AMS SHORT COURSE:
ADVANCED PYTHON FOR CLIMATE SCIENCE: FROM NUMPY TO PARALLEL COMPUTING
3–4 January 2015                               Phoenix Convention Center                                Phoenix, AZ

Organizer & Instructor
Jonathan Rocher, Enthought Inc., AUSTIN TX

PROGRAM (ROOM 211B)

SAT 3 JANUARY                                          SUN 4 JANUARY

8:30 A.M.     ARRIVAL & INTRODUCTIONS                  8:30 A.M.     PROFILING IN PYTHON.
8:45 A.M.     THE NUMPY/SCIPY ECOSYSTEM                8:45 A.M.     MORE ON VECTOR BASED
9:00 A.M.     VISUALIZING YOUR DATA: A QUICK            9:30 A.M.     DEALING WITH LARGE DATASETS
              INTRODUCTION TO MATPLOTLIB.                    USING PYTABLES.
10:00 A.M.    COFFEE BREAK                             10:00 A.M.    COFFEE BREAK
10:30 A.M.    INTRODUCTION TO THE NUMPY ARRAY           10:30 A.M.    SPEEDING UP COMPUTATIONS WITH C/
              AND THE VECTORIZED WAY.                      C++/FORTTRAN.
11:00 A.M.    EXERCISE: VECTORIZED                      12:00 P.M.    LUNCH BREAK
              COMPUTATIONS WITH NUMPY.                     1:00 P.M.     SPEEDING UP COMPUTATIONS PART II:
11:15 A.M.    N-DIMENSIONAL DATA EXTRACTION &           2:15 P.M.     CYTHON
              MATHEMATICAL COMPUTATIONS.                    3:00 P.M.     COFFEE BREAK
12:00 P.M.    LUNCH BREAK                             12:00 P.M.     PARALLEL PROGRAMMING IN PYTHON:
1:00 P.M.     EXERCISE: METEOROLOGICAL DATA              2:15 P.M.     PART I: TOOLS FROM THE STANDARD
              EXTRACTION AND PLOTTING.                      LIBRARY
2:15 P.M.     LIFTING THE HOOD ON NUMPY                 3:00 P.M.     PARALLEL PROGRAMMING IN PYTHON:
              ARRAYS: IMPLEMENTATION DETAILS                3:30 P.M.     PART II: IPYTHON PARALLEL AND
              THAT MATTER.                                   OTHER OPTIONS.
2:30 P.M.     OVERVIEW OF THE NUMPY PACKAGE             4:15 P.M.     PARALLEL PROGRAMMING IN PYTHON:
              FOR ARRAY MANIPULATION.                       PART III: GPU COMPUTING
3:00 P.M.     COFFEE BREAK                             4:45 P.M.     PANEL DISCUSSION / BRAINSTORMING
3:30 P.M.     ADVANCED TOPICS THAT MATTER:              5:00 P.M.     SESSION WITH AUDIENCE—HOW
              MEMORY MAPPING AND STRUCTURED                   SHORT COURSE ADJOURNS
              ARRAY.
4:45 P.M.     PANEL DISCUSSION / BRAINSTORMING         5:00 P.M.     SHORT COURSE ADJOURNS FOR THE
              SESSION WITH AUDIENCE—                          DAY
              STRATEGIES FOR WRITING FAST
              APPLICATIONS.
5:00 P.M.     SHORT COURSE ADJOURNS FOR THE              5:00 P.M.     SHORT COURSE ADJOURNS