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CVI Office of Research Development
American Heart Association: Career Development Award
Guidebook

AHA Career Development Award Checklist

Done	Section	Notes
	Stanford PIF	SeRA system form to work with Derek Harrison (CVI)
	Stanford Career Development PI Waiver	https://med.stanford.edu/rmg/grants/proposal-preparation---submission/pi-eligibility---waivers.html
	Research Plan	8 pages 1. Specific Aims 2. Background and Significance 3. Preliminary studies 4. Research design and methods Ethical Aspects
	Biosketch	5 pages Can use NIH biosketch
	Career Development Plan	3 pages Comprehensive plan to include: - Primary career goal - Long-term professional goal - Short-term goals - Training/experiences to get to goals - Additional skills/knowledge needed - How and when will progress be assessed Timeline and 2-3 metrics to define success
	Literature Cited	4 pages
	Research Project Environment Form	2 pages Use AHA template (attached)
	Budget Justification	2 pages Use AHA template (attached)
	Vertebrate Animals	If applicable
	Resubmission modifications	If applicable 2 pages
	Mentoring Team	Primary and secondary required. Up to 2 additional mentors allowed. Letters of Support from all members
	Mentor's letter	3 pages Information on what to include here Primary and Secondary (or other) mentors
	Department Head Letter	5 pages Include: academic appointment and career stage, knowledge of past scientific accomplishments, demonstrated commitment to research, institution's commitment to applicant (more here)
	Primary Mentor Training Plan	4 pages Primary mentor only. More information here.
	Mentor's list of past/present trainees	3 pages per mentor Table information here. Primary and secondary mentors
	Mentor Biosketch	5 pages Can use NIH biosketch

		All mentors listed
	Mentor's Letter	Secondary and additional mentors (if listed) 3 pages each
	Project Summary	2500 Characters Concise description describing proposed work
	Summary for Non-scientists	2500 Characters Included in 5-10% of score. 12th grade level. What is the major problem? What questions are asked? Potential impact?
	Data Sharing Plan	2500 Characters Describe data and when it will be made available (within 12 months).

AHA information on application, including budget restrictions:
https://professional.heart.org/en/research-programs/application-information/career-development-award

Research Plan

Guidelines
- Page limit: 8 pages
- Include the following:
    1. Specific Aims: Provide a clear, concise summary of the aims of the work proposed and its relationship to your long-term goals. State the hypothesis to be tested.

    2. Background and Significance: Sketch the background leading to this proposal. Summarize important results outlined by others in the same field, critically evaluating existing knowledge. Identify gaps that this project is intended to fill.

    3. Preliminary Studies: Describe concisely previous work related to the proposed research by the applicant that will help to establish the experience and competence of the investigator to pursue the proposed project. Include pilot studies showing the work is feasible.

    4. Research Design and Methods: Description of proposed tests, methods or procedures should be explicit, sufficiently detailed, and well defined to allow adequate evaluation of the approach to the problem. Describe any new methodology and its advantage over existing methodologies.

       Discuss the potential difficulties and limitations of the proposed procedures and alternative approaches to achieve the aims.

    5. Ethical aspects: Discuss any ethical circumstances or issues of note in the research plan

BIOGRAPHICAL SKETCH
Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME:

eRA COMMONS USER NAME (credential, e.g., agency login):

POSITION TITLE:

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY

A. Personal Statement

Tailor this section to your specific application. Share your long-term career goals and your unique background and experiences that make you suited to carry out this proposal.

B. Positions, Scientific Appointments, and Honors

C. Contributions to Science

Career Development Plan

Guidelines:
1. Page limit: 3 pages
2. Include the following:
   - Primary career goal
   - Long-term professional goals
   - Short-term professional goals
   - Training/experiences to get to goals
   - Additional skills/knowledge needed
   - How and when will progress be assessed
   - Timeline for your CDA
   - Two to three metrics to define success

Literature Cited

Guidelines:
1. Page limit: 4 pages
2. List all literature cited in your research plan.
3. Literature citations should be marked in the text of the Proposed Research Plan. Letters or numbers can be used to mark the text, and can be a superscript or a bracket
4. Each reference must list:
   - Corresponding mark in the Proposed Research Plan
   - Authors in the same order as they appear on the paper (list all or up to 15)
   - Full Title
   - Name of the book or journal
   - Volume number
   - Page numbers
   - Year of publication

AHA RESEARCH PROJECT ENVIRONMENT

This page is similar to the NIH SF424 (R&R) Facilities & Other Resources. You may copy and paste the information from the NIH document into this form. Upon completion, convert this form to Portable Document Format (pdf).

