Geoffrey Mesbahi

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Research experience

Researcher
Since 2022

Grassland management and ruminant nutrition

Main projects:
- SCALE-it WP4 and WP5 (Horizon 2020)
- ReLivestock WP2 (Horizon 2020)
- Charclim (Canton Aargau)
- Weidelabor (Canton Aargau and Migros)

Skills:
- Forage sampling
- Faeces and rumen fluid sampling
- Feeding behaviour sampling (scan and focal sampling)
- Agroforestry plot design
- Tree planting and pruning
- Statistical analysis (R: mixed models, machine learning)
- GIS (QGIS)
- Team management
- Supervision of 3 MA
- Outreach

Post-doc
2020-2022

Agronomic value of temperate fodder trees for dairy cattle production
PhD Sandra Novak, INRAE, France

- Forage sampling
- Faeces sampling
- Feeding behaviour sampling (scan and focal sampling)
- Remote sensing (drone photogrammetry, TLS)
- Statistical analyses (R: mixed models, model selection, HCPC)
- GIS (QGIS)
- Supervision of 1 MA, 2 BA students, and 1 field assistant
- Pollard trees maintenance
- Outreach

PhD	***Prediction of agronomical and ecological grasslands***
2017-2020	***characteristics, and their trade-offs. Focus on the Vosges***
	Mountains permanent grasslands

Prof Sylvain Plantureux, University of Lorraine - INRAE, France
Cécile Bayeur, Northern Vosges Regional Nature Park, France

- Field botany
- Forage sampling
- Soil sampling
- Interviews of farmers
- Statistical analyses (R: model selection, random forest, HCPC)
- GIS (QGIS)
- Supervision of 7 MA students
- Teaching 43 hours
- Outreach

Field assistant	***Semantics content in titi monkey alarm call sequences***
2015-2016	PhD Mélissa Berthet, University of Neuchâtel, Switzerland

- Wild monkey population monitoring
- Cognitive experiments
- Behaviour observation (scan sampling)
- Faeces sampling
- Protocol development
- Field assistants training

Engineer thesis	***Impact of soil properties and agronomical practices, and***
2014	***their interactions, on French earthworms communities***

PhD Kevin Hoeffner, University of Rennes 1 - CNRS, France

- Earthworms gathering
- Earthworms identification
- Database management
- Statistical analyses

Education

PhD	**PhD in agronomic sciences**
2017-2020	University of Lorraine Lorraine, France
	Jury: Prof Gillet F., PhD Bonis A., PhD Diquelou S., PhD Magda D., PhD Michaud A.

Engineer degree	**Engineer in agriculture and management**
2009-2014	UniLaSalle Beauvais, France

Additional courses

Workshop	**Arkesys**, France
2022	Bayesian statistics with R: initiation and training

Summer school 2021	**Analysis and Experimentation on Ecosystems**, France Remote sensing for the study of terrestrial ecosystems: From theory to practical application
Animal testing 2021	**ONIRIS**, France Animal testing diploma: experimental design and execution
Workshop 2021	**Gaia formation**, France Fodder trees for herbivorous farm animals
Workshop 2019	**Regional Nature Parks and Botanic conservatories**, France Grassland phytosociological classification
short training courses	**University of Lorraine**, France Writing and publishing a paper, Pedology, Life cycle assessment
	INRAE, France Writing a data paper, Choosing a scientific journal, HAL, DataINRAE

Grants

AnaEE 2021	Scholarship (1 week) to participate in the AnaEE summer school on remote sensing at the Lautaret Garden, France.
INRAE Phase 2021-2022	"Projet Innovant" Fund (19 000€, 2 years) for the project "*Agronomic value of temperate fodder trees for dairy cattle production*"
INRAE AgroEcoSystem 2021-2022	"Pari Scientifique" Fund (8 250€, 2 years) for the project "*Agronomic value of temperate fodder trees for dairy cattle production*"
Fondation de France 2021-2022	Postdoctoral grant (93 370€, 2 years) for my postdoc "*Agronomic value of temperate fodder trees for dairy cattle production*"
Agence de l'eau Rhin-Meuse 2020	Funding (22 500€, 8 months) for the completion of my PhD thesis "*Prediction of agronomical and ecological grasslands characteristics, and their trade-offs. Focus on the Vosges Mountains permanent grasslands*" and the redaction of the book "*Les prairies permanentes du massif des Vosges. Typologie agroécologique et diagnostic prairial*"

