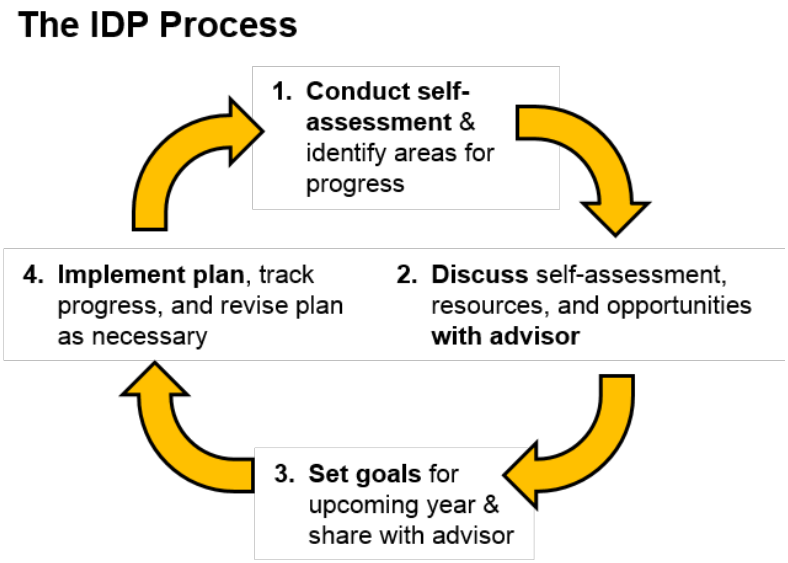
Georgia Tech Individual Development Plan (IDP) Self-Assessment Form

The aim of this form is to help you think through your long-term career and degree completion goals. Complete each section below (insofar as it is relevant to you), then share it with your advisor(s) for discussion and development. **Ideally, you will use this to collaboratively create a document that clearly identifies both your current and long term professional goals, with advice and input from your advisor.**

Drawing on the *Core Competencies* identified by the National Postdoc Association, this form is split into the following four sections:

I. Career Exploration and Development
II. Degree Completion (graduate students only)
III. Knowledge Development
IV. Professional Skillsets

You may end up focusing most of your attention on only a few areas at a time, but it is good practice to reflect on each area in order to help you (and your advisor) identify the best goals and activities for you over the coming months and years.



Use this document as **one part of an ongoing plan for your professional development**: we recommend that you revisit it at least once a year, to revise and adjust your goals and future plans. We recommend that you retain old versions of this document in order to chart your progress, but use the most recent version as a starting place for creating your plan each year. In addition, it is helpful to use this document as a tool for progress checks throughout the year (e.g. mid-semester check-in, and end-of-semester review).

For more IDP-related resources, please visit http://www.ctl.gatech.edu/resources/best-practices/IDPs.

Career Exploration & Development	
Examples	*exploring career options, developing skills specific to career of interest, meeting with professionals who already do the job you would like to do, obtaining a certification, developing teaching skills, etc.*
Career(s) of interest	Academia: Post-doc, tenure track professor, tenured professor in astronomy or physics, educator. Non-academia: data scientist, programmer, software developer/ engineer, science-communicator
Areas of well-established knowledge & understanding	- What it takes to become a professor (publications, successful post-doc positions, recognized and respected in one's field, etc.) - Physics and astronomy - Programming
Skills/ knowledge to acquire or improve upon	- Writing scientific papers. - Designing new research projects - How to get non-academia jobs. - Discover what career I would want to pursue if I don't stay in academia.
Specific goals for the next year	- Write a first authored paper. - Expand my professional network by having discussions with others my field of research. - Go to a career fair and do online research to explore non-academia jobs.
Ways your advisor & others can help you accomplish these goals	- Provide useful comments and suggestions when writing my paper. - Be open to discussing non-academia jobs. - Critique my ideas for research projects.
Degree Completion (graduate students only)	
Examples	*courses, exams, reviews, specific steps toward dissertation completion, etc.*
Completed degree requirements	- Core physics courses - 2 advanced physics courses - 2 of 3 astrophysics courses (minor) - Responsible Conduct of Research training

