

**Sylvain GIROUD**  
**Animal Evolutionary Ecophysiologicalist**

**RESEARCH INTERESTS**

**Energetics & Lipids**  
**Heterothermy**  
**Global Change**  
**Evolution**

**Professional address:**

Research Institute of Wildlife Ecology (FIWI)  
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**ORCID:** <http://orcid.org/0000-0001-6621-7462>

DOB: 25 July 1978 at Echirolles, France  
Married, 2 Kids

**EDUCATION**

**2022. Habilitation 'Venia Docendi' in Animal Physiology**

University of Vienna, Austria

Title: "Seasonal regulations of metabolic downstates"

**2004-2008. PhD in Animal Ecophysiology**

University of Strasbourg, France (Grant of the French Minister)

*Department of Ecology, Physiology, Ethology; Hubert Curien Interdisciplinary Institute, CNRS-Uni Strasbourg*

Title: "Energy-saving mechanisms in a heterothermic Malagasy primate: the grey mouse lemur"

**2003-2004. Master in Integrative (Eco)physiology**

Claude Bernard University, Lyon, France (Grant of the French Minister)

Master thesis: "System NMDA-receptor/oxide nitric and ventilatory acclimatization to chronic hypoxia in rat"

**2000-2003. Bachelor in Cell Biology and Physiology**

Joseph Fourier University, Grenoble, France & Concordia University, Montreal, Canada

**ACADEMIC POSITIONS**

**Since 2023. Assistant Professor of Wildlife Physiology**

Department of Biology, Northern Michigan University (NMU), Michigan, USA

**Since 2022. Guest Assistant Professor – Principal Investigator**

Research Institute of Wildlife Ecology, Department of Interdisciplinary Life Sciences, University of Veterinary Medicine Vienna, Austria

**Since 2019. Leader of the team 'Ecophysiology of Metabolic Downstates'**

Research Institute of Wildlife Ecology, Department of Interdisciplinary Life Sciences, University of Veterinary Medicine Vienna, Austria

**2014 to 2022. Senior Research Associate – Principal Investigator**

Research Institute of Wildlife Ecology, Department of Interdisciplinary Life Sciences, University of Veterinary Medicine Vienna, Austria

**2012-2013 & 2015 & 2021-2023. Lecturer** at the University of Vienna & University of Natural Resources and Life Sciences, Austria

**2010-2014. Postdoctoral Researcher**

Research Institute of Wildlife Ecology, Department of Interdisciplinary Life Sciences, University of Veterinary Medicine Vienna, Austria

**2007-2009. Assistant Lecturer**

Hubert Curien Interdisciplinary Institute, Department of Ecology, Physiology, Ethology; CNRS-UdS Nancy

**FUNDED GRANTS, SPONSORSHIPS AND FELLOWSHIPS****Funded grants ~1.200.000€ including ~730.000€ as PI**

**2024-2009. [Anticipated submission for October 2023] ERC Start Grant as Co-Investigator:** “Effect of Micronutrients and Toxins on the Physiology of seasonal Hibernators” (EMTPH 2.500.000€ split into 4 packages over 5 years) [PI: Prof Alina Evens at Inland Norway University of Applied Sciences]

**2023-2027. [Rejected – New Submission anticipated for 2024] Doctoral research grant as Co-Investigator** to HORIZON-MSCA-2022: “Bridging healthy Living and planetary health by Using Exposome factors that Promote Longevity and healthy Ageing inspired by Nature and Training of new generation health professionals” (BLUE PLANET 4.500.000€ shared between 6 partners over 4 years) [PI: Prof Leon Schürgers at University of Maastricht]

**2023-2025. Submitted research grant as Co-Investigator** from the Excellence Initiative of Strasbourg University (IdEx) for a joint project: “EXploring the fitness benefits of seasonal telomerase ACTivation in hibernating species” (EXACT, 30.000€ for 2 years) [PI: Dr Vincent Viblanç at CNRS Strasbourg, France]

**2021-2024. Research grant as Co-Investigator** to the French National Agency for Research (ANR): “Diving into physiological paradoxes: hypoxemia and hypothermia in foraging seals” (450.068€ over 3 years) [PI: Prof Caroline Gilbert at CNRS Brunoy / ENVA Maisons-Alfort, France]

**2022-2025. Teaching grant as Co-Investigator** from the National Science Fund (NSF), International Research Experience for Students (IRES) to act as students’ mentor on the topic “Comparative Physiology of Energy Balance” [PI: Prof Jessica Healy at Austin College, US]

**2020-2021. Research grant as Principal Investigator** from the Scientific and Technological Cooperation (WTZ-Program) for a joint project: “Comparison of life-history traits between fat and food-storing hibernators” (5.800€) [Co-PI: Prof Caroline Habold at CNRS Strasbourg, France]

**2018-2022. Stand-Alone Project as Principal Investigator** from the Austrian Science Fund (FWF): “[Plasticity of ontogeny of energy saving mechanisms in heterothermic mammals](#)” (392.797€ over 4 years)

**2016-2019. Research grant as Collaborator** of the Spanish National Research Council on a project untitled: “Evolution of mammalian life history in continental Iberian ecosystems from the Miocene to Pleistocene: correlation with climatic changes” [In collaboration with Prof Meike Köhler at the Autonomous University of Barcelona, Spain]

**2014-2017. Stand-Alone Project as Principal Investigator** from the Austrian Science Fund (FWF): “[Polyunsaturated fatty acids and hibernation: underlying mechanisms and consequences for ageing](#)” (325.000€ over 3 years)

**Sponsorships and fellowships ~46.000€**

**2023. Sponsorship** from the Journal of Thermal Biology (2250€) as support for a co-organized symposium on ‘Thermoregulatory and Metabolic Adaptations to a Changing World’ at the SEB Meeting [Edinburgh, 4-7 July 2023]

**2019. Sponsorship** from Sable Systems (1.750€) and Loligo System (750€) as support for a co-organized symposium on ‘Saving energy in a fluctuating environment: from the whole organism down to the molecule’ at the SEB Meeting [Seville, 2-5 July 2019]

**2019. Sponsorship** from Frontiers in Physiology (1.950€) as support for a co-organized symposium on ‘Living at low pace: From the whole organism to the molecule’ at the 2019 ICCPB [Ottawa, 5-9 August 2019]

2010-2013. **Post-doctoral Fellowship** of the University of Veterinary Medicine Vienna (10.000€/year for 4 years)

2003-2007. **Research Fellowship** of the French Ministry for Research (PhD thesis)

