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 in the Phoenix metropolitan area. The Partners are: 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 medical education, career development, and extramural research funding for COM-P and its affiliates.

The program aims to:
- Encourage development of innovative, interdisciplinary, collaborative projects, including multidisciplinary team approaches to issues in human health.
- Help early career investigators develop successful careers, collaborations, and 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 career investigators.
- Educate investigators regarding cycles of proposal development and review.
- Establish resources to engage medical students/graduate students/residents/fellows in significant biomedical research projects.
- Ensure 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, collaborative basic/translational/clinical science and handoffs; new, viable educational/research programs; institutional partnerships; core scientific faculty enhancement; and healthcare outcomes.

Mechanisms

P1 Collaborative Medical Student/Graduate Student/Resident/Fellow Projects (maximum $10,000 over one year): Proposals with an eligible VRP faculty investigator and a metro Phoenix medical/graduate student or resident/fellow mentee.

P2 Collaborative Projects (maximum $80,000 over one to two years): Proposals with faculty investigators from at least two different partnering institutions.

P3 Collaborative Development Program (maximum $200,000 over one to two years): Proposals for each program development project must contain at least three thematically related subprojects, and an administrative core. Applications must be discussed with and preapproved by VRP Administration at least 4 months prior to submission. Permission to submit and final award depends on program quality, regional and institutional strategic goals, fund availability, and future funding.
potential. Each P3 program will have an individually designed application and review process formulated by VRP Administration in consultation with the applicant. Each P3 Program must contain PIs/Project Leaders from at least two different VRP institutions, and each project within the program must have at least one Project Leader from a VRP institution.

**Key P1 and P2 Dates and Submission Procedure**
- Request for Proposals (RFP) issued 16 December 2016
- P1 and P2 Applications must be submitted by 5 PM MST on 15 March 2017 as a single searchable PDF to: PBC-VRPGrants@email.arizona.edu
- Peer Review early May, 2017
- Executive Review late May, 2017
- Earliest anticipated awards July 1, 2017
- Forms & guidelines are available at http://phoenixmed.arizona.edu/vrp
- Questions may be addressed to Burt Feuerstein, M.D., Ph.D. Katharine Gonzales, M.Ed Research Office University of Arizona College of Medicine – Phoenix Telephone: 602-827-2677 Email: PBC-VRPGrants@email.arizona.edu

**Funding Restrictions**
Indirect costs are **NOT** supported

**P1 Restrictions**
- **Allowable Costs**
  - Equipment and/or supplies not otherwise available and necessary for the project
  - Technical assistance
  - Mentee travel to a conference to present the work.

**P2 and P3 Restrictions**
- **Collaborative New Work.** Funds are for unfunded collaborative projects. There can be no duplication or overlap of past or present activity. Expectation is for projects to evolve into collaborative, innovative aims.
- **Allowable costs**
  - Maximum 5% coverage of co-principal investigator salaries - maximum at NIH cap. Primary purpose is compensation for clinical release time. *Lead investigator(s) must indicate real percent effort on the project within the budget justification section.*
  - Costs of equipment, supplies, reagents, resources, and procedures
  - Technical assistance
Valley Research Partnership (VRP)
Program in Research Collaboration and Training Guidelines
Round Three
Issued 12/16/16

- Travel for activity essential to achieving project goals: for example, to learn a new technique or present results at a conference
  - For P3 only, administrative support.
- Prohibited costs.
  - Office Supplies
  - Computers and laptops
  - Other infrastructure costs such as lab renovations

Eligibility

Round Three partners 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 Principal Investigator from a partner institution and a metro Phoenix -based mentee. Undergraduate or postbac students are not eligible to serve as a mentee.

P2 projects and P3 programs must include investigators from at least two VRP institutions. Each project within a P3 program must contain at least one VRP Project Leader.

The VRP partners provide a list of eligible investigators and their research interests to VRP Administration. VRP Administration facilitates collaborations by publishing the lists and planning partnering sessions. Partner investigators become eligible after their institutions commit funds to the program and meet investigator requirements. Ultimate eligibility is determined by each participating partner. VRP encourages all metropolitan Phoenix faculty to participate in all proposal review and educational activities.

