Highlighting your work
Some simple suggestions & hints!

Patrick Le Dû

patrickledu@me.com

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Goals of this presentation

- Communicate your work is very important
  - Paper writing →Simon Cherry
  - Oral Presentation
  - Poster
- Some simple 'personal' suggestions & guidelines extracted from my own experiences illustrated with some typical exemples (Some extracted on web site)

Oral Presentation

Extracted from UCSB McNair Scholars 2011 Summer Program

Purpose of an Oral presentation

- In the academic community a well done oral research presentation should:
- Communicate the importance of your research
- Clearly state your finding and the analysis of those findings
- Prompt others in the academic community to ask questions and give you valuable feedback that could further, and strengthen, your research

Goal of the presentation (General)

- Today, it is very easy to prepare a presention with PPT BUT its depends of:
  - The context (school, conference, workshop …)
  - The audience (students, engineers, scientists, mixed)
  - The level of the majority of the audience .
  - Depends of what message you want to give (results, overview, lessons)
  - Be carefull with animation
  - Style of presentation and content → example later
- Looks at the time you have
  - Number of slides
    - 1 per min in average
  - Quantity of information in a slide
    - Depends on type of information to explain
    - Isolate clearly what is important
    - Graphics, tables, text, images
- …

Title slide

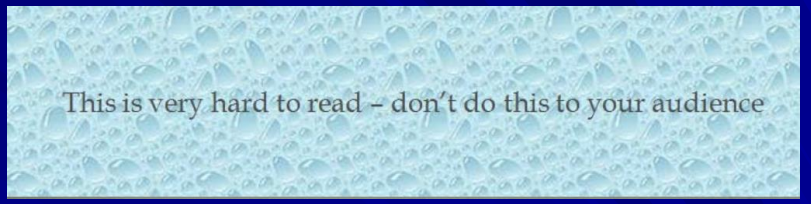
- Each presentation will have a title slide
- The title slide must contain the title of your project, which must be the same title you used for your abstract submission
- People will decide whether they want to attend your presentation based only on your title and abstract
- It must include your name, your faculty mentor's name and department, and the name and location of your institution

Composition of an Oral research presentation

- Each research presentation, regardless of your field of study, should contain some common sections
- Introduction
- Background/Literature Review
- Research Question(s)
- Research Methods
- Findings/Data
- Discussion/Conclusion(s)
- Future Research
- References
- AcknowledgementsQuestions
- Be aware that your particular research project will dictate the exact sections you will have

Technical aspect

- Background
- Use simple backgrounds that provide some visual interest
- Always use the same background throughout the presentation
- Try not to use backgrounds that are distracting or make it difficult to read the words
- Color
- Use a text color that contrasts with the background
- Keep color simple:less is more
- Use color for emphasis
- Use colors sparingly
- Use colors to tie points together
- Fonts
- Fonts should be standard and easy to read
  - Times New Roman, Arial, Calibri
- The title of the slide should be about 44-point
- The body of the slide should be about 22-point
- You do not want your font too small so that your audience has to strain to read it
- CAPITALIZE ONLY TO MAKE A POINT – NOT ALL THE TIME
- Stay away from complicated and exotic fonts - Use one font style throughout



Technical aspects on slide layout

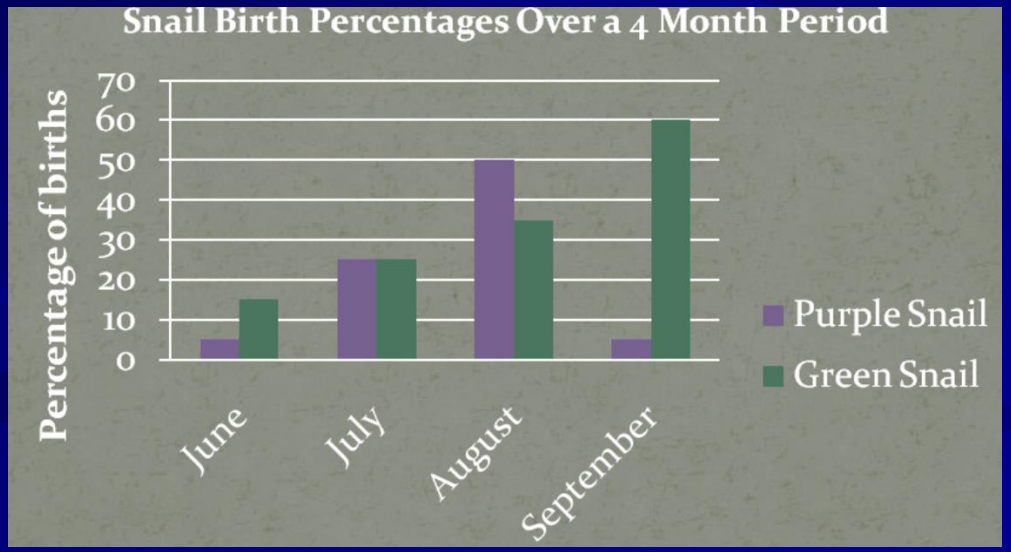
- Avoid text heavy slides
- Avoid full paragraphs unless quoting
- Create a slide for each main point because it
- Keeps presentation focused
- Helps the audience concentrate on each point
- Prevents audience from reading ahead
- Think that there are visually impaired people

