

Fostering a creative work environment for your graduate students

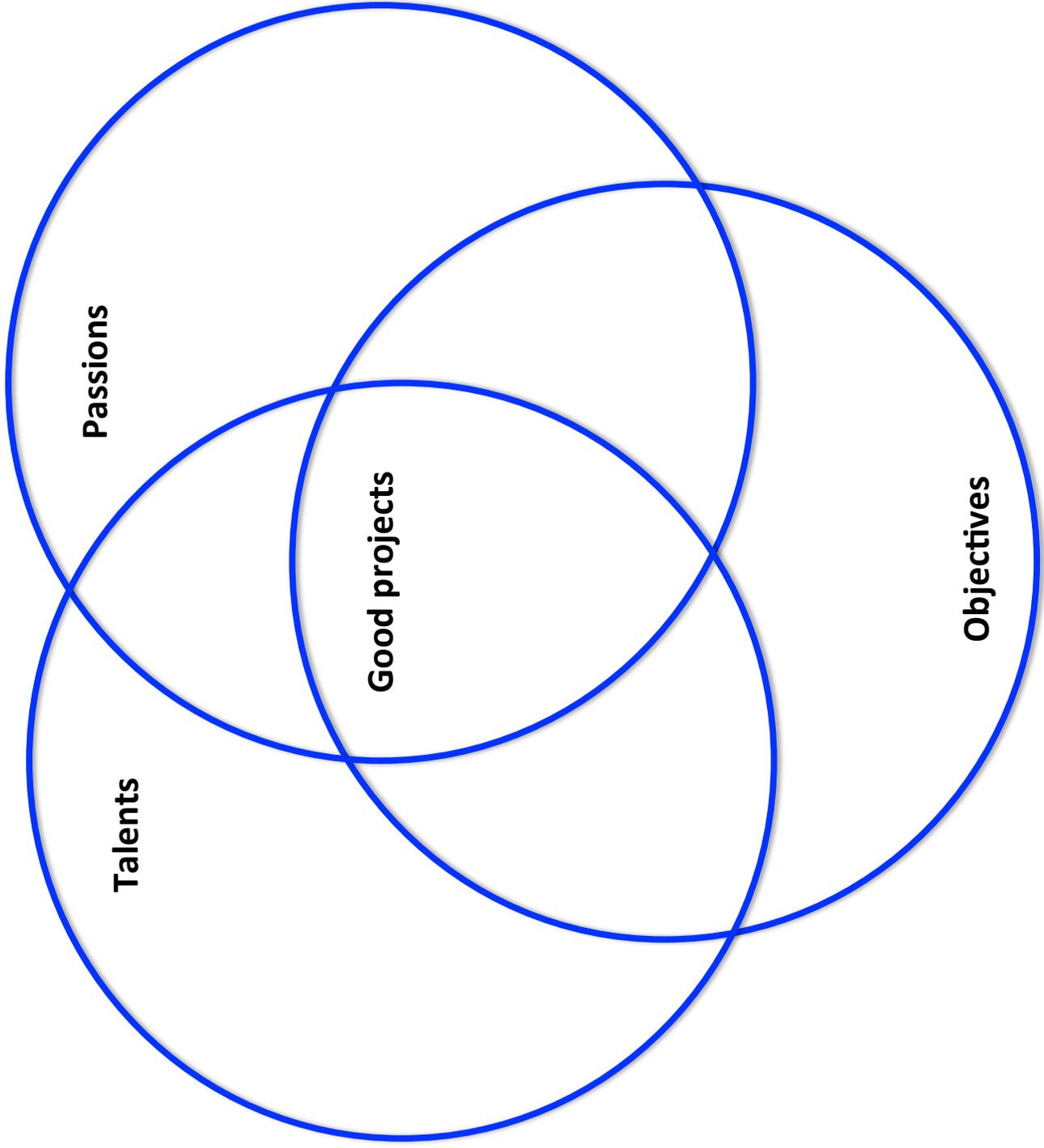
Erika Marín-Spiotta and Ankur Desai, University of Wisconsin-Madison

The transition from the more regimented classroom learning to the problem solving necessary for original research can be challenging for some graduate students. This session will discuss ways to help create a collaborative work environment that promotes students' research creativity while balancing project commitments and timelines.

