Vice President’s Clinical and Translational (VPCAT) Research Scholars Program

-- Summary Statement --

2021 VPCAT Cohort

Applicant Name: Kevin S. Shah, MD
Project Title: VPCAT Application Kevin Shah Cardiology

CRITIQUE 1

1. Career Plan: 3
2. Scientific Mentoring Plan: 2
3. Research Plan: 1
4. Institutional Support: 3
5. Applicant’s Overall Potential: 3

1. Career Plan

Strengths
• Has background in heart failure and biomarker research. Plan to study causal pathways in the development of heart failure is clear focus and within that are two clearly identified research areas (1) the cardiorenal syndrome and 2) the connection between viral infection and subsequent heart disease)
• VPCAT will contribute leadership training and career development, as well as formal training that augments existing biostats training

Weaknesses
• Training gap is not well articulated – the applicant already has training in biostats. The need for additional training not clearly defined.

2. Scientific Mentoring Plan

Strengths
• Primary mentor (Dr. Drakos) is senior faculty with national reputation. He is also mentoring on the 3i seed grant project, so relationship will be well established. They have begun to develop joint manuscripts already. Co-mentor is director of the Cardiovascular Research Training Institute with special expertise in mechanistic studies in heart failure and track record of funding from NHLBI.
• Strong and clear letters from scientific mentor.

Weaknesses
• Monitoring plan is not well detailed
### 3. Research Plan

**Strengths**
- Timely and important topic and supported by research from 3i seed grant. Leverages his core research interests and the emergent situation of the COVID-19 pandemic. Clinical significance is obvious, with 20-28% of COVID-19 patients showing myocardial injury.
- Innovation – project combines traditional cardiovascular risk assessment, newly identified biomarkers, and potential novel/emergent biomarkers.
- Strengths and limitations of prior work are evaluated.
- Very clear research plan and evident how this will establish preliminary data for future funding applications

**Weaknesses**
- None noted.

### 4. Institutional Support

**Strengths**
- Current FTE is spelled out explicitly
- There is explicit commitment to meeting program requirements

**Weaknesses**
- Current FTE is 70% clinical, leaving 30% for combined administrative duties and research. Dedicating time to VPCAT program will need intentional attention, to make sure the time is actually allowed. Mitigating somewhat is that clinical work is directly relevant to the research topic.
- Some concern that the FTE committed by department may not actually be available. The verbiage seems to hedge (“best efforts to adjust schedule without affecting clinical care”); statement that if successful non-clinical time will be increased from 30% to 50% (but most K require 75% dedicated time). Mitigated by explicit statement in chair letter, stating he will ensure the candidate has the time to attend VPCAT sessions.

### 5. Applicant’s Overall Potential

**Strengths**
- Track record shows dedication to becoming a clinician investigator and demonstrates productivity. Career plan is clearly defined, demonstrates an appropriate career vision, and an important research niche. Strong scientific mentors with established relationship

**Weaknesses**
- Plan to monitor progress is not explicit
- Training gap – need for VPCAT (and subsequent K) not clearly articulated
- Minor questions about department commitment (will clinical demands overshadow)
**Reviewer Comments**

The research plan is clear and trajectory for a line of inquiry is evident. There is strong record of prior work, and the research is already funded by a seed grant.

If planning a K, a much stronger justification of the need for additional training will be needed – one wonders why not just go right for an R grant (is additional training actually necessary); with the training linked tightly to the research aims.

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### CRITIQUE 2

1. **Career Plan:** 3
2. **Scientific Mentoring Plan:** 2
3. **Research Plan:** 3
4. **Institutional Support:** 1
5. **Applicant’s Overall Potential:** 3

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#### 1. Career Plan

**Strengths**
- (Nothing noted)

**Weaknesses**
- The statement did not provide a framework to understand why the classes listed were the rate limiting knowledge in the process.

#### 2. Scientific Mentoring Plan

**Strengths**
- Both Drs. Drakos and Shaw are good mentoring choices.
- States that they are publishing together (not evident on CV at this point)

**Weaknesses**
- Is monthly mentoring for the primary mentor enough to make this project move at the required pace (COVID-19 is not forever)?

#### 3. Research Plan

**Strengths**
- The identification of biomarkers for predicting cardiac involvement in COVID is important
- Additional tools are needed to predict heart failure
- Has secondary component that involves kidney function

**Weaknesses**
- There is no description of how samples are obtained, processed etc.
- There was minimal description of stats
4. Institutional Support

Strengths
- Cardiology Chief says has full support
- Has seed funding from the U
- Good team at CVRTI

Weaknesses
- None noted

5. Applicant’s Overall Potential

Strengths
- Good team
- Tractable project

Weaknesses
- Not clear on the timeline, I expect it is related to the seed grant.
- The career plan was present but consisted of 2 classes that may or may not be the weak links in the process.
- Not clear on what and how this is going to be done? Are assays available for the biomarkers that have been listed?

Reviewer Comments
Good problem to work on but the overall plan was lacking in specifics. Team is good but it is not clear what work will be done by the applicant. There were many, many typos in application. Seems as if there was a lack of attention to detail and/or mentor input in preparing application.

CRITIQUE 3

1. Career Plan:  2
2. Scientific Mentoring Plan:  1
3. Research Plan:  2
4. Institutional Support:  1
5. Applicant’s Overall Potential:  1
1. Career Plan

**Strengths**
- Lays out nice summary of the bridge between prior work and future work, particularly in the important novel area of viral infection and chronic cardiovascular disease.
- Already obtaining a 3i UU grant and AHA grant shows good promise for a successful K23 application

**Weaknesses**
- Poor link between cover letter noting “I received focused training to become facile in biostatistics analysis utilizing both IBM SBSS and Systat SigmaPlot” and need for MDCRC course in Introduction to Biostatistics. Lack of congruence. Also, misspelling of SBSS, should be SPSS.
- Other grammar mistakes, (e.g., with a career goal of developing in to an independently funded clinical researcher) should be “into”

2. Scientific Mentoring Plan

**Strengths**
- Mentors are obviously highly experienced senior physician scientists with a strong and long track record of successfully helping junior investigators to research independence.
- Co-mentors, including Dr Shah who is a graduate of the VPCAT program, will help the candidate in his research goals.

**Weaknesses**
- None noted

3. Research Plan

**Strengths**
- Important and current public health problem
- Mentors with clear expertise in biomarkers associated with aims

**Weaknesses**
- “We will use traditional regression models, as well as random forest and Bayesian network analyses to identify the associations.” Unclear who has expertise in this modeling techniques to facilitate.

4. Institutional Support

**Strengths**
- Appear that the full 30% will be devoted to this project
- No other distractions except clinical time, which is in the Cardiovascular ICU, very much linked to research

**Weaknesses**
- None noted
## 5. Applicant’s Overall Potential

**Strengths**
- Clearly an ambitious candidate with already a strong track record of grant success. Will no doubt through strong mentorship committee realize his goal of NIH K funding.

**Weaknesses**
- Somewhat limited first-author publications, but recent track record looks promising.

### Reviewer Comments
Very strong application from an ambitious and well-qualified junior physician-scientist. Future applications should pay closer attention to grammar/spelling errors (e.g., in to when he means into or SBSS when he means SPSS) for future grant success.