Table vs Graph

- Not every table and graph is good
- Do your best to display your data in the most clear, concisway possible
- Remember that your audience will only have a minute or less to view your table/graph *example Snail birth percentage over 4 months*

	June	July	August	September
Purple Snails	5	25	50	5
Green Snails	15	25	35	60

Do you think this is a good table?



The following is a much better way to display the data on the previous table :

What makes this graph so much better than the table on the previous slide?

Technical problems to look at (my own experience)

- Your own computer vs the central one
- Mac vs Windows PPT (versions)
- PPT vs PDF does not look identical
- Fonts
- Animation
- Small vs large screens
- Small & large room

More about this subject as 'back-up slides'

Fast Timing and TOF in PET Medical Imaging

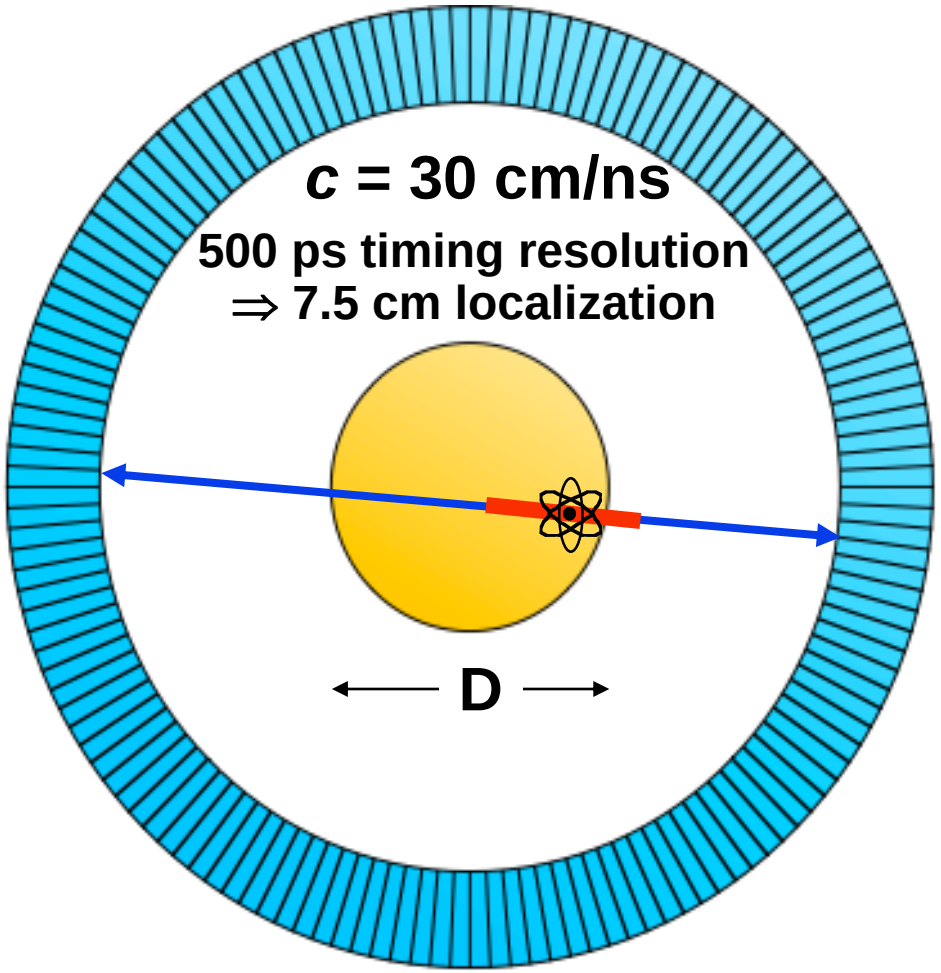
William W. Moses
Lawrence Berkeley National Laboratory
October 15, 2008

