Title

Short and impactful.

**Specific Aims Page**

This is a one-page summary of the problem, knowledge gap, central hypothesis, and aims of the proposal.

**Abstract (or Summary)**

Concise and clear. More general audience. Executive summary.

State a **central hypothesis**. Be sure to consider what happens to your proposal if the central hypothesis turns out to be false? Will you still learn anything? Will you still move the field forward?

State how your specific aims will test the central hypothesis.

**Significance (and Background)**

This is your introduction. Teach us.

Read the literature.

-Scientific premise (weave this in throughout the document).

-Literature (published works).

-Preliminary data (not required).

Teach your audience what is needed to appreciate the proposed research.

Establish premise for your hypothesis and approach based on previous published work.

What is the problem? Why is it important? What are the knowledge gaps that need to be filled in order to better understand the problem and develop solutions? What questions need to be answered?

Good to have a **teaching figure** here.

**Innovation**

Briefly state how your proposed studies are innovative. Will new innovative techniques, assays, or chemical matter be developed? Will it open the door to new innovative applications?

**Approach**

This is the new stuff. Lay out your research plan organized by specific aims.

Address rigor and reproducibility. Consider safety hazards.

Provide alternatives in case things don’t work as planned.

You might consider including a workflow. Highlight key techniques and collaborators with necessary expertise needed to achieve the aims.

Consider important criteria, constraints, and failure analyses that might be needed.

**Specific Aim 1**: State your specific aim clearly and concisely. Sometimes each aim will ask a **specific question** or have a **specific hypothesis**.

**Task 1.1**: Organize your tasks that will help you achieve your specific aims and test your hypothesis.

**Preliminary Data for Task 1.1**: If you have any preliminary data from your own research or from published work you can include it to strength the premise. Prelim data for prethesis is not required.

**Challenges and Alternatives for Task 1.1**: Clearly identify what the challenges might be. How can your proposed approach fail? What are some ways to overcome these failures through optimization or alternative approaches?

**Task 1.2**: Same general outline as above.

**Specific Aim 2:** Same general outline as above.

**Task 2.1**: See above.

Blah Blah Blah

**Specific Aim 3**: I do not recommend going beyond 3 aims. Most people propose too much. Make sure your aims are independent. If Aim 3 depends on the success of Aim 1, then you should ensure Aim 1 will work, otherwise it is viewed negatively by review panels.

**Timeline:** Be realistic. Plan for a 5-yr timeline.

**Outcomes:** If successful, how will your findings move science forward? What will be the impact of your research?

**References:** Important to cite relevant studies, prior work in the area, and demonstrate that you have surveyed the literature thoroughly to ensure that your proposed research is new, innovative, and rational.

**ADDITIONAL NOTES**

Figures are really important. Make these clean, attractive, and large enough to read. Figures in your written document might not be effective for your presentation.

Try to stick with 10 pages (not counting references).

Try to strengthen key points throughout the document. Use logical transitions between sections. Make sure each aim addressed your central question/hypothesis. Tell a good story.

Don’t forget the proposal part of the proposal. The majority of content should be focused on what YOU plan to do, not what has been done before.