

# PROJECT MANAGEMENT FOR SCIENTISTS

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## TEAM FORMATION & HIRING

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# OUTLINE

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- Team Dynamics and Challenges
- Excellent Project Teams
- Positive Team Environments
- Resource Needs and Skill Granularity
- Job Announcements
- CV
- Short Listing
- Interviews and Hiring Decision

# INTRODUCTION

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- In theory, people work perfectly as a team
- In reality, there are multiple personnel / personal issues:
  - Not working well together
  - Constant complaining
  - Unproductive meetings
  - Project teams are temporary
- Need committed, cooperative work of cohesive team
- Team formation and building are as important as project definition and planning

# TEAM

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- A group of people working independently to produce an outcome for which they hold themselves mutually accountable.
- Project Teams are temporary, formed specifically to achieve a goal, after which they will be disbanded.
- Team Requirements:
  - Individuals must cooperate to complete their tasks
  - Team has a whole product or service to produce rather than individual components

# TEAM DYNAMICS

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- Weak, uncooperative team is
  - unproductive
  - makes project manager's job frustrating
- Negative interpersonal dynamics lead to
  - Burn out
  - Blow up
  - Quitting
- Strength of a good team
  - Crucial for surviving project where all things go wrong

# CHALLENGES IN TEAM BUILDING

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- Project teams solve complex problems, and must solve those problems together
  - Project is a series of problems to solve
  - Much of scientific project is a series of decisions
  - Different team members use different approaches to problem solving and coming to a decision
  - Project leader must harness power of team members

# CHALLENGES IN TEAM BUILDING

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- Project teams are temporary, and they must learn to work together
  - People may not have worked together before
  - Project leader must develop trust, respect, effective ways to communicate between team members and maintain them despite disagreements

# EXCELLENT PROJECT TEAMS

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- Positive team environment
  - Ground rules (work patterns and values of team)
  - Team identity (team committed to a shared goal)
  - Listening skills (problem solving demands listening)
  - Meeting management (meetings need goals, plan, steering)
- Collaborative problem solving
  - Problem analysis (agree on ways to work through problems)
  - Decision modes (chose different ways to come to decision)
  - Conflict management (achieve best results while maintaining strong relationships)
  - Continuous learning (from success and failure to improve)
- Leadership (looks after health of team)



# LEADERSHIP ACTIONS

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- Attend to health of team
- Steady focus on final project result and path to it
- Attend to team members as human beings
- Exhibit and demand accountability

# POSITIVE TEAM ENVIRONMENT 1

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- Ground rules (team behavior and values)
  - Team members understand what is expected from them
  - Team has opportunity to form and own its own culture
  - Meets team's need for structure

# POSITIVE TEAM ENVIRONMENT 2

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- Team identity
  - Communicate and repeat goals and scope of project
  - Provide context of project within organization
  - Demonstrate management support for project (actions, not just words)
- Team relationships based on understanding strength and diversity
  - Knows and uses strengths
  - Understand diversity of styles
  - Trust other team members
  - See each other as human being

# RESOURCE NEEDS

- Schedule contains resource assignments
- Produce list of required resources vs. time

			Details	Nov '07	Dec '07	Jan '08	Feb '08	Mar '08	Apr '08	May '08	Jun '08	Jul '08
	Resource Name	Work	Work									
	+ Unassigned	0 hrs	Work									
1	+ Christoph Keller	24 hrs	Work			12.8h	11.2h					
4	Hector Canovas	0 hrs	Work									
5	Jos van Gemert	0 hrs	Work									
3	+ Michiel Rodenhuis	73.6 hrs	Work			9.6h	25.6h	6.4h			32h	
2	Sandra Jeffers	0 hrs	Work									
8	+ SI Electronic Design	40 hrs	Work				40h					
9	+ SI Electronic Manufac	80 hrs	Work				56h	24h				
6	+ SI Mechanical Desi	240 hrs	Work						240h			
7	+ SI Mechanical Manu	320 hrs	Work						112h	208h		
10	SI Software Design	0 hrs	Work									
11	SI Software Program	0 hrs	Work									
			Work									
			Work									

			Nov '07	Dec '07	Jan '08	Feb '08	Mar '08	Apr '08	May '08	Jun '08	Jul '08
13	rotation mechanism manufact	0 €									
19	mechanical fabrication	0 €									
26	mechanical fabrication	0 €									
31	fabrication	0 €									

# SKILL GRANULARITY

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- Initial plan will not use everybody at 100%
- Sometimes 10%, sometimes 300%
- Resource leveling / balancing to get to  $\leq 100\%$ 
  - Reduce concurrent tasks
  - Use several people
  - Extend task duration due to resource constraints
- Skill granularity: cannot hire somebody for 10%
  - Combine with other projects
  - Reduce task duration to increase usage
  - Outsource

# JOB ANNOUNCEMENT

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- Form depends on organization and publisher
- Content must be attractive to ideal candidate
  - Attractive position
  - Attractive project
  - Attractive environment
  - Attractive future possibilities
- Publication must be read by ideal candidates

# CURRICULUM VITAE

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- Personal information (Name, address, etc.)
- Research interest
- Education
- Employment
- Awards
- Professional memberships
- Research, teaching, management experience
- List of publications
- List of talks

# SHORT LISTING

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- Use several people (selection committee)
- Compare candidates against job specifications
- Evaluate
  - Recommendations
  - CV (check for gaps)
  - Check publications and citations to them
  - Web pages (search internet)
- Check how team is strengthened
- Provide equal opportunity



# INTERVIEW

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- Not all questions are legal
- Make person feel at ease
- Check consistency of CV
- Check whether knowledge is really there
- Check breadth of knowledge
- Check whether applicant is prepared
- Figure out motivation for application
- Inform about hiring procedure

# MISTAKES IN INTERVIEWS

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- "I hated my last boss."
- "I don't know anything about the company."
- "No, I don't have any questions for you."
- "I'm going to need to take these days off."
- "How long until I get a promotion?"
- "Are you an active member in your church?"
- "As Lady Macbeth so eloquently put it..."
- "And another thing I hate..."

From CNN.com: 8 worst things to say in an interview

# HIRING DECISION

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- Have everybody prepare a ranked list
- Combine ranks
- Compare with intuition, understand discrepancies
- May
  - Ask for research plan
  - Ask for comparative reviews
  - Do second, in-depth interview
- Check that top candidate is good enough
- Make offer