**Purpose**
Affiliates of the University of Arizona College of Medicine – Phoenix (COM-P) have formed the Valley Research Partnership (VRP) to catalyze and support collaborative research amongst partnering institutions. The Partners are: COM-P, Banner University Medical Center – Phoenix (BUMC-P), St. Joseph’s Hospital and Medical Center/Barrow Neurological Institute (SJHMC/BNI), Phoenix Children’s Hospital (PCH), and Maricopa Integrated Health System (MIHS). The goal of this Collaborative Research and Research Training Program is to develop cross-institutional research collaborations to enhance extramural research funding for COM-P and its affiliates, accelerate career development and discovery, and improve healthcare.

The program aims to:
- Encourage development of innovative, interdisciplinary, collaborative projects, including multidisciplinary team approaches to issues in human health.
- Help early stage investigators with proposal development, develop successful careers and collaborations, and provide research support.
- Encourage established investigators to invigorate research programs with new collaborative and innovative lines of investigation.
- Promote faculty career development by linking established mentors to early stage investigators.
- Provide resources to engage trainees (medical students/graduate students/residents/fellows) in significant biomedical research projects.
- Provide balanced, timely, merit-driven peer review of VRP applications and support its fundamental value for fund allocation.
- Assess program impact by measuring external funding success, publications; new, viable research programs; institutional partnerships; and healthcare outcomes.

**Mechanisms**

**P1a Trainee Projects** (maximum $5,000 over one or two years): Proposals with an eligible VRP faculty Principal Investigators (PI) and a metro Phoenix medical/graduate student or resident/fellow mentee.

**P1b Trainee Projects** (maximum $10,000 over one or two years): Proposals with an eligible VRP faculty Principal Investigators (PI) and a metro Phoenix medical/graduate student or resident/fellow mentee.

**P2 Collaborative Projects** (maximum $50,000 over one or two years): Proposals with faculty PI from at least two different partnering institutions.

**Key P1 and P2 Dates and Submission Procedure**
- Request for Proposals (RFP) issued 19 December 2018
- P1a, P1b, and P2 Applications must be submitted by 5 PM MST on 1 March 2019 as a single searchable PDF to: PBC-VRPGrants@email.arizona.edu
- Peer Review Spring 2019
Eligibility

Round Four, PI eligible for this program include faculty members as defined by the partner institutions at BUMC-P, SJHMC/BNI, PCH, MIHS and COM-P. P1 Projects require an eligible PI from a partner institution and a metro Phoenix-based mentee (medical students/graduate students/residents/fellows). Undergraduate or postbac students are not eligible to serve as a mentee. P2 projects must include PIs from at least two VRP institutions. Institutional affiliation is determined by the source that provides the majority of eligible faculty salary. The VRP partners provide a list of potentially eligible PI and their research interests for publication by VRP Administration. Ultimate eligibility is determined by each participating partner.

Early Stage Investigators (ESI) are faculty with appointments below the level of Associate Professor with no record of extramural funding. For P2 proposals, ESI must provide a career plan and a mentoring plan, along with support letter(s) from the mentor and from the ESI department chair and/or institutional official committing to his/her career plan.

Project criteria. For P2 projects, applicants must provide a clear and concise explanation of how the project creates an extension/translation of existing work in which both teams/co-PIs bring unique value to the collaboration. The elements contributed by each member and the value to their outcomes of the project should be clearly demonstrated.

Application and Award Restrictions

P1 applicants may submit one application per cycle. A P1 mentee is limited to one lifetime award in that capacity.