Two-page limit, unless noted below.
- **Collaborative Sciences Award** – Each co-PI is to upload a Research Project Environment (two-page limit each)
- **Merit Award** - O**ne** additional page may be used if a more extensive description is required, for a maximum of three pages
- **Predoctoral and Postdoctoral Fellowship Programs** - Sponsor's Research Environment has no page limit

Applicant's Name _____

FACILITIES:
(Specify the facilities to be used for the conduct of the proposed research. Indicate the performance sites and describe capacities, pertinent capabilities, relative proximity, and extent of availability to the project.)

LABORATORY:

CLINICAL:

ANIMAL:

COMPUTER:

OFFICE:

OTHER:
(Identify support services and specify the extent to which they will be available to the project.)

MAJOR EQUIPMENT:
(List the most important items already available to this project, noting the location and pertinent capabilities of each.)

BUDGET JUSTIFICATION (two-page limit)

- The following items must be addressed. These are the only items to be addressed.
- See page 2 for example. DELETE the example page.
- After completing the form, convert it to Portable Document Format (pdf) and upload it.

PERSONNEL
- All personnel receiving salary or consultant fees from the project should be listed, such as the Principal Investigator, Technicians/Postdoctoral Fellows, Consultants, Collaborating Investigators and Other Professionals
- For each person include: Name, degree(s), role on the project, percent of time to be devoted to project, and a description of the role on the project.

COMPUTER EQUIPMENT AND EQUIPMENT COSTS
- The AHA does not, in general, favor project support requests wherein the budget is devoted primarily to equipment purchase. However, such costs may be allowed if the equipment is essential to the conduct of the proposed research, well justified, and approved by the peer review committee and Research Committee or otherwise stated within the Request For Applications.
- Any computer equipment cost of $5,000 or more should be listed, with a brief justification.
- Total annual equipment costs (not including computer equipment above) of $10,000 or more should be listed, with a brief justification.

SUPPLIES
- In general, supplies are items that are consumable, expendable or of low unit cost, and are directly related to the functioning of the Research Project, such as chemicals, glassware, small pieces of equipment costing less than $100, etc.

TRAVEL
- Cost for travel to scientific meetings is **not required** to be included in the budget justification. The peer review committee will comment on the need for the additional travel funds; final approval will come from the Research Committee if the application is funded, unless otherwise stated within the Request For Applications.
- Other travel fund requests should be for the essential conduct of the project and must be described. For example, if requesting travel costs to reimburse for human subjects, provide a rationale here.

PUBLICATIONS/PRINTING
- Reasonable expenditures connected to publication of results of research, including research information services and library services, and purchase of reprints are acceptable charges during the term of the Award, which includes any authorized extension period.

OTHER PROJECT EXPENSES
- May include sub-categories such as Subcontracts, Patient Incentives\Reimbursement, and Animal Housing, amongst others.

BUDGET JUSTIFICATION EXAMPLE

Personnel:

Jane Smith, MD, PhD, Principal Investigator (30% effort) will be responsible for the overall administration and direction of the project. She will analyze reaction of soluble IV9-HLA-A*0201 complex with TCR on 68A62 and Iv9CTL.

Helen Thomas, MS, Other Professional (Research Technician) (25% effort) will focus on investigating the ability of various SL9-specific CD88 CCI clones from various HIV infection indidviuals whose T-cell receptors bind with different strength to the cognate pepMHC complex (SL9-HLA-A*0201) to supress viral replication in HIV infected cells *in vitro*. In addition, she will maintain initial preparaton of the CTL clones and will characterize them on a regular basis to ensure maintenance of their initial quality.

