

# Cedric Perret

## Postdoctoral Research Associate in social evolution

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### **Education and training**

- 2016-2019 **Ph.D. "The evolutionary iron law of oligarchy"**, *Edinburgh Napier University, UK*  
Under the supervision of [Simon T. Powers](#) and [Emma Hart](#)  
Examiners: [Thomas Currie](#) (Exeter University, UK) and [Andy Gardner](#) (University of St Andrews, UK).
- 2018 **Santa Fe Complex Systems Summer School**, *Santa Fe Institute, USA*  
Information theory, Non-linear dynamics, Network theory, Machine learning, Human evolution
- 2016 **MSc in Evolutionary Biology and Ecology**, *University of Montpellier, France*  
Modeling in evolutionary biology, Advanced Biostatistics, Ecology, Population genetics, Quantitative genetics
- 2013 **MSc (1st year) in Ecology and Environment**, *State University of New Paltz, USA*  
Biostatistics, Seminar in evolutionary studies, Biogeography
- 2012 **BA in Biology and Ecology**, *University of Franche-comte, Besancon, France*  
Ecology, Formal and Population genetics, Biostatistics, Animals and plants Biology

### **Research Experience**

- 2020 – 2022 **Postdoctoral research associate on the evolution of hierarchy and institutions**, *Exeter University, UK*  
Under the supervision of [Thomas Currie](#)
- 2020/01 - 07 **Postdoctoral research associate on direct and indirect reciprocity**, *Teeside University, UK*  
Under the supervision of [The Anh Han](#)
- 2016 **Internship on modeling the evolution of resistance against cancer in wildlife species**  
*Institute of Research for Development, University of Montpellier, France*  
Under the supervision of [Frederic Thomas](#) and [Benjamin Roche](#)
- 2015 **Internship on the development of a computer tool for experimentations in cultural evolution**  
*Institute of Evolutionary Sciences of Montpellier, University of Montpellier, France*  
Under the supervision of [Jean-Baptiste André](#) and [Nicolas Claidière](#)

### **Core skills**

#### **Programming language skills:**

- Proficient in Julia, Python, R, Mathematica, Java
- Efficient in Bash, Markdown

#### **Computers skills:**

- Proficient in LaTeX, Mendeley, Github, Microsoft office programs
- Efficient in web design (Wordpress, github.io)

#### **Language skills:**

- **French:** C2 (native language)
- **English:** C1 (TOEFL 2016 : 583/677)
- **Spanish:** B1

European driving license

### **Peer-reviewed publications:**

#### **First author:**

- 2022 **Modelling the role of migration and geographical distribution of resources on the evolution of inequality in socio-political systems**  
[C.Perret](#), [T. Currie](#)  
*Accepted in special issue of Philosophical Transactions of the Royal Society B*
- 2022 **An investigation of the role of leadership in consensus decision-making**  
[C. Perret](#), [S.T. Powers](#)

*Journal of theoretical biology* – [Link](#)

- 2021 **The evolution of moral rules in a model of indirect reciprocity with private assessment**  
[C. Perret](#), M. Krellner and T.A. Han  
*Nature Scientific reports* - [Link](#)
- 2020 **From disorganized equality to efficient hierarchy: how group size drives the evolution of hierarchy in human societies**  
[C. Perret](#), E. Hart and S.T. Powers  
*Proceedings of the Royal Society B: Biological Sciences* - [Link](#)
- 2020 **Predation shapes the impact of cancer on population dynamics and the evolution of cancer resistance**  
[C. Perret](#), C. Gidoin, B. Ujvari, F. Thomas and B. Roche  
*Evolutionary Applications* - [Link](#)
- 2019 **Being a leader or being the leader: The evolution of institutionalised hierarchy.**  
[C. Perret](#), E. Hart and S.T. Powers  
*ALIFE 2019: The 2019 Conference on Artificial Life*. MIT Press - [Link](#)
- 2018 **Can justice be fair when it is blind? How social network structures promote or prevent the evolution of despotism.**  
[C. Perret](#), S.T. Powers, J. Pitt and E. Hart  
*ALIFE 2018: The 2018 Conference on Artificial Life*. MIT Press - [Link](#)
- 2017 **Emergence of hierarchy from the evolution of individual influence in an agent-based model**  
[C. Perret](#), S.T. Powers and E. Hart  
*Proceedings of the European Conference on Artificial Life 2017*. MIT Press - [Link](#)