## PUBLICATIONS

### Published and submitted in peer-reviewed journals

1. Ingelson-Filpula W.A, Küber-Heiss A, Painer J, Stalder G, Hadj-Moussa H, Bertile F, Habold C, **Giroud S\***, Storey K.B\*. Regulation of metabolism and energy-expensive processes in hibernating dormouse liver may be directed by microRNA. **Under review** in *Frontiers in Physiology - Special Topic 'Torpor and Hibernation: Metabolic and Physiological Paradigms'* \*equally-contributed authors
2. Thiel A, Hertel A.G, **Giroud S**, Friebe A, Fuchs B, Kindberg J, Arnemo J.M, Evans A.L. The price of research: Lasting effects of capture and muscle biopsy on brown bear movement and physiology. **Under review** in *Animal Welfare*
3. **Giroud S**, Ragger M-T, Baille B, Hoelzl F, Smith S, Nowack J, Ruf T. Food availability positively affects the survival and somatic maintenance of hibernating garden dormice (*Eliomys quercinus*). **Under review** in *Frontiers in Zoology*
4. Constant T, Dobson F.S, Habold C\*, **Giroud S\***. Trade-offs in dormancy phenology in endotherms and ectotherms. **Under review** in *Functional Ecology* \*equally-contributed authors
5. Posautz A, Springler G, Küber-Heiss A, **Giroud S**. First report of tumors in Garden dormice (*Eliomys quercinus*). **Under review** in *Veterinary Pathology*
6. Haugg E, Borner J, Stalder G, **Giroud S\***, Herwig A\*. Comparative transcriptomics of the hibernating garden dormouse hypothalamus. **Under review** in *FEBS Open Bio* \*equally-contributed authors
7. Strandvik B, Qureschi A.R, Painer J, Backman-Johansson C, Engvall M, Fröbert O, Stenwinkel P\*, **Giroud S\***. Elevated plasma phospholipid docosapentaenoic acid concentrations during hibernation in garden dormice and brown bears. **Under review** in *PLoS One* \*equally-contributed authors
8. Evans A.L, Fuchs B, Navinder J.S, **Giroud S**, Blanc S, Laske T.G, Frobert O, Friebe A, Swenson J.E, Arnemo J.M. Body mass determines hibernation length, body temperature, and heart rate in free-ranging brown bears. **Under review** in *Frontiers in Zoology*
9. De Wit L, Hamberg M.R, Ross A.M, Goris M, Lie F.F, **Giroud S**, Henning R.H, Hut R.A. Temperature effects on DNA damage in hibernation. **Accepted** in *Physiological and Biochemical Zoology - Special theme issue: 'Hibernation and Daily Torpor'* [DOI: 10.1086/722904]
10. Charlanne L, Vetter S, Einwaller J, Painer J, Gilbert C\*, **Giroud S\***. „Sleeping together”: energetic consequences of huddling behavior in hibernating juvenile garden dormice (*Eliomys quercinus*). *Physiological and Biochemical Zoology - Special theme issue: 'Hibernation and Daily Torpor'* 95(5): 400-415, **2022** [DOI: 10.1086/721184] \*equally-contributed authors
11. Ruf T, **Giroud S**, Geiser F. Hypothesis and Theory: A two-process model of torpor-arousal regulation in hibernators. *Frontiers in Physiology - Special Topic 'Biological rhythms: Evolution, Population Biology, and Adaptation'* 13:901270, **2022** [DOI: 10.3389/fphys.2022.901270]
12. Thiel A, **Giroud S**, Hertel A.G, Friebe A, Devineau O, Fuchs B, Blanc S, Støen O.G, Laske T, Arnemo J.M, Evans A.L. Slowing the pace in winter: Seasonality of biological rhythms in Scandinavian brown bears. *Frontiers in Physiology - Special Topic 'Biological rhythms: Evolution, Population Biology, and Adaptation'* 13:785706, **2022** [DOI: 10.3389/fphys.2022.785706]
13. Ruf T, Gasch K, Stalder G, Gerritsmann H, **Giroud S**. An hourglass mechanism controls torpor bout length in hibernating garden dormice. *Journal of Experimental Biology* 224(23):jeb243456, **2021** [DOI: 10.1242/jeb.243456]
14. **Giroud S**, Chery I, Arrivé M, Prost M, Zumsteg J, Heintz D, Evans A.L, Gauquelin-Koch G, Arnemo J.M, Swenson J.E, Lefai E, Bertile F, Simon C, Blanc S. Hibernating brown bears are protected against atherogenic dyslipidaemia. *Scientific Reports* 11:18723, **2021** [DOI: 10.1038/s41598-021-98085-7]

15. Huber N, Gerritsmann H, Stalder G, **Giroud S**. Shifts in immune cell function and composition in hibernating garden dormouse (*Eliomys quercinus*) *Frontiers in Physiology - Special Topic 'The Integrative Physiology of Metabolic Down-states'* 12:620614, **2021** [DOI: 10.3389/fphys.2021.620614]
16. Bertile F, Habold C, Le Maho Y, **Giroud S**. Body protein sparing in hibernators: a source for biomedical innovation. *Frontiers in Physiology - Special Topic 'The Integrative Physiology of Metabolic Down-states'* 12:634953, **2021** [DOI: 10.3389/fphys.2021.634953]
17. **Giroud S**, Habold C, Nespolo R, Terrien J, Logan S, Henning R, Storey K. Torpor and hibernation: metabolic adaptations and protective mechanisms. *Frontiers in Physiology - Special Topic 'The Integrative Physiology of Metabolic Down-states'* 11:623665, **2020** [DOI: 10.3389/fphys.2020.623665]
18. Watts A.J, Logan S.M, Küber-Heiss A, Posautz A, Stalder G, Painer J, **Giroud S\***, Storey K.B\*. Regulation of peroxisomal lipid metabolism pathway during torpor in the garden dormouse, *Eliomys quercinus*. *Frontiers in Physiology - Special Topic 'The Integrative Physiology of Metabolic Down-states'* 11:615025, **2020** [DOI: 10.3389/fphys.2020.615025] \*equally-contributed authors
19. **Giroud S**, Storey K, Nord A, Nowack J. Editorial of the Research Topic: Coping with Environmental Fluctuations - Ecological and Evolutionary Perspectives. *Frontiers in Physiology - Special Topic 'Coping with Environmental Fluctuations: Ecological and Evolutionary Perspectives'* 11:605186, **2020** [DOI: 10.3389/fphys.2020.605186]
20. Ebert T, Painer J, Bergman P, Qureshi A.R, **Giroud S**, Stalder G, Kublickiene K, Vetter S, Göritz F, Fröbert O, Arnemo J.M, Zedrosser A, Redtenbacher I, Johnson R, Shiels P.G, Stenvinkel P. Insights in the Regulation of TMAO Production Using a Comparative Biomimetic Approach: Identification of a Metabolic Switch in Hibernating Bears. *Scientific Reports* 10:20323, **2020** [DOI: 10.1038/s41598-020-76346-1]
21. Constant T, **Giroud S**, Viblanc V, Tissier M.L, Bergeron P, Dobson F.S, Habold C. Integrating extrinsic mortality risk in the adaptiveness of hibernation framework. *Frontiers in Physiology - Special Topic 'Coping with Environmental Fluctuations: Ecological and Evolutionary Perspectives'* 11: 706, **2020** [DOI: 10.3389/fphys.2020.00706]
22. Logan S.M, Watts A.J, Posautz A, Küber-Heiss A, Painer J, Stalder G, **Giroud S\***, Storey K.B\*. The ratio of linoleic and linolenic acid in the pre-hibernation diet influences NFκB signaling in garden dormice during torpor. *Frontiers in Molecular Biosciences* 7: 97, **2020** [DOI: 10.3389/fmolb.2020.00097] \*equally-contributed authors
23. Nord A & **Giroud S**. Lifelong effects of thermal challenges during development in birds and mammals. *Frontiers in Physiology - Special Topic 'Coping with Environmental Fluctuations: Ecological and Evolutionary Perspectives'* 11: 419, **2020** [DOI: 10.3389/fphys.2020.00419]
24. Luu B.E, Lefai E, **Giroud S**, Swenson J.E, Chazarin B, Gauquelin-Koch G, Arnemo J.M, Evans A.L, Bertile F, Storey K.B. MicroRNAs facilitate skeletal muscle maintenance and metabolic suppression in hibernating brown bears. *Journal of Cellular Physiology* 1-10, **2019** [DOI:10.1002/jcp.29294]
25. Nowack J, Tarmann I, Hoelzl F, Smith S, **Giroud S\***, Ruf T\*. Always a price to pay: hibernation at low temperatures comes with a trade-off between energy savings and cellular damage. *Biology Letters* 15: 20190466, **2019** [DOI: 10.1098/rsbl.2019.0466] \*equally-contributed authors
26. **Giroud S**, Chery I, Bertile F, Bertrand-Michel J, Tascher G, Gauquelin-Koch G, Arnemo J.M, Swenson J.E, Singh N.J, Lefai E, Evans A.L, Simon C, Blanc S. Lipidomics reveal seasonal shifts in a large-bodied hibernator, the brown bear. *Frontiers in Physiology* 10: 389, **2019** [DOI: 10.3389/fphys.2019.00389]
27. **Giroud S**, Evans A.L, Chery I, Bertile F, Tascher G, Bertrand-Michel J, Gauquelin-Koch G, Arnemo J.M, Swenson J.E, Lefai E, Blanc S, Simon C. Seasonal changes in eicosanoids metabolism in the brown bear. *The Science of Nature* 105(9-10), **2018** [DOI: 10.1007/s00114-018-1583-8]
28. **Giroud S**, Gerritsmann H, Stalder G, Anna Küber-Heiss, Jae Kwak, Arnold W, Ruf T. Dietary lipids affect the onset of hibernation in the garden dormouse (*Eliomys quercinus*): Implications for cardiac function. *Frontiers in Physiology* 9: 1235, **2018** [DOI: 10.3389/fphys.2018.01235]
29. Mahlert B, Gerritsmann H, Stalder G, Ruf T, Zahariev A, Blanc S, **Giroud S**. Being born late in the active season: implications for growth, pre-hibernation fattening, energetic strategies and reproductive success. *Elife* 7: e31225, **2018** [DOI: 10.7554/eLife.31225]