1. Why just doing what worked for you isn't necessarily a good idea
2. Recruiting grad students, the value of diversity, creativity, writing skills, and challenges in connecting students to funding (admissions, funding, interviews)
3. Congratulations, now you're a manager! (communication and learning styles)
 - a. <https://www.manager-tools.com/system/files/documents/BeEffectiveWithDISC.pdf>
 - b. working with students from different backgrounds and with potential language barriers (international)
4. Setting expectations: a two-way street (schedules, authorship, accountability, vacation time, collaborations, peer-mentorship)
 - a. <http://serc.carleton.edu/NAGTWorkshops/earlycareer/research/students.html#guidelines>
5. Getting students started on a research project and finding a thesis topic
 - a. read Ulon's "How to choose a good scientific problem"
6. The value of mentoring plans and reporting
 - a. <http://grad.wisc.edu/pd/idp>
 - b. <http://www.aos.wisc.edu/education/graduate/reportingform.pdf>
7. How to run a lab meeting, individual meetings, thesis committees, professional development activities, and other regular lab events (dual role of supervisor/mentor, frequency, topics, size of labs, role of post-docs and lab managers)
8. Keeping your research group motivated, innovative, productive (building a sense of community, writing retreats, social activity)
 - a. Read Ulon's How to build a motivated research group
9. Helping students balance time between classes, research, outreach, deadlines, conferences, side projects, thesis writing, finding a job, and having a life
10. Dealing with conflict, setbacks in progress, health and financial issues (interpersonal skills, line of communication, know your department and university resources)

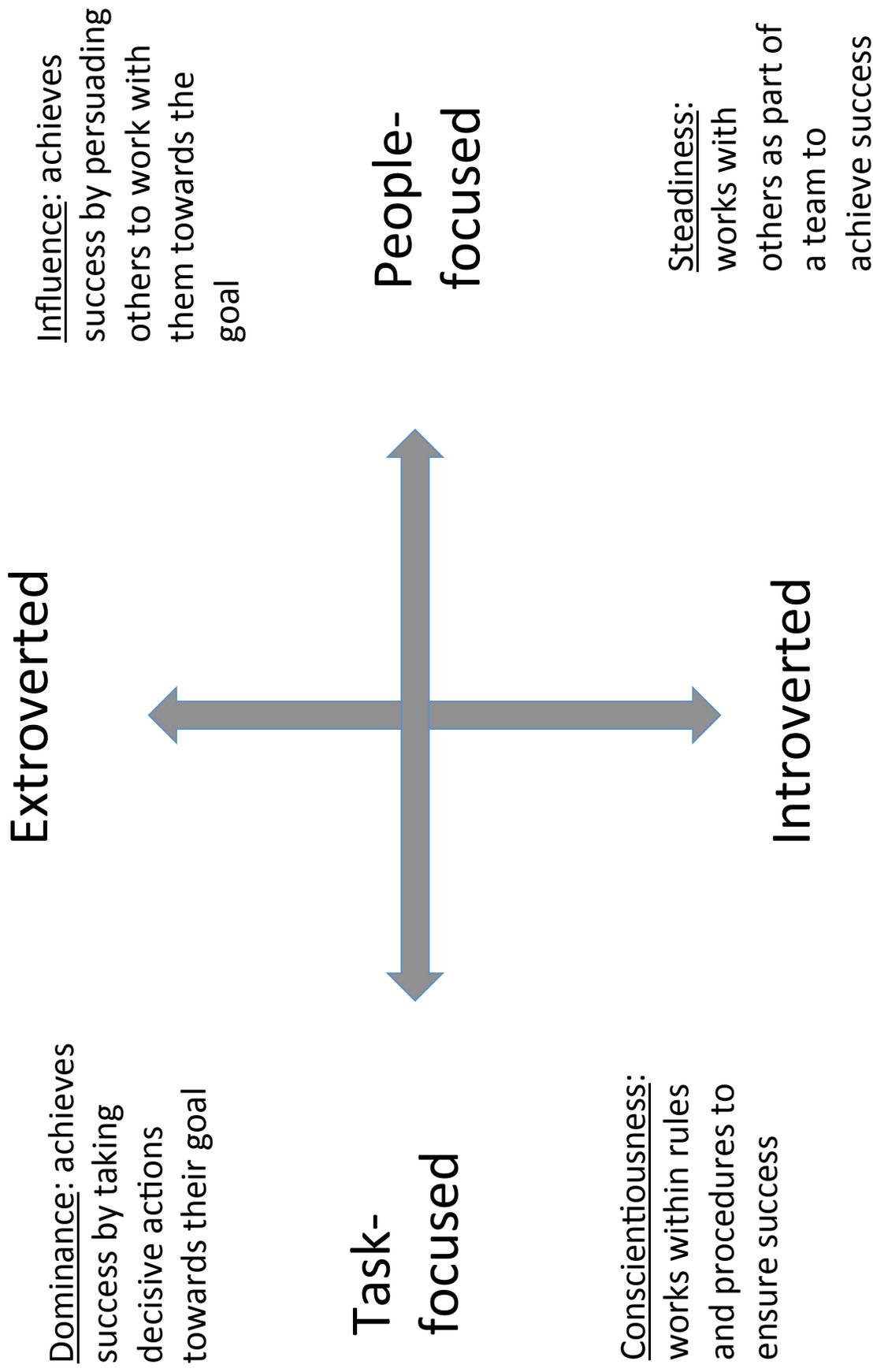
Good resources:

Snieder and Larner. 2009. *The Art of Being a Scientist*. Cambridge University Press



Motivation circle from Ulon 2010

Managing for different personality styles, from Chris Olex with material from DISC and <http://www.manager-tools.com>



How To Use The DISC To Be More Effective Every Day

High D's - Dominance

How You Can Spot Them:		What They Want From Others:	
How They Talk:	What They Do:	High D's like others to be direct, straightforward, and open to their need for results	
<ul style="list-style-type: none"> • Ask What Questions • Tells vs. Asks • Talks More Than Listens • Go Right to The Issue • May Be Pushy, Even Rude • Fast Speech • Authoritative Tone of Control • Use Acronyms, Short Sentences • Open w/ Opinions 	<ul style="list-style-type: none"> • Task Focus, Results Oriented • Impatient • Direct, Forceful • Willing to Get in Trouble • Time Conscious • Good Eye Contact • History of Achievement • Can Rely on Gut Feelings • Maverick 	You Should Try To:	Be Ready For:
		<ul style="list-style-type: none"> • Communicate briefly/to the point • Respect their need for autonomy • Be clear about rules/expectations • Let them take the lead • Show your competence • Stick to the topic • Show independence 	<ul style="list-style-type: none"> • Blunt/demanding approach • Lack of empathy • Lack of sensitivity • Little social interaction

How To Manage Your High D's

You Can Help Them Learn:		They May Want From You/ Your Organization:	
<ul style="list-style-type: none"> • Identifying with others • Empathy for others • More logic, less gut • Listening skills • To "soften" body language 	<ul style="list-style-type: none"> • Ways to pace themselves • Relaxing • To be approachable • Complimenting others • To ask more questions 	<ul style="list-style-type: none"> • Power and authority • A promotion • Prestige • Big challenges • Authority to make changes 	<ul style="list-style-type: none"> • Results • To know the bottom line • Freedom from details • Direct answers • Flexibility

High I's - Influence

How You Can Spot Them:		What They Want From Others:	
How They Talk:	What They Do:	High I's like others to be friendly, emotionally honest, and recognize the I's contributions	
<ul style="list-style-type: none"> • Ask who questions • Tell vs. ask • Make small talk • Go off on tangents • Use stories or anecdotes • Faster speech • Express their feelings • Share personal emotions • Exaggerate 	<ul style="list-style-type: none"> • Animated • Lots of facial expression • Spontaneous • Laugh out loud • Stylish dress • Shorter attention span • Warm • May approach you closely 	You Should Try To:	Be Ready For:
		<ul style="list-style-type: none"> • Approach them informally • Be relaxed and sociable • Let them tell you how they feel • Keep the conversation light • Provide written details • Give public recognition • Use humor 	<ul style="list-style-type: none"> • Attempts to persuade/influence • Need for the spotlight • Over-estimates self/others • Over-selling ideas • Vulnerable to feeling rejected

How To Manage Your High I's

You Can Help Them Learn:		They May Want From You/ Your Organization:	
<ul style="list-style-type: none"> • More control of time • Objectivity • Emphasis on clear results 	<ul style="list-style-type: none"> • Organization • Sense of urgency • Analysis of data 	<ul style="list-style-type: none"> • Popularity • Visible rewards • Public recognition 	<ul style="list-style-type: none"> • Casual warm relationships • Freedom from details • Approval And friendliness

