Examples of Research Group and Personnel Management/Communication Strategies

1. “Traditional” Weekly group meeting of all team members
   - Advantage: everyone informed and (ideally!) participating
   - Disadvantage: in practice, some students sit bored while one topic not central to their research is discussed; some students come to dislike these meetings which are seen as a “waste of time”

2. Weekly presentation by team member (rotating)
   - Enforce requirement that each person must ask at least one critical question of the speaker
   - Slides placed on common drive or Dropbox (cloud)
   - Advantage: Provides good practice for speaker, and critical examination skills by audience
   - Advantage: Everyone stays abreast of the progress of all group members
   - Disadvantage: With a smaller group, information in presentations soon becomes repetitive

3. Intensive one-on-one meetings every 2 to 3 weeks
   - Advantage: Very good focus on directing/motivating individual student’s work
   - Does not achieve as much cross-pollination within the group, therefore best used in conjunction with other management approaches, or used only for struggling students

4. “Wander to lab” and chat informally on a frequent basis
   - Advantage: A low stress meeting that often provides good communication and builds stronger relationships
   - Disadvantage: lack of structure and meeting frequency may lead to some projects being overlooked

5. Standup meetings or “scrum” held nearly every day
   - Maximum length 2 minutes for each person
   - Loosely follows the “scrum” method of project management (see Wikipedia.org)
   - Can be done as a team, in sub-teams, or individually.
   - Questions: What have you done yesterday, what are you going to do today, what major problems do you have?
   - Might be construed as micromanagement, but students learn how to approach problems and keep themselves on track.
   - Significant goals and progress tracked by index cards taped on the wall.

Methods for Student Motivation

1. Conference
   - In discussion with the student, devise a plan for that student to attend a significant conference
   - Put in place hard milestones for experiment completion, data compilation, presentation draft and dry run
   - Disadvantage: must be prepared to abort or have backup plan if experiments do not work out

2. Publication
   - Motivation comes from a plan to submit to a high impact journal: get their buy-in to this plan
   - Student to prepare paper sketch that outlines key literature, data/figures, and significance
   - Consequently you can place high expectations on effort, data quality and interpretation, and writing quality