Implementing Learning Assistants and Tutorials in the Laboratory Environment
JOHN STEWART, RACHEL HENDERSON, PAUL MILLER,
West Virginia University — This talk describes the results of a novel implementation
of a Learning Assistant (LA) program where the LAs facilitated the presentation of
the Tutorials in Introductory Physics as part of an otherwise traditional laboratory.
LAs received both general training in the teaching of science and specific training
in the presentation of the Tutorials. The LAs acted as the lead laboratory instructor
for one hour each lab. The program required very little interaction from the
lecturer. The program showed a substantial increase in learning gains on the Force
and Motion Conceptual Inventory in the first semester course, but weaker improve-
ment of learning gains on the Conceptual Survey of Electricity and Magnetism in
the second semester course. Multiple linear regression showed that gender, student
ability, and whether the student was on-sequence were significant regressors. The
instructor was a substantial random effect (SD= 0.10), but the teaching assistant
(SD= 0.00) and learning assistant (SD= 0.01) were much weaker random effects
on the normalized gain. The instructor standing (tenure-track, teaching faculty, or
adjunct) was a weakly significant regressor ($p < 0.05$).