Early Career/Junior Investigators are faculty with appointments below the level of Associate Professor or equivalent and have not yet achieved a nationally recognized record of published investigation and research support. For P2 and P3 proposals, junior investigators must provide a substantial career plan including an investigative focus, and a mentoring plan guided by one or more established investigators. A strong support letter(s) from the mentor and from the junior investigator’s department chair and/or institutional official committing to his/her career plan, including space and financial support, is essential for a successful application.

Established Investigators are faculty with appointments above the level of Assistant Professor or equivalent and a nationally recognized record of published investigation and research support. For P2 and P3 proposals, applicants must provide a clear and concise explanation of how the plan supports a new and innovative line of investigation. Any departure from this criterion must be discussed with Partnership Administration.

Multiple Awards

P1 applicants may submit one application per cycle. P1 applicants cannot hold more than 1 award at one time.
P2 applicants may submit one application per cycle. They may receive – in total - two awards during any five year period. The five year period begins with the start date of the initial award. The Partnership will not consider a second award until completion of all prior awards (including extensions).

P3 applicants may submit one application per year. Applicants are defined by investigator status within a P3. Applicants cannot submit a second application while another application is active or pending.

Ineligible Investigators. The program funds faculty as defined by the individual VRP institutions. It will not fund medical students, graduate students, residents, or fellows as an investigator, although it may pay these individuals to carry out the project. Please contact Partnership Administration for eligibility clarification. Since partner relationships are multifaceted, there may be more flexibility than applicants imagine.

Application Format

P1 Application Information.

P1 Medical Student/Graduate student/Resident/Fellow Projects.

We strongly recommend that both P1 investigator and mentee meet with the VRP Program Officer at least two months prior to submission to discuss the P1 submission and review process. This is particularly important for mentees who have not previously submitted to VRP and for investigators who have not previously received a P1 or P2 award. Successful model P1 applications will be posted on the VRP web site.

P1 projects fund a maximum of $10,000 to cover collaborative projects performed by an eligible VRP faculty investigator and a metro Phoenix-based mentee. The P1 narrative is limited to 5 pages. 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, Investigator, Performance Site(s), Grant Administrator Name and Contact Information, New Application or Resubmission, Applicant Signature, 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.

- **Resubmission information** (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 investigators, their expertise, and time committed to the project. List details of supplies and quantities needed.

- **Investigators, 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, availability of resources necessary to complete project aims, and support for faculty academic career development. Letters of support from mentors and/or other collaborators confirming support for the project may be included.


- **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, investigator’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. The investigator should work with the student/resident/fellow to develop the aim(s).

  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 investigator and the mentee. Areas important to address: a) match of investigator experience to project; b) investigator’s experience in general mentoring activities; c) responsibilities of mentee and investigator; d) substantive plan for interactions – i.e., agenda items, regularly scheduled mentee meetings with investigator; e) plan to ameliorate mentoring deficiencies – for example, if the investigator has relatively little mentoring experience, a senior mentor can oversee the relationship.

4. Career Development Plan (0.25 pg.). This plan covers mentees. It indicates educational experiences the mentee requires to complete the
project (such as coursework, reading material, conferences, tutorials) and methods they will use to distribute project results (publication, conference, etc.). The plan should provide specific discrete items (e.g., "Annual Meeting of the Society for Adolescent Medicine, College of Public Health course #645: Statistics in Medicine") not simply general categories (e.g., "medicine meeting, statistics course").

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. For submission planning, applicants may view these resources:


7. **Responsible Conduct of Research (RCR).** VRP expects its awardees to practice responsible and ethical conduct of research. The P1 application must include a RCR training description for mentees that conforms to University of Arizona ([http://rgw.arizona.edu/research-compliance/rcr](http://rgw.arizona.edu/research-compliance/rcr)) and NIH policy ([http://grants.nih.gov/grants/policy/nihgps_2012/nihgps_ch11.htm#_Toc271265113](http://grants.nih.gov/grants/policy/nihgps_2012/nihgps_ch11.htm#_Toc271265113)).