Outline:

- Time-of-Flight PET
- History
- Present Status
- Future

- This work was supported in part by the U.S. DOE (contract No. DE-AC02-05CH11231) and in part by the NIH (NIBIB grant No. R01-EB006085).
- Thanks to M. Ullisch and W.-S. Choong of LBNL, M. Casey, J. Young, and B. Bendriem of Siemens Medical Solutions, and Y. Hämisch of Philips.

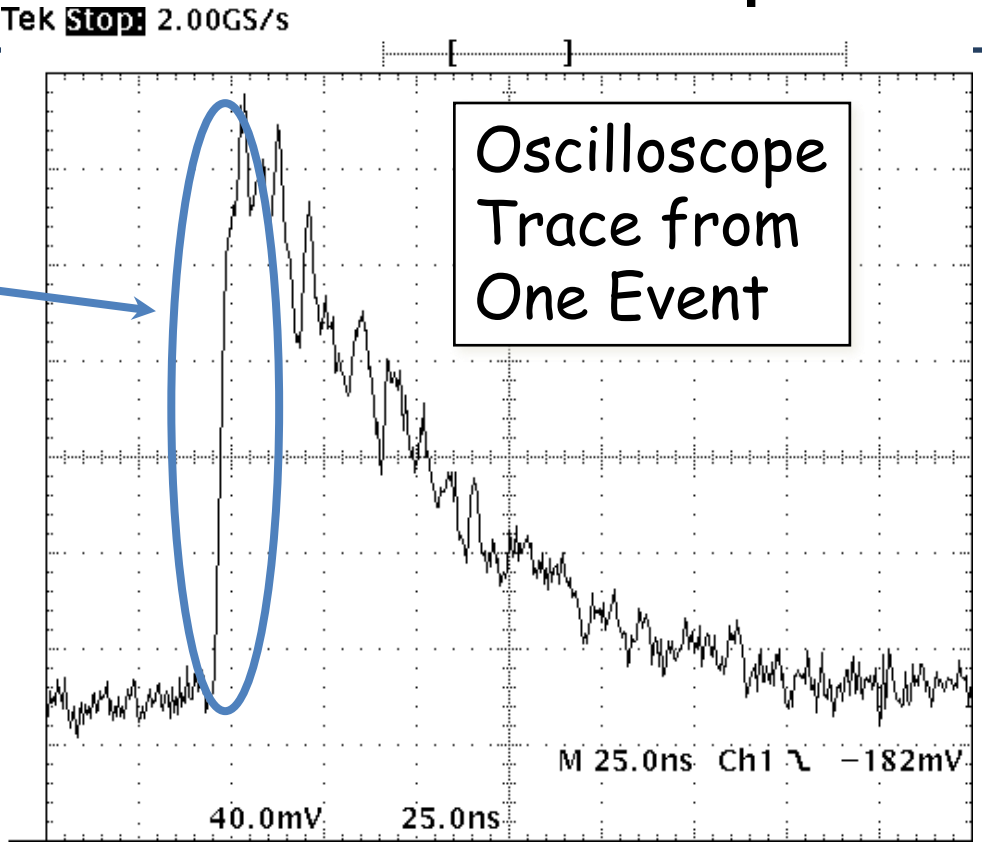
Time-of-Flight in PET



- Can localize source along line of flight.
- Time of flight information reduces noise in images.
- Variance reduction given by $2D/c\Delta t$.
- 500 ps timing resolution
  ⇒ 5x reduction in variance!

