

# Installation of the R package nestedKriging

<https://github.com/drulliere/nestedKriging>

Prior to the package installation, it is recommended that you update your system and install packages Rcpp, RcppArmadillo, RhpcBLASctl, DiceKriging (and Rtools, for Windows users). Then install the package from nestedKriging.x.x.x.tar.gz source or eventually from the windows .zip binary.

The steps below give more detailed explanations.

## Recommended: installation from source

### 1. For Windows users: install Rtools

If you use Windows operating system, you have to install Rtools (if not yet installed):

<https://cran.r-project.org/bin/windows/Rtools>

Rtools must be registered in the PATH (option proposed during Rtools installation). In R, you can check that Rtools is in the PATH by typing: `Sys.getenv("PATH")`

### 2. Install following packages from CRAN: Rcpp, RcppArmadillo, RhpcBLASctl, DiceKriging

If these packages are not yet installed, you install them using Rstudio by selecting: *Tools, Install Packages..., Install from Repository (CRAN...)*, and typing the name of the package to install. Or you can type in R successively (Note: DiceKriging is only needed to run some examples).

```
install.packages("Rcpp")
install.packages("RcppArmadillo")
install.packages("RhpcBLASctl")
install.packages("DiceKriging")
```

### 3. Download the file nestedKriging\_x.x.x.tar.gz on your computer

Download the file nestedKriging\_x.x.x.tar.gz: you can get it from <https://github.com/drulliere/nestedKriging>

**CAUTION:** always use GitHub "download" button, never a right click download! Otherwise the file will be corrupted.

### 4. Install the tar.gz file

On RStudio, you can select: *Tools, Install Packages..., Install from Package Archive File*, and select the file nestedKriging\_x.x.x.tar.gz (replace x.x.x by the version number, take the latest version). Or you can type in R:

```
install.packages("yourAccessPath/nestedKriging_x.x.x.tar.gz", repos = NULL, type = "source")
```

You have to adapt the access path. It is not necessary to type this path if the working repository contains this file.

### 5. Check installation

The simplest way to run tests is to type in R:

```
library(nestedKriging)
tests_run()
```

you can also try a basic example by typing

```
example(nestedKriging)
```

See package help if you have questions on the functions of the package. You can also try some demos:

```
demo(demoA)
demo(demoB)
demo(demoC)
demo(demoD)
demo(demoE)
```

## Alternative for windows users: from binary package

This does not require installing Rtools, but depends on your system and in particular of your version of R.

### 1. Install following packages from CRAN: Rcpp, RcppArmadillo, RhpcBLASctl, DiceKriging

If these packages are not yet installed, you install them using Rstudio by selecting: *Tools, Install Packages..., Install from Repository (CRAN...)*, and typing the name of the package to install. Or you can type in R successively (Note: *DiceKriging* is only needed to run some examples).

```
install.packages("Rcpp")
install.packages("RcppArmadillo")
install.packages("RhpcBLASctl")
install.packages("DiceKriging")
```

### 2. Download the file *nestedKriging\_x.x.x.zip* on your computer

Download the file *nestedKriging\_x.x.x.zip*: you can get it from

<https://github.com/drulliere/nestedKriging/WindowsBinary>

Look in the repository corresponding to your version of R (the one that is written in the console when you open R)

**CAUTION:** always use GitHub "download" button, never a right click download! Otherwise the file will be corrupted.

### 3. Install the zip file

On RStudio, you can select: *Tools, Install Packages..., Install from Package Archive File*, and select the file *nestedKriging\_x.x.x.zip* (replace x.x.x by the version number, take the latest version). Or you can type in R:

```
install.packages("yourAccessPath/nestedKriging_0.1.5.zip", repos = NULL, type = "win.binary")
```

You have to adapt the access path. It is not necessary to type this access path if the working repository contains the file *nestedKriging\_x.x.x.zip*.

### 4. Check installation

The simplest way to run tests is to type in R:

```
library(nestedKriging)
tests_run()
```

you can also try a basic example by typing

```
example(nestedKriging)
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you can also try some demos by typing one of these

```
demo(demoA)
demo(demoB)
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```

see package help if you have questions on the functions of the package.