research: *Experimental selection of hyper-virulent Wolbachia through horizontal transfer*. **Winka Le Clec'h**, Joanne Bertaux, Didier Bouchon & Mathieu Sicard\*. Roscoff, France, September 3<sup>rd</sup> to 7<sup>th</sup> 2011.

25. **8<sup>th</sup> International Symposium of Terrestrial Isopod Biology**: *Wolbachia can cause early death of Porcellio dilatatus dilatatus*. **Winka Le Clec'h\***, Maryline Raimond, Christine Braquart-Varnier, Didier Bouchon & Mathieu Sicard. Bled, Slovenia, June 19<sup>th</sup> to 23<sup>th</sup> 2011.
26. Immuninv (French community of invertebrate immunologists): *Host-switching and virulence: when Wolbachia is a killer*. **Winka Le Clec'h\***, Maryline Raimond, Christine Braquart-Varnier, Didier Bouchon & Mathieu Sicard. Nice, France, May 4<sup>th</sup> to 6<sup>th</sup> 2011.
27. **COST-FA0701 Action Workshop**: *From vertical to horizontal transmission: when Wolbachia shows its killer face*. **Winka Le Clec'h**, Maryline Raimond, Joanne Bertaux, Didier Bouchon & Mathieu Sicard\*. Badbevensen, Germany, 30<sup>th</sup> June to 02<sup>nd</sup> July 2010.
28. The University of Poitiers' Microbiology Day: *From silence to death, the double face of Wolbachia*. **Winka Le Clec'h\***, Didier Bouchon & Mathieu Sicard. Poitiers, France, December 9<sup>th</sup> 2009.

#### Poster communications

1. **Anthelmintics: Discovery to Resistance IV**: *Genetic basis of meclonazepam resistance in Schistosoma mansoni*. **Winka Le Clec'h\***, Frédéric D. Chevalier, Amanda Strickland, Robbie Diaz, John D. Chan & Timothy J.C. Anderson. Santa Monica, USA, February 3<sup>rd</sup> to 7<sup>th</sup> 2020.
2. **The 6<sup>th</sup> San Antonio Postdoctoral Research Forum**: *The genetic basis of praziquantel resistance in Schistosoma mansoni*. **Winka Le Clec'h\***, Frédéric D. Chevalier, Marina McDew-White, Robbie Diaz, Meghan Guzman, Ana Carolina Alves de Mattos, Philip T. LoVerde & Timothy J.C. Anderson. San Antonio, USA, 18<sup>th</sup> September 2018.
3. The 2<sup>nd</sup> Symposium for International Research and Innovation in Schistosomiasis: *Hybridization and introgression within the Schistosoma haematobium species group inferred from exome sequencing*. Roy N. Platt II\*, **Winka Le Clec'h**, Marina McDew-White, Frédéric D. Chevalier, Fiona Allan, Bonnie L. Webster, Amadou Garba, Khalfan A. Mohammed, Shaali M. Ame, Joanne P. Webster, David Rollinson, Aidan M. Emery & Timothy J. C. Anderson. Washington, D.C., USA, May 22<sup>nd</sup> to 23<sup>rd</sup> 2018.
4. **Annual Meeting of the Society for Molecular Biology and Evolution 2017**: *Genetic analysis of transmission stage production in schistosome parasites*. **Winka Le Clec'h\***, Frédéric D. Chevalier, Marina McDew-White, Vinay Menon & Timothy J.C. Anderson. Austin, TX., USA, July 2<sup>nd</sup> to 6<sup>th</sup> 2017.
5. **Annual Meeting of the Society for Molecular Biology and Evolution 2017**: *A journey into the blood microbiome of Biomphalaria snails, intermediate host of the human blood-fluke Schistosoma mansoni*. **Winka Le Clec'h\***, Timothy J.C. Anderson & Frédéric D. Chevalier. Austin, TX., USA, July 2<sup>nd</sup> to 6<sup>th</sup> 2017.
6. **92<sup>nd</sup> Annual Meeting of the American Society of Parasitologists**: *An intriguing resistance phenotype in praziquantel-selected Schistosoma mansoni*. **Winka Le Clec'h\***, Frédéric D. Chevalier, Ana Carolina Alves de Mattos, Philip T. LoVerde & Timothy J.C. Anderson. San Antonio, TX., USA, June 27<sup>th</sup> to July 1<sup>st</sup> 2017.
7. **SMBE satellite meeting on the Genetics of Admixed Populations**: *Genomic analysis of hybridization in schistosome parasites*. **Winka Le Clec'h\***, Frédéric D. Chevalier, Marina McDew-White, Bonnie Webster, David Rollinson & Timothy J.C. Anderson. San Antonio, TX., USA, May 18<sup>th</sup> to 20<sup>th</sup> 2016.
8. **The Symposium for International Research and Innovation in Schistosomiasis**: *Invertebrate immunity: Phenoloxidase activity in the schistosome snail host*. **Winka Le Clec'h\***, Frédéric D. Chevalier & Timothy J.C. Anderson. Washington, D.C., USA, February 3<sup>rd</sup> to 4<sup>th</sup> 2016.

