1. Proposal Preparation
   a. FastLane is preferred over Grants.gov since Fastlane will provide additional compliance check on the proposal submission.
   b. Grants.gov does not handle linked but separate proposals while Fastlane does.
   c. Up to 4 co-PIs within the same institute are allowed in Fastlane. If the PIs and co-PIs are from different institute and linked but separate proposal are submitted, each institute can have 1 PI and up to 4 co-PIs. In this case, these separate proposals will have the same project summary, project description and reference cited but different other components of a proposal.
   d. The importance of project summary is emphasized since it is the first item reviewed by the reviewers.
   e. In the project description section, related outcomes from prior NSF funded projects within the last five years need to be described. If appropriate, they can be integrated as the background of the project.
   f. If prior NSF is very recent and too early to have outcomes, one still needs to mention it and just state that it is too early to have outcomes. Relevant postdoc or graduate NSF fellowship and NSF funded instrument grants also need to be mentioned here.
   g. Better to have more recently published reference cited.
   h. Budget section: now each subawardees can also have three pages of budget.
   i. Budget section on participant support: this category is usually used for conference/workshop grants, not for hourly students or other personnel within the institute. REU from different institute working on the project may be categorized as participant support.
   j. Facilities, Equipment, and Other Resources section: If the senior personnel has already had the salary for two months but he/she is still contributes some part of this two months to this proposed project, list this effort in this section instead of personnel.
   k. Facilities, Equipment, and Other Resources section: Although the description on Facilities, Equipment, and Other Resources must not include any quantifiable financial information, a letter from industry which only specify the quantifiable financial information is fine to put here.
   l. Current and Pending Support section: need to include all PI and co-PIs and also include this proposal as pending support. This section is intended to provide evidence that the PI and co-PIs will have the ability, time, resource to carry out the proposed project.

2. Merit Review
   a. Even if PDF version of the proposal is uploaded, FastLane will convert it to PDF again during which errors can be introduced. So double check the converted PDF.
   b. Meaningful assessment and evaluation of success of the project in the proposal through establish key performance metrics is emphasized.
   c. To avoid return without review, if two proposals submitted by the same submitter appear similar, extra explanation is need to clarify this. Negotiation with program officer is recommended.
   d. The period between the end of fall semester and Christmas is good time to volunteer to become a proposal reviewer.
e. Pay attention to the portfolio balance. Check recent funded projects by the same program.

3. NSF Directorate for Engineering
   a. Broader impact is more emphasized.
   b. Send a one page summary of objectives, specific aims, approaches, broader impact and two page biosketch to the program officer initiate the contact with PO 6-8 months before deadline.
   c. Biology related: Emerging Frontiers in Research and Innovation, recent topics: Flexible Bioelectronics Systems; Photosynthetic Biorefineries

4. Award Management
   a. Notification to NSF is NOT required for most budget changes. Exception: when budget changes alter participant support costs. One can add funds from other category to participant support but need to contact PO if want to transfer funds from participant support to other categories.
   b. In the situations that notification to NSF is required, please go through FastLane rather than just send emails to PO.
   c. Both PI and co-PI can submit Research Performance Progress Report.

5. NSF Policy Update
   a. Collaborator and Other Affiliation Information has been removed from Biographical Sketch and will now be submitted as a single copy document. This document will only be used in NSF internally. It will not be shown to reviewers.
   b. Page limitation on Biographical Sketch remains two pages.
   c. Postdoc fellowship, MRI, etc are also considered as prior NSF Support

6. NSF Directorate of Biological Sciences
   a. BIO priorities are equally ordered priorities of the following:
      i. Strengthening research that addresses Grand Challenge questions
      ii. Coalescing NSF - wide collaborations to advance research in Cognitive Science and Neuroscience
      iii. Stimulating research at the interface of the biological, mathematical and physical sciences, and engineering
      iv. Supporting cyberinfrastructure, including the National Ecological Observatory Network (NEON).
   b. One of the five Grand Challenges at Disciplinary Intersections: Deciphering interactions between earth and its climate and atmosphere (biotic and abiotic)
   c. Send brief description on project with emphasis on intellectual merit and broader impact to PO to determine the fit to the program rather than seek for review opinion from PO.

7. CAREER
   a. Budget: 500K (minimum, but maximum is usually less than 550K)
b. For PIs with more teaching responsibilities, one can request more than two months’ salary to buy the time from teaching for more research activities. However, prior consultation with the institute is recommended to avoid this working against the PRS upon tenure evaluation.

c. To be more competitive, start to get involved in the proposed education plan activities even before the submission of the proposal to demonstrate the actual evidence and commitment.

d. Department letter should NOT serve as a letter of recommendation. May cause return without review.

e. Return without review also counts as one submission among the three submission limit.