

Saemix 4.0 - multiple responses

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TODO list

- **TODO**
 - interface to mkin ?
 - error messages to solve better ?
 - * unable to find starting parameter values
 - * add FAQ as to how to diagnose this
 - * maybe need a predict function for these models
 - bookdown: https://github.com/saemixdevelopment/saemix_bookdown
 - * case-studies for categorical data and RTTE data
 - simulate using R instead of mlx
 - * move online or keep pdf/tex version ?
 - if move completely online, need to transform the LaTeX guide into a bookdown
 - copy on iame github
- examples
 - real example with TTE and RTTE data
 - real example with competitive risks
 - joint models
- documentation
 - error models
 - new defaults: no plot for conditional distribution
- github
 - get the hang of branches...

Loading

aaa_generics.R TODO

- check generic definition of read
- check aliases for some internal functions

zzz.R

- check if the current version works or if we need to add date

Classes

SaemixData

- check object validation
 - create testthat functions

- harmonise output messages across the package
 - no messages to be output to stdin by default
- new slot automatic in 3.0
 - normally allows automatic recognition and filling in arguments not given
 - ☐ TODO: testthat function
 - also test validate.names()
- use is(x, "data.frame") instead of testing class(x)=="data.frame" (class may have more than 1 value)

SaemixModel

- main change in 3.0: added discrete response with a modelType argument
 - for joint models, will need some tweak (maybe as a vector of response types ?)
- new function validate_covariance.model
 - ☐ TODO: change name to validate.covariance.model
 - check function (add testthat) and add documentation

SaemixRes

- ☒ check definition of ypred and ppred
 - ypred should be $f(\theta_{MAP})$ and ppred should be $E(f(\theta))$
 - checked and corrected

SaemixObject

- maybe change name saemix.simul to saemix.simulate
- ☐ TODO: logLik.saemix, AIC.SaemixObject, BIC.SaemixObject
 - Maud made changes in the 2.4
 - but Johannes also made some changes in 3.0
 - ☒ TODO: add Johannes's changes to the 2.4 version **in fact** already in 2.4 but
- options
 - ☐ TODO: see CRAN for the rules (like for 2.4, in compute_LL.R)

Computational functions

compute_LL.R

- check if alias ggq.mlx exists

func_aux.R

- modified combined error model
 - ☐ TODO: add to documentation
- conditional distribution function split into 2 functions according to nature of the model
 - ☐ TODO: add to documentation
- check computation of compute.LLy

func_FIM.R

- ☐ TODO: secure the code for discrete data models (only compute LL by linearisation ? do not use altogether ?)
- ☐ TODO: check cat and replace with message
 - check name of option to print out messages (maybe name of option changed)

Main algorithm

main_initialiseMainAlgo.R

- ☐ TODO: check cat and replace with message
 - check name of option to print out messages (maybe name of option changed)

main_estep.R

- check computation of compute.LLy now completely replacing the computation of U.y
- 4th kernel added (Laplacian kernel)
 - ☐ TODO: add default option (0 iterations)
 - ☐ TODO: add to documentation and recommendations

main_mstep.R

- check computation of sigma and influence of SA (nbiter.saemix changed to nbiter.sa)
 - ☐ TODO: check
- ☐ TODO: add Lucie's changes +++
 - ask Lucie to check afterwards

main.R

- ☐ TODO: check cat and replace with message
 - check name of option to print out messages (maybe name of option changed)

Parameters, Simulations

func_distcond.R

- commented out the plots for the moment
 - ☐ TODO: add option to output the graphs

func_estimParam.R

- renamed the function to predict newdata as in 2.4 (also has an Roxygen documentation now)
 - copied the old file in newCode
 - ☐ TODO: check that the code within is similar

func_simulations.R

- renamed simul.saemix in saemix.simul in 3.0 for consistency (all functions start with saemix and not end with it)
 - ☐ TODO: add to documentation and CHANGELOG

Plots

- ☐ TODO: check cat and replace with message
 - check name of option to print out messages (maybe name of option changed)

New functions by Maud

BIC criterion

- definition and computation included in SaemixObject (see above)
 - ☐ TODO: add to documentation and CHANGELOG

Algorithm

- create a notebook to test the algorithm and integrate it
- add test example
 - ☐ TODO: add to documentation

HMM

- ☐ TODO: check status with Maud