30. Nowack J, **Giroud S**, Arnold W, Ruf T. Muscular non-shivering thermogenesis and its role in the evolution of endothermy. *Frontiers in Physiology - Special Topic 'The Evolution of Endothermy: From Patterns to Mechanisms'* 8: 889, **2017** [DOI: 10.3389/fphys.2017.00889]
31. Williams C.T, Klaassen M, Barnes B.M, Buck C.L, Arnold W, **Giroud S**, Vetter S, Ruf T. Seasonal reproductive tactics: Annual timing and the capital to income breeder continuum. *Philosophical Transactions of the Royal Society B - Special theme issue: 'Wild Clocks: integrating chronobiology and ecology to understand timekeeping in free-living animals'* 372: 20160250, **2017** [DOI: 10.1098/rstb.2016.0250]
32. Bieber C, Cornils J.S, Hoelzl F, **Giroud S**, Ruf T. The costs of locomotor activity? - Maximum body temperatures and the use of torpor during the active season in edible dormice. *Journal of Comparative Physiology B - Special theme issue: 'Living in a Seasonal World'*, 187 (5-6): 803-814, **2017** [DOI: 10.1007/s00360-017-1080-y]
33. Stumpfel S, Bieber C, Ruf T, **Giroud S**. Differences in growth rates and pre-hibernation body mass gain between early and late-born juvenile garden dormice. *Journal of Comparative Physiology B*, 187(1): 253-263, **2017** [DOI: 10.1007/s00360-016-1017-x]
34. Jastroch M\*, Barrett P\*, Geiser F\*, **Giroud S\***, Heldmaier G\*, Herwig A\*. Seasonal control of energy balance: recent advances and current status. *Journal of Neuroendocrinology* 28(11), 10.1111/jne.12437, **2016** [DOI: 10.1111/jne.12437] \*equally-contributed authors
35. Arnold W, **Giroud S**, Valencak T.G, Ruf T. Ecophysiology of omega fatty acids: a lid for each jar. *Physiology* 30(3): 232-240, **2015** [DOI: 10.1152/physiol.00047.2014]
36. **Giroud S**, Zahn S, Criscuolo F, Chery I, Blanc S, Turbill C, Ruf T. Late-born intermittently fasted juvenile garden dormice use torpor to grow and fatten during pre-hibernation: consequences for ageing processes. *Proceedings of the Royal Society of London B* 281 1797 20141131, 1471-2954, **2014** [DOI: 10.1098/rspb.2014.1131]
37. **Giroud S**, Frare C, Strijkstra A, Boerema A, Arnold W, Ruf T. Membrane phospholipid fatty acid composition regulates cardiac SERCA activity in a hibernator, the Syrian hamster (*Mesocricetus auratus*). *PLoS One* 8(5): e63111, **2013** [DOI: 10.1371/journal.pone.0063111]
38. Gilbert C, McCafferty DJ, **Giroud S**, Ancel A, Blanc S. Private heat for public warmth: How huddling shapes individual thermogenic responses of rabbit pups. *PLoS One* 7(3): e33553, **2012** [DOI: 10.1371/journal.pone.0033553]
39. Gilbert C, McCafferty DJ, Le Maho Y, **Giroud S**, Blanc S, Ancel A. One for all and all for one: the energetic benefits of huddling in endotherms. *Biological Reviews* 85(3): 545-569, **2010** [DOI: 10.1111/j.1469-185X.2009.00115.x]
40. **Giroud S**, Perret M, Stein P, Goudable J, Aujard F, Gilbert C, Robin JP, Le Maho Y, Zahariev A, Blanc S, Momken I. The grey mouse lemur uses season-dependent fat or protein sparing strategies to face chronic food restriction. *PLoS One* 5(1): e8823, **2010** [DOI: 10.1371/journal.pone.0008823]
41. **Giroud S**, Perret M, Gilbert C, Zahariev A, Goudable J, Le Maho Y, Oudart H, Momken I, Aujard F, Blanc S. Dietary palmitate and linoleate oxidations, oxidative stress and DNA damage differ according to season in mouse lemurs exposed to a chronic food deprivation. *American Journal of Physiology - Regulatory Integrative and Comparative Physiology* 297: 950-959, **2009** [DOI: 10.1152/ajpregu.00214.2009]
42. **Giroud S**, Perret M, Le Maho Y, Gilbert G, Blanc S. Gut hormones in relation to body mass and torpor patterns changes during food restriction and re-feeding in the grey mouse lemur. *Journal of Comparative Physiology B - Biochemical Systemic and Environmental Physiology* 179(1): 99-111, **2009** [DOI: 10.1007/s00360-008-0294-4]
43. **Giroud S**, Blanc S, Aujard F, Bertrand F, Gilbert C, Perret M. Chronic food shortage and seasonal modulations of daily torpor and locomotor activity in the grey mouse lemur (*Microcebus murinus*). *American Journal of Physiology - Regulatory Integrative and Comparative Physiology* 294: 1958-1967, **2008** [DOI: 10.1152/ajpregu.00794.2007]
44. Gilbert C, Blanc S, **Giroud S**, Trabalon M, Le Maho Y, Perret M, Ancel A. Role of huddling on the energetic of growth in a newborn altricial mammal. *American Journal of Physiology - Regulatory Integrative and Comparative Physiology* 293: 867-876, **2007** [DOI: 10.1152/ajpregu.00081.2007]

45. Dali-Youcef N, Matakı C, Coste A, Messaddeq N, **Giroud S**, Blanc S, Koehl C, Chambon P, Fajas L, Metzger D, Schoonjans K, Auwerx J. Adipose tissue specific inactivation of the retinoblastoma protein protects against diabetes due to increased energy expenditure. *Proceedings of the National Academy of Sciences* 104(25): 703-708, **2007** [DOI: 10.1073/pnas.0611568104]

