- `t.test()` now detects nearly-constant input data. (PR#7225)

- `mle()` had problems if ndeps or parscale was supplied in the control arguments for `optim()`. Also, the profiler is now more careful to reevaluate modified `mle()` calls in its parent environment.

- Fix to rendering of accented superscripts and subscripts e.g., `expression((b[dot(a)]))`. (Patch from Uwe Ligges.)

- `attach(*, pos=1)` now gives a warning (and will give an error).

- `power.*test()` now gives an error when 'sig.level' is outside [0,1]. (PR#7245)

- Fitting a binomial glm with a matrix response lost the names of the response, which should have been transferred to the residuals and fitted values.

- `print.ts()` could get the year wrong because rounding issue (PR#7255)

Changes on CRAN

by Kurt Hornik

New contributed packages

Malmig The Malmig package provides an implementation of Malecot migration model in R together with a number of related functions. By Federico C. F. Calboli and Vincente Canto Cassola together with Martin Maechler authored the function `mtx.exp`.

PBSmapping This software has evolved from fisheries research conducted at the Pacific Biological Station (PBS) in Nanaimo, British Columbia, Canada. It extends the R language to include two-dimensional plotting features similar to those commonly available in a Geographic Information System (GIS). Embedded C code speeds algorithms from computational geometry, such as finding polygons that contain specified point events or converting between longitude-latitude and Universal Transverse Mercator (UTM) coordinates. It includes data for a global shoreline and other data sets in the public domain. By Nicholas Boers, Jon Schnute, Rowan Haigh, and others.

RCurl The package allows one to compose HTTP requests to fetch URIs, post forms, etc., and process the results returned by the Web server. This provides a great deal of control over the HTTP connection and the form of the request while providing a higher-level interface than is available just using R socket connections. Additionally, the underlying implementation is robust and extensive, supporting SSL/HTTPS, cookies, redirects, authentication, etc. By Duncan Temple Lang.

RNetCDF This package provides an interface to Unidata's NetCDF library functions (version 3) and furthermore access to Unidata's udunits calendar conversions. The routines and the documentation follow the NetCDF and udunits C interface, so the corresponding manuals can be consulted for more detailed information. By Pavel Michna.

Rstem An R interface to the C code that implements Porter's word stemming algorithm for collapsing words to a common root to aid comparison of texts. There is code to for different languages (i.e., Danish, Dutch, English, Finnish, French, German, Norwegian, Portuguese, Russian, Spanish, Swedish). However, these may not be applicable if the words require UTF encoding. This is extensible by allowing different routines to be specified to create the C routines used in the stemming, permitting debugging, profiling, pool management, caching, etc. By Duncan Temple Lang.

UNF Computes a universal numeric fingerprint of the data. By Micah Altman.

accuracy This is a suite of tools designed to test and improve the accuracy of statistical computation, including: Summarization of the sensitivity of linear and non-linear models (lm, glm, mle, nls) to measurement and numerical error; A generalized Cholesky method for correcting non-invertible Hessians; Tests for the global optimality of non-linear regression and maximum likelihood results; Tools for obtaining true random numbers using entropy collected from the system and/or entropy servers on the internet; A method for converting floating point numbers to normalized fractions; Benchmark data for checking the accuracy of basic distribution functions. By Micah Altman, Jeff Gill, and Michael P. McDonald.

adehabitat A collection of tools for the analysis of habitat selection by animals. By Clément Calenge, contributions from Mathieu Basille.

bayesSurv Bayesian survival regression with flexible error and (later on also random effects) distributions. By Arnost Komarek.

catspec 'sqtab' contains a set of functions for estimating loglinear models for square tables such as quasi-independence, symmetry, uniform association. 'mclgen' restructures a dataframe to enable the estimation of a multinomial logistic model using the conditional logit program 'clogit'. This allows greater flexibility in imposing constraints on the response variable. One application is to specify aforementioned models for square tables as multinomial logistic models with covariates at the respondent level. 'ctab' simplifies the production of (multiway) percentage tables. By John Hendrickx.

chplot Informative and nice plots for grouped bivariate data. By Maja Pohar and Gaj Vidmar.

drfit drfit provides basic functions for accessing the dose-response data of the UFT Bremen, Department of Bioorganic Chemistry, fitting dose-response curves to this and similar data, calculating some (eco)toxicological parameters and plotting the results. Functions that are fitted are the cumulative density function of the lognormal distribution, of the logistic distribution and a linear-logistic model, derived from the latter, which is used to describe data showing stimulation at low doses (hormesis). The author would be delighted if anyone would join in this effort of creating useful and useable tools for dealing with dose-response data from biological testing. By Johannes Ranke.

eba Fitting and testing probabilistic choice models, especially the BTL model (Bradley & Terry, 1952; Luce, 1959), elimination-by-aspects (EBA) models (Tversky, 1972), and preference tree (Pretree) models (Tversky & Sattath, 1979). By Florian Wickelmaier.