Remaining degree requirements	- 1 astrophysics course (finished by end of Spring 2020) - Thesis proposal - Annual reviews with my thesis committee - Thesis defense	
Specific goals for the next year	- Complete thesis proposal. - Complete triggered star formation simulations and a write paper about them. - Develop Pop III tracer particle simulations. - Write detailed research notes.	
Ways your advisor & others can help you accomplish these goals	- Weekly meetings with my advisor to discuss questions about developing and running Enzo simulations and data analysis. - Help me set specific weekly goals in our meetings so I have small sub tasks to accomplish each week. - Discuss my work with peers to practice communication and get a different perspective on solving problems that arise.	
	Discipline-Specific Conceptual Knowledge	**Research & Publication Ethics**
Examples	*detailed knowledge of specific research area, existing work on a specific research question, research advances within the discipline, broad based and cross-disciplinary knowledge acquisition, etc.*	*compliance with regulations, policies, and guidelines related to: authorship, ethical conduct of research, proper writing practices, conflicts of interest, data ownership and sharing, working with human/ animal subjects, etc.*
Areas of well-established knowledge & understanding	- How stars and supernovae are modeled in Enzo - Gravitational collapse leading to star formation - General knowledge of how Enzo works	- I completed our school's Responsible Conduct of Research course which covered a broad range of research ethics. - Generally, in our field, authors are ranked by the amount they contribute to the research and paper writing. - Georgia Tech owns all of the data we produce in our research. - How to avoid predatory journals

Skills/ knowledge to acquire or improve upon	- Understanding the physics of radiation transport physics and how it is implemented in Enzo - A more complete knowledge of the literature on Pop III stars and the early universe - Understand the existing tracer particles in Enzo so I can modify them for the simulation in this proposal - Better understand Riemann solvers	- Understand the specific regulations and expectations of the journals we decide to submit my future papers to - Differences between the common journals in our field
Specific goals for the next year	- Develop the simulations presented in this proposal - Do a more complete literature review of Pop III stars (this will be necessary for my thesis proposal) - Study the radiative transport code in Enzo	- Look up the regulations and expectations of the journals we decide to submit future papers to
Ways your advisor & others can help you accomplish these goals	- Give suggestions of important papers for understanding Pop III stars and the early universe - Meet with me to discuss details of the simulations and how to solve problems as they arise.	- Discuss the differences between different journals and how to decide which to submit to
	Research Skills	**Communication Skills**
Examples	*research techniques, experimental design, identifying appropriate research questions, data collection, management, & analysis, developing a literature review, etc.*	*presenting your work to colleagues and to the public, writing articles, grant proposals, and job application materials, etc.*

Strengths & main accomplishments over the last year	- Using Enzo to run astrophysical simulations - Using python and yt for data visualization and analysis - General programming skills (especially in Python) - Made a personal website - Developed ideas for two new research projects	- I've given multiple presentations for my classes and a group meeting. - I feel I am decent at creating and giving presentations. - I shared my research at a conference at the Kavli IPMU in Japan.
Skills/ knowledge to acquire or improve upon	- Using better debugging practices and tools - Using MUSIC to generate initial conditions for cosmological simulations	- Communicate with my advisor and collaborators more - Learn more details on how to write a good scientific paper
Specific goals for the next year	- Create a data analysis pipeline for the triggered star formation simulations - Figure out how to inject tracer particles into the simulation when a Pop III star explodes - Use gdb more when debugging - Generate initial conditions for cosmology simulations	- Present my triggered star formation results at a conference - Give practice talks at a group meeting and our weekly journal-club - Give my advisor more frequent updates on Slack - Write the triggered star formation paper and submit it to a journal
Ways your advisor & others can help you accomplish these goals	- My advisor and a colleague of mine have experience using MUSIC so they can show me how to use it. - Discuss tracer particles with my advisor and go through the code I write together	- Discuss the paper writing process with my advisor and colleagues - Have my advisor give me constructive criticism on my presentations and writing

	Leadership & Management Skills	Professionalism
Examples	*contributing new ideas, mentoring & training others, providing feedback to students and peers, project management, running meetings, helping others identify their goals, developing long-term strategic vision, etc.*	*collegiality, respecting and enhancing the intellectual contributions of others, punctuality, participating in partnerships with external organizations and funding/ review panels, networking, etc.*
Strengths & main accomplishments over the last year	- I regularly have discussions with the president of the Graduate Association of Physicists to discuss new ways to improve the quality of life for graduate students. - I often help peers with research and coding related problems. - I host public outreach events for science camps and students of all ages to teach and stimulate interest in astronomy and astrophysics .	- I regularly attend group meetings and individual meetings with my advisor. - I schedule online video conferences with collaborators.
Skills/ knowledge to acquire or improve upon	- Learn how to get involved with student mentoring	- Better prepare for meetings so I have more articulate and well-thought-out questions and topics for discussion

Specific goals for the next year	- Continue public education outreach events and incorporate new simulations into our demos - Help my research colleague learn C++ and how to modify the Enzo code - Be available for members of my research group when they need help with Linux, Enzo, or yt, or anything else - Attend mentoring sessions for undergrad and grad students	- Update personal website and CV as I complete new research, publish papers, and attend conferences. - Attend a career fair to explore non-academia related jobs - Spend more time preparing for meetings
Ways your advisor & others can help you accomplish these goals	- Many of my colleagues have done student mentoring in the past so I will ask for their help to get involved myself.	- Get feedback from my advisor on my professionalism and what he thinks I should improve on