P2 applicants may submit one application per cycle. Individual P2 awardees may receive funding only once. This restriction may be waived if an awardee can justify their critical/unique participation/contribution to a new investigator team. A waiver request must be made to the VRP Administration in writing prior to submitting an application. The Partnership will not consider a second award until completion of all prior awards (including extensions).
Funding Restrictions
Institutions may waive indirect costs

P1 Projects
- **Allowable Costs**
  - Equipment and/or supplies, reagents, resources, and procedures not otherwise available and necessary for the project
  - IT hardware and software costs
  - Mentee travel to a conference to present the work.
- **Prohibited costs.**
  - *All other expenses are prohibited*

P2 Projects
- Funds are for collaborative projects. The primary objective should be to create an extension/translation of existing work in which both teams/co-PIs bring unique value to the collaboration. The elements contributed by each member and their value to the outcomes of the project should be clearly demonstrated.
- **Allowable costs**
  - Maximum 5% coverage of PI salaries - maximum at NIH cap. PI(s) must indicate real percent effort on the project within the budget justification section.
  - Costs of equipment, supplies, reagents, resources, and procedures
  - Technical assistance
  - IT hardware and software costs
  - Travel for activity essential to achieving project goals: for example, to learn a new technique or present results at a conference
- **Prohibited costs.**
  - Office Supplies
  - Administrative support
  - Other infrastructure costs such as laboratory renovations

- **Administrative Service Charge.**
  - The UA charges a 1% service charge to all funds. Work with your department administrator to make sure your budget incorporates this fee.

Application Format
P1 Application Information.

*P1a & b Medical Student/Graduate student/Resident/Fellow Projects.*
We strongly recommend that both the P1 PI and mentee meet with the VRP Program Director prior to submission to discuss the P1 submission and review process.
P1a projects fund a maximum of $5,000 over one or two years to cover collaborative projects performed by an eligible VRP faculty PI and a metro Phoenix-based mentee. The P1 narrative is limited to 5 pages. P1b projects fund a maximum of $10,000 over one or two years to cover collaborative projects performed by an eligible VRP faculty PI and a metro Phoenix-based mentee. The P1 narrative is limited to 5 pages.

Applicants must disclose any prior VRP awards. Sections on Compliance, Responsible Conduct of Research, References, and Appendix are not subject to page limitations. Suggested page lengths are noted in parentheses. Applications must be single spaced, 11 point Arial font, with half inch margins. All applications require the following sections in order.

- **Cover Page(s).** Project type (e.g. P1) and Title, PI, Mentee, Performance Site(s), Department Administrator Name(s) and Contact Information, New Application or Resubmission, Applicant Signatures, Department Head Signature (UA Faculty), Signature from Responsible Institutional Officer (BUMC-P, PCH, MIHS, and SJHMC/BNI Faculty). Signatures from responsible institutional/departmental officials confirm applicant eligibility, availability of resources necessary to carry out project aims, and general acceptance of responsibilities described in the support letters. Proposals previously submitted under a different PI, mentee, title, or mechanism are considered resubmissions.

- **Resubmission information** (if applicable) (1 pg.). This section should address the reviewers' comments and indicate where changes are located in the proposal. Mark revised text in the proposal using track changes or changes in font. Please select YES to resubmission on the cover page.

- **Abstract.** A summary of the project including significance, specific aims, anticipated results and impact. Limit to less than 500 words and use clear language free of jargon.

- **Table of Contents.** This lists all cover and project content by page number.

- **Budget and Budget Justification.** Complete a detailed budget form for the year the proposal covers, indicating costs envisioned to complete the work. All costs should be justified in the Budget Justification statement by describing each line item. For example, describe the role of the PIs and their expertise. Percent effort committed to the project does not have to be stated. PI salary support and other personnel costs may not be requested. List details of supplies and quantities needed.

- **PIs, key personnel, and possible reviewers.** Include all project participants and identify their institution and title. Include mentors and research staff. Provide names of two expert reviewers not in conflict and their contact information.

- **Support Letters.** **UA faculty** must provide a chair’s letter. **BUMC-P, PCH, MIHS, and SJHMC/BNI faculty** must provide a letter from a senior responsible institutional official. These required letters confirm eligibility, the availability of resources such as space necessary to complete project aims,
and the ability of the PI to commit the necessary time to the project. Letters of support from mentors and/or other collaborators confirming support for the project may be included.

- **Biosketches.** PI, mentees and key personnel must provide NIH style biosketches.

- **Resources** – this section describes currently available resources, space, equipment and supplies necessary to implement the project.

- **Current and Pending Support.** Applicants must provide information regarding all active and pending research support, including title, funding agency, identification code, major goals, start and end dates, PI’s role, and annual direct costs.

