Forrest Masters' Notes on Managing a Large Research Group
January 9, 2015

1. General
   a. Eliminate or reduce variability in your workflow
   b. Be present and continuously engage students
   c. Continuously optimize and streamline your operation
   d. Enforce organization and rigor to reduce mistakes and improve work products
   e. Consider technology and atmosphere as investments
2. Delegation
   a. Hire a right hand (e.g., lab manager, post-doc) to advise and help you lead your group
   b. Assign her or him responsibilities related to OPS hiring, tracking expenditures, safety compliance, group travel, and other activities unrelated to writing proposals, papers, etc.
   c. Undergrads should report to grad students or the right hand, not you
   d. Establish a ceiling on the number of hours an undergraduate can log per day
3. Organization
   a. Design and enforce use of templates for papers, presentations, agendas
   b. Use Dropbox to share files with students. Maintain standard filing and naming schemes
   c. Avoid letting students keep details in their head
   d. Use document scanners
4. Interaction
   a. Schedule standing group and individual meetings on a recurring day in a week
   b. Do not schedule travel, guest visits, or anything else that interrupts this schedule
   c. Install Lync or another chat software for your students to reach you
5. Standards of conduct
   a. Magic word = professionalism (e.g., collegiality, following up, presentation)
   b. Discourage personal issues crossing over into work
   c. Enforce regular working hours
6. Research-specific items
   a. Employ 1-2 people that are technology savvy (e.g., trained to use HPC, LabVIEW)
   b. Require development of detailed experimental plans prior to starting work. Crowdsource these documents with stakeholders, industry or colleagues to get feedback
   c. Be vigilant about keeping students on task
   d. Use (external) deadlines, milestones and events to accelerate activity
   e. Use papers as milemarkers or deliverables (e.g., three papers for dissertation)
   f. Kick back student authored documents with deficient grammar / spelling
7. Recruitment and termination
   a. There is no magic formula, however auto-didactic people that follow instructions and work well with others usually perform well
   b. Immediately remove anybody that lowers morale, misses appointments/deadlines, or is not fully committed to meeting responsibilities
   c. If you smell smoke... terminate early, not late. Rarely do bad situations reverse course
8. Travel
   a. Reduce your travel time or eliminate travel where possible to stay available
   b. Use undergrads to drive you to in-state meetings so you can work. Send post-docs and PhD students in your place when appropriate
   c. Send PhD students to major conferences
9. Expenditures
   a. Use enterprise reporting to monitor spending, including checking your returned/residual accounts. Don't fly blind
   b. Get Pcards for your students. The Right Hand should approve. Use a document scanner