

# GUMSHOE

## Advanced Training in Grant Writing

### Spring 2024



**Need help in preparing an NIH grant application?** In Spring 2024, the PIKO Professional Development Core will offer GUMSHOE, an intensive workshop on advanced grant writing. Applicants should be applying for an NIH diversity supplement, K award (including the K99/R00), R03, R21, R01, R15, R16, R34, etc.

Apply by **December 14, 2023, 12 noon**. [GUMSHOE Application Link](#)

Applicants must submit the following information:

- The name of your project and the NIH mechanism to which you will submit your proposal
- Specific Aims page (1 page, 0.5" margins, Arial 11), following the "hourglass" format (below)
- Your biosketch
- Your academic mentor's name and email address
- A letter from your academic mentor committing to assist you on your proposal
- If you are revising a proposal previously reviewed but not funded, also upload your summary sheet.

**Priority** will be given to investigators with a well-developed Specific Aims page focusing on a clinical and translational research project addressing the health and well-being of Native Hawaiians, Other Pacific Islanders, Filipinos, and/or other medically underserved groups in Hawai'i.

### GUMSHOE TRAINING

January to May 2024: bi-weekly sessions, during which investigators will develop and refine their NIH proposals and participate in a mock review prior to submitting submit their NIH proposals.

- Fri Jan 12, 2024, 1:30–4:30 pm: Introduction, NIH funding mechanisms/project officers, structure of a grant, and specific aims, followed by small-group review of your Specific Aims page.
- Fri Jan 26, 2024, 1:30–4:30 pm: Significance/innovation, followed by small-group review of revised Specific Aims page
- Fri Feb 9, 2024, 1:30–4:30 pm: Approach 1, followed by small-group review of significant/innovation
- Fri Feb 23, 2024, 1:30–4:30 pm: Approach 2, followed by small-group review of approach
- Fri Mar 15, 2024, 1:30–4:30 pm: Biosketch, budget, IRB, followed by small-group review of full Research Plan
- Fri Mar 29, 2024, 1:30–4:30 pm: Mentoring plans, resources page, project summary, etc.
- Fri May 10, 2024, 8:00 am–12:00 pm: Mock review of your proposal

**Investigators new to NIH grant writing are strongly encouraged to ALSO register for PIKO's three-session Specific Aims Page Workshop.** REGISTER by October 20, 2023. [PIKO Fall 2023 Specific Aims Registration Link](#)

- October 23, 2023 at 3:00–4:30 pm: Instruction on how to prepare a Specific Aims page
- Week of October 30, 2023: Small group review of first draft of Specific Aims page
- Week of November 6, 2023: Small group review of second draft of Specific Aims page
- Homework – Apply to GUMSHOE and review aims with your NIH project officer



**PIKO stands for the Center for Pacific Innovation, Knowledge, and Opportunities.** Based at the John A. Burns School of Medicine, PIKO is a collaboration between the University of Hawai'i, Hawai'i Pacific University, and Chaminade University of Honolulu. Drs. Keawe Kaholokula and Neal Palafox are the Principal Investigators.

**GUMSHOE** (Grant-writing Uncovered: Maximizing Strategies, Help, Opportunities, Experiences) is offered by the University of Colorado and Washington State University as part of the National Research Mentoring Network (NRMN, <https://nrmnet.net/>).

## SPECIFIC AIMS: THE HOUR GLASS APPROACH<sup>1</sup>

One's specific aims should reflect an "hour-glass" like structure. It begins broadly with the nature of the problem and its impact on the health of the nation, next highlights the key scientific question(s) that beg to be answered in order to address this problem -- especially with respect to the population of interest, subsequently describes the study to be undertaken that will generate the data and insights to answer the key question(s), then stipulates approximately three specific aims to which the resulting data can speak and hypotheses to be tested, and closes -- as the base -- with a final paragraph that communicates the theoretical and/or programmatic significance of the anticipated findings -- the "so what?" Think of this one-page document as a series of building blocks that move the reader from a broad overview to increasingly specific points that return at the end to a more general base.

The first paragraph should begin by orienting the reviewer to the nature of the problem. The first paragraph needs to capture the reviewers' attention. Look for a powerful "hook" that will make your effort stand out from others and engage the reviewer. You want the reviewer to feel drawn into the problem and compelled to read on. Why should we care about this problem? The end of the first paragraph should, then, end with 1–2 sentences that underscore the fact that relatively little is known about the topic of interest.

The second paragraph should subsequently introduce one's particular line of inquiry, the research question that follows naturally from the last point of the first paragraph. If you propose to focus on a particular population, translate the general problem/question into terms specific to it, mirroring the points you introduced in the first paragraph. Your argument will be well served by frequent reference to evidence in the literature. Can you introduce your own work that suggests this line of inquiry likely will be fruitful? If so, reference several highly relevant articles. It often is powerful to articulate 2–3 questions you intend to explore, ensuring, of course, that each anticipates your specific aims. Having done so, the reviewer then is set up to nod in agreement that the next logical step is to explore, identify, and understand the particular factor(s) of central interest to you. Your work, then, will begin to correct this limitation.

The third paragraph should describe the study you will undertake to address the specific aims. Answer: who, what, where, when and how? Consider referencing a particular conceptual framework that will guide this inquiry; the literature offers many relevant examples. If you propose an intervention, briefly describe its likely content, format, mode of delivery, duration, and anticipated outcomes. For observational studies, briefly describe the setting, population of interest, study design (cross-sectional; longitudinal), sampling plan, likely number of participants by gender, age, race/ethnicity, measurement domains with key constructs, and mode of data acquisition. Provide similar information regarding existing data sets if a secondary analysis proposal, identifying study by name, years data available, and reference a seminal summary article. Reviewers need this background to assess whether or not your specific aims can be addressed in terms of the proposed intervention or observational study, and the data to be acquired or examined.

The fourth paragraph is your actual specific aims. These are the scientific objectives that address the broader goal of your proposed study. Convention suggests three specific aims. Each specifies a particular action step, related to one another that build incrementally toward the knowledge required to answer your research question. But your aims must NOT be contingent upon one another, for failing to successfully answer a prior aim precludes your ability to pursue the subsequent aim(s). This poses a fatal flaw! Consider stating a hypothesis to be generated or tested immediately after each aim. This offers the reviewer a sense of your expectations and provides more specificity. Lastly, nothing should appear in these specific aims that hasn't been anticipated in the previous paragraphs.

The fifth and last paragraph is intended to bring the reviewer back out of "the weeds" to the significance of the proposed work, to the anticipated benefits, to your needs if a career development proposal, and to why we should care. What are the likely scientific and treatment implications of the findings of the proposed work? This is the "so what" paragraph, which speak to public health importance. It anticipates impact. Be as specific as you can, and appropriately assertive with respect to its importance.

Manson, S.M. (2011). Selecting issues and hypotheses for a research proposal. In Pequegnat W, Stover E, Boyce CA (eds.). How to Write a Successful Research Grant Application: A Guide for Social and Behavioral Scientists. New York, NY: Springer Science+Business Media. Pp. 49-57.