- **Research Plan.** Please number the following items as noted in a Research Plan section of the proposal.
  1. **Specific Aims** (0.25 pg.) indicate feasible, specific, well-defined goal(s) for the project. The aim(s) should address a gap in knowledge.
  2. **Research Strategy**
     A. **Background, Significance, Impact, Innovation** (1 pg.). This section is specifically related to the project at hand, and provides enough information for a clinical or basic scientist to understand and review it easily. It is based on the applicants’ thorough, comprehensive review of literature, but requires a sharp focus on knowledge gaps targeted by the aim(s). This section clarifies each aim’s impact, significance, and rationale.
     B. **Previous Related Work** (0.5 pg.). This section emphasizes work related to the project at hand, and provides evidence that applicants can perform the aims. Applicants should tie each piece of information/data they present here to an activity in the project, and provide an interpretation. Applicants can incorporate this information into Research Design and Methods. Preliminary data are not required. However, an explanation for the absence of preliminary data will help reviewers score the project fairly.
     C. **Research Design and Methods** (2 pg.)–This section fleshes out the aims. The approach must be feasible. **Statistical consultation is highly recommended. Statistical flaws are moderate weaknesses, which will severely limit funding likelihood.** Each aim requires these segments:
       i. Rationale
       ii. Design
         a. Where appropriate, design includes a formal power calculation.
         b. Consider appropriate positive and negative controls.
       iii. Analytic methods
         a. Where appropriate, provide statistically justified methods for data manipulation.
iv. Expected outcomes
v. Interpretation of any/all possible results.
vi. Potential problems and alternative strategies.

D. Timeline and Deliverables (0.25 pg.). Applicants construct a feasible timeline for project activities and sequence, including outcomes and results dissemination. Applicants should disclose mentee time available for the project. The choice of project should be based in part on time the mentee can devote to the project.

E. Future Plans (0.25 pg.). Applicants indicate possible future studies and funding building on the application’s possible outcomes.

3. Mentoring Plan (0.5 pg.). This section describes mentoring interactions between the PI and the mentee. Areas important to address: a) match of PI experience to project; b) PI’s experience in general mentoring activities.

4. Career Development Plan (0.25 pg.). This plan covers mentees. It indicates educational experiences the mentee is required to complete as part of the project (such as coursework, reading material, conferences, tutorials) and methods they will use to distribute project results (publication, conference, etc.).

5. Collaborative Arrangements. Provide any applicable collaborations associated with this project. Not required for this mechanism.

6. Compliance Plan. Applicants must report on plans to comply with federal, state, and local regulations including those regarding human subjects, vertebrate animals, and biohazards. Institutional officers will help applicants plan for appropriate compliance measures. Institutional Human Subject, Vertebrate Animal, Biosafety approval, and other regulatory obligations are not required at time of submission, but must be initiated immediately following award notification. The PI must provide evidence of compliance approval to VRP Administration before the award start date. If approvals are not obtained within the required time frame, the award may be revoked or deferred unless VRP Administration receives an acceptable justification for the delay.

7. Responsible Conduct of Research (RCR). VRP expects its awardees to practice responsible and ethical conduct of research. The P1 application must include an RCR training description for mentees that conforms to University of Arizona http://rgw.arizona.edu/research-compliance/rcr and NIH policy https://grants.nih.gov/grants/guide/notice-files/not-od-10-019.html

8. References.

9. Appendix. This includes unavailable published/accepted abstracts/manuscripts; patents; surveys/data collection instruments.
P2 Application Information.

P2 Collaborative Projects.
We strongly recommend all P2 applicants meet with the VRP Program Director prior to submission to discuss the P2 submission and review process. Both PIs should be present at the meeting.

P2 Projects fund a maximum $50,000 over one or two years and require faculty PIs from at least two different VRP contributing partner institutions. The P2 narrative is limited to 8 pages. Parentheses indicate suggested page lengths. Responsible Conduct of Research, Compliance Plan, References, and Appendix are not included in page limits. Applications must be single spaced, 11 point Arial font, with half inch margins. All applications require the following sections in order.