8. **References.**

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

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**P2 Application Information.**

**P2 Collaborative Projects.**

*We strongly recommend all new P2 applicants meet with the VRP Program Officer at least two months prior to submission to discuss the P2 submission and review process. Both Principal Investigators (PIs) should be present at the meeting. This is particularly important for PIs who have not previously received a P2 award.* Successful
model P2 applications will be posted on the VRP web site.

P2 Projects fund a maximum $80,000 over one to two years and requires faculty investigators 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, Investigator(s), Performance Site(s), Grant Administrator Name and Contact Information, New Application or Resubmission, Applicant Signature, Department Head Signature (UA Faculty), Signature from Responsible Institutional Officer (BUMC-P, PCH, MIHS, and SJHMC/BNI Faculty). Submit one cover page for each faculty investigator. A P2 proposal requires at least 2 cover pages. Proposals previously submitted under different investigator, 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** (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 partner 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 investigators, their expertise, and time committed to the project. List details of supplies and quantities needed.

- **Investigators, 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, availability of resources necessary to complete project aims, and support for faculty academic career development. Letters of support from mentors and/or other collaborators confirming support for the project may be included.

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

Current and Pending Support. Investigators 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.

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. **Mentoring Plan** (Early Stage/Junior Investigator (ES/J)) (0.5 pg.). This section describes interactions between an ES/J Investigator and a mentor, and how any mentoring deficiencies will be ameliorated. Areas important to address: a) match of mentor experience to the ES/J’s research career objectives; b) mentor’s experience in general mentoring activities; c) responsibilities of ES/J and mentor; d) substantive plan for interactions – i.e., agenda items, regularly scheduled ES/J/mentor meetings; e) plan to ameliorate mentoring deficiencies – for example: bolstering mentoring experience for the project if the mentor has relatively little mentoring experience, or plans for help in areas of mentor weakness (for example, statistics expertise).

4. **New Investigative Research** (Established Investigators)(0.5 pg.). This section provides a clear and concise explanation of how the project supports a new and innovative line of collaborative investigation.

5. **Collaborative Arrangements** (0.25 pg.). Applicants provide a concrete plan for collaborative activities.

6. **Career Development Plan** (0.25 pg.). This plan covers ES/I Faculty, and indicates educational experiences investigators require to complete the project (such as coursework, reading material, conferences, tutorials) and develop their career, along with methods used to disseminate project results.

7. **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. Investigators must obtain approvals before the award start date set by VRP Administration. If investigators 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. For submission planning, applicants may view these resources:

8. **Responsible Conduct of Research Plan.** The VRP expects all awardees to practice responsible and ethical conduct of research. This application must include a 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 [](http://grants.nih.gov/grants/policy/nihgps_2012/nihgps_ch11.htm#Toc271265113).

9. **References**

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

### P3 Application Information.

**P3 Collaborative Program Development Projects.**

P3 proposals require rigorous discussion with and preapproval by VRP Administration at least 4 months prior to submission. Permission to submit and final award are based on program quality, research and funding experience, history of collaboration, synergy with regional research goals, fund availability, and future funding potential. The review process for P3’s includes both a written proposal and a site visit. VRP Administration will develop the site visit in consultation with applicants and site visitors.

P3 programs fund a maximum of $200,000 over one to two years to initiate collaborative program development projects. The P3 is meant to seed a NIH P01-type effort that is an integrated, multi-project program revolving around a central theme and common goal. The application requires successful, experienced, independent investigators who can share knowledge and resources. Each P3 must involve Principal Investigator/Project Leaders from at least two VRP institutions. Each project within the P3 Collaborative Program must have at least one Project Leader who is faculty at a contributing VRP partner.

P3 program applications require three substantive components.

1) **Overall.** An overall description of the P3 developed by the Principal Investigator (PI).

