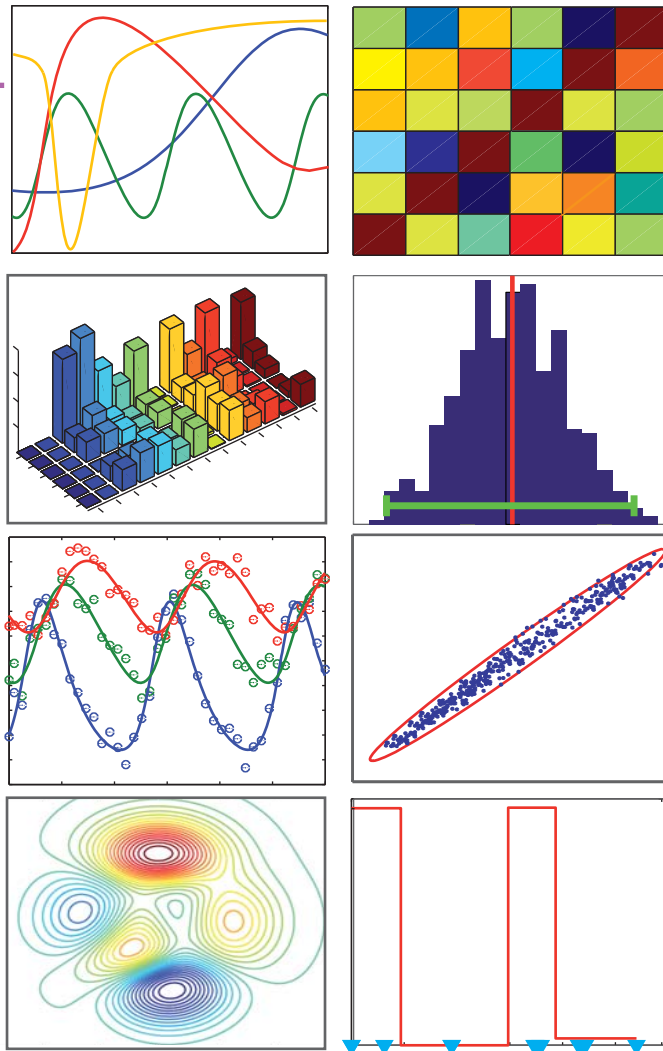




## Advanced Model Identification using Global Optimization

- > Estimates local and global unknown (parameters and initial conditions) for non-linear dynamic models.
- > Incorporates several possibilities to define the experimental error: several homoscedastic and heteroscedastic types.
- > Accordingly, incorporates several cost functions for parameter estimation: typical least squares and several maximum likelihood options.
- > Local sensitivity analysis.
- > Global sensitivity analysis by the Latin Hypercube Sampling approach.
- > Local and global ranking of parameters.
- > Practical identifiability analysis by the computation of the Fisher Information Matrix, cost function contour plots and the robust Monte-Carlo based approach.
- > Sequential-parallel optimal experimental designs
- > Computational demanding tasks are interfaced to FORTRAN compiled code.
- > Acces to several local, global stochastic and hybrid optimization methods.
- > Acces to several initial value problem solvers
- > Generates reports and plots according to user requirements



[www.iim.csic.es/~amigo](http://www.iim.csic.es/~amigo)



Eva Balsa-Canto & Julio R. Banga  
Process Engineering Group, IIM-CSIC  
Vigo-Spain  
e-mail: [amigo@iim.csic.es](mailto:amigo@iim.csic.es)  
[ebalsa@iim.csic.es](mailto:ebalsa@iim.csic.es)

### Operating system

There is an unique AMIGO version for both Windows and Linux.



### BASIC MODE

#### MATLAB version

Matlab 6.5- or higher.

AVAILABLE for 32 and 64 bits

### ENHANCED MODE

#### MATLAB & FORTRAN version

Matlab 6.5- 7.1 (exclusive) requires a MATLAB compatible FORTRAN compiler Compaq Visual Studio for windows.

From MATLAB 7.1, g95 will be used. It is automatically incorporated for windows users. Linux users require to install g95.

AVAILABLE for 32 bits

### MATLAB Toolboxes

Matlab Optimization Toolbox (for using MATLAB local NLP solvers such as fmincon or fminsearch)  
SBML and libSBML toolboxes are required to handle SBML models.