

# Mélodie Monod

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## CONTACT DETAILS

**Professional email:** melodie.monod@novartis.com  
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## EXPERIENCE

**Novartis**, Dublin, Ireland Since January 2023  
*Principal Biostatistician*

I am part part of the Virtual Analytics (VAN) Program. This full-time role involves three rotations of five months each, working within different statistical teams.

**Novartis**, Basel, Switzerland 06/2021 - 09/2021  
*Advanced Explanatory Analysis Intern*

**Supervisor:** Dr. Sebastian Weber

I have developed a time-to-first-event safety model that uses pharmacokinetic principles in the context of phase I oncology dose-escalation trials with multiple schedules.

**University of Geneva**, Geneva, Switzerland 07/2017 - 09/2017  
*Summer Research Assistant*

**Supervisor:** Dr. Bernard Cerutti

I have investigated cross-sectional medical data from the Hospital of Geneva to determine optimal training schedule for health personnel.

## EDUCATION

**Imperial College London**, London, United Kingdom 2019-2023  
*PhD in Modern Statistics and Statistical Machine Learning*

Thesis title: Bayesian models and methods to estimate age-specific infectious disease transmission dynamics: integrating disease surveillance time series, mobility, and vaccination data

Supervisors: Dr. Oliver Ratmann, Prof. Samir Bhatt, Dr. Matthew Hall

First student to complete the program among a cohort of 14 students in Imperial College London and Oxford University

**Imperial College London**, London, United Kingdom 2018-2019  
*Master of Science in Statistics*

**Final Grade:** Distinction

**University of Geneva**, Geneva, Switzerland 2015-2018  
*Bachelor of Science in Economics and Management*

**Final Grade:** 5.71/6, **Class Rank:** First out of > 100 students

Major in Economics and minor in Statistics

## PROGRAMMING SKILLS

Highly proficient in R, Stan and L<sup>A</sup>T<sub>E</sub>X.

Open source code:

- Code for [1] and [3] is publicly available at <https://github.com/ImperialCollegeLondon/covid19model>
- Code for [2] is publicly available at <https://github.com/ImperialCollegeLondon/BSplinesProjectedGPs>
- Code for [4] is publicly available at <https://github.com/MLGlobalHealth/phyloSI-RakaiAgeGender>

AWARDS	<b>EPSRC CDT in Modern Statistics and Statistical Machine Learning Scholarship</b>	2019-2023
	Imperial College London, London, United-Kingdom	
	<b>The Department of Mathematics Scholarship for the MSc Statistics</b>	2018
	Imperial College London, London, United-Kingdom	
	Awarded for academic excellence and ability to continue into a postgraduate research degree.	
	<b>Highest overall grade average of the Bachelor's Degree in Economics and Management - Major Economics</b>	2018
	University of Geneva, Geneva, Switzerland	
SELECTED PUBLICATIONS		
	[1] <b>Mélodie Monod</b> , Alexandra Blenkinsop, Xiaoyue Xi, Neil M. Ferguson, Swapnil Mishra, Seth Flaxman, Samir Bhatt, Oliver Ratmann, et al. Age groups that sustain resurging COVID-19 epidemics in the united states. <i>Science</i> , 371(6536), 2021.	
	[2] <b>Mélodie Monod</b> , Alexandra Blenkinsop, Andrea Brizzi, Yu Chen, Carlos Cardoso Correia Perello, Vidoushee Jogarah, Yuanrong Wang, Seth Flaxman, Samir Bhatt, and Oliver Ratmann. Regularised B-splines Projected Gaussian Process Priors to Estimate Time-trends in Age-specific COVID-19 Deaths. <i>Bayesian Analysis</i> , January 2022. doi: 10.1214/22-ba1334. URL <a href="https://doi.org/10.1214/22-ba1334">https://doi.org/10.1214/22-ba1334</a> .	
	[3] Seth Flaxman, Swapnil Mishra, Axel Gandy, H. Juliette T. Unwin, Thomas A. Mellan, Helen Coupland, Charles Whittaker, Harrison Zhu, Tresnia Berah, Jeffrey W. Eaton, <b>Mélodie Monod</b> , Neil M. Ferguson, Lucy C. Okell, Samir Bhatt, et al. Estimating the effects of non-pharmaceutical interventions on COVID-19 in Europe. <i>Nature</i> , 584(7820), 2020.	
	[4] <b>Mélodie Monod</b> , Andrea Brizzi, Ronald M Galiwango, Robert Ssekubugu, Yu Chen, Xiaoyue Xi, et al. Growing gender disparity in HIV infection in Africa: sources and policy implications. <i>medrxiv</i> , 2023.	
TALKS	<b>StanCon 2020</b>	2020
	<b>COVID-19 Dynamics &amp; Evolution Webinar Series, University of California San Diego</b>	2020
	<b>Banff International Research Station for Mathematical Innovation and Discovery</b>	2021
	<b>ISBA 2022 World Meeting</b>	2022