

# Creating the Elevator Pitch

Title: Intracluster Light in Galaxy Groups, Tahlia DeMaio

1. One fact about your research topic that is universally agreed upon.

Intracluster light refers to light that is no longer bound to their host galaxies, pooled in the center of the galaxy cluster

2. Why is that fact important?

- The ICL is the final reservoir for stars, a fossil record of past events between galaxies within the cluster.

3. What is the open question in this research topic that you are tackling?

- The dominant formation mechanism and progenitor population of the ICL is unknown.
- There are 3 proposed channels of formation – result in different color gradients

4. Why is that question important to solve?

- Understanding the composition of the ICL will help to resolve classic debates about driver of galaxy evolution in dense environment
- Big picture importance is missing though (e.g. connection to theory?)

5. How are you tackling the problem (methods) ?

Using the total luminosity surface brightness, metallicity and color profiles of the ICL in galaxy groups (HST/WFC3 IR data).

6. What is the result so far?

- Trend towards bluer color and a high luminosity

7. Why are your results important? How do they solve the problem?

- Results rule out major mergers as main contributor to ICL. Help to narrow the possibilities.

8. What are your future directions and why are those directions needed?

Expand analysis to complete sample and include gas.