Journal articles

Agronomy, ecology

Mesbahi G., Leiber F., Stein A. K., Leubin M., Thüer S., Dittmann M. T., Vitra A., Werner J. (2026) The methanogenic potential of grass-fed dairy calves is mostly impacted by the feeding system, not the genotype. *Livestock Science*, under review

Leiber F., Baki C., Bieber A., **Mesbahi G.**, Werner J., Spengler Neff A. (2025). Grazing enhances immune parameters and complete blood count in calves. *Swiss Agricultural Research, 16, 206-211*
doi: 10.34776/afs16-206e

Mesbahi G., Barre P., Delagarde R., Ginane C., Novak S. **(2025)** Seasonal dynamics of the nutritive value of temperate forage trees differ among species. *Agroforestry Systems*, 99, 172
doi: 10.1007/s10457-025-01258-w

Galland S., Dind A., Schmid N., Mesbahi G., Dubois S., Probo M., Mariotte P. (2025) Rendement et valeur nutritive de sept espèces d'arbres fourragers. *Recherche Agronomique Suisse, 16, 66-72*
doi: 10.34776/afs16-66

Trouillard M., Bosshardt S., Derbez F., Desaint B., Dufils A., Mesbahi G. (2024) Agroforestry: benefits and considerations to meet the challenges of organic livestock production. *INRAE Productions Animales, 37 (2), 7468*
doi: 10.20870/productions-animales.2024.37.2.7468

Berthet M., Mesbahi G., Duvot G., Zuberbühler K., Cäsar C., Bicca-Marques J.C. (2021) Dramatic decline in a titi monkey population after the 2016-2018 sylvatic yellow fever outbreak in Brazil, *American Journal of Primatology*, e23335
doi: 10.1002/ajp.23335

Mesbahi G., Michelot-Antalik A., Goulnik J., Plantureux S. (2020) Permanent grassland classifications predict agronomic and environmental characteristics well, but not ecological characteristics, *Ecological Indicators*, 110, 105956
doi: 10.1016/j.ecolind.2019.105956

Goulnik J., Plantureux S., Van Reeth C., Baude M., Mesbahi G., Michelot-Antalik A. (2020) Facial area and hairiness of pollinators visiting semi-natural grassland wild plants predict their facial pollen load, *Ecological Entomology*, 45 (6), 1296-1306
doi: 10.1111/een.12913

Mesbahi G., Bayeur C., Michelot-Antalik A., Plantureux S. (2019) Choosing classification systems for predicting the characteristics of permanent grasslands, *Fourrages*, 237, 57-65

Animal communication

Berthet M., Mesbahi G., Leroux M. (2026) The As and Bs of titi monkey linguistics: why emotional communication is not the enemy, *Biological Reviews*
doi: 10.1002/brv.70131

Berthet M., Mesbahi G., Cäsar C., Zuberbühler K. (2022) Impact of predator model presentation paradigms on titi monkey alarm sequences, *Behavioral Ecology and Sociobiology*, 76
doi: 10.1007/s00265-022-03250-1

Narbona Sabaté L., Mesbahi G., Dezecache G., Cäsar C., Zuberbühler K., Berthet M. (2022) Animal linguistics in the making: The Urgency Principle and titi monkeys' alarm system, *Ethology Ecology & Evolution*
doi: 10.1080/03949370.2021.2015452

Berthet M., Mesbahi G., Pajot A., Cäsar C., Neumann C., Zuberbühler K. (2019) Titi monkeys combine alarm calls to create probabilistic meaning, *Science Advances*, 5:eaav3991
doi: 10.1126/sciadv.aav3991

