These tables are the in-house checklists used for the UW Model Repository at www.physiome.org

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | STANDARDS.6. UNCERTAINTY QUANTIFICATION: | Auth | 2nd | Note |
| Group 1: Identification of UQ in data, model, computation, parameters |  |  |  |
|   |  Model Name and No:  |  |  |  |
|   |  Code verified, runs correctly. See STANDARDS.4VERIF |  |  |  |
|   |  Diagrams for UQ evaluation? |  |  |  |
|   |  Reference to UQ approaches and methods |  |  |  |
|   |  Methods chosen here |  |  |  |
| Group 2. DATA UNCERTAINTY: UQ dependence on data |  |  |  |
|   | Experimental data reproducible?  |  |  |  |
|   | Correlation structure in data sets |  |  |  |
|   | Description of data, noise, shapes of pdfs |  |  |  |
|   | Critical missing data that would constrain solutions |  |  |  |
|   | Constraints from literature. Relevance (species, age, sex, etc) |  |  |  |
|  Group 3. INPUT and ENVIRONMENT UNCERTAINTY |  |  |  |
|   | Variability in ICs, Input functions and in assumptions about exper. conditions |  |  |  |
|  Group 4. PARAMETER UNCERTAINTY: |  |  |  |
|   | Sensitivity functions. How to plot. Why useful. Notes. Use same colors. |  |  |  |
|   | Joint sensitivities for partially correlated parameters |  |  |  |
|   | Loops: stepped setting to illustrate behavior  |  |  |  |
|   | Optimization re data: Confidence, descrip, Correl in covariance matrix |  |  |  |
|  | Parameters sets: Description and rationale for each param set, Notes |  |  |  |
|   | Parameters chosen for MonteCarlo. Sensitivities, lit data, constraints |  |  |  |
|   | Magnitudes of effects on systems behaviors (function space) |  |  |  |
|   | Ranges and shapes of param pdfs to use in MonteCarlo;  |  |  |  |
|   | Ranges and shapes of cross section through output trajectories |  |  |  |
|   | Selection of region of predicted responses to characterize |  |  |  |
| Group 5. MODEL STRUCTURAL UNCERTAINTY: |  |  |  |
|   | Modules most subject to uncertainty |  |  |  |
|   | Modules insensitive for the particular data sets |  |  |  |
|   | Modules most critical to the need to predict a chosen outcome |  |  |  |
|   | Notes defining contents of each situation, figure or par set |  |  |  |
|   | Relation between parameter and model uncertainties |  |  |  |
|   | Alternative models: Testing by module substitution. Randomized? |  |  |  |
| Group 6. Assessing Uncertainty Quantification:  |  |  |  |
|   | Identify major sources of Uncertainty (data, noise, model, params) |  |  |  |
|   | Meaningfulness and implications of uncertainty |  |  |  |
|   | Potential means of Reducing Uncertainty |  |  |  |
|   |   |  |  |  |
| Group 7: Scientific Publication: See STANDARDS.7.PUB for detail |  |  |  |
|   | UQ as a major goal of the scientific evaluation |  |  |  |
|   | Meaning of observed UQs |  |  |  |
|   | Recommendations re data, models, improving prediction |  |  |  |

 Updated 16.08.11