### Book chapters and congress abstracts

1. **Giroud S**. Ontogeny of seasonal rhythms. In: *Terrien J et al. (eds). Seasonal rhythms in living organisms*. ISTE, in preparation, expected for **2023**
2. **Giroud S**, Habold C, Vetter S, Painer J, Four-Chaboussant A, Smith S, Gilbert C. Living in a changing world: Physiological and behavioral flexibility of juvenile garden dormice. 11<sup>th</sup> International Dormice Conference, Svilengrad, Bulgaria, May 9-13, 2022, *Congress Abstract* [DOI: 10.3897/aca.5.e81850]
3. Haugg E, Borner J, **Giroud S**, Herwig A. Differential gene expression in the hypothalamus of hibernating garden dormice (*Eliomys quercinus*). 14<sup>th</sup> Meeting of the German Neuroscience Society, Virtual Conference, Göttingen, Germany, March 22-30, 2021. *Neuroforum* (27), S T22-1, *Congress Abstract*, 2021 [ISSN: 2363-7013]
4. **Giroud S**, Turbill C, Ruf T. Torpor use and body mass gain during pre-hibernation in late-born juvenile garden dormice exposed to food shortage. In: *Ruf T, Bieber C, Arnold W, Millesi E (eds). Living in a seasonal world: thermoregulatory and metabolic adaptations*. Springer, Heidelberg, pp. 481-491, **2012** [DOI: 10.1007/978-3-642-28678-0\_42]
5. **Giroud S**, Blanc S, Perret M. Seasonal difference in energy-saving mechanisms during chronic food shortage in a Malagasy primate. *Comparative Biochemistry and Physiology A – Molecular and Integrative Physiology* 146(4): 79, *Congress Abstract*, **2007** [DOI: 10.1016/j.cbpa.2007.01.095]

### Popular Science

1. **Giroud S** & Painer-Gigler J. "Bären: Metabolische Wunder der Natur!". *Jagd in Tirol* 01/2023, pp. 13-17
2. **Giroud S** & Painer-Gigler J. "Bären: Wildtiermanagement und anthropogenen Störungen". *Jagd in Tirol* Im Vorbereitung

## COMMUNICATIONS – CONFERENCES AND INVITED SEMINARS

### Keynote lectures

1. **Giroud S**, Simon C, Arnold W, Blanc S, Ruf T. Energetics of torpor and hibernation: implications for human space travels. *Europhysiology, London, UK; 14-16 September 2018*
2. **Giroud S**. Metabolism of torpor and hibernation: from small to large hibernators [French]. *Congress of Physiology and Integrative Biology, Lille, France; 27-29 June 2018* [ISSN: 1748-1716]

### Invited oral communications

1. **Giroud S**. The effects of feeding on the energetics of torpor in hibernating species. *The Society for Experimental Biology (SEB), Montpellier, France; 5-8 July 2022*
2. **Giroud S**, Evans A, Bertile F, Simon C, Blanc S. Protective mechanisms against atherogenic dyslipidaemia in bears during hibernation [French]. *Congress of Physiology and Integrative Biology, Lyon, France; 22-24 June 2022* [ISSN: 1748-1716]
3. **Giroud S**. Energy managements of wild heterothermic species: Ecological and evolutionary prospects. *Conference of the European Wildlife Disease Association Student Chapter, Virtual Conference; 19-22 April 2022*
4. **Invitation to attend presentations and discussion forums**. Nobel Conference 'Biomimetics – unlocking access of nature to opportunities in health', Stockholm, Sweden; 4-6 September **2019**
5. **Giroud S**, Blanc S, Gilbert C. Phenotypic flexibility of juveniles in seasonal environments: ecological and evolutionary implications. *International Conference for Comparative Physiology and Biochemistry (ICCPB), Ottawa, Canada; 5-9 August 2019*



6. **Giroud S**, Arnold W, Simon C, Blanc S, Ruf T. The effect of lipids on hibernation and cardiac function. *Intersociety Meeting, Comparative Physiology: Complexity and Integration, New Orleans, Louisiana, US; 25-28 October 2018*
7. **Giroud S**, Blanc S, Ruf T. Energetics of torpor and hibernation: mechanisms and beyond. *International Conference for Comparative Physiology and Biochemistry (ICCPB), Krakow, Poland; 23-28 August 2015*

### Oral communications

1. **Giroud S**, Fux B, Vetter S, Rauch-Schmücking H, Painer J, Smith S, Lagger S, Egger G, Gilbert C. Keep the pace: Lifelong effects of torpor use during development in a small hibernator. *The Society for Experimental Biology (SEB), Edinburgh, UK; 4-7 July 2023*
2. Gilbert C, Mc Cafferty D, Guinet C, **Giroud S**, Ancel A. Let's huddle! Energy savings and social thermoregulation. *The Society for Experimental Biology (SEB), Edinburgh, UK; 4-7 July 2023*
3. **Giroud S**, Prestel L, Carré B, Vetter S, Rauch H, Painer J, Smith S, Gilbert C. Lifelong effects of the use of heterothermy during development in a small hibernator. *2<sup>nd</sup> Münster Evolution Meeting (MEM); 13-16 March 2023*
4. **Giroud S**, Habold C, Vetter S, Painer J, Four-Chaboussant A, Smith S, Gilbert C. Living in a changing world: Physiological and behavioral flexibility of juvenile garden dormice. *International Dormice Conference (IDC); 9-13 May 2022*
5. Lie F, de Wit L, **Giroud S**, Henning R. DNA damage during torpor in garden dormice, *Eliomys quercinus*. *16<sup>th</sup> International Hibernation Symposium (IHS), Virtual Conference; 1-5 August 2021*
6. Constant T, Dobson S, **Giroud S**, Habold C. Reproductive investment explains the sex difference in hibernation season phenology. *16<sup>th</sup> International Hibernation Symposium (IHS), Virtual Conference; 1-5 August 2021*
7. **Giroud S**, Prestel L, Vetter S, Einwaller J, Painer J, Gilbert C. Lifelong effects of the use of energy-saving strategies during development in a small hibernator. *16<sup>th</sup> International Hibernation Symposium (IHS), Virtual Conference; 1-5 August 2021*
8. Haugg E, Borner J, Stalder G, Dietrich V, **Giroud S**, Herwig A. Differences in hypothalamic transcriptomics comparing hibernation and spontaneous daily torpor. *16<sup>th</sup> International Hibernation Symposium (IHS), Virtual Conference; 1-5 August 2021*
9. Stranvik B, **Giroud S**, Painer J, Engvall M, Arnemo J, Fröbert O, Qureshi AR, Stenwinkel P. Does docosapentaenoic acid play a role during hibernation? *International Society for the Study of Fatty Acids and Lipids, Qingdao, China; 14-17 June 2020*
10. Hölzl F, Zahn S, Criscuolo F, **Giroud S**, Smith S. Measuring telomerase activity in tissues of non-model species via droplet digital PCR. *Diversity in Telomere Dynamics workshop, Edinburgh, UK; 29-31 October 2019*
11. Constant T, Kletty K, **Giroud S**, Habold C. Metabolic adaptations of hibernating species: a comparison between fat- and food-storing hibernators. *International Conference for Comparative Physiology and Biochemistry (ICCPB), Ottawa, Canada; 5-9 August 2019*
12. **Giroud S**, Blanc S, Gilbert C. Phenotypic flexibility of juveniles in seasonal environments: ecological and evolutionary implications. *The Society for Experimental Biology (SEB), Seville, Spain; 2-5 July 2019*
13. Nowack J, Tarmann I, Hoelzl F, Smith S, **Giroud S**, Ruf T. Implications of warming winter temperatures on hibernation pattern and telomere dynamic of fat-storing hibernators. *The Society for Experimental Biology (SEB), Seville, Spain; 2-5 July 2019*
14. Nowack J, Tarmann I, Stawski C, **Giroud S**, Geiser F, Ruf T. Keeping up with a warming world: Risks and benefits of torpor use during climate change. *Conference of the British Ecological Society, Birmingham, UK; 16-19 December 2018*
15. Ruf T, Tarmann I, Smith S, **Giroud S**, Nowack J, Gasch K. On metabolic rates during torpor as well as during interbout euthermia. *European Space Agency Workshop 'Topical Team: Hibernation and Torpor', Innsbruck, Austria; 8-11 February 2018*
16. Ruf T, Tarmann I, Smith S, **Giroud S**, Nowack J. Does torpor retard ageing? *European Space Agency Workshop 'Topical Team: Hibernation and Torpor', Innsbruck, Austria; 8-11 February 2018*