How To Use The DISC To Be More Effective Every Day

High S's – Steadiness

How You Can Spot Them:		What They Want From Others:	
How They Talk:	What They Do:	High S's like others to be relaxed, agreeable, and cooperative, and to show appreciation	
<ul style="list-style-type: none"> • Make small talk • Ask how questions • Ask vs. Tell • Listen more than talk • Slow, steady delivery • Reserved w/ opinions • Lower volume • Warmth in voice • Use first names 	<ul style="list-style-type: none"> • Photos of relationships out • Consult others • Friendly functional work area • Casual relaxed walk • Patient, tolerant • Service oriented • Embarrassed by recognition • Subdued clothing 	You Should Try To:	Be Ready For:
		<ul style="list-style-type: none"> • Be logical and systematic • Provide a secure environment • Tell them about change early • Use sincere appreciation • Show how they're important • Let them go slow into change 	<ul style="list-style-type: none"> • Friendly approach to others • Resistance to change • Difficulty prioritizing • Difficulty with deadlines
How To Manage Your High S's			
You Can Help Them Learn:		They May Want From You/ Your Organization:	
<ul style="list-style-type: none"> • Openness to change • Self-affirmation • How to make their accomplishments known 	<ul style="list-style-type: none"> • Short cut methods • Effective presentation skills • Believing their successes are worthwhile 	<ul style="list-style-type: none"> • Status quo • Private appreciation • Happy, calm relationships • Standard procedures 	<ul style="list-style-type: none"> • Security • Time to adjust to changes • Listening • Sincerity

High C's – Conscientious

How You Can Spot Them:		What They Want From Others:	
How They Talk:	What They Do:	High C's like others to minimize socializing, and give details; they value accuracy and attention to detail	
<ul style="list-style-type: none"> • Ask Why questions • Ask vs. tell • Listen more than talk • Not a lot of reaction • Slower speech • Lower volume • Prefer to talk vs. writing • Get to point but like to talk • Precise, detailed speech 	<ul style="list-style-type: none"> • Focus on task and process • Orderly • Meticulous • Precise, accurate • "Sterile" work area • Time conscious • Hard to read • Diplomatic • Want to be right 	You Should Try To:	Be Ready For:
		<ul style="list-style-type: none"> • Give clear expectations/ deadlines • Show dependability • Show loyalty • Be tactful and reserved • Honor precedents • Be precise and focused • Value high standards 	<ul style="list-style-type: none"> • Discomfort with ambiguity • Resistance to vague information • Desire to double check • Little need to be w/ others people
How To Manage Your High C's			
You Can Help Them Learn:		They May Want From You/ Your Organization:	
<ul style="list-style-type: none"> • Tolerance of conflict • To ask for support • Group participation skills 	<ul style="list-style-type: none"> • Acceptance of others' ideas • Tolerance of ambiguity • Acceptance of their limits 	<ul style="list-style-type: none"> • Clear expectations • Limited exposure • Business-like environment • References & verification 	<ul style="list-style-type: none"> • No sudden changes • Personal autonomy • Chance to show expertise • Attention to their objectives

How To Choose a Good Scientific Problem

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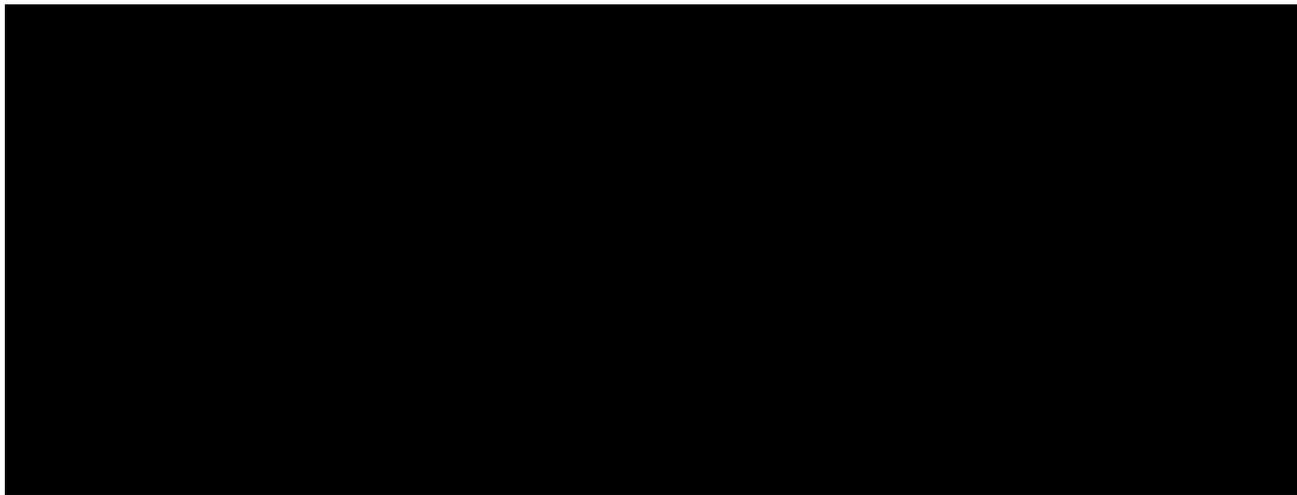
DOI 10.1016/j.molcel.2009.09.013