Thomas Club, PhD, Technician/Postdoctoral Fellow (100% effort) will be involved in all the measurement of SD50 and SD25 for RT- and gag-derived peptides required to induce various responses of anti-HIV CTL. Most of this effort will be directed towards measurement of the intervals of epitope densities on target cells required for various responses on anit-HIV CTL.

Jane Jones, PhD, Technician/Postdoctoral Fellow (100% effort) will be responsible for the isolation and characterization of recominant MHC class I modules using Drosophila Melanogaster and E.coli expression systems and measurement of kinetics and affinity of reactions between soluble complex of immunodominant peptide SL9 with HLA-A-*0201 soluble protein and TCR on various clones of live anti-SK9 CTL. Dr. Jones will also measure levels of a,b-TCR and CD8 molecules on anti-SL9 CTL.

Equipment:

Purchase of a Thermoccler ($10,000) and HPLC Fraction Collector ($15,000) is requested during the first year. The requested equipment is necessary for this project and will be used extensively to analyze IV9-HLA-A*0201 complex.

Publications:

A total of $5,000 is requested in Year 3 to support publication of research findings in peer-reviewed journals.

Required Mentor Documents

Primary Mentor:
1. Primary Mentor's Training Plan (4-page limit)
2. Mentor's List of Past and Current Trainees (3-page limit)
3. Biographical Sketch/Bibliography (5-page limit)

Secondary Mentor:
1. Mentor's List of Past and Current Trainees (3-page limit)
2. Biographical Sketch/Bibliography (5-page limit)
3. Mentor's Letter (3-page limit)

Additional Mentors:
1. Biographical Sketch/Bibliography (5-page limit)
2. Mentor's Letter (3-page limit)

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Mentor Letter of Support

Guidelines:
1. Page Limit: 3 pages
2. No more than 15 characters per inch (cpi) or an average of no more than 15 cpi (cpi includes symbols, punctuation and spaces)
3. No less than ¾" margins on all four sides
4. Maximum of 50 lines per page
5. Arial font style, 12-point font size for Windows users; Helvetica font style, 12-point font size for Macintosh users
6. Only Portable Document Format (pdf) files are accepted

Describe:
- Your role in supporting the applicant and the project, including accessibility and your personal and professional commitment.
- Space and/or resources you are making available to the applicant.
- Your relationship to the applicant and to the other members of the Mentoring Team.
- What special skills or perspective can you offer to the applicant?
- How you intend to support the growth of the applicant's academic career.
- Ideas for teaching the values, rules and operating procedures in academic medicine, such as how the merit and promotion system works and helping the applicant advance to the next level.
- A testimonial of what mentoring support has meant to you while establishing your career.
- You might give specific examples of goals attained, projects completed, promotions, grants or awards earned, obstacles overcome, and anything else you feel is attributable to mentorship you received.
- What do you value most about mentorship, and what do you find to be most rewarding about it?
- How will you support the applicant with his/her subsequent grant applications, developing research ideas or writing manuscripts?
- How will you guide the applicant to reach his/her independent goals?
- Will you facilitate the applicant in professional activities outside of the institution (regional, state, national organizations)?
- How will you help the applicant create a network of peers and advisors?

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Department Head Letter

Guidelines:
1. Page limit: 5 pages
2. Include the following:
    - The applicant's academic appointment, career stage and promise
    - Your knowledge of the applicant's past scientific accomplishments and publications
    - The applicant's demonstrated commitment to research related to the proposal
    - The institution's commitment to the applicant
    - Date of applicant's last salary review
    - The salary for this applicant falls within the following percentile range for faculty at the same level in my department: 0-25th, 26th-50th, 51st-75th, 76th-100th
3. The letter will be uploaded by the applicant.

Please note: The applicant cannot submit their application without this letter.