Berthet M., Neumann C., <u>Mesbahi G.</u>, Cäsar C., Zuberbühler K. (2018) Contextual encoding in titi monkey alarm call sequences, *Behavioral Ecology and Sociobiology*, 72:8 doi: 10.1007/s00265-017-2424-z

Book & Thesis

Bayeur C., Hennequin C., <u>Mesbahi G.</u>, Plantureux S. (2020) Les prairies permanentes du massif des Vosges. Typologie agroécologique et diagnostic prairial.
ISBN: 978-2-9574260-0-3

<u>Mesbahi G.</u> (2020) Prediction of agronomical and ecological grasslands characteristics, and their trade-offs. Focus on the Vosges Mountains permanent grasslands (PhD thesis).

Conferences and posters

Agronomy, ecology

Werner J., Leiber F., Vitra A., <u>Mesbahi G.</u> (2025) Performance of veal calves of different genotypes raised on contrasted multi-species grasslands. *23rd Symposium of the European Grassland* Federation, Reading, United Kingdom

Poster and conference paper

<u>Mesbahi G.</u>, Steiner A. K., Leiber F., Werner J. (2025) Farming system is the main driver of enteric methanogenesis in grass-based veal calves. *76th Annual Meeting of the European Federation of Animal Science*, Innsbruck, Austria

Oral presentation and conference paper

Werner J., Leiber F., <u>Mesbahi G.</u> (2025) Performance of male dairy calves of different breeds raised on various types of grasslands for veal production. *45th Swiss Animal Nutrition Conference*, Lindau, Switzerland

Oral presentation

<u>Mesbahi G.</u>, Steiner A. K., Leiber F., Werner J. (2025) Enteric methane production in calves depends primarily on the farming system, not on breed. *45th Swiss Animal Nutrition Conference*, Lindau, Switzerland

Poster presentation

Kadiri Y., <u>Mesbahi G.</u>, Delagarde R., Barotin C., Novak S. (2024) Composition chimique et digestibilité enzymatique des tiges et des feuilles de 4 espèces. *27e Rencontres autour des recherches sur les ruminants*, Paris, France

Poster presentation and conference paper

<u>Mesbahi G.</u>, Vitra A., Dittmann M. T., Steiner A. K., Thorne S., Hesselmann M., Leiber F. (2024) Trade-offs between milk production potential, tannin content and plant diversity depend on grassland mixtures. *30th General Meeting of the European Grassland Federation*, Leeuwarden, The Netherlands

Poster presentation and conference paper

Maxin G., Graulet B., Novak S., Mesbahi G., Signoret F., Glinec J.-F., Laurent E., Drusch S., Farruggia A., Durant D. (2024) Potential health value of alternative plant resources explored as feed for ruminants. *30th General Meeting of the European Grassland Federation*, Leeuwarden, The Netherlands

Poster presentation and conference paper

Vitra A., <u>Mesbahi G.</u>, Dittmann M. T., Steiner A. K., Thorne S., Hesselmann M., Leiber F. (2024) Effects of potential evapotranspiration on condensed tannin and milk production potential in four grassland mixtures. *30th General Meeting of the European Grassland Federation*, Leeuwarden, The Netherlands

Poster presentation and conference paper

<u>Mesbahi G.</u>, Berthet M., Jawahir A., Ginane C., Delagarde R., Chargelegue F., Novak N. (2022) Comportement alimentaire de vaches laitières pâturant des arbres fourragers. *26e Rencontres autour des recherches sur les ruminants*, Paris, France

Poster presentation and conference paper

<u>Mesbahi G.</u>, Barre P., Delagarde R., Bourgoin F., Perceau R., Novak S. (2022) Dynamic of 16 fodder trees' nutritive values from June to October. *6th European Agroforestry Conference*, Nuoro, Italie

Oral presentation

<u>Mesbahi G.</u>, Jawahir A., Berthet M., Ginane C., Delagarde R., Chargelègue F., Novak S. (2022) Rethinking grasslands in 3D: feeding preferences of dairy cows between temperate fodder trees. *29th General Meeting of the European Grassland Federation*, Caen, France