#### **Co-author:**

- 2021 **The cultural evolution and ecology of institutions**  
T.E. Currie, M. Campenni, A. Flitton, T. Njagi, E. Ontiri, [C. Perret](#) and L. Walker  
*Philosophical Transactions of the Royal Society: B*
- 2021 **Cost-efficient interventions for promoting fairness in the ultimatum game**  
T. Cimpéanu, [C. Perret](#), T.A. Han  
*Knowledge-Based Systems*
- 2021 **When to (or not to) trust intelligent machines: Insights from an evolutionary game theory analysis of trust in repeated games**  
T.A. Han, [C. Perret](#), Simon T. Powers  
*Cognitive Systems Research*
- 2018 **Trusting Intelligent Machines: Deepening trust within socio-technical systems**  
P. Andras, L. Esterle, M. Guckert, T.A. Han, P.R. Lewis, K. Milanovic, T. Payne, [C. Perret](#), J. Pitt, S.T. Powers, N. Urquhart and S. Wells  
*IEEE Technology and Society Magazine* - <https://ieeexplore.ieee.org/document/8558724>

#### **Other outputs:**

- 2020 **Ph.D. Thesis: The Iron Law of Oligarchy**  
[C. Perret](#)  
<https://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.818588>
- 2021 **Promoting Fair Proposers, Fair Responders or Both? Cost-Efficient Interference in the Spatial Ultimatum Game**  
T. Cimpéanu, T.A. Han, [C. Perret](#)  
Extended abstract - *International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2021)*
- 2019 **A theoretical investigation of transgenerational effects of population-scale disaster on prevalence of schizophrenia.**  
C. Gunaratne, S. Jankowski, [C. Perret](#), J. Tuominen, M. Wadl  
*Santa Fe project report*
- 2019 **Using an opinion formation model to investigate the effect of leaders on collective decision-making**  
[C. Perret](#), S.T. Powers, E. Hart  
Extended abstract - *Workshop on Agent-Based Modelling in Human Behaviour (ABMHuB 2019)*

#### **Research dissemination:**

## **International conferences:**

### **Oral presentation at:**

- CES 2022: Cultural Evolution Society Conference, *Aarhus, Denmark* – [Website](#)
- CCS 2021: Complex Systems Society Conference, *Lyon, France* - [Website](#)
- CES 2021: Cultural evolution Society Conference, *Online* - [Website](#)
- ALIFE 2019: The Conference on Artificial Life, *Newcastle, UK* – [Website](#)
- Evolution 2018: Joint Congress on Evolutionary Biology, *Montpellier, France* – [Website](#)
- ECAL 2017: European Conference on Artificial Life, *Lyon, France* - [Website](#)

### **Poster presentation at:**

- Evolution 2018: Joint Congress on Evolutionary Biology, *Montpellier, France* – [Website](#)

### **Participation to:**

- ESEB 2017: Congress of the European Society for Evolutionary Biology, *Groningen, Netherlands* – [Website](#)
- PPSN 2016: 14th International Conference on Parallel Problem Solving from Nature, *Edinburgh, UK* - [Website](#)

## **Local conferences:**

### **Oral presentation at:**

- 2019 Scottish Informatics and Computer Science Alliance (SICSA) pre evolutionary computing day, *Stirling, UK*
- 2019 School of Computing Research Conference, *Edinburgh Napier, UK*
- 2018 School of Computing Research Conference, *Edinburgh Napier, UK*
- 2016 MEE: Models in Ecology and Evolution Seminar, *Montpellier, France*

### **Poster presentation at:**

- 2017 Scottish Informatics and Computer Science Alliance (SICSA) PhD Conference, *Dundee, UK*
- 2017 Edinburgh Napier University Research Conference, *Edinburgh Napier, UK*

### **Participation to:**

- 2019 Scottish Informatics and Computer Science Alliance (SICSA) PhD Conference, *Stirling, UK*

## **Workshops:**

- TIM 2020: Workshop on Trust in Intelligent Machines, *Online*
- ABMHUB 2019: Workshop on Agent-Based Modelling in Human Behaviour, *ALIFE 2019, Newcastle, UK* - [Website](#)
- EHB 2019: Workshop on Evolution of Human Behaviour: Using theory to address societal challenges, *at ALIFE 2019, Newcastle, UK* - [Website](#)
- TIM 2019: Workshop on Trust in Intelligent Machines, *University of Gießen, Germany*
- EDI 2019: Workshop on the Evolution and Dynamics of Institutions, *Edinburgh Napier University, UK*
- TIM 2018: Workshop on Trust in Intelligent machines, *Edinburgh Napier University, UK* - [Website](#)

## **Seminar presentations:**

2020	<b>School of Computing seminar</b> , School of computing, <i>Teeside University, UK</i>
2019	<b>School of Biology seminar</b> , Department of Ecology and Evolution, <i>University of Lausanne, Swiss</i>
2018	<b>Pr.Lehmann's team seminar</b> , Department of Ecology and Evolution, <i>University of Lausanne, Swiss</i>
2018	<b>Pr.Gardner's team seminar</b> , School of Biology, <i>University of St Andrews, UK</i>
2018	<b>Dr.Gross's team seminar</b> , Collective dynamics group, <i>University of Bristol, UK</i>
2016, 2018	<b>School of Computing seminars</b> , School of Computing, <i>Edinburgh Napier University, UK</i>