- Time of Flight Provides a *Huge* Performance Increase!
- Largest Improvement in Large Patients

Raw Signal From Photomultiplier Tube

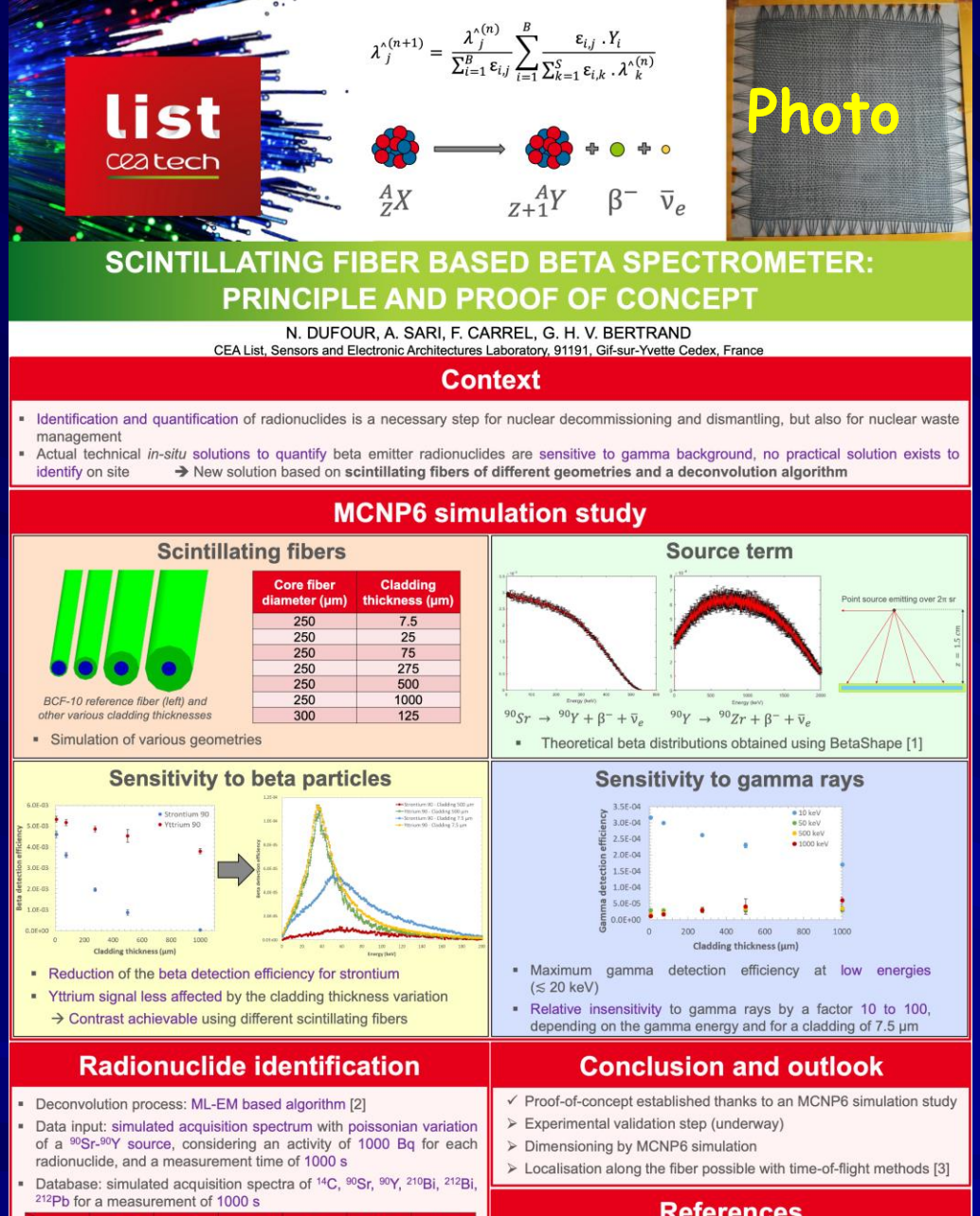


- Small Signal Level — 0.000000511 TeV
- Small Fraction of Scintillation Light in Leading Edge
- Fundamental Limit Due to Statistical Fluctuations

POSTER

POSTER presentation shoul contain

- Logo, Photo
- Title
- Name, collaboration, Institution ….
- Context
- Details
- Results
- Conclusions
- References