Poster presentation and conference paper

<u>Mesbahi G.</u>, Poutaraud A., Bayeur C., Plantureux S. (2022) Taxonomic and functional biodiversity positively influence agronomic characteristics of permanent grassland. *29th General Meeting of the European Grassland Federation*, Caen, France

Oral presentation and conference paper

<u>Mesbahi G.</u>, Bayeur C., Plantureux S. (2022) Production and replacement costs of permanent grasslands compete with those of sown grasslands. *29th General Meeting of the European Grassland Federation*, Caen, France

Poster presentation and conference paper

Plantureux S., <u>Mesbahi G.</u>, Bayeur C. (2022) Trade-offs between services rendered by the semi-natural grasslands of the Vosges massif (France). *29th General Meeting of the European Grassland Federation*, Caen, France

Poster presentation and conference paper

Berthet M., <u>Mesbahi G.</u>, Duvot G., Zuberbühler K., Cäsar C., Bicca-Marques J.C. (2022) A Brazilian population of titi monkeys reduced to 20% after an outbreak of sylvatic yellow fever. *Joint Conference of the European Federation of Primatology & the Gesellschaft für Primatologie*, Arnhem, Pays-Bas

Oral presentation

Mesbahi G., Bayeur C., Plantureux S. (2020) Trade-offs between agronomic and ecological characteristics in permanent grasslands. *28th General Meeting of the European Grassland Federation*, en ligne.

Oral presentation and conference paper

Mesbahi G., Bayeur C., Plantureux S. (2019) Les typologies agronomiques : des outils efficaces pour évaluer rendements et performances des prairies permanentes. *Journées de Printemps de l'AFPF*, Paris, France.

Oral presentation and conference paper, in Frenche

Mesbahi G., Bayeur C., Plantureux S. (2019) Des prairies permanentes diversifiées et performantes. *Journée de l'école doctorale*, Nancy, France.

Poster

Mesbahi G., Bayeur C., Plantureux S. (2018) Prediction of grassland values by phytosociological or agronomical approach. *27th General Meeting of the European Grassland Federation*, Cork, Ireland.

Oral presentation and conference paper

Animal communication

Narbona-Sabaté L., Mesbahi G., Berthet M. (2020) Urgent information is shared first in titi monkeys' alarm sequences. *Webinar Société Française de Primatologie*, online.

Oral presentation and conference paper

Narbona-Sabaté L., Cäsar C., Mesbahi G., Berthet M. (2020) Black-fronted titi monkeys (*Callicebus nigrifrons*) refine their alarm message after urgent information is shared. *Animal Behaviour Live: Annual Online Conference*, en ligne.

Poster presentation

Berthet M., Mesbahi G., Pajot A., Cäsar C., Neumann C., Zuberbühler K. (2018) Titi monkey alarm sequences: when combining creates meaning, in LaCroix T. (Chair), "Evolutionary explanations of compositional communication: the state of the art" symposium. *26th Philosophy of Science Association Biennial Meeting*, Seattle, USA.

Oral presentation

Berthet M., Neumann C., Mesbahi G., Zuberbühler K. (2017) Contextual information in titi monkey B-sequences. *7th European Federation for Primatology meeting*, Strasbourg, France.

Oral presentation

Berthet M., Neumann C., Mesbahi G., Zuberbühler K. (2017) Do titi monkeys encode predator type and location in their alarm sequences?. *35th International Ethological Conference*, Estoril, Portugal.

Oral presentation

Berthet M., Neumann C., Mesbahi G., Cäsar C., Zuberbühler K. (2017) Contextual differences of two alarm call types in titi monkeys. *15th Conference of the Gesellschaft für Primatologie*, Zürich, Suisse.