- **Cover Page(s).** Project type (e.g. P2) and Title, PIs, Performance Site(s), Department Administrator Name(s) and Contact Information, New Application or Resubmission, Applicant Signatures, Department Head Signature (UA Faculty), Signature from Responsible Institutional Officer (BUMC-P, PCH, MIHS, and SJHMC/BNI Faculty). Proposals previously submitted under different PIs, title, or mechanism are considered resubmissions. Signatures from responsible institutional/departmental officials confirm applicant eligibility, availability of resources necessary to carry out project aims, and general acceptance of responsibilities described in the support letters.

- **Resubmission information** (if applicable) (2 pg.). This section should address the reviewers' comments and indicate where changes are located in the proposal. Mark revised text in the proposal using track changes or changes in font. Please choose YES to resubmission on the cover page.

- **Abstract.** A summary of the project including significance, specific aims, anticipated results, and impact. Limit length to less than 500 words and use clear language free of jargon.

- **Table of Contents.** This lists all cover and project content by page number.

- **Budget and Budget Justification.** Complete a detailed budget form for each co-PI and for each year of the proposal, indicating costs envisioned to complete the project. All costs should be justified in the Budget Justification statement by describing each line item. For example, describe the role of the PIs, their expertise, and effort committed to the project. Percent effort for PIs is capped at 5% with the maximum salary support at the NIH cap. List details of supplies and quantities needed.

- **PIs, key personnel, and possible reviewers.** Include all project participants and identify their institution and title regardless of salary support. Include mentors and research staff. Provide names of two expert reviewers not in conflict and their contact information.

- **Support Letters.** UA faculty must provide a chair’s letter. BUMC-P, PCH, MIHS, and SJHMC/BNI faculty must provide a letter from a senior responsible institutional official. These required letters confirm eligibility, the
availability of resources such as space necessary to complete project aims, and the ability of the PI to commit the necessary time to the project. Letters of support from mentors and/or other collaborators confirming support for the project may be included.

- **Biosketches.** PIs and key personnel must provide NIH style biosketches.
- **Resources** – this section describes available resources, space, equipment and supplies necessary to implement the project.
- **Current and Pending Support.** PIs and key personnel must provide information regarding all active and pending research support, including title, funding agency, identification code, major goals, start and end dates, roles, and annual direct costs.
- **Research Plan.** Please number the following items as noted in a Research Plan section of the proposal.

1. **Specific Aims** (0.5 pg.) indicate feasible, specific, well-defined goal(s) for the project. The aim(s) should address knowledge gaps. For each aim, clearly indicate the performance site and the contribution of each co-PI.

2. **Research Strategy**
   A. **Background, Significance, Impact, Innovation** (2 pg.). This section is specifically related to the project at hand, provides enough information for a clinical or basic scientist to understand and review it easily. It is based on the applicants’ thorough, comprehensive review of literature, but requires a sharp focus on knowledge gaps targeted by the aim(s). This section clarifies each aim’s impact, significance, and rationale.

   B. **Previous Related Work** (1 pg.). This section emphasizes work related to the project at hand, and provides evidence that applicants can perform the aims. Applicants should tie each piece of information/data to an activity in the project, and provide an interpretation of the work/data they present. Applicants can incorporate this section into Research Design and Methods. Preliminary data are not required. However, an explanation for the absence of preliminary data will help reviewers score the project fairly.

   C. **Research Design and Methods** (3 pg.). This section fleshes out the aims. The approach must be feasible. *Statistical consultation is highly recommended. Statistical flaws are moderate weaknesses, which will severely limit funding likelihood.* Each aim requires these segments:

   a. Rationale

   b. Design

   i. Where appropriate, design includes a formal power calculation.

   ii. Consider appropriate positive and negative controls.
c. Analytic methods
   i. Where appropriate, provide statistically justified methods for data manipulation.

d. Expected outcomes
e. Interpretation of any/all possible results.
f. Potential problems and alternative strategies.

D. Timeline and deliverables (0.25 pg.). Applicants construct a timeline for project activities and sequence that includes outcomes and results dissemination.