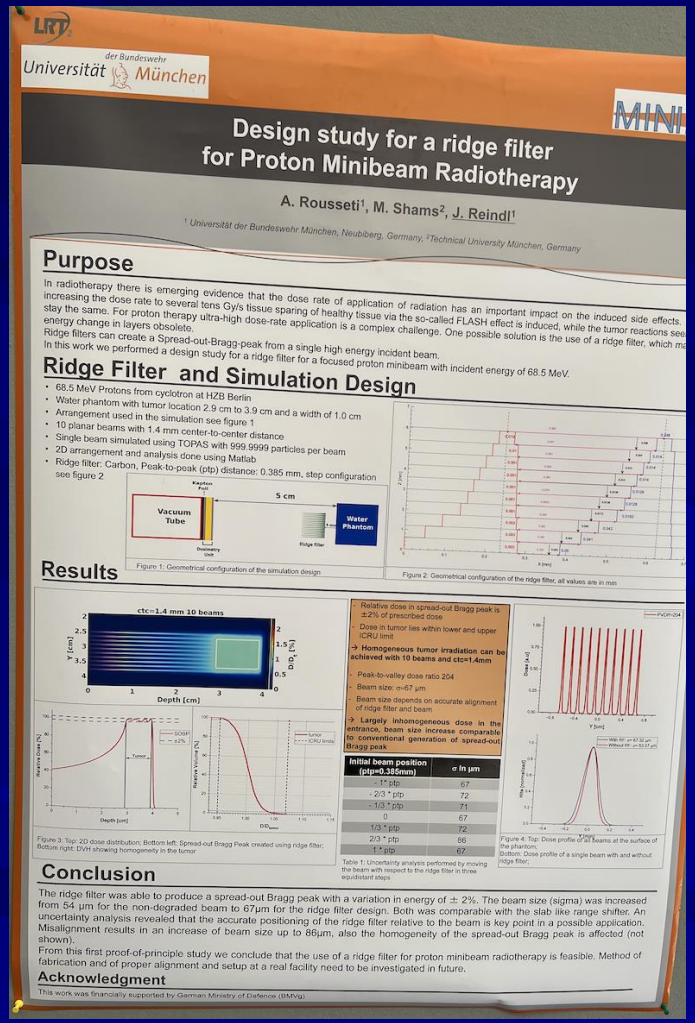


POSTER winner

Manchester 2019 NSS
Awarded "Student'

Do not load too much
No 'small text'
Should be attractive for the eye
Should be seen from at least one meter

Poster Presentation recent presentation from a Munich University student



Universität der Bundeswehr München

Design study for a ridge filter for Proton Minibeam Radiotherapy

A. Rousseti[1], M. Shams[2], J. Reindl[1]

[1] Universität der Bundeswehr München, Neubiberg, Germany, [2]Technical University München, Germany

Purpose

In radiotherapy there is emerging evidence that the dose rate of application of radiation has an important impact on the induced side effects. increasing the dose rate to several tens Gy/s tissue sparing of healthy tissue via the so-called FLASH effect is induced, while the tumor reactions see stay the same. For proton therapy ultra-high dose-rate application is a complex challenge. One possible solution is the use of a ridge filter, which ma energy change in layers obsolete.
Ridge filters can create a Spread-out-Bragg-peak from a single high energy incident beam.
In this work we performed a design study for a ridge filter for a focused proton minibeam with incident energy of 68.5 MeV.

Ridge Filter and Simulation Design

- 68.5 MeV Protons from cyclotron at HZB Berlin
- Water phantom with tumor location 2.9 cm to 3.9 cm and a width of 1.0 cm
- Arrangement used in the simulation see figure 1
- 10 planar beams with 1.4 mm center-to-center distance
- Single beam simulated using TOPAS with 999 9999 particles per beam
- 2D arrangement and analysis done using Matlab
- Ridge filter: Carbon, Peak-to-peak (ptp) distance: 0.385 mm, step configuration see figure 2

Figure 1: Geometrical configuration of the simulation design

Figure 2: Geometrical configuration of the ridge filter, all values are in mm

Results

Figure 3: Top: 2D dose distribution; Bottom left: Spread-out Bragg Peak created using ridge filter; Bottom right: DVH showing homogeneity in the tumor

- Relative dose in spread-out Bragg peak is ±2% of prescribed dose
- Dose in tumor lies within lower and upper ICRU limit

→ **Homogeneous tumor irradiation can be achieved with 10 beams and ctc=1.4mm**

- Peak-to-valley dose ratio 204
- Beam size: σ=67 µm
- Beam size depends on accurate alignment of ridge filter and beam

→ **Largely inhomogeneous dose in the entrance, beam size increase comparable to conventional generation of spread-out Bragg peak**

Initial beam position (ptp=0.385mm)	σ in µm
1* ptp	67
- 2/3 * ptp	72
- 1/3 * ptp	71
0	67
1/3 * ptp	72
2/3 * ptp	86
1 * ptp	67

Table 1: Uncertainty analysis performed by moving the beam with respect to the ridge filter in three equidistant steps

