Transitioning from Matlab to Scilab in STEM

Dr Mark Burton
Please mark the presenter in bold

NM Science Foundation, 601 Dorado Pl SE Albuquerque NM 87123,
505 609-9609, doc@nmsciencefoundation.org

Your abstract is going to be evaluated by several referees, with experience in development as well as industrial applications in Numerical Computing. Therefore, it is recommended that your abstract includes enough details about the work, including description of the particularities of your work, so that it can be qualified in more detail:

- Usage of general statements could be accepted for introductions, but not showing details of the work may mean your abstract is considered to be out of interest.
- Type and complexity of the algorithms and applications, Scilab version used, etc. help to get an idea about the work.
- Any code developments you may have required for your specific work (not the code itself, only information about code).
- Evaluation of outcome expected at the final presentation at the Conference, when applicable:
  - Whether there are advantages with the tested approach.
  - Whether validation of the model results vs. analytical solution or experimental measurements is expected.

As a STEM educator and tutor since 1999, I have numerous opportunities to apply Scilab in education. I tutor MATLAB with university students and often run the exercises on my Ubuntu 18 Scilab 6. I tutor many STEM texts with MATLAB exercises that I convert to to Scilab 6 coding. For example, I converted MATLAB to Scilab for an assignment in numerical methods examining two different linear multistep methods for solving the ODE $y(t)' = f(t,y(t))$. *Orbital Mechanics for Engineering Students* (Curtis, 2010) includes 50 MATLAB algorithms and exercises. *Probability & Stochastic Processes* (Yates & Goodman, 2005) includes a MATLAB section in each of 12 chapters. Students, educators, authors, and administrators should be aware of the free alternative to MATLAB and taught how to use it.

Mark Burton, USAF Maj (retired), BS Aero Eng, MS Systems Eng, ThD,
www.wyzant.com/Tutors/Abq_STEM