The STARS Paper
Summer 2013

The Paper and the Process
Your job while you are here:

1. Learn the process of doing scientific research
2. Compile your data in the form of a scientific research article
3. Make friends and have fun

How do you accomplish this:

1. Be in the lab, work, ask questions, think
2. Work with lab representative (Mentor, Post doc, or grad student) and STARS advisor
3. Interact with other STARS students as well as with the lab members
The Paper:

What it is...

- a clear, concise and focused communication of your STARS research
- of the general format –
  - Abstract
  - Introduction
  - Materials & Methods
  - Results
  - Discussion
  - References
- written such that others can reproduce your work

What it is not...

- an English paper with complex sentence structure or ‘flowery’ language
- something where one can wax and wane philosophically (except in discussion)
Information provided:

1. ‘Writing a Scientific Research Paper’ from Columbia University
2. Author guidelines from Science
   a. Tips for writing
   b. Tips for Figures
   c. Reference styles
3. SI abbreviations

These are guidelines.
The specifics are at the discretion of your Mentor
Components of the Paper

Abstract:
The ‘Spark Notes’ component of the paper. Typically 100-250 words. Consists of purpose, method, results and conclusion.

Introduction:
Introduces topic and issue. Summarizes relevant literature. States approach used and results obtained.

Materials & Methods:
Lists reagents used and where purchased. Methods are specific and direct. Ex. ‘Recombinant IL1β was used at a final concentration of 10 ng/ml in all cell based assays’ rather than ‘I added 10ul of IL1β stock to each well of cells’. It is ok to use a previously published methods as long as they are referenced.
Components of the Paper (continued)

Results:
The meat of the paper. Include all relevant data but be concise. Work with Mentor and/or lab representative in presentation/formatting of results.

Discussion:
Relate results to original question/issue. Interpretations encouraged. Discuss potential future experiments.

References:
Recommended format is to list references alphabetically. May change based on Mentor’s request.

Acknowledgements:
Very important section of STARS paper....where you thank your Mentor and the lab members for sharing of their time and talents with you.
Each STARS student is assigned a STARS advisor.

The STARS advisor and the Mentor (or lab representative) help the student with the paper.

Weekly updates on the paper required. All done electronically.

Send weekly updates to STARS advisor and Mentor/lab rep by noon on each Friday. Reviews/comments/edits will be back to you by noon on Monday.

Please use both your STARS advisor and Mentor/lab representative as resources... we are here to help.

Your paper will be the foundation for your STARS Research Project presentation the final day of the program.
The STARS Director:
Ken Mares, PhD.

The STARS Advisors:

Howard Granok, Ph.D. (biology, anthropology)
Bruce Hamper, Ph.D. (chemistry)
Heidi Hope, Ph.D. (biology)
Michael Hope, M.S. (engineering, earth sci, physics, comp sci)
Elaine Krul, Ph.D. (biology)
Robin Weinberg, Ph.D. (biology, psychology)
Rhonda Woerndle, M.S. (chemistry)
**S.T.A.R.S.**

**The Process**

**Dr. Howard Granok**
(Biology and Anthropology)

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**STARS Advisors**

**Dr. Bruce Hamper (Chemistry)**

**Ms. Rhonda Woerndle (Chemistry)**

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S.T.A.R.S.

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STARS Advisor
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(Engineering/Earth Sci./Mathematics/Computer Science)
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Schedule for Paper –
what needs to be sent to your STARS advisor and lab rep and when

Week 1: Due 6/14
Proposal – short and sweet
I will be studying …….           The approach I will be using is ……

Week 2: Due 6/21
Start of Introduction /References (not complete...just a start)

Week 3: Due 6/28
Add Materials and Methods (continue to work on Intro & References)

Week 4: Due 7/5
Add beginnings of Results and Discussion (continue working on other sections)

Week 5: Due 7/12
Add ABSTRACT – close to complete

Week 6: Due 7/19
Paper Complete. MUST have mentor sign off on it!
What you need to do now...

Take a look at the information provided for writing the paper. Ask questions if needed.

Ask your Mentor for papers published by the lab. Use as resources for your paper. Sources of background info as well as methods.

Find out who the lab representative is who will help with your paper (your Mentor or a postdoc or grad student).

Turn in (e-mail) your ‘Project Proposal and Approach’ to your STARS advisor and Lab rep by noon on Friday June 14th.