POLMAR

| **Helmholtz Graduate School** | **Course announcement:** |
| **for Polar and Marine Research** | **POLMAR Expert Type** |

Statistics – An Introduction to Hypothesis Testing and Parameter Estimation (using R and/or MATLAB)

Prof. Dr. Dieter Wolf-Gladrow, AWI

Date & Time:	Part 1: April 22 - 24, 2015	Time 9 am – 4 pm
	Part 2: May 6 – 8, 2014	Time 9 am – 4 pm
Location:	AWI building E; room E-4025 (part 1)	
	AWI building E; room E-4005 (part 2)	
Language:	English	
POLMAR credit points:	3 + 3	
Registration:	info.polmar@awi.de	
	please indicate for which part you want to subscribe!	

Course content:

Part 1 (22 - 24 April 2015): The course starts with the basic rules of probability, some concepts of descriptive statistics, and a short discussion of the most common probability distributions (binomial, Poisson) and probability density functions (normal, t, chi^2). The most common tests (t, Fisher-Behrens, ANOVA, Kolmogorov-Smirnov; Zar, 2010) are explained and applied.

Part 2 6 – 8 May , 2015): Parameter estimation is introduced based in part on Zuur et al. (2007).
It is highly recommended that you have participated in Part 1 in order to follow Part 2.

Target group: PhD students and postdocs with interest in hypothesis testing and parameter estimation.

Prerequisites: *Basic knowledge of R is requested (for example, course by Prof. Stephan Frickenhaus, which runs 16 – 18 March 2015).*

Remark: Time series analysis will not be covered in the course!

Literature:
- Zar, J.H., Biostatistical Analysis, fifth edition, Prentice Hall, 2010.
  A good introduction to the frequentist approach to hypothesis testing including data sets and detailed explanations of test procedures; no computer codes provided.
- Zuur, A.F., E.N. Ieno, and G.M. Smith, Analysing Ecological Data, Springer, New York, 2007. [Data & R code available: http://www.highstat.com/book1.htm]

Our courses are generally free of charge for all participants. However, they do have a price and can cost as much as 150 € per day per student. Please take this into account when cancelling your place on the last minute.