Poster presentation

Invited speaker

Mesbahi G. (2022) OasYs, Un système laitier agroécologique adapté au changement climatique, *Mise en place et exploitation de haies fourragères*, Grangeneuve, Switzerland

Mesbahi G. (2020) Quelle classification pour la prédiction des propriétés prairiales ? *Séminaire national Habitats - « Typologies, données et cartographies : état des lieux des connaissances et perspectives sur les besoins opérationnels »*, Paris, France

Teaching

2019

Practical — **Agroforestry botany and ecosystem services.**
Master level, 8 hours.
University of Lorraine (France), with PhD Alice Michelot-Antalik

Tutorial — **Statistical analyses of agroforestry dataset.**
Master level, 4 hours.
University of Lorraine (France)

Practical — **Grassland botany and functional traits.**
 Master level, 8 hours.
University of Lorraine (France), with PhD Alice Michelot-Antalik

Tutorial — **Statistics: determinant of grassland species and functional traits.**
Master level, 4 hours.
University of Lorraine (France)

2018
Practical — **Collect of animal behaviour on the field.**
Master level, 8 heures
University of Neuchâtel (Switzerland), with PhD Berthet Mélissa

2017
Lecture — **Initiation to global agroforestry**.
Master level, 3 hours.
University of Lorraine

Lecture — **Discovery of research projects**.
Master level, 2 hour.
University of Lorraine, with PhD Jérémie Goulnik

Tutorial — **Mixing crops at different scales.**
Master level, 15 hours. Grading of final exam.
University of Lorraine, with Prof Sylvain Plantureux

Practical	**Grassland botany and functional traits.**
	Master level, 8 hours.
	University of Lorraine, with PhD Jérémie Goulnik

Professional services

Member of the EURAF 2026 Organizing Committee

Workshop co-organization *Les prairies permanentes, notre avenir en herbe !* (2021)
Meisenthal, France
120 participants, 20 speakers

Reviewer for *Agriculture, Ecosystems & Environment* (2025)

Reviewer for *General Meeting of the European Grassland Federation* (2020)

Onsite and online presentations of the OasYs farm and its agroforestry system. For researchers, agricultural advisers, farmers and students (2020-2022)
10 presentations

Onsite and online presentations of the OasYs farm and its agroforestry system. For researchers, agricultural advisers, farmers and students (2020-2022)
10 presentations

Jury member for *Concours des Pratiques Agro-Ecologiques Prairies & Parcours* (2019)

Outreach

Berthet M. & <u>Mesbahi G.</u> (2025) Os Macacos Sauás
Santuario do Caraça

Interpretive signs, poster and social media posts

<u>RMT AgroforesterieS - Elevage</u> (2025) L'arbre et l'elevage
Genial.ly interactive tree

Online app

<u>Mesbahi G.</u> (2022) Climat, biodiversité : le retour gagnant des arbres champêtres.
The Conversation France

Article

Berthet M. & <u>Mesbahi G.</u> (2022) Fièvre jaune : les singes aussi se cachent pour mourir. *The The Conversation France*

Article

<u>Mesbahi G.</u> (2021) RadioCocci n°6 Agriculture et changement climatique, online

Radio show

Mesbahi G., Bayeur C., Plantureux S. (2021) La typologie agroécologique des prairies permanentes. *Les prairies permanentes, notre avenir en herbe !*, Meisenthal, France

Oral presentation

Mesbahi G., Novak S. (2021) L'abre, une ressource fourragère. *Les prairies permanentes, notre avenir en herbe !*, Meisenthal, France

Oral presentation

Berthet M. & Mesbahi G. (2019) Découvrez les singes titis et leur système de communication unique. *The Conversation France*

Article

Mesbahi G. (2018 et 2019) La typologie de prairies permanentes : un outil pour agronomes et écologues. *Journée de formation à la phytosociologie du massif vosgien*, Saverne et Rothau, France

Oral presentation
Mesbahi G. (2018) Les typologies agroécologiques. *Natura 2000 biogeographic seminar*, Parc Naturel Régional des Vosges du Nord, France

Oral presentation

Mesbahi G. (2018) Prairies permanentes : la conservation par la valorisation : exemple du massif vosgien. *Séminaire des Parc Naturels Régionaux Biodiversité et Gestion de l'Espace*, Eppe-Sauvage, France

Oral presentation

Languages

French	Mother tongue	**German**	Basic
English	Fluent	**Portuguese**	Basic