17. **Giroud S**, Gerritsmann H, Stalder G, Blanc S, Ruf T. Being born late in the active season: implications for growth, fattening, torpor use and fecundity. *11<sup>th</sup> International Conference on Behaviour, Physiology and Genetics of Wildlife, Berlin, Germany; 4-7 October 2017* & *3<sup>rd</sup> Animal Ecophysiology Conference, Strasbourg, France; 6-8 November 2017*
18. Nowack J, Stawski C, Tarmann I, **Giroud S**, Ruf T, Geiser F. Costs and benefits of torpor use in times of a warming climate. *11<sup>th</sup> International Conference on Behaviour, Physiology and Genetics of Wildlife, Berlin, Germany; 4-7 October 2017*
19. Bieber C, Cornils J.S, Hoelzl F, **Giroud S**, Ruf T. Body temperature may indicate high costs of locomotor activity in an arboreal species, the edible dormouse (*Glis glis*). *12<sup>th</sup> International Mammalogical Congress, Perth, Western Australia; 9-14 July 2017*
20. **Giroud S**, Blanc S, Gerritsmann H, Stalder G, Ruf T. Being born in the active season: implications for growth, pre-hibernation fattening and energetic strategies. *15<sup>th</sup> International Hibernation Symposium (IHS), Las Vegas, US; 31 July to 4 August 2016*
21. **Giroud S**, Mahler B, Ruf T. Differences in torpor use, growth and pre-hibernation fattening in female garden dormice according to the time of birth and food availability. *The Society for Experimental Biology (SEB), Manchester, UK; 1-4 July 2014*
22. **Giroud S**, Turbill C, Hofer I, Ruf T. Torpor use and body mass gain during pre-hibernation in late-born juvenile garden dormice (*Eliomys quercinus*). *14<sup>th</sup> International Hibernation Symposium (IHS), Semmering, Austria; 8-14 August 2012*
23. Frare C, **Giroud S**, Strijkstra A, Boerema A, Arnold W, Ruf T. The effects of membrane phospholipid composition on Ca<sup>2+</sup>-ATPase in the heart of hibernators. *14<sup>th</sup> International Hibernation Symposium (IHS), Semmering, Austria; 8-14 August 2012* & *The Society for Experimental Biology (SEB), Salzburg, Austria; 29 June to 2 July 2012*
24. **Giroud S**, Perret M, Aujard F, Gilbert C, Blanc S. Season-dependant strategies of fat or protein sparing in food-deprived grey mouse lemurs. *The Society for Experimental Biology (SEB), Prague, Czech Republic; 29 June to 3 July 2010*
25. **Giroud S**, Perret M, Blanc S. Seasonal differences in energy saving mechanisms in response to chronic food restriction, in a heterothermic Malagasy primate: *Microcebus murinus*. *13<sup>th</sup> International Hibernation Symposium (IHS), Swakopmund, Namibia; 6-12 August 2008*
26. **Giroud S**, Blanc S, Perret M. Seasonal differences in modulation of heterothermic phases in a small Malagasy primate – *Microcebus murinus* – Coping with a chronic food shortage. *The Society for Experimental Biology (SEB), Glasgow, Scotland; 31 March to 14 April 2007*
27. **Giroud S**, Blanc S, Aujard, F, Bertrand F, Gilbert C, Perret M. Effect of chronic food restriction on daily torpor and locomotor activity in a seasonal Malagasy primate, *M. murinus*: A statistical approach. *Neuroscience upper Rhine network (Neurex: Strasbourg, France; Freiburg, Germany; Basel, Switzerland). Workshop “The Forgotten Partner: The Statistical Tool”, Strasbourg, France; 19 June 2007*
28. **Giroud S**, Blanc S, Perret M. Différences saisonnières des mécanismes d'économie d'énergie en réponse à une restriction calorique au long cours, chez un primate malgache. *19<sup>th</sup> Congress of the French Society of Primatology (SFDP), Strasbourg, France; 18-20 October 2006*

## Posters

1. Redon L, Carré B, Rauch-Schmücking H, Pohlin F, Habold C, Smith S, Gilbert C, **Giroud S**. Long-lasting and intergenerational effects of developmental torpor use on seasonal heterothermy and telomere dynamics in a hibernator. *The Society for Experimental Biology (SEB), Edinburgh, UK; 4-7 July 2023*
2. Chignec H, Constant T, Habold C, **Giroud S**. The link between growth rate, hibernation duration, and reproduction in the common hamster. *16<sup>th</sup> International Hibernation Symposium (IHS), Virtual Conference; 1-5 August 2021*
3. Charlanne L, Vetter S, Rauch H, Stalder G, Gilbert C, **Giroud S**. Energetic consequences of huddling behavior in hibernating juvenile garden dormice. *16<sup>th</sup> International Hibernation Symposium (IHS), Virtual Conference; 1-5 August 2021*



4. Haugg E, Borner J, **Giroud S**, Herwig A. Differential gene expression in the hypothalamus of hibernating garden dormice (*Eliomys quercinus*). *14<sup>th</sup> Meeting of the German Neuroscience Society, Virtual Conference*; 22 March **2021**
5. Nowack J, Ragger MT, Tarmann I, Ruf T, **Giroud S**. Telomere dynamics during hibernation is positively affected by warmer winter temperatures and food availability. *Future Physiology, Virtual Conference*; 6-10 July **2020**
6. Four-Chamboussant A, Sente B, Smith S, **Giroud S**. Effects of huddling and food availability on torpor use and telomeres dynamics in juvenile garden dormice before and during hibernation. *The Society for Experimental Biology (SEB), Seville, Spain; 2-5 July 2019 & International Conference for Comparative Physiology and Biochemistry (ICCPB), Ottawa, Canada; 5-9 August 2019*
7. Ragger MT, **Giroud S**, Hölzl F, Smith S, Nowack J, Ruf T. The influence of temperature on feeding behaviour and telomere dynamics in hibernating garden dormice. *The Society for Experimental Biology (SEB), Seville, Spain; 2-5 July 2019 & International Conference for Comparative Physiology and Biochemistry (ICCPB), Ottawa, Canada; 5-9 August 2019*
8. Tarmann I, Nowack J, Ruf T, **Giroud S**. Global warming impacts on the hibernation of the garden dormouse (*Eliomys quercinus*) - 1<sup>st</sup> poster prize of the conference. *11<sup>th</sup> International Conference on Behaviour, Physiology and Genetics of Wildlife, Berlin, Germany; 4-7 October 2017 & 3<sup>rd</sup> Animal Ecophysiology Conference, Strasbourg, France; 6-8 November 2017*
9. **Giroud S**, Arnold W, Gerritsmann H, Stalder G, Ruf T. Dietary lipids affect the onset of hibernation in the garden dormouse (*Eliomys quercinus*). *15<sup>th</sup> International Hibernation Symposium (IHS), Las Vegas, US; 31 July to 4 August 2016*
10. Chery I, **Giroud S**, Bertile F, Tasher G, Gauquelin-Koch G, Arnemo JM, Swenson JE, Singh N, Lefai E, Simon C, Blanc S, Evans AL. Lipid composition of free-ranging hibernating brown bears. *24<sup>th</sup> International Conference on Bear Research and Management, Anchorage, Alaska; 12-16 June 2016*
11. **Giroud S**, Mahler B, Arnold W Ruf T. Differences in torpor use, growth and pre-hibernation fattening in female garden dormice according to the time of birth and food availability. *Wild Clocks Meeting: 'Eco meets chrono', Wadden island of Texel, The Netherlands; 15-20 March 2015*
12. Stumpf S, Ruf T, **Giroud S**. Differences in growth rates and pre-hibernation body mass gain in the juvenile garden dormouse according to the time of birth. *The Society for Experimental Biology (SEB), Manchester, UK; 1-4 July 2014*
13. **Giroud S**, Hofer I, Blanc S, Turbill C, Ruf T. Fasted juvenile garden dormice use short torpor bouts to grow and fatten during pre-hibernation: consequence on winter hibernation. *The Society for Experimental Biology (SEB), Valencia, Spain; 3-6 July 201*
14. **Giroud S**, Ruf T, Turbill C. Effects of n-6 fatty acids on torpor expression and SERCA activity in a daily heterotherm: the Djungarian hamster (*Phodopus sungorus*). *Meeting on the International Hamster Workgroup, Strasbourg, France; 14-17 October 2011*
15. Gilbert C, **Giroud S**, Padzys G.S, Martrette J.M, Boivin S, Trabalon M. Short and long-term behavioural and physiological effects of a postnatal olfactory deprivation. *XIX European Chemoreception Research Organization Congress, Villasimius, Cagliari, Italy; 24-27 September 2009*
16. Gilbert C, Boivin S, Padzys G.S, Erbrech A, **Giroud S**, Trabalon M. Long-term behavioural impacts of an early olfactory deprivation. *International Ethological Conference (IEC), Rennes, France; 19-24 August 2009*
17. **Giroud S**, Reichardt F, Perret M, Le Maho Y, Gilbert C, Blanc S. Gut hormones in relation to body mass and torpor patterns changes during food restriction and re-feeding in the grey mouse lemur. *The Society for Experimental Biology (SEB), Marseille, France; 6-11 July 2008*
18. Gilbert C, Aujard F, Perret M, Blanc S, Le Maho Y, **Giroud S**, Ancel A. Régulation de la température interne chez le manchot empereur en reproduction. *40<sup>th</sup> Congress of the French Society of Chronobiology (SFC), Caen, France; 4-6 June 2008*