2) **Projects.** There are at least three thematically related, hypothesis driven, research projects within each P3 Collaborative Program. Each project must have at least one Project Leader who is faculty at a contributing VRP institution.

3) **Core projects.** An administrative core is required. The program may also contain additional cores. A core is a project with aims that are not hypothesis driven and serves all program research projects. Cores are not reviewed on innovation. Examples might include a microscopy core, a pathology core, or a statistical core. Each collaborative core project must
have at least one Project Leader who is faculty at a contributing VRP institution.

All Applications must be *single spaced, 11 point Arial font, with half inch margins*. All applications require the following components. Suggested page lengths noted in parentheses.

1. **Overall.** The Overall Component provides a general overview of the program developed and led by the PI. It requires the following sections in order.
   - **Cover Page.** Project type (e.g. P3), Title, Principal Investigator (PI), Performance Site(s), Grant Administrator Name and Contact Information, New Application or Resubmission, PI Signature, Department Head Signature (UA Faculty), Signature from Responsible Institutional Officer (BUMC-P, PCH, MIHS, and SJHMC/BNI Faculty). One PI is responsible for the overall component and for leading the P3 Program. Signatures from responsible institutional/departmental officials confirm the overall PI’s eligibility, availability of resources necessary to carry out project aims, and general acceptance of responsibilities described in the support letters.
   - **Abstract.** A summary of the overall P3 Program includes significance, specific aims, and anticipated results and impact. It justifies the selection of the specific projects and cores, and indicates why their integration is necessary to fulfill overall program goals. Limit length to less than 500 words and use clear language free of jargon.
   - **Table of Contents.** This lists overall, project, and core contents by page number for the entire program.
   - **Support Letters.** UA Faculty must provide a chair’s letter. BUMC-P, PCH, MIHS, and SJHMC/BNI faculty provide a letter from a senior responsible institutional official. These required letters confirm eligibility, availability of resources necessary to complete program aims, and support for faculty academic career development. Letters of support from other collaborators confirming support for the program may be included.
   - **Current and Pending Support.** The PI provides information regarding all active and pending research support, including title, funding agency, identification code, major goals, start and end dates, role, and annual direct costs.
   - **Specific Aims** (1 pg.). List the specific goals of program research and summarize the expected outcomes.
   - **Overall Research Strategy** (5 pg.). Summarize the overall theme, goals, specific aims, and expected impact of the program on the broad field of research addressed by the P3 Program. Provide a succinct description of interactions among the parts of the program, how they act to synergize its impact compared to a collection of individual projects, and why they are
necessary to complete program goals. Indicate goals for the overall coordination and integration of all P3 program components (projects and cores). The PI may propose a scientific advisory board and describe the scientific expertise and responsibilities of the board members. However, the PI should not appoint board members at time of P3 submission.

- **Administrative Management** (1pg.). Explain the plans for organizational and administrative management of the overall program, and for coordination and communication within the program. Explain the methods that will be used for monitoring progress in the projects and effective use of the shared resource cores.

- **Future Plans** (0.25 pg.). Indicate possible future studies and funding building on this application.

2. **Projects.** Each project within the P3 Program should reflect a distinct, separate, scientifically meritorious research effort led by independent investigator(s), the Project Leader(s) (PL). In addition, the individual projects should be clearly interrelated and synergistic so that the research ideas, efforts, and outcomes of the program as a whole will offer a distinct advantage over pursuing the individual projects separately. The narrative for each project is limited to 8 pages. Responsible Conduct of Research, Compliance Plan, References, and Appendix are not included in page limits. Parentheses indicate suggested page lengths. Each project requires the following sections in order.

- **Cover Pages.** Title, Project Leader(s), Performance Site(s), Grant Administrator Name and Contact Information, New Application or Resubmission, Project Leader Signature, Department Head Signature (UA Faculty), Signature from Responsible Institutional Officer (BUMC-P, PCH, MIHS, and SJHMC/BNI Faculty). Submit one cover page for each Project Leader. Signatures from responsible institutional/departamental officials confirm applicant eligibility, availability of resources necessary to carry out subproject aims, and general acceptance of responsibilities described in the support letters.

