

# PRANAV S. KULKARNI

POSTDOCTORAL RESEARCHER, PANDIT LAB

POPULATION HEALTH AND REPRODUCTION,  
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## RESEARCH INTERESTS

Epidemiology | One health | Veterinary Epidemiology | Farm animal health | Animal health Economics | Evidence based Veterinary Medicine | Biostatistics and Operations research

## EDUCATION

PH.D.

JAN 2024

Wageningen University & research, Utrecht University

Thesis title: [Dairy cattle replacement under changing agri-environmental policies](#)

(Co-)Promoters: Prof.Dr. H. Hogeveen, Prof.Dr. M. Nielen, Dr. M.C.M Mourits, Dr. W. Steeneveld

M.SC.

AUG 2018

Wageningen University & research

Major thesis: Genetic Epidemiology of Digital Dermatitis in Dutch dairy cattle

Minor thesis: Simulation of density dependent and frequency dependent transmission of environmental pathogens

Advisor: Dr. P. Bijma, Prof.Dr. M.C.M de Jong

B.V.SC & A.H.

JUL 2015

Maharashtra Animal and Fishery sciences University, Nagpur, India

## RESEARCH EXPERIENCE

POSTDOCTORAL RESEARCHER

OCT 2023-PRESENT

(1) One Health Institute, University of California, Davis

(2) Dept. of Population Health and Reproduction, University of California, Davis

“Wellcome Trust-funded project: Atlas Arena” – EpiPandit Lab

Description: Modelling the climate-driven zoonotic spillover risk of New World Arenaviruses. Combining human risk with changing species distribution models of reservoir rodent species.

Supervisors: Dr. Pranav S. Pandit

Duties: Research resulting in publications, Developing web platform and data library, extension & public dissemination of outcomes, Guest lecturing, code pipeline

DOCTORAL RESEARCHER

OCT 2019-JAN 2024

(1) Wageningen University & Research,

(2) Utrecht University

PhD Project: “Optimization of replacement decisions in dairy cattle”

Duties: Research resulting in publications, graduate and undergraduate thesis supervision/ assistance, teaching assistance

#### M.SC. MINOR THESIS

MAY 2018-AUG 2018

Quantitative Veterinary Epidemiology group, Wageningen University & Research (4 months: 24 ECTS)

Title: “Simulation of density dependent and frequency dependent transmission of environmental pathogens”

Supervisor: Prof. Dr. Mart de Jong

#### M.SC. MAJOR THESIS

DEC 2017-MAY 2018

Animal Breeding and genetics group, Wageningen University & Research (6 months: 36 ECTS)

Title: “Genetic epidemiology of Digital dermatitis in Dutch dairy cattle”

Supervisor: Dr. Piter Bijma

#### RESEARCH MASTERS CLUSTER

SEP 2017-NOV 2017

Animal Sciences, Wageningen University & Research

Training objectives: Writing grant proposals, formulating project objectives, pitching and brainstorming doctoral thesis ideas

#### UNDERGRADUATE RESEARCH ASSISTANT

2011-2015

Dept. of Animal Genetics and Breeding, KNP College of Veterinary Sciences, Maharashtra.

Supervisor: Dr. Tejas Shende

## PUBLICATIONS

PS Kulkarni, R Haijema, H Hogeveen, W Steeneveld, MCM Mourits (2024) Economic impacts of constrained replacement heifer supply in dairy herds,

Agric. Syst., 217 (103943), <https://doi.org/10.1016/j.agsy.2024.103943>

Kulkarni PS, Mourits M, Slob J, Veldhuis A, Nielen M, Hogeveen H, van Schaik G, Steeneveld W (2023) Dutch dairy farmers’ perspectives on culling reasons and strategies. Pre. Vet. Med. 218,

<https://doi.org/10.1016/j.prevetmed.2023.105997>

Kulkarni PS, Mourits M, Nielen M and Steeneveld W (2023) Associations between dairy farm performance indicators and culling rates under policy-driven herd size constraints. Front. Vet. Sci. 10:1062891.

<https://doi.org/10.3389/fvets.2023.1062891>

P Kulkarni, M Mourits, M Nielen, J van den Broek, W Steeneveld, (2021) Survival analysis of dairy cows in the Netherlands under altering agricultural policy, Pre. Vet. Med. 193,

<https://doi.org/10.1016/j.prevetmed.2021.105398>

PS Kulkarni, F Biemans, MCM de Jong, P Bijma, (2021) On the origin of the genetic variation in infectious disease prevalence: Genetic analysis of disease status versus infections for Digital Dermatitis in Dutch dairy cattle, J.

