

# 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 are perfect team players
- In reality, multiple personnel / personal issues:
  - Not working well together
  - Constant complaining
  - Unproductive meetings
  - Temporary project teams
- Need committed, cooperative work of cohesive team
- Team formation and building as important as project definition and planning

# TEAM

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- Team = Group of people working independently to produce an outcome for which they hold themselves mutually accountable.
- Temporary project teams formed specifically to achieve goal, afterwards disbanded
- Team requirements:
  - Individuals must cooperate to complete their tasks
  - Team produces whole product, service 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 when all things go wrong

# CHALLENGES IN TEAM BUILDING

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

# CHALLENGES IN TEAM BUILDING

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- Project teams are temporary, 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 1

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- Positive team environment
  - Ground rules (work patterns and values of team)
  - Team identity (team committed to shared goal)
  - Listening skills (problem solving demands listening)
  - Meeting management (meetings need goals, plan, steering)



# EXCELLENT PROJECT TEAMS 2

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- 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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Excellent project leader will

- Attend to health of team
- Have 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
- Team identity
  - Communicate and repeat goals and scope of project

# POSITIVE TEAM ENVIRONMENT 2

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- 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

	Resource Name	Work
	+ Unassigned	0 hrs
1	+ Christoph Keller	24 hrs
4	Hector Canovas	0 hrs
5	Jos van Gemert	0 hrs
3	+ Michiel Rodenhuis	73.6 hrs
2	Sandra Jeffers	0 hrs
8	+ SI Electronic Design	40 hrs
9	+ SI Electronic Manufac	80 hrs
6	+ SI Mechanical Desig	240 hrs
7	+ SI Mechanical Manu	320 hrs
10	SI Software Design	0 hrs
11	SI Software Program	0 hrs

Details	Nov '07	Dec '07	Jan '08	Feb '08	Mar '08	Apr '08	May '08	Jun '08	Jul '08
Work									
Work			12.8h	11.2h					
Work									
Work			9.6h	25.6h	6.4h			32h	
Work				40h					
Work				56h	24h				
Work						240h			
Work						112h	208h		
Work									
Work									
Work									

	Task Name	Leveling I
13	rotation mechanism manufact	0 €
19	mechanical fabrication	0 €
26	mechanical fabrication	0 €
31	fabrication	0 €

	Nov '07	Dec '07	Jan '08	Feb '08	Mar '08	Apr '08	May '08	Jun '08	Jul '08

# 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