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

- **Budget and Budget Justification.** Complete a detailed budget form for each year of the project, indicating costs envisioned to complete it. All costs should be justified in the Budget Justification statement by describing each line item. For example, describe the role of the Project Leader(s), his/her expertise, and time committed. List details of equipment, supplies and quantities needed.

- **PL(s), key personnel, and possible reviewers.** Include all 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, availability of resources necessary to complete subproject aims, and support for faculty academic career development. Letters of support from mentors and/or other collaborators confirming support for the project may be included.


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

- **Current and Pending Support.** PLs and key personnel 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 in the Research Plan section.

  1. **Specific Aims** (0.5 pg.) indicate feasible, specific, well-defined goal(s) for the project. The aim(s) should address knowledge gaps. Highlight interactions with other parts of the program.

  2. **Research Strategy**

     A. **Background, Significance, Impact** (2 pg.). This section is specifically related to the project at hand, and provides enough information to let a clinical or basic scientist 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, and highlights interactions with the rest of the program.

     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 may incorporate this section into Research Design and Methods. Preliminary data are not required. However, explanation for the absence of preliminary data will help reviewers score the project fairly.

     C. **Research Design and Methods** (3 pg.) – This section describes 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 subproject activities and that includes outcomes and results dissemination.

E. Future Plans (0.25 pg.). Applicants indicate possible future studies building on this subproject and its interactions with other parts of the program.

3. Mentoring Plan (ES/J) (0.5 pg.). This section defines interactions between a ES/J and a mentor. Areas important to address: a) match of mentor experience to ES/J’s research career objectives; b) mentor’s experience in general mentoring activities; c) responsibilities of ES/J and mentor; d) substantive plan for interactions – i.e., agenda items, regularly scheduled ES/J/mentor meetings; e) plan to ameliorate mentoring deficiencies – for example: bolstering mentoring experience for the project if the mentor has relatively little mentoring experience, or plans for help in areas of weakness (for example, statistics expertise).

4. Collaborative Arrangements (0.5 pg.). Investigators provide a concrete plan for collaborative activities between/among Program personnel and components.

5. Compliance Plan. Investigators 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, and Biosafety approval and other regulatory obligations are not required at time of submission, but must be initiated immediately following award notification. P3 program must obtain all approvals before award start date. If P3 program does not provide evidence of approval are within the required time frame, the award may be revoked or deferred unless VRP Administration receives an acceptable justification for the delay. For submission planning, investigators may view these resources:

6. **Responsible Conduct of Research Plan.** VRP expects awardees to practice responsible and ethical conduct of research. This application must include a 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 (http://grants.nih.gov/grants/policy/nihgps_2012/nihgps_ch11.htm#_Toc271265113).

7. **References**

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

**Administrative and Research Cores.** The administrative core component is a required component of the P3 that will manage day-to-day activities across the program, communications among investigators, contractual activities (if any), and other overall program activities, such as leadership meetings. Research cores are not a required component of the program. The description of this component requires the following sections in order. Suggested page lengths are in parentheses.

- **Cover Page(s).** Title, PL(s), Performance Site(s), Grant Administrator Name and Contact Information, New Application or Resubmission, Applicant Signature, 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.

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

- **Budget and Budget Justification.** Complete a detailed budget form for each year of the program, 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 PL, expertise, and time committed to the project. List details of equipment, supplies and quantities needed.

- **Investigators and key personnel.** Include all core participants and identify their institution and title regardless of salary support.

- **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, availability of
resources necessary to complete core aims, and support for faculty academic career development.


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

- **Current and Pending Support.** The PL and key personnel provide information regarding all active and pending research support, including title, funding agency, identification code, major goals of the project, start and end dates, role, and annual direct costs.