Ani. Bre. Gen. 138 (6), 629-642, <https://doi.org/10.1111/jbg.12635>

V Kadam, A Barate, T Shende, S Jadhav, P Kulkarni, P Pawar, M Rangnekar, H Birade (2020) Association of semen attributes with FSH – Beta gene polymorphism in Holstein-Frisian cross breed bulls from India, Haryana Vet, 59 (2), 231-235, <https://www.luvias.edu.in/haryana-veterinarian/download/harvet2020-dec/20.pdf>

TC Shende, PS Kulkarni, P Pawar, (2017) Genotyping of HF Crossbred cattle for Beta-Casein genes using PCR-RFLP, Indian Research Journal of Extension Education, 105-107, <https://shorturl.at/EG6Xz>

NY Flores-Perez, PS Kulkarni, M Uhart, PS Pandit, [pre-print] Shifting human-rodent interfaces under climate change: modeling the distribution of the reservoir for Junin virus and associated drivers, bioRxiv 2024.06.24.600371; doi: <https://doi.org/10.1101/2024.06.24.600371>

Kulkarni, PS and Haijema, R and Hogeveen, H. and Steeneveld, W and Mourits, M., [pre-print] Economic Impacts of Constrained Replacement Heifer Supply in Dairy Herds. Available at SSRN: <https://ssrn.com/abstract=4542707> or <http://dx.doi.org/10.2139/ssrn.4542707>

P.S. Kulkarni \*, M.C.M. Mourits., M. Nielen., J. Van Den Broek, H. Hogeveen And W. Steeneveld [conference paper] DEVELOPMENT OF A LOG-NORMAL ACCELERATED FAILURE TIME MODEL FOR SURVIVAL OF DUTCH DAIRY COWS UNDER ALTERING AGRICULTURAL POLICY, SVEPM 2021, Proceedings of the Society for Veterinary Epidemiology and Preventive Medicine annual meeting, ISBN 978-0-948073-60-1 <https://bit.ly/4ocZXnb>

## CONFERENCES

EEID 2024	STANFORD, USA
2024 Ecology and Evolution of Infectious Diseases (EEID) Conference Poster Presentation: Climate-driven risk modeling of zoonotic arenaviral spillover infection in South America	
UC DAVIS POSTDOCTORAL SYMPOSIUM 2024	DAVIS, USA
9th annual UC Davis Postdoctoral Research Symposium Oral Presentation: Climate-driven risk modeling of zoonotic Arenaviral spillover infection in South America	
ISESSAH 2023	HELSINKI, FINLAND
2023 International ISESSAH Conference Understanding stakeholder behaviour and socio-economic implications of practices and policies of animal health Oral Presentation: Economic impact of agri-environmental policies on replacement in Dutch dairy cattle	
VEEC STUDY DAY 2022	WAGENINGEN, THE NETHERLANDS
Joint meeting VEE-VEEC-AESA: Fewer livestock: healthier animals, healthier environment? Oral presentation: Dutch dairy farmers' perspectives on culling reasons and strategies	
ISESSAH 2022	HALIFAX, CANADA
The International Society for Economics and Social Sciences of Animal Health: ISESSAH is partnering with ISVEE for its 2022 conference in Halifax, Canada Poster presentation: Survey study: Dutch dairy farmers' perspective on culling reasons and strategies	
ISVEE 2022	HALIFAX, CANADA
16th International Symposium of Veterinary Epidemiology and Economics Connecting Animals, People, and their shared environments Oral presentation: Impact of changes in National agricultural policy on the survival of Dutch dairy cows ** Bursary Award Winner	
SVEPM 2021	TOULOUSE, FRANCE/ ONLINE
SVEPM 2021 - Annual Conference of The Society for Veterinary Epidemiology and Preventive Medicine Oral Presentation: Survival analysis to study replacement strategy of Dutch dairy farmers over 10 years with varying agricultural policies ** Bursary Award Winner	

ICBB 2015

PUNE, INDIA

2nd International Conference on Biotechnology and Bioinformatics

Poster presentation: Genotyping of HF Crossbred cattle for Beta-Casein genes using PCR-RFLP

\*\* Best Poster Award Winner

## TEACHING EXPERIENCE

MPM-204: Applied Population Statistics III

School of Veterinary Medicine, UC Davis

QVE-20306: Veterinary Epidemiology and Economics

Wageningen Institute of Animal Sciences, Infectious disease epidemiology group, WUR

## KEY SKILLS AND SOFTWARE

### TOOLS AND SOFTWARE

R, QGIS, Python, IBM-SPSS™, SAS, Bash shell, Qualtrics™, ASREML-w

### KEY SKILLS

Tree-based Machine Learning (Random Forest, XGBoost, ET, LGBM), Species Distribution modelling, Spatio-temporal analysis using Google EE, Regression models, survival analysis (AFT, Proportional hazards, Parametric models), Logistic models for classification, herd simulation, dynamic programming, Markov Decision process, Monte Carlo simulations, Online survey, RMarkdown, Jupyter Notebook, Latex-Overleaf

## PAST MEMBERSHIPS/ OTHER ACTIVITIES

### OTHER POSITIONS

*October 2018-August 2019*

Biostatistics consultant/ Vet consultant • Part-time consultancy • Omega Pathology Labs, India

*August 2015-August 2016*

Private Veterinary Practitioner • Large Ruminants • Self-Employed

Licensed Veterinary Ambulatory service in state of Maharashtra, India

### VOLUNTEER POSITIONS

Reviewer: [Publons](#)

Open Science Community Utrecht,

Book club- Bayesian Statistics and Modelling Utrecht,

Blog writer- Academic Transfer,

Veterinary Science Day 2023 Utrecht organizing committee