

# Fernando de Pol Mayer

## Curriculum Vitæ

✉ [fernandomayer@gmail.com](mailto:fernandomayer@gmail.com)

📄 [leg.ufpr.br/~fernandomayer](http://leg.ufpr.br/~fernandomayer)

🌐 [github.com/fernandomayer](https://github.com/fernandomayer)

🌐 [linkedin.com/in/fernandomayer](https://linkedin.com/in/fernandomayer)

---

### Education

- 2013–2019 **Statistics and Agricultural Experimentation**, *University of São Paulo (USP)*, Ph.D.  
Statistical modeling of fisheries data.  
Advisor Paulo Justiniano Ribeiro Jr.
- 2008–2011 **Ecology**, *Federal University of Santa Catarina (UFSC)*, M.Sc.  
Probabilistic models for zero-inflated and overdispersed count data in commercial fisheries.  
Advisor Humber Agreli Andrade
- 2000–2005 **Oceanography**, *University of Vale do Itajaí (UNIVALI)*, B.Sc.  
Swordfish (*Xiphias gladius*) fishery in southwestern Atlantic: fleet dynamics and Catch Per Unit Effort (CPUE) influencing factors.  
Advisor Humber Agreli Andrade

---

### Complementary training

#### Short Courses

- 2013 **USP**, 15h, Introduction to categorical data analysis.
- 2013 **USP**, 25h, Integral and differential calculus.
- 2013 **USP**, 25h, Probability.
- 2013 **USP**, 25h, Matrices.
- 2012 **USP**, 6h, Non-linear mixed models in R.
- 2012 **USP**, 6h, Computational methods for inference with R.
- 2011 **UFPR**, 6h, Data structures for spatial-temporal modelling.
- 2011 **UEM**, 6h, Modelling Statistics of Extremes.
- 2011 **UEM**, 6h, Introduction to stochastic simulation and modelling.
- 2010 **UFSC**, 6h, Multiple imputation and its applications.
- 2009 **UFSCar**, 6h, Hierarchical Generalized Linear Models.
- 2009 **UFSCar**, 6h, Linear Mixed Models.
- 2009 **SEB**, 8h, Experiments in ecology.
- 2009 **UFPR**, 9h, Programming statistical methods integrating C and R languages.
- 2007 **UFPR**, 21h, Effective statistical modelling with R.

---

## Experience

### Professional experience

- 2015–current **Federal University of Paraná (UFPR)**, *Department of Statistics (DEST)*.  
Adjunct professor of Statistics. Main disciplines taught:
- Computational Statistics
  - Experimental Statistics
  - Bayesian inference
- 2014–2015 **Federal University of Rio Grande (FURG)**, *Mathematics, Statistics and Physics Institute (IMEF)*.  
Assistant professor of Statistics.
- 2011–2013 **Federal University of Santa Catarina (UFSC)**.  
Assistant professor for Oceanography and Biological Sciences undergraduate courses.  
Disciplines taught:
- Fisheries Resources
  - Population Ecology
  - Informatics for the Biological Sciences
- 2010–2011 **Fisheries and Aquaculture Ministry (MPA) and Organization of Ibero-American States for Education, Science and Culture (OEI)**.  
Consultant in fisheries statistics. Consolidated Brazilian fisheries statistics for 2008–2010 through multiple imputation methods.
- 2006–2008 **University of Vale do Itajaí (UNIVALI)**, **Fisheries Study Group (GEP)**.  
Tuna fisheries statistics and data analysis.

### Courses taught

- 2017 **UNESP**, *8h*, Programming with R.
- 2016 **UFBA**, *12h*, Reproducible research with R: from dynamic documents to packages.
- 2016 **UFPR**, *16h*, Software Carpentry Brazil.
- 2014 **FURG**, *16h*, Software Carpentry Brazil.
- 2013 **USP**, *12h*, Introduction to Linux.
- 2013 **USP**, *12h*, Introduction to  $\text{\LaTeX}$ .
- 2012 **Instituto Albatroz**, *16h*, Introduction to R programming language for statistical modelling.
- 2012 **UNIVALI**, *16h*, Introduction to R programming language.
- 2011 **UNIVALI**, *16h*, Introduction to R programming language.
- 2010 **UFSC**, *12h*, Introduction to R programming language.
- 2007 **UNIVALI**, *12h*, Introduction to R programming language.

---

## Interests

Applied statistics  
Statistical computing  
Natural resources management

---

## Computational skills

Operating Systems	Linux, Mac OS, Windows
Programming Languages	R, Python, FORTRAN, HTML
Tools	Git, $\LaTeX$

---

## Languages

Portuguese	<b>Native</b>
English	<b>Advanced</b>

*Test of English language proficiency: IELTS band 7 (September, 2009)*

---

## Grants

2013–2014	<b>CAPES.</b> Scholarship (Ph.D).
2009–2010	<b>REUNI/CAPE.</b> Scholarship (M.Sc).
2008–2009	<b>CNPq.</b> Research project funding (collaborator).
2004–2005	<b>ProBIC/UNIVALI.</b> Scientific initiation scholarship.
2000–2003	<b>Federal Government/UNIVALI.</b> Scholarship (internship).