Guidelines:
1. Page Limit: 4 pages
2. No more than 15 characters per inch (cpi) or an average of no more than 15 cpi
3. No less than ¾" margins on all four sides
4. Maximum of 50 lines per page
5. Arial font style, 12-point font size for Windows users; Helvetica font style, 12-point font size for Macintosh users
6. Only PDF files are accepted

Detail your plan for:

- Proposed research training of this applicant
- Assessment of the applicant's skills
- Assessment of the primary mentor's skills that will be applied/learned by the applicant
- Funds available to the applicant from the primary sponsor

Include the following:
1. Describe research in progress in the mentor's lab.
2. Describe your plan to develop the applicant's research capabilities. Include:
   - Mentor's role and personal commitment to the applicant
   - Trainee's accessibility to the mentoring team
   - The sequence in which the applicant will be given increasing personal responsibility for the conduct of research
3. List related training or course work that will be required for specific technical skills or methods the applicant will expect to master (include the names, degrees and titles of other individuals who will be involved in training the applicant). Specify timelines for course work and training completion.
4. Title a separate section, "Instruction in responsible conduct of research and rigor and reproducibility".
   - Include the names, degrees and titles of all individuals who will be involved in training the applicant in the responsible conduct of research.
   - List the specific characteristics of the training program
5. Address the relationship of the research training plan to the career goals laid out in the applicant's career development plan.
6. Provide your assessment of the applicant.
7. Title a separate section, "Mentor's Qualifications". Address:
   - What special skills or perspective can you offer to the applicant?
   - How do you intend to support the growth of the applicant's academic career?
   - Ideas for teaching the values, rules and operating procedures in academic medicine, and helping the applicant advance to the next level.
   - A testimonial of what mentoring support has meant to you while establishing your career. Give specific examples of anything attributable to mentorship you received, such as goals attained, projects completed, promotions, grants or awards earned, obstacles overcome, etc.
   - What do you value most about mentorship, and what do you find to be most rewarding about it?

8. Resources: Describe the space and source of all funds (external and internal) available to the applicant, including departmental and institutional funds.

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Mentor's List of Past and Current Trainees

Guidelines:
Primary and Secondary Mentors only
Limit of 3 pages

Predoctoral Trainees of [Mentor's Name]

Past / Current Trainee	Trainee Name (Where Training Occurred	Training Period (Degree)	Prior Academic Degree Institution(s)	Prior Academic Degree(s)	Prior Academic Degree Year(s)	Title of Research Project	Current Position of Past Trainees / Source of Support of Current Trainees
Past	Jones, K (Harvard)	94-99 (PhD)	U. of MD	BA	94	Role of Transcription Factor X in Synaptic Plasticity	Asst. Scientist, Scripps Research Foundation

Postdoctoral Trainees of [Mentor's Name]

Past / Current Trainee	Trainee Name (Where Training Occurred)	Postdoc Research Training Period	Prior Academic Degree(s)	Prior Academic Degree Year(s)	Prior Academic Degree Institution(s)	Title of Research Project	Current Position of Past Trainees / Source of Support of Current Trainees
Current	Jones, T. (Cornell)	18-22	MD/PhD	18	U. of MD	Role of Transcription Factor X in Synaptic Plasticity	Asst. Scientist, Scripps Research Foundation

Tips for how to write an AHA Lay Summary

Address the following points:
1. What is the major problem being addressed by this study?
2. What specific questions are you asking and how will you attempt to answer them?
3. Please **do not** list your specific aims - this is a brief overview targeted for a lay audience.
4. What is the potential overall impact of this work on the mission of the AHA?

Note: The AHA recommends that the lay summary be written at an *8th grade level*.
▪ Click on Home → Editor → Insights → Document Stats → Readability → Flesch Kincaid Grade Level to find your summary's readability grade.

Address the: who/what/where/when/how many/why?

- Justify your research - predict and cover the "so what?" factor. Why does it matter?
- Give some background and context to the research. What prompted you to do it?
- Follow a logical order. This may not always coincide with a temporal order.
- Explain the impact of the work – what is going to change (especially in relation to wider society)
- Use short and simple sentences. Imagine you're talking to a high school student who's just stepped into an introductory class or a distant family member who works in an unrelated field
- Avoid jargon unless necessary
- Use first person and active voice ("we agreed" instead of "it was agreed").
- Use positive sentences: "You will have repeat appointments at least once a fortnight",

Refer to https://www.elsevier.com/connect/authors-update/in-a-nutshell-how-to-write-a-lay-summary for more tips