### Invitations to seminars and lectures

**Giroud S.** How to fluctuate? The seasonal regulation of energy balance in hibernators

*Department of Basic and Clinical Sciences, University of Nicosia Medical School, Nicosia, Cyprus; 7 April 2023*

*Faculty of Applied Ecology, Inland Norway University of Applied Sciences, Evenstad, Norway; 17 April 2023*

**Giroud S.** How to spend the winter? The pros and cons of seasonal torpor

*Department of Biology, University of Wisconsin-Oshkosh, Wisconsin, USA; 31 January 2023*

*Department of Biology, Montclair State University, New Jersey, USA; 2 February 2023*

*Department of Biology, University of Northern Michigan, Michigan, USA; 20 March 2023*

**Giroud S.** How to spend the winter? The ups and downs of seasonal dormancy

*Institute of Biology, University of Graz, Austria; 26 January 2023*

Smith S, Hoelzl F, Lalana C, **Giroud S.** Seasonal activation of telomerase in hibernating rodents?

*Department of Ecology, Physiology, Ethology, UMR 7178 CNRS-UdS, Strasbourg, France; 13 January 2022*

**Giroud S.** Seasonal regulations of metabolic downstates: From small to large hibernators

*School of Biological Sciences, University of Aberdeen, Scotland, UK; 14 October 2022*

**Giroud S.** Seasonal regulations of metabolic downstates

*Department of Ecology, Physiology, Ethology, UMR 7178 CNRS-UdS, Strasbourg, France; 13 January 2022*

**Giroud S.** Adaptations to extreme environments

*Laboratory of Ecology of Natural and Anthropized Hydro-systems, University of Lyon, France; 5 November 2021*

**Giroud S.** Being a heterotherm in a changing world: ecological and evolutionary implications

*Centre for Organismal Systems Biology, University of Vienna, Austria; 3 December 2018*

**Giroud S.** Being a heterotherm in a changing world: underlying mechanisms and further implications

*Department of Ecology and Biodiversity Management, UMR 7179 CNRS-MNHN, Brunoy, France; 12 October 2018*

*Institute of Evolutionary Ecology and Conservation Genomics, University of Ulm, Germany; 22 May 2018*

*Department of Ecology, Physiology, Ethology, UMR 7178 CNRS-UdS, Strasbourg, France; 16 November 2017*

**Giroud S.** Being born late: consequences for growth, energetic strategies and hibernation in garden dormice

*Black Forest National Park, Ruhstein, Germany; 12 November 2015*

**Giroud S.** Energétique et adaptations physiologiques de la torpeur et de l'hibernation [French]

*Department of Ecology, Physiology, Ethology, UMR 7178 CNRS-UdS, Strasbourg, France; 10 November 2015*

*Department of Ecology and Biodiversity Management, UMR 7179 CNRS-MNHN, Brunoy, France; 13 May 2013*

**Giroud S,** Perret M, Blanc S. Energy saving mechanisms in an heterothermic Malagasy primate: the grey mouse lemur

*Research Institute of Wildlife Ecology, University of Veterinary Medicine, Vienna, Austria; 27 January 2010*

### PRESS RELEASES AND ARTICLES

**February & March 2021.** “Warmes Wetter belastet auch die Winterschläfer” by the Austrian Press « Die Presse » & “Winterschlaf, Klimalabor” by the Austrian radio « ORF Wissen Aktuell » after the publication of a Research Topic ‘Coping with fluctuating environments’ in the scientific journal ‘Frontiers in Physiology’.

**March 2018.** “Hibernators born late in the season grow quicker and have more sex” following the publication of an article in eLife. This press release was relayed by the Austrian press: « Der Standard ».

**March 2016.** “Sleeping soundly: Polyunsaturated fatty acids play a role in winter hibernation” by the PR department of the Austrian Science Fund (FWF): [“Fatty acids play a role in torpor”](#).

**July 2014.** “The power of the power nap” by the PR department of the Society for Experimental Biology. This press release was relayed by BBC News Online: [“Dormice take naps to aid chances of survival”](#).

May 2013. “And the beat goes on: the reliable heartbeat of hibernators” following the publication of an article in PLoS One. This press release was relayed by the Austrian press: « Wiener Zeitung » and « Krone ».

## COMMUNITY SERVICES & MEMBERSHIPS (ESTEEM FACTORS)

### Organisation of symposia and conferences

2022. ‘**Thermoregulatory and metabolic adaptations in a changing world**’ [co-organized with Prof J  r  my Terrien (MNHN Brunoy) and Dr Julia Nowack (LJMU)] – *The Society for Experimental Biology (SEB)*, Edinburgh, UK; 4-7 July 2023

2021. Organisation of **cross-institute online meetings for scientific exchange** at the Department of Interdisciplinary Life Sciences, University of Veterinary Medicine, Vienna, Austria

2019. ‘**Living at low pace: From the whole organism to the molecule**’ [co-organized with Prof Kenneth Storey, University of Ottawa] – *International Conference for Comparative Physiology and Biochemistry (ICCPB)*, Ottawa, Canada; 5-9 August 2019

2019. ‘**Saving energy in a fluctuating environment: from the whole organism down to the molecule**’ [co-organized with Prof Caroline Gilbert (ENVA Maisons-Alfort) and Prof Damien Roussel (LEHNA Lyon)] – *The Society for Experimental Biology (SEB)*, Seville, Spain; 2-5 July 2019