- **Administrative Core Plan.** Please number the following items as noted in a Plan section of the core description. There is a 3 page limit for this plan.
  1. **Specific Aims** (0.5 pg.) indicate feasible, well-defined goal(s) for the core in order of priority. State its relationship to program goals and how it is related to individual research projects and cores.
  2. **Operations Plan (2.5 pg.)** Describe the utility of the core to the program, indicate its facilities and/or services, and appropriateness of the core in relation to the scope of proposed administrative support. Describe plans for internal quality control of research, management of day-to-day activities, management of contractual agreements, and resolution of disputes.

- **Research Core Plan.** Please number the following items as noted in a Research Plan section of core description. Page limit for Research Core Specific Aims and Research Strategy is 5 pages.
  1. **Specific Aims** (0.5 pg.) indicate feasible, specific, well-defined goal(s) for the core. State relationships to program goals and how the core relates to individual research projects and other cores.
  2. **Research Strategy** (4.5 pg.) The description should list the projects the core will serve and the services it will provide. It should indicate a prioritization plan for providing services. Describe the facilities, techniques, and skills the core will provide and the roles of the core leader and key participants.
  3. **Compliance Plan.** The core must report plans to comply with federal, state, and local regulations including those regarding human subjects, vertebrate animals, and biohazards. Institutional officers will help the investigator 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 P3 program applicants must obtain all approvals within 3 months of award start date set by VRP Administration. If approvals are not obtained within the required time frame, VRP may be revoke or defer the award unless VRP
Administration receives an acceptable justification for the delay. For submission planning, applicants may view these resources:


4. **References**

5. **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). All mechanisms are reviewed on applicable criteria described below. Separate scientific review committees (SRCs) will review and score P1 and P2 applications. VRP Administration will constitute a special site visit committee to review P3 applications. The process will be similar to the procedure described for SRC review below. The site visit committee will review the P3 program components separately, but also will review the application as a whole.

VRP Administration will recruit and appoint 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 preliminary 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. The primary reviewers will announce their overall scores and present their perceptions of strengths and weaknesses, and general discussion will ensue. The P1 SRC will discuss all applications. The P2 SRC will discuss between 60-80% of the P2 applications with the best overall scores. As a result of discussion, the primary reviewers may modify their preliminary scores. The SRC may indicate that some applications would only need minor changes to receive a much better score. All reviewers will then confidentially vote and record their overall impact scores privately, although members voting outside the primary reviewers' range will announce their rationale before voting. 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 available to the applicants. If the application is discussed, a description of the discussion will also be available. If the SRC determines an application requires only minor changes to ameliorate weaknesses, it can rate a score as provisional. In that case, the Program Officer will ask the applicants to respond to SRC criticism. If the Program Officer rates the response as adequate, s/he can forward the application 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?
- **Investigators** – Are the investigators’ experiences appropriate for the project? Do early stage investigators have appropriate experience and training? Do established investigators 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 investigators 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?
- **Mentoring Plan/New Direction (as relevant)**
  - ES/J investigator, student, resident, or fellow: 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?
Established Investigator: Is there evidence that the project represents a serious effort and innovative departure from previous work?

- **Collaborative arrangements** – 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.

- **Project/Career Development Plan** – Will the plan contribute to long-term academic success of the investigators 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 investigators, 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, provide significant career development opportunities to investigators and students, 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, discussion, and scoring, 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. If there are no JFC objections, or if objections can be administratively resolved, no face-to-face meeting will be required. If necessary, the JFC will meet to resolve any issues. Consensus vote by institution will be required for funding. Any provisionally scored projects approved by the Program Officer will be reviewed by the appropriate JFC(s) for a final funding decision.

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 Partnership Administration after communication with investigators. 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.

**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, VRP Administration may extend the award’s active period for 6 months. If funds are not expended within this time, they must be returned.

**Financial Report.** Awardees provide annual financial reports to VRP.

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

**Symposium.** VRP will sponsor symposia for awardees, and will require each awardee to present their work.

**Peer Review Mentorship Opportunity.** ES/J investigators may partner with senior reviewers at review committee meetings to experience the process.