

# Fernando de Pol Mayer

## Curriculum Vitæ

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### Education

- 2013–current **Statistics & Experimentation**, *Universidade de São Paulo (USP)*, Ph.D.  
Bayesian spatio-temporal modelling for zero-inflated and overdispersed count data (provisory).  
Advisor Paulo Justiniano Ribeiro Jr.
- 2008–2011 **Ecology**, *Universidade Federal de Santa Catarina (UFSC)*, M.Sc.  
Probabilistic models for zero-inflated and overdispersed count data in commercial fisheries.  
Advisor Humber Agrelli Andrade
- 2000–2005 **Oceanography**, *Universidade do 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 Agrelli Andrade

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### Complementary training

#### Internship

- 2006 **UNIVALI**.  
Voluntary teaching assistant for “Statistics” course in Oceanography undergraduate.
- 2000–2005 **Biological Oceanography Laboratory, UNIVALI**.  
Several studies developed including fisheries statistics and modelling.

#### Courses taken

- 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.

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## Experience

### Professional experience

2011–2012 **Universidade Federal de 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 **Universidade do Vale do Itajaí (UNIVALI), Fisheries Study Group (GEP).**

Tuna fisheries statistics and data analysis.

### Courses taught

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.

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## Interests

Applied statistics

Statistical computing

Natural resources management

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## Computational skills

Operating Systems Linux, Mac OS, Windows

Programming Languages R, Fortran, HTML,  $\text{\LaTeX}$

Tools git, Shell

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## Languages

Portuguese **Native**

English **Advanced**

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

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## Grants

- 2009-2010 **REUNI/CAPEB.**  
Scholarship (M.Sc).
- 2008-2009 **CNPq.**  
Research project funding (colaborator).
- 2004–2005 **ProBIC/UNIVALI.**  
Scientific initiation scholarship.
- 2000-2003 **Federal Government/UNIVALI.**  
Scholarship (internship).

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## Awards

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

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## Publications

### Peer-reviewed publications

- 1 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. DOI: 10.1017/S003060531100144X.
- 2 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.
- 3 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.
- 4 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.
- 5 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 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).*
- 2 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).*