9. **64<sup>th</sup> Annual Meeting of the American Society of Tropical Medicine and Hygiene:** *Genetic analysis of transmission-related traits in schistosome parasites.* **Winka Le Clec'h\***, Frédéric D. Chevalier & Timothy J.C. Anderson. Philadelphia, PA., USA, October 25<sup>th</sup> to 29<sup>th</sup> 2015.
10. **64<sup>th</sup> Annual Meeting of the American Society of Tropical Medicine and Hygiene:** *Independent origins of loss-of-function mutations conferring oxamniquine resistance in Brazilian schistosome parasites.* **Winka Le Clec'h\***, Frédéric D. Chevalier, Nina Eng, Rafael Ramiro de Assis, Guilherme Corrêa-Oliveira, Philip T. LoVerde & Timothy J.C. Anderson. Philadelphia, PA., USA, October 25<sup>th</sup> to 29<sup>th</sup> 2015.
11. **19<sup>th</sup> Evolutionary Biology Meeting:** *Genetic analysis of transmission-related traits in schistosome parasites.* **Winka Le Clec'h\***, Frédéric D. Chevalier & Timothy J.C. Anderson. Marseilles, France, September 15<sup>th</sup> to 18<sup>th</sup> 2015.
12. **19<sup>th</sup> Evolutionary Biology Meeting:** *Independent origins of loss-of-function mutations conferring oxamniquine resistance in Brazilian schistosome parasites.* **Winka Le Clec'h\***, Frédéric D. Chevalier, Nina Eng, Rafael Ramiro de Assis, Guilherme Corrêa-Oliveira, Philip T. LoVerde & Timothy J.C. Anderson. Marseilles, France, September 15<sup>th</sup> to 18<sup>th</sup> 2015.
13. **2<sup>nd</sup> San Antonio Postdoctoral Research Forum:** *Invertebrate immunity: Phenoloxidase activity in the schistosome snail host.* **Winka Le Clec'h\***, Frédéric D. Chevalier & Timothy J.C. Anderson. San Antonio, TX., USA, September 16<sup>th</sup> 2014.
14. **7<sup>th</sup> International Symbiosis Society Congress:** "The earth's vast symbiosphere": *When Wolbachia becomes a pathogen in a new host: tolerance vs lethal autophagy.* **Winka Le Clec'h\***, Christine Braquart-Varnier, Maryline Raimond, Didier Bouchon & Mathieu Sicard. Krakow, Poland, July 22<sup>th</sup> to 28<sup>th</sup> 2012.
15. **7<sup>th</sup> International Wolbachia conference:** *What do we know about the impacts of Wolbachia on Armadillidium vulgare immunity?* Frédéric Chevalier, Mathieu Sicard, Joanne Bertaux, **Winka Le Clec'h**, Didier Bouchon, Pierre Grève & Christine Braquart-Varnier\*. Oleron island, France, June 7<sup>th</sup> to 14<sup>th</sup> 2012.
16. **8<sup>th</sup> International Symposium of Terrestrial Isopod Biology:** *Multi-infection of Wolbachia in natural population of Armadillidium vulgare.* Frédéric Grandjean\*, **Winka Le Clec'h**, Carine Delaunay, Yannick Bitome & Monique Johnson. Bled, Slovenia, June 19<sup>th</sup> to 23<sup>th</sup> 2011.

## TECHNICAL SKILLS

### *Experimental skills*

- **Nucleic acids:** DNA and RNA extraction, PCR, RFLP-PCR, RT-PCR, qPCR, Genotyping, Sanger sequencing, Whole Genome Amplification, NGS libraries preparation, Exome capture, DNA fragment analysis (Bioanalyzer and TapeStation, Agilent).
- **Cell biology:** Automated cell counting, optical microscopy, epifluorescent microscopy, Fluorescence *in situ* hybridization (FisH), sample preparation for electron microscopy.
- **Microbiology:** Bacterial cultures, Bacterial injections, *Schistosoma mansoni* adult worms long-term culture.
- **Biochemistry:** Spectroscopy analysis (development of phenoloxidase activity assays, lactate assays in *Schistosoma mansoni* adult worms culture media).
- **Phenotypic measurements:** Behavioral tests (monitoring of animals activity), animals monitoring (growth rate of animals, survival, localisation in their rearing boxes, fecundity).
- **Genetic crosses:** Setup and maintenance of *Schistosoma mansoni* genetic crosses (F0 to F3).
- **Breeding:** Woodlice (terrestrial isopods), Freshwater snails (*Biomphalaria*, *Bulinus*, *Lymnaea*).

### *Bioinformatic skills*

- **Nucleic sequence similarity search:** [BLAST](#) (local or online blast).
- **Nucleic sequence alignment:** [BIOEDIT](#), [Clustal](#).
- **Genotyping software:** [GeneMapper](#).
- **Statistics:** [General linear model](#), Survival rate analysis: [LogRank test](#) and [Cox Models](#).
- **New-generation sequencing data analysis:** notions - [MIRA](#) (sequence assembly), [Phred / Phrap / Consed](#) (sequence assembly), [SAMtools](#) (sequence alignment), [BWA](#) (sequence alignment), [GATK](#) (variant calling), [Artemis](#) (genome annotation), [Cufflinks](#) (RNA-Seq data analysis).

## OTHER SKILLS

### *Informatic skills*

- **Statistical softwares:** [R](#), [JMP](#).
- **Programming:** [R](#) and [Bash](#) scripting.
- **Applications:** [Microsoft Office](#), [OpenOffice.org](#), [LibreOffice](#) for GNU/Linux or Windows platforms, [L<sup>A</sup>T<sub>E</sub>X](#), [BIB<sub>T</sub>E<sub>X</sub>](#), [JabRef](#).
- **Image processing:** [ImageJ](#), [GIMP](#), [Inkscape](#), [AxioVision](#).
- **Operating systems used:** GNU/Linux (Ubuntu distribution), Microsoft Windows (2000/XP/Vista/10).

### *Language skills*

- French: Native speaker
- English: Fluent
- Latin: Good comprehension

## HOBBIES

### **Sports**

#### *Horse riding*

- Federal horse riding diploma, level 7 (15 years of practice).
- Competition at Regional and National level (10 years of practice).