E. Future Plans (0.25 pg.). Applicants indicate possible future studies and funding building on this application.

3. Collaborative Arrangements (0.25 pg.). Applicants must provide a clear and concise explanation of how the plan creates an extension/translation of existing work in which both teams/co-PIs bring unique value to the collaboration. The elements contributed by each member and the value to the outcomes of the project should be clearly articulated.

4. Mentoring Plan (ESI) (0.5 pg.). This section describes interactions between an ESI and a mentor, and how any mentoring deficiencies will be ameliorated. Areas important to address: a) match of mentor experience to the ESI research career objectives; b) mentor's experience in general mentoring activities.

5. Career Development Plan (0.25 pg.). This plan covers ESI.

6. Compliance Plan. Applicants must report plans to comply with federal, state, and local regulations including those regarding human subjects, vertebrate animals, and biohazards. Institutional officers will help applicants plan for appropriate compliance measures. Institutional Human Subject, Vertebrate Animal, Biosafety approval, and other regulatory obligations are not required at time of submission, but must be initiated immediately following award notification. PIs must obtain approvals before the award start date set by VRP Administration. If PIs do not provide evidence of compliance approval to VRP Administration within the required time frame, the award may be revoked or deferred unless VRP Administration receives an acceptable justification for the delay.

7. Responsible Conduct of Research Plan. The VRP expects all awardees to practice responsible and ethical conduct of research. This application must include an RCR training description for medical students, graduate students, residents, and fellows that conforms to University of Arizona http://rgw.arizona.edu/research-compliance/rcr and NIH policy https://grants.nih.gov/grants/guide/notice-files/not-od-10-019.html.

8. References

9. Appendix. This includes unavailable published/accepted abstracts/manuscripts; patents; surveys/data collection instruments.
Review

Primary Review

Valley Research Partnership models primary review on procedures and criteria developed by the National Institutes of Health [https://grants.nih.gov/grants/peer/guidelines_general/scoring_system_and_procedure.pdf](https://grants.nih.gov/grants/peer/guidelines_general/scoring_system_and_procedure.pdf). All mechanisms are reviewed on applicable criteria described below. P1a & b and P2 applications will be reviewed separately. VRP Administration will recruit and appoint Scientific Review Committee (SRC) members who are academic health professionals and scientists with broad medical and basic science knowledge, review experience, and are generally based in metropolitan Phoenix. Applications and review activities will remain confidential. Before the SRC meets, VRP Administration will assign each application to several primary reviewers for review and scoring. The primary reviewers will compose a written review before the SRC review meeting using the criteria and scoring system described below. All SRC members may formulate their own opinions of any application prior to the meeting. VRP Administration may solicit written opinions from outside reviewers if appropriate expertise is not available or at primary reviewer request; the opinions will be available to SRC members prior to the SRC review meeting. During the meeting, each application's primary reviewers will announce their overall scores and present their perceptions of strengths and weaknesses, and general discussion will ensue. Following the discussion all reviewers will then confidentially vote and record their overall impact scores privately. Members with a conflict of interest determined by a recent mentor/mentee relationship, research collaboration, or close departmental ties must recuse themselves during a conflicted project's discussion and vote. VRP Administration will collect score sheets following the meeting, and will average and round each application's scores to the nearest tenth of a point. These scores will determine an application’s priority ranking. After the meeting, primary reviewers may edit critiques and alter individual criterion scores. However, they may not change final overall impact scores. The final written reviews will be made available to the applicants. The results of the SRC will be forwarded to the appropriate Joint Funding Committee(s) for executive review (see below).

Primary Review – Criteria and scoring.

- **Significance/Impact** – Does the project address an important problem or barrier to progress in the field? If the project achieves the aims, how will scientific knowledge, technical capability, and/or clinical practice be improved? If this project is successful, what is the likelihood that the PIs will be able to follow-up with peer reviewed funding and publications?
- **PIs** – Are the PIs experiences appropriate for the project? Do ESI have appropriate experience and training? Do established PIs show ongoing accomplishments that advance their fields?
- **Innovation** – Does the project challenge or seek to shift current research or practice paradigms through new concepts, approaches, methods, or
interventions or an extension of previous information to a new field? Is the impact potentially broad or narrow?