ebayesthresh Carries out Empirical Bayes thresholding using the methods developed by Johnstone and Silverman. The basic problem is to estimate a mean vector given a vector of observations of the mean vector plus white noise, taking advantage of possible sparsity in the mean vector. Within a Bayesian formulation, the elements of the mean vector are modelled as having, independently, a distribution that is a mixture of an atom of probability at zero and a suitable heavy-tailed distribution. The mixing parameter can be estimated by a marginal maximum likelihood approach. This leads to an adaptive thresholding approach on the original data. Extensions of the basic method, in particular to wavelet thresholding, are also implemented within the package. By Bernard Silverman (with major intellectual input from Iain Johnstone).

faraway Functions and datasets for books by Julian Faraway. Books are "Practical Regression and ANOVA in R" on CRAN, "Linear Models with R" appearing in August 2004 published by CRC press and "Extending the Linear Model with R" a book in preparation. By Julian Faraway.

gam Functions for fitting and working with generalized additive models, as described in chapter 7 of "Statistical Models in S" (Chambers and Hastie (eds), 1991), and "Generalized Additive Models" (Hastie and Tibshirani, 1990). By Trevor Hastie.

hierfstat This R package allows the estimation of hierarchical F-statistics from haploid or diploid genetic data with any numbers of levels in the hierarchy, following the algorithm of Yang (Evolution, 1998, 52(4):950–956). Functions are also given to test via randomisations the significance of each F and variance components, using the likelihood-ratio statistics G, see Goudet et.al. (Genetics, 1996, 144(4): 1933–1940). By Jerome Goudet.

kinship `coxme`: general mixed-effects Cox models; `kinship`: routines to create and manipulate n by n matrices that describe the genetic relationships between n persons; `pedigree`: create and plot pedigrees; `bdsmatrix`: a class of objects for sparse block-diagonal matrices (which is how kinship matrices are stored); `gchol`: generalized cholesky decompositions. By Beth Atkinson (atkinson@mayo.edu) for pedigree functions, and Terry Therneau (therneau@mayo.edu) for all other functions.

limma Data analysis, linear models and differential expression for microarray data. By Gordon Smyth with contributions from Matt Ritchie, James Wettenhall and Natalie Thorne.

locfdr Computation of local false discovery rates. By Bradley Efron and Balasubramanian Narasimhan.

mfp Fractional polynomials are used to represent curvature in regression models. A key reference is Royston and Altman, 1994. By Gareth Ambler, with contributions from Axel Benner.

mitools Tools to perform analyses and combine results from multiple-imputation datasets. By Thomas Lumley.

ncvar This package provides a high-level R interface to Unidata's NetCDF data files. Using this package, netCDF datasets, and all their associated metadata, can be read and written in one

go. It is also easy to create datasets including lots of metadata. This package supports both the CF and default NetCDF metadata conventions. It supports more general NetCDF files and conventions than the **ncdf** package by David Pierce, using the low-level NetCDF package **RNetCDF** by Pavel Michna. By Juerg Schmidli.

plotrix Various useful functions for enhancing plots. By Jim Lemon.

pwt The Penn World Table provides purchasing power parity and national income accounts converted to international prices for 168 countries for some or all of the years 1950–2000. By Guan Yang.

reldist R functions for the comparison of distributions. This includes nonparametric estimation of the relative distribution PDF and CDF and numerical summaries as described in "Relative Distribution Methods in the Social Sciences" by Mark S. Handcock and Martina Morris, Springer-Verlag, 1999, Springer-Verlag, ISBN 0387987789. By Mark S. Handcock.

rmetasim An interface between R and the metasim simulation engine. Facilitates the use of the metasim engine to build and run individual based population genetics simulations. The simulation environment is documented in: Allan Strand. Metasim 1.0: an individual-based environment for simulating population genetics of complex population dynamics. Mol. Ecol. Notes, 2:373–376, 2002. (Please contact Allan Strand with comments, bug reports, etc). By Allan Strand and James Niehaus.

snowFT Extension of the snow package supporting fault tolerant and reproducible applications. It is written for the PVM communication layer. By Hana Sevcikova and A. J. Rossini.

taskPR The Task-Parallel R ('task-pR') system, repackaged as an R package. By Nagiza F. Samatova, David Bauer, and Srikanth Yoginath.

tuneR Collection of tools to analyze music, handling wave files, transcription, etc. By Uwe Ligges with contributions from Andrea Preusser and Claus Weihs.

vioplot A violin plot is a combination of a box plot and a kernel density plot. By Daniel Adler.

Other changes

- Package **RmSQL** was moved from the main CRAN section to the Archive.

Kurt Hornik
Wirtschaftsuniversität Wien, Austria
Kurt.Hornik@R-project.org