Figure 4: Top: Dose profile of all beams at the surface of the phantom; Bottom: Dose profile of a single beam with and without ridge filter;

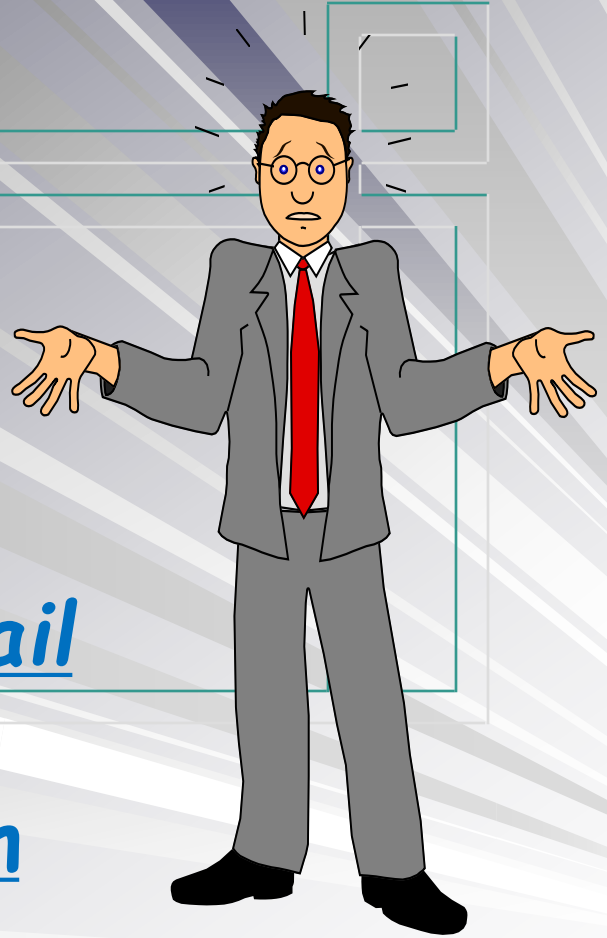
Conclusion

The ridge filter was able to produce a spread-out Bragg peak with a variation in energy of ± 2%. The beam size (sigma) was increased from 54 µm for the non-degraded beam to 67µm for the ridge filter design. Both was comparable with the slab like range shifter. An uncertainty analysis revealed that the accurate positioning of the ridge filter relative to the beam is key point in a possible application. Misalignment results in an increase of beam size up to 86µm, also the homogeneity of the spread-out Bragg peak is affected (not shown).
From this first proof-of-principle study we conclude that the use of a ridge filter for proton minibeam radiotherapy is feasible. Method of fabrication and of proper alignment and setup at a real facility need to be investigated in future.

Acknowledgment

This work was financially supported by German Ministry of Defence (BMVg)

Thank you for your attention



Questions?

Or send me an email

patrickledu@me.com

More on Oral Research Presentation

Extracted from UCSB McNair Scholars 2011 Summer Program

Discussion/Conclusion(s)

- This section is a concise summary of your main findings
- Ideally you should be able to state the answer to your research question that you initially posed in the beginning
- If you have only begun to answer your research question tell the audience what you know thus far and what you plan to do next to fully answer that question
- This is also where you will analyze and discuss the answers you obtained from the data you showed on the previous slides
- Do not make this slide too overwhelming, but rather keep it to the main findings

Futur research

- Not all presentations will have this section, but at your stage of research you will most likely have future research goals.
- State your goals in a bulleted format
- Add a sentence about why you believe the research should go in this direction
- You may want to brief ly mention how you plan to implement these research goals

References

- In this section you do not want to include your entire reference list that is in your research paper
- It's best to include 3-5 key references
- Be sure your references are in the proper format for your field of study

Acknowledgements

- This section is used to thank the people, programs and funding agencies that allowed you to perform your research.
- Be sure to thank:
  - Your faculty mentor
  - Any post-docs or graduate students that may have helped you The UCSB McNair Scholars Program
  - And anyone else you may want to add

Questions ?

- It's great to include a final slide that simply says "Questions?" or "Any Questions?" in the center of the slide
- If you DO NOT know the answer to a question:
  - It is always a bad idea to "fake" an answer to a question Just say something like:
  - "I actually don't know the answer to that, but it's a great question and I will look into it."
  - Follow-up with this person after your presentation so you can send them information on what you discover
- It's often a good idea to have some extra slides prepared at the end of your presentation to answer anticipated questions