- **Approach** – Are the overall strategy, design, methods, analysis, and interpretations well-reasoned and appropriate to accomplish the aims? Have PIs identified potential problems and alternative approaches? Is the project feasible? Will a pilot project establish feasibility, and does it manage risk? Are there plans to address human subjects and vertebrate animals?

- **Environment** – Will the environment for the work contribute to the probability of success? Is there adequate institutional support, equipment and other resources available to the project? Will the project benefit from unique features of the environment such as subject populations, or collaborative arrangements? Does the environment supply relevant opportunities for academic activities (seminars, rounds, lectures, etc.), training, and learning?

- **Collaborative arrangements** – Does each PI bring unique and critical value to the project. Does the proposal describe means to monitor and assure collaborative implementation and performance? The expectation is continuing, significant, meaningful interactions among project partners, and commitment to developing research interactions in our geographic region.

- **Mentoring Plan**
  - **ESI and trainees**: Is there adequate mentoring and monitoring of the individual’s career path? Are mentor’s qualifications appropriate and adequate for guiding the mentee’s career?

- **Project/Career Development Plan** – Will the plan contribute to long term academic success of the PIs and to collaborative projects in the greater Phoenix region?

- **Institutional support for applicants and project** – Is there clear commitment of sponsoring institutions to the career development of the PIs, the success of the project, and development of research collaboration in the greater Phoenix region?

- **Overall Impact and Merit** – Is it likely that this project will exert a sustained and powerful impact on the field, lead to extramural funding, provide significant career development opportunities to ESI and trainees, and enhance collaborative research in the greater Phoenix region?

**Executive Review**

Joint Funding Committees (JFC) will be comprised of representatives from each funding partner. Separate committees will control each pool of funds. Currently, there are four pools - BUMC-P and COM-P; PCH and COM-P; MIHS and COM-P; and SJHMC/BNI and COM-P. Collaborative projects among other partner pairs will be discussed and rated by the JFCs involved.

VRP Administration will provide JFCs a provisional funding plan dependent on SRC review, and a package of all materials relating to each proposal. JFC
members will evaluate and recommend each package for funding according to the funding plan and VRP program goals to ensure a fair review process. Consensus vote by institution will be required for funding.

**Applicant and Awardee Responsibilities**

**Regulatory Requirements.** Local approval for human and vertebrate animal studies and other regulatory obligations are not required at time of submission, but must be initiated immediately following award notification. All approvals must be obtained within 3 months of the award start date set by VRP Administration after communication with PIs. If approvals are not obtained within the required time frame, the award may be revoked or deferred unless VRP Administration receives an acceptable justification for the delay.

**Application.** The applicants must secure and complete all application components prior to submission. Applications that are incomplete at the time of submission/application deadline will not be considered further.

**Required Support Letters.** Applicants must obtain all required letters of support before timely application submission.

**Publication.** Awardees must cite funding from VRP in all relevant publications and presentations.

**Annual Progress Report.** All awardees must provide an annual progress report to Valley Research Partnership. The report includes progress on reaching aims and applicable submitted publications, grant applications, and intellectual property. If funds are not completely expended within the active award period, PIs may request an extension as specified in the award letter. For P2 projects, the progress report must clearly indicate the contribution made by each co-PI.

**Financial Report.** Awardees provide annual financial reports to VRP. For P2 projects, each co-PI must submit a separate financial report.

**Closeout.** Awardees provide final financial and progress reports to VRP, and close out human and vertebrate animal studies with appropriate authorities.

**Conference.** VRP awardees will be expected to attend and present their work at the annual ABRC/Flinn/VRP Research Conference.

**Membership on Scientific Review Committees.** VRP Administration expects all past awardees to participate in the scientific review of future applications if necessary.

**P2 PIs.** VRP P2 awards are made with the stipulation that the PI team stays intact for the duration of the award. Hence, changes to the PI team, e.g. departure of a PI from one partnering institution, may result in termination of the award.

**P1 Mentors.** Changes in P1 mentors may be permitted subject to justification and review by VRP administration. In these cases, the newly identified mentor needs to demonstrate competence in the project that was initially approved for funding and commit to the same obligations.