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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | STANDARDS 3: The CODE: formatting, annotating | Auth | 2nd | Note |
| Group 1. Basic requirements |  |  |  |
|  | Code clearly written |  |  |  |
|  | ALL terms expressed using standard nomenclature  |  |  |  |
|  | Ontology used, and if so consistent? |  |  |  |
|  | Sections demarcated (Parameters, variables, Cs, BCs, Equations |  |  |  |
|  | Modular arrangements of code |  |  |  |
|  | Comments on every line? |  |  |  |
|  | Comments on every line? |  |  |  |
|  | Algorithms explained and referenced if needed |  |  |  |
|  | Short and long descriptions precise and concise |  |  |  |
|  | References listed |  |  |  |
|  | Authors, revisors, date and sign contributions |  |  |  |
|  | References for all parameter values |  |  |  |
|  | Descriptions and references for subsidiary models |  |  |  |
|  | Models and graphs all run |  |  |  |
| Group 2. Conservation, Balances, that are appropriate to the model |  |  |  |
|  | Unitary Balance: (units on all variables and parameters) |  |  |  |
|  | Mass balance: (list constituents whose conservation is checked) |  |  |  |
|  | Charge balance: (ion currents, membrane potential) |  |  |  |
|  | Osmotic balance: (volume, total activities, fluxes)  |  |  |  |
|  | Thermodynamic Balance (Haldane constraints on reactions, etc) |  |  |  |
| Group 3. Verification: math of model and solution methods are sound |  |  |  |
|  | Verification checklist complete? |  |  |  |
|  | Limitation spelled out? Solvers OK? |  |  |  |
|  | Range of Independence of step size in space or time |  |  |  |
| Group 4: Summary of Validation: model is physiologically realistic |  |  |  |
|  | Data provided, and fitted by model |  |  |  |
|  | Initial and boundary conditions in accord with physiology |  |  |  |
|  | Parameters justified (sources provided) and evaluated |  |  |  |
|  | Model is predictive, shown to fit other data not used as basis |  |  |  |
|  |  |  |  |  |
| Group 5: Provision of Source Code and Forum for critiques |  |  |  |
|  | Website source from which to download model code and data |  |  |  |
|  | Website or email to accept queries |  |  |  |
|  | Website for public commentary and responses |  |  |  |
|  | References to subsequent publications or alternative models |  |  |  |
| Group 6. Provenance: Antecedents, derivations and dependencies |  |  |  |
|  | Peer-reviewed publication (pdf copy) |  |  |  |
|  | Lineage of the model (list of antecedent models) |  |  |  |
|  | List higher level models using of which this is a component |  |  |  |
|  | Shortcomings |  |  |  |
|  | Future Needs |  |  |  |
|  | Rev by JBB 15.07.28 |  |  |  |