2015-16. Organisation of an **internal research symposia** at the Department of Interdisciplinary Life Sciences, University of Veterinary Medicine, Vienna, Austria

2006. **Organization of the 2<sup>nd</sup> Animal Behaviour and Ecology Congress** (SERL) for European PhD students and youth researchers, 14-17 March 2006, Strasbourg, France

### Editing and reviewing activities

2024-25. **Journal of Thermal Biology Guest Editor** – Giroud, S., Terrien J, A., Nowack, J., eds. [Thermoregulatory and Metabolic Adaptations in a Changing World](#). Elsevier. [DOI]

2023-24. **Frontiers Topic Editor** – Giroud, S., Terrien J., Yamagchi Y., eds. [Torpor and Hibernation: Metabolic and Physiological Paradigms](#). Lausanne: Frontiers Media SA. [DOI]

Depuis 2023. **Expert examinateur** for German Research Foundation (DFG)

Since 2021. **Editorial Board Member** for **PLOS One** and **Scientific Reports**

2019-20. **Frontiers Topic Editor** – Giroud, S., Nowack, J., Storey, K. B., Nord, A., eds. (2020). [Coping With Environmental Fluctuations: Ecological and Evolutionary Perspectives](#). Lausanne: Frontiers Media SA. [DOI: 10.3389/978-2-88966-273-9]

Since 2019 & 2022. **Reviewing Expert** for the Polish National Science Centre (Sonata-15) and the Austrian Agency for Education and Internationalisation (OeAD-WTZ)

Since 2010. **Reviewers for scientific journals**: International Journal of Primatology (2010), Journal of Tropical Ecology (2010), PLoS One (2011), Physiological Genomics (2011), Integrative and Comparative Biology (2011), Lipids (2012), Journal of Thermal Biology (2013), Journal of Comparative Physiology B (2013), Naturwissenschaften (2013), Experimental Gerontology (2013), Journal of Behavioral Ecology and Sociobiology (2014), Physiological and Biochemical Zoology (2014), Chemistry and Physics of Lipids (2015), Comparative Biochemistry and Physiology (2015), Proceedings of the Royal Society of London B (2015), Physiology and Behavior (2016), British Journal of Nutrition (2016), Pfl  gers Archiv - European Journal of Physiology (2018), Frontiers in Zoology (2018), Molecular Ecology (2019), Scientific Reports (2019), Journal of Neuroendocrinology (2019), PeerJ (2019), Biological Review (2020), Biology Letters (2020), Bone (2020), Functional Ecology (2020), Neuroscience and Biobehavioral Reviews (2020), Communications Biology (2020), American Journal of Physiology (2022), Cryobiology (2022), Cellular Signalling (2022), Biochimie (2022), Animal Behaviour (2022)

### Committees and advisory boards

2021. **Selection committee for technical assistant.** *Department of Ecology, Physiology, Ethology, CNRS Strasbourg, France*

2020. **PhD advisory committee** of Anne Randi Græsli; *Department of Forestry and Wildlife Management, Inland Norway University of Applied Sciences, Norway*

2019 & 2021. **Selection committee for PhD candidates in Applied Ecology and Biotechnology.** Inland Norway University of Applied Sciences, Norway

2018-20. **PhD advisory committee** of Aude Noiret; *Department of Ecology and Biodiversity Management, UMR 7179 CNRS-MNHN, Brunoy, France*

Since 2018. **Departmental Leading & Organisation Committee.** Department of Interdisciplinary Life Sciences, University of Veterinary Medicine, Vienna, Austria

Since 2015. **Institute Leading & Organisation Committee.** Research Institute of Wildlife Ecology, University of Veterinary Medicine, Vienna, Austria

### Memberships

Since 2016. Member of the **Australian and New Zealand Society for Comparative Physiology and Biochemistry (ANZSCPB)**

Since 2008. Member of the **International Hibernation Society (IHS)**

Since 2007. Member of the **Society for Experimental Biology (SEB)**

June 2005. **Certificate of Animal Care and Experimentation (FELASA-A)**

### LOCAL, NATIONAL AND INTERNATIONAL COLLABORATIONS

Year	Researchers/Institutions	Subject	Nature
Since 2010	<a href="#">Prof Stéphane Blanc</a> CNRS/Uni Strasbourg, France	Energy and lipid metabolism in hibernating brown bears	Samples and data analyses
Since 2014	<a href="#">Prof Rob Henning</a> Groningen Uni, NL	Protective repair mechanisms during hibernation	Sharing samples
		Guest Associate Editor	Frontiers Research Topic
Since 2014	<a href="#">Prof Thomas Ruf</a> FIWI/Vetmeduni Vienna, AT	Lipids and hibernation	Co-supervision Master students
	<a href="#">Dr Steve Smith</a> KLIVV/Vetmeduni Vienna, AT	Telomere dynamics during hibernation	Co-investigator FWF 'PUFA, Hibernation & Ageing' FWF 'Ontogeny of Heterothermy'
Since 2016	<a href="#">Dr Julia Nowack</a> University of Liverpool, UK	Telomere dynamics during hibernation	Co-supervision Master students
		Guest Associate Editor	Frontiers Research Topic Journal of Thermal Biology
Since 2017	<a href="#">Dr Johanna Painer</a> Vetmed Uni Vienna, Austria	Chronic kidney disease, TMAO and fatty acids: A biomimetic approach	Sharing samples and data analyses
	<a href="#">Prof Peter Stenwinkel</a> Karolinska Institute, Sweden		
Since 2017	<a href="#">Prof Kenneth Storey</a> Carleton Uni, Canada	Molecular regulations of lipid metabolism and oxidative stress during hibernation	Sharing samples and data analyses
		Guest Associate Editor	Frontiers Research Topic
Since 2018	<a href="#">Prof Caroline Gilbert</a> CNRS Brunoy, France	Hypometabolism in juvenile heterotherms and diving mammals	Co-investigators FWF 'Ontogeny of Heterothermy' ANR 'Diving into physiological paradoxes'

Since 2018	<a href="#">Prof Gerda Egger</a> Medical Uni Vienna, Austria <a href="#">Dr Sabine Lager</a> Vetmed Uni Vienna, Austria	Epigenetic regulations & energy metabolism	Co-investigators FWF-Project 'Ontogeny of Heterothermy'
Since 2018	<a href="#">Prof Caroline Habol</a> CNRS/Uni Strasbourg, France	Hibernation and life histories: food vs. fat-storing hibernators	OEAD-WTZ Grant Co-supervision PhD student
Since 2019	<a href="#">Dr Andreas Nord</a> Lund Uni, Sweden	Thermal tolerance and development in birds and mammals  Guest Associate Editor	Literature review  Frontiers Research Topic
Since 2020	<a href="#">Prof Alina Evans</a> Inland Norway Uni Applied Sciences	Climate change and hibernation behaviour in brown bears	Co-supervision PhD student
Since 2020	<a href="#">Dr Fabrice Bertile</a> CNRS/Uni Strasbourg, France	Proteomics Muscle sparing Cardiac adaptation in hibernators	Literature review  Sharing samples and data analyses
Since 2020	<a href="#">Prof Jessica Healy</a> Austin College, US	Teaching exchange for US students	Co-applicant NSF-IRES
Since 2021	<a href="#">Prof Lars Folkow</a> Arctic University of Norway	Thermoregulation in harp and hooded seals	Samples analyses
Since 2022	<a href="#">Prof Yoshifumi Yamaguchi</a> Hokkaido University, Japan	Guest Associate Editor	Frontiers Research Topic
Since 2022	<a href="#">Prof Jérémy Terrien</a> CNRS Brunoy, France	Guest Associate Editor	Frontiers Research Topic Journal of Thermal Biology

## PEDAGOGICAL QUALIFICATIONS

### Teaching experience

Since my PhD, I have regularly participated to teaching activities in Animal Physiology and Animal Biology. The table below summarizes my teaching experience from 2005 to 2022.