---

## Awards

2005	<b>University of Vale do Itajaí (UNIVALI).</b> Academic Merit (academic achievement, participation in technical and scientific activities and the experiences of values and ethical attitudes during the academic life).
------	---

---

## Research Projects

2017–current	<b>Federal University of Paraná (UFPR).</b> Nonlinear state-space models for fishery stock biomass dynamics.
2017–current	<b>Federal University of Paraná (UFPR).</b> Socioecological resilience and sustainability of the Paranaguá estuarine complex.
2004–2005	<b>University of Vale do Itajaí (UNIVALI).</b> Using a delta-lognormal Generalized Linear Model (GLM) in the analysis of swordfish ( <i>Xiphias gladius</i> ) catch data from the southwestern Atlantic.
2003–2004	<b>University of Vale do Itajaí (UNIVALI).</b> Study of the factors influencing the swordfish ( <i>Xiphias gladius</i> ) CPUE captured in the southwestern Atlantic through Generalized Linear Models (GLM).

---

## Publications

### Peer-reviewed publications

- 1 Mayer, F. P.; Sant'Ana, R.; Ribeiro Jr., P. J. 2019. Modeling the temporal structure of incidental catches in commercial fisheries using hierarchical Bayesian models. **Biometric Brazilian Journal**, 37: 446–466. (In Portuguese).
- 2 Pavanato, H. J.; Mayer, F. P.; Wedekin, L. L.; Engel, M. H.; Kinas, P. G. 2018. Prediction of humpback whale group densities along the Brazilian coast using spatial autoregressive models. **Marine Mammal Science**, 34: 734–754.
- 3 Bender, M. G.; Floeter, S. R.; Mayer, F. P.; Vila-Nova, D. A.; Longo, G. O.; Hanazaki, N.; Carvalho-Filho, A.; Ferreira, C. E. L. 2013. Biological attributes and major threats as predictors of the vulnerability of species: a case study with Brazilian reef fishes. **Oryx** (Oxford Print), 47(2): 259–265.
- 4 Mayer, F. P.; Andrade, H. A. 2008. Size of yellowfin tuna (*Thunnus albacares*) caught by pole-and-line fleet in the southwestern Atlantic ocean. **Brazilian Journal of Aquatic Science and Technology**, 12(1): 59–62.
- 5 Andrade, H. A.; Pereira, M. D.; Mayer, F. P. 2007. Alternative methods for calculating catch-per-unit-effort for skipjack tuna (*Katsuwonus pelamis*) caught in the southwestern Atlantic ocean. **Brazilian Journal of Aquatic Science and Technology**, 11(2): 63–66.
- 6 Mayer, F. P., Andrade, H. A. 2005. Swordfish (*Xiphias gladius*) and blue shark (*Prionace glauca*) fishery and the dynamics of the fleet off southeastern Brazilian coast. **Collective Volume of Scientific Papers, ICCAT**, 58(3): 1204–1214.
- 7 Mayer, F. P., Andrade, H. A. 2003. Catch, effort and CPUE of swordfish (*Xiphias gladius*) landed in Santa Catarina in 2000 and 2001. **Notas técnicas da FACIMAR**, 7: 23–36. (In Portuguese).

### Books

- 1 Hanazaki, N.; Petrucio, M. M.; Zank, S.; Mayer, F. P. 2009. Introduction to Ecology. 2. ed. Florianópolis: Biologia/EaD/UFSC, 85 p., ISBN 978-85-61485-22-1. (In Portuguese).

### Extended abstracts

- 1 Santos, A.; Mayer, F. P.; Moral, R. A.; Mota, L. H. C.; Demétrio, C. G. B.; Hinde, J. 2014. Statistical modeling of *Hypothenemus hampei* trap capture over time. In: 59 Annual Brazilian Region meeting of the International Biometric Society. (In Portuguese).
- 2 Mayer, F. P.; Bonat, W. H.; Ribeiro Jr., P. J. 2011. Spatio-temporal modelling of catches in commercial fisheries through hierarchical Bayesian models with latent Gaussian structure. In: 56 Annual Brazilian Region meeting of the International Biometric Society. (In Portuguese).
- 3 Mayer, F. P. 2009. Count data models considering overdispersion and excess zeros for abundance estimates of uncommon species in commercial fisheries. In: 54 Annual Brazilian Region meeting of the International Biometric Society. (In Portuguese).

## Reports

- 1 Mayer, F. P.; Sant'Ana, R. 2011. Methodology used for the consolidation of national fisheries statistics for 2010 and data compilation for the statistical bulletin of fisheries and aquaculture. *Report for MPA/OEI. (In Portuguese).*
- 2 Mayer, F. P. 2010. Methodology used for the consolidation of national fisheries statistics for the period 2008–2009 and data compilation for the statistical bulletin of fisheries and aquaculture. *Report for MPA/OEI. (In Portuguese).*
- 3 Mayer, F. P.; Andrade, H. A. 2005. Using a delta-lognormal Generalized Linear Model (GLM) in the analysis of swordfish (*Xiphias gladius*) catch data from the southwestern Atlantic. *Report for the scientific initiation scholarship — ProBic/UNIVALI. (In Portuguese).*
- 4 Mayer, F. P.; Andrade, H. A. 2004. Study of the factors influencing the swordfish (*Xiphias gladius*) CPUE captured in the southwestern Atlantic through Generalized Linear Models (GLM). *Report for the scientific initiation scholarship — ProBic/UNIVALI. (In Portuguese).*