## **Academic event organisation:**

### **Organisation of international workshops and conferences:**

#### **Lead organiser of:**

- EHB 2019: Workshop Evolution of Human Behaviour: Using Theory to Address Societal Challenges, *at ALIFE 2019 conference, Newcastle.* [Website](#)
- EDI 2019: Workshop on the Evolution and Dynamics of Institutions, *Edinburgh Napier University.*

**Co-organiser of:**

- TIM 2018: Workshop on Trust in Intelligent Machines, *Edinburgh Napier University*. [Website](#)

**Member of local organiser committee of:**

- PPSN 2016: 14th International Conference on Parallel Problem Solving from Nature, *Edinburg, UK*.

**Organisation of seminar series:****Co-organiser of:**

- 2017-2018 • School of Computing Seminar Series, *Edinburgh Napier University*
- 2017 • PhD Masterclasses (one workshop and a seminar series), *Edinburgh Napier University*

**Grants****Lead applicant to:**

- 2019 • PhD impact improvement Funds
- **Three months of PhD stipend** funded by Edinburgh Napier University
- 2018 • Researcher Development Funds for «Workshop on the Evolution and Dynamics of institutions »
- **£1500** funded by the Research Innovation Office, *Edinburgh Napier University*
- 2018 • Funds to participate to Santa Fe Complex System Summer School
- **£1000** funded by Small Project & Mobility Grants, *Edinburgh Napier University*
  - **£500** funded by SISCA summer school bursary, *Scottish Informatics & Computer Science Alliance*
- 2018 • Public engagement funds for « SciVid: Animated videos to support wider scientific communication»
- **£2500** funded by *Edinburgh Napier University*

**Co-applicant to:**

- 2017 • Researcher Development Funds for « School of Computing Masterclasses »
- **£800** funded by the Research Innovation Office, *Edinburgh Napier University*
- 2017 • Researcher Development Funds for « Workshop on Trust in Intelligent Machines»
- **£1500** funded by Research Innovation Office, *Edinburgh Napier University*
- 2016 • PhD studentship
- **Payment of full-time tuition fees and stipend for 3 academic years**, *Edinburgh Napier University*

**Grants reviewing:**

- 2019 Member of review panel for the attribution of Researcher Development funds, *Edinburgh Napier University*

**Honours and Awards:**

- 2019 **Best presentation Awards (3<sup>rd</sup> year PhD)** at the 2019 Edinburgh Napier School Conference
- 2018 **Best presentation Awards (2<sup>nd</sup> year PhD)** at the 2018 Edinburgh Napier School Conference
- 2017 **Best poster Awards** at the 2017 Edinburgh Napier University Conference

**Professional activities:****Public engagement:**

- 2018 SciVid Project: Animated videos to support wider scientific communication, *Edinburgh Napier University*
- Lead organiser of the project
  - Organisation of a one-day workshop on science scriptwriting
  - Two months supervision of intern for the creation of an animated video on one of my published research
- 2017, 2018 Explorathon, *Edinburgh*
- Presentation of the field of artificial evolution during two open public events
- 2017 Cyber academy workshop, *Edinburgh Napier University*
- Introduction of Colinton Primary school to robotics and programming

**Teaching:**

- 2017, 2018 Two classes in the module “Multi-Agent Systems”, *Edinburgh Napier University*
- 2018 Two months student supervision for the SciVid Project, *Edinburgh Napier University*

**Peer-reviews:**

2018-Now      13 Peer-reviews for journals including Proceedings of the Royal Society B, Evolutionary Human Sciences, Scientific reports, Plos One, PeerJ and Journal of Mathematical Psychology

**Others:**

2019      Editor assistant for the Evolutionary Computation Journal, *Edinburgh Napier University*

**Referees**

**Simon T. Powers**, Lecturer  
*PhD supervisor,*  
*Edinburgh Napier University, Edinburgh*  
Email: [S.Powers@napier.ac.uk](mailto:S.Powers@napier.ac.uk)

**The Anh Han**, Associate Professor  
*Postdoc supervisor,*  
*Teeside University, Middlesbrough*  
Email: [T.Han@tees.ac.uk](mailto:T.Han@tees.ac.uk)

**Thomas Currie**, Associate Professor  
*Postdoc supervisor,*  
*University of Exeter, Exeter*  
Email: [T.Currie@exeter.ac.uk](mailto:T.Currie@exeter.ac.uk)

**Benjamin Roche**, Researcher Director  
*Master supervisor,*  
*Research Institute for Development, Mexico City*  
Email: [benjamin.roche@ird.fr](mailto:benjamin.roche@ird.fr)