Year	Level	Nature	Discipline	Hours	Status
2005	Undergraduate	Practical	Biodiversity and animal biology	18	External
2006	Undergraduate	Practical	Animal biology	14	External
2008	Master 2	Lecture	Ecophysiology: applications of stable isotopes	4	Lecturer
2007-09	Undergraduate	Lecture	Physiology of circulation, blood and haemostasis	28	Lecturer
2007-09	Undergraduate	Practical	Physiology circulation and respiration	118	Lecturer
2007-09	Undergraduate	Tutorial	Nervous physiology	18	Lecturer
2007-09	Undergraduate	Practical	Nervous physiology	59	Lecturer
2012-15	Undergraduate	Tutorial Practical	Ecophysiology of thermoregulation*	114	External (Responsible)
2019-22	Master	Lecture	Adaptations to extreme environments*	30	External (Co-responsible)
2021-23	Undergraduate	Lecture	Animal biology and physiology*	24	Lecturer (Co-responsible)
2023	Undergraduate Master	Tutorial	Behavioural ecology & population ecology	18	Lecturer (Co-responsible)

\* These courses were taught in English

## Student supervision and mentoring

In parallel to my teaching activities, I (co-)mentored and am currently (co-)mentoring students performing an experimental work in my field of research. Students were/are from all university levels: **3 PhDs (including 1 Training ERASMUS)**, **13 Masters (including 1 Training ERASMUS)**, **4 Veterinary Diplomas**, and **4 Undergraduates**. The table below reports my experience in mentoring students.

Year (Duration)	Level Stream	Student name	Topic	Supervision	Student Fate
2009 (6 months)	<b>Undergraduate</b> Zoology	Pierick Mougnot	Long-term effects of post-natal stress on anxiety and activity behaviours in rats	50% Co-supervision Prof Caroline Gilbert	PhD University Greifswald Germany
2009 (6 months)	<b>Undergraduate</b> Zoology	Cécile Person	Sex differences in anxiety and activity behaviours in adult rats	50% Co-supervision Prof Caroline Gilbert	-
2011-12 (1 year)	<b>Master</b> Zoology	Ines Hofer	Growth and pre-hibernation fattening in late-born juvenile garden dormice	100%	Nature Conservation Environment
2012-13 (6 months)	<b>Diploma</b> Veterinary Medicine	Lea Weiß	Effect of n-6 and n-3 polyunsaturated fatty acid diets on electrical cardiac activity in artificially cooled mice	100% Co-supervision Dr Hanno Gerritsmann	Practising veterinarian
2012-13 (6 months)	<b>Diploma</b> Veterinary Medicine	Roland Tulzer	Effect of SERCA overexpression on electrical cardiac activity in artificially cooled mice	100% Co-supervision Dr Hanno Gerritsmann	Practising veterinarian
2013-14 (6 months)	<b>Undergraduate</b> Zoology	Stefan Stumpf	Differences in growth rates and pre-hibernation body mass gain in the juvenile garden dormouse according to the time of birth	100%	Freelance Software Engineer
2013-15 (2 years)	<b>Master</b> Wildlife Management	Britta Mahler <small>Prix de la Société allemande de zoologie (DZG) meilleure thèse de Master 2015</small>	Differences in torpor use, growth and pre-hibernation fattening in female garden dormice according to the time of birth and food availability	100%	Nature Conservation Environment
2014-16 (2 years)	<b>Master</b> Zoology	Stefanie Jernej	Differences in reproductive success and ageing processes between early and late-born juvenile garden dormice	100%	Animal Protection & Animal Welfare
2016-17 (1 year)	<b>Master</b> Wildlife Management	Kristina Gasch	How do hibernators behave in inter-bout arousals during hibernation?	50% Co-supervision Prof Thomas Ruf	PhD Vetmed Uni Vienna Austria
2016-17 (1 year)	<b>Master</b> Wildlife Management	Iris Tarmann	Temperature effects on hibernation in the garden dormouse ( <i>Eliomys quercinus</i> ): possible consequences of global warming	50% Co-supervision Dr Julia Nowack	Nature Conservation Environment
2017 (6 months)	<b>Master</b> Training ERASMUS	Juraj Trečer	Effects of photoperiod on growth in juvenile garden dormice	100%	PhD Jagiellonian University in Krakow PL
2017-19 (2 years)	<b>Master</b> Wildlife Management	Marie-Therese Ragger	Effects of torpor patterns and food availability on telomere dynamics in garden dormice	50% Co-supervision Dr Julia Nowack	Nature Conservation Environment
2018-19 (1 year)	<b>Master</b> Ecophysiology Ecotoxicology	Anouck Four-Chaboussant	Telomere dynamics in juvenile garden dormice: effect of huddling and food availability	100%	PhD Auburn University USA



2018-20 (2 years)	<b>Master</b> Wildlife Management	Beata Sente	Energy-saving strategies in juvenile garden dormice prior to winter and during hibernation	100%	Nature Environment Writing in progress
2019 (3 months)	<b>Undergraduate</b> Veterinary Medicine	Laura Steininger	Effect of early-life experience on reproductive performances in garden dormice	100%	Veterinary studies
2019-22 (2 years)	<b>Diploma</b> Veterinary Medicine	Sabrina Rosner	Effect of early-life torpor on heterothermy flexibility in adulthood and in the next generation of garden dormice	100%	Practising veterinarian Writing in progress
2019-20 (1 year)	<b>Master 2</b> Evolutionary Functional Ecology	Laura Charlanne	Effect of huddling on the energy budget of torpor-arousal cycle in hibernating garden dormice	100%	PhD University of Strasbourg France
2019-22	<b>PhD</b> Evolutionary Ecophysiology	Theo Constant	Evolutionary causes and consequences of the phenology of hibernation: a case study on the Common hamster	50% Co-supervision Dr Caroline Habold	Teacher University of Strasbourg France
2020-22 (2 years)	<b>Master</b> Wildlife Management	Sandra Stickler	Regional body temperature and fatty acid composition in hibernating garden dormice: a focus on cardiac function	50% Co-supervision Prof Walter Arnold	Biology Engineer Writing in progress
2020-24	<b>PhD</b> Ecology Wildlife Management	Alexandra Thiel	Interacting effects of human activity and climate on animal phenology and behaviour: focus on brown bears	50% Co-supervision Prof Alina Evans	In progress
2020-22 (2 years)	<b>Diploma</b> Veterinary Medicine	Lisa-Marie Prestel	Lifelong effects of torpor use during development in a hibernating rodent	100%	Practising veterinarian
2021 (6 months)	<b>PhD</b> Training ERASMUS	Marta Grossiak	Energetics and telomere dynamics in a small hibernator	100%	PhD Jagiellonian University in Krakow PL
2021-22	<b>Master</b> Wildlife Management	Barbara Fux	Lifelong effects of torpor use during development in a hibernating rodent: a follow-up study	100%	In progress
2021-22	<b>Master</b> Integrative Physiology	Bernadette Carré	Lifelong effects of developmental torpor use on telomere dynamics in the garden dormouse	100%	-
2021-22	<b>Master</b> Ecophysiology Ecology & Ethology	Camille Marie-Jean-Robert	Physiological costs and energetic benefits of torpor in a food-storing hibernator	50% Co-supervision Dr Caroline Habold	-
2022-23	<b>Master</b> Integrative Physiology	Lilian Redon	Effects of parental torpor use on seasonal dynamics of telomere length and torpor expression in a hibernating rodent	100%	In progress