Choosing good problems is essential for being a good scientist. But what is a good problem, and how does a scientist choose one? The subject is not usually discussed explicitly within our profession. Scientists are expected to be smart enough to figure it out on their own and through the observation of their teachers. This lack of explicit discussion leaves a vacuum that can lead to approaches such as choosing problems that can give results that merit publication in valued journals, resulting in a job and tenure.

[REDACTED]

[REDACTED]

[REDACTED]



axes for choosing scientific problems: feasibility and interest.

and plans. The state of mind is focused on

[Redacted text block]

The objective schema can lead to frustration when the project goes off track

The nurturing schema gives support and opens new directions

[Redacted]

[Redacted]

[Redacted]

[Redacted]

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How to Build a Motivated Research Group

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DOI 10.1016/j.molcel.2010.01.011

Motivated group members experience a full sense of choice: of doing what one wants. Such behavior shows high performance, is enjoyable, and enhances innovation. This essay describes principles of building a motivated research group.

Most students begin graduate school or

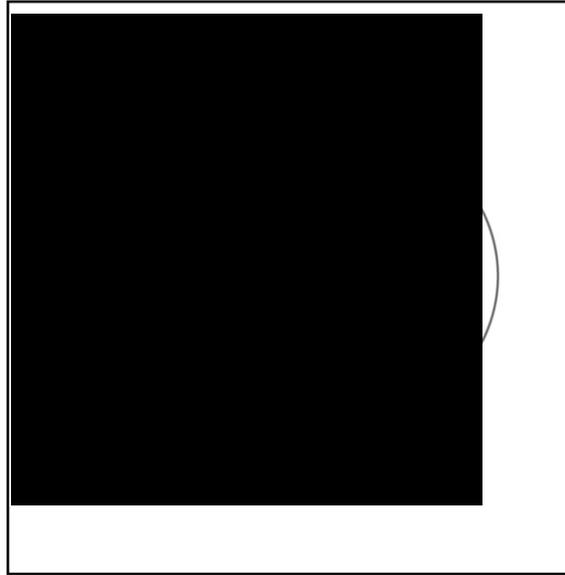
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are sick, etc. We then celebrate

[REDACTED]



[REDACTED] the group.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

University of Wisconsin-Madison
Department of Atmospheric and Oceanic Sciences

Date: _____
Graduate Student Annual Progress Report

Name: _____

Current advisor(s): _____

Degree plan ___MS thesis ___MS nonthesis ___PhD _____

Started Degree: ___Fall ___Spring Year: _____ Total years in AOS grad program: _____

Annual Highlights

Please describe your progress over the past academic year, emphasizing what you found most important and what needs changing.

What are your goals for the next academic year? What would best support you in meeting those goals?

List any publications, presentations, or awards arising from your academic career in the past year

List any service (e.g., department committees) or outreach (e.g., public lectures) you have performed in the past year

Please list how you have been funded in prior years and your plans for funding in the next year (e.g., RA/TA/PA/Fellowship/self-pay), including any concerns you have over funding:

Advisor/Mentor signature _____

Date: _____

Degree Program (fill portions relevant to your degree program)

M.S. (provide date or term for occurrence or plan of following events):

Committee formation: _____ M.S. research seminar: _____

Ph.D. (provide date or term for occurrence or plan of following events):

*Advisor should email minutes on preliminary exam, defense, and annual meetings to Student Status Coordinator

Qualifying Exam (date/outcome): _____ Committee : _____

Annual committee meetings: _____

Preliminary exam: _____ Ph.D. presentation/defense: _____

Ph.D. minor title + plan (external or distributed). List courses used to meet 10-credit requirement.

Ph.D. supplemental requirement plan (language, field experience, augmented minor, professional training):

ALL: _____

Committee members (Minimum: 3 AOS faculty for M.S. thesis, 4 AOS faculty + 1 outside for Ph.D.):

Thesis/Dissertation/Non-thesis seminar paper working title (or topic):

Thesis/paper % written: _____ Date warrant requested: _____

Date thesis deposited*: _____ Expected term of graduation: _____

* Second copy must also be submitted to AOS

Post-graduation plans:

Other details, variances, leaves, or issues in your degree program:
