

Virginia Commonwealth University
Center on Health Disparities

**Research Training Programs for
Students Underrepresented in the
Biomedical Sciences**



VCU

VIRGINIA COMMONWEALTH UNIVERSITY

Make it real.

Virginia Commonwealth University

NIGMS/NIH-Funded Research Training Programs for Students Underrepresented in the Biomedical Sciences

Grant # / PI	Title	Dates	Description
T32GM092447 J. Sharpe (PI) S. Golding (co-I)	VCU Minority Access to Research Careers Program (MARC)	2010-2016	VCU undergraduate honors students
R25GM090084 L. De Felice (PI) S. Golding (co-I)	VCU Initiative for Maximizing Student Diversity (IMSD)	2010-2018	VCU undergraduates and PhD students
R25GM089614 J. Lloyd (PI) G. Buck (co-I)	VCU Postbaccalaureate Research Experience Program (PREP)	2010-2019	Recent college graduates
K12GM93817 P. Fisher (PI) J. Lloyd (coPI)	VCU Institutional Research Career Development Award (IRACDA)	2010-2016	Research and teaching training for postdoctoral fellows. Research at VCU; Teaching at Virginia Union University or Virginia State University

VCU MARC and IMSD undergrad- What?

- Research training with a faculty mentor
- Career development activities
- Salary during school year and in summer
- Travel to Annual Biomedical Research Conference for Minority Students (ABRCMS)
- Guidance in applying for graduate school
 - GRE test taking, choosing schools, writing personal statements, interview skills, etc

VCU IMSD & MARC undergrad programs

Successes

- Students into graduate and professional school
- Academic and social support to complete their Bachelors degree
- Undergraduate authorship
- Travel awards

Challenges

- Many students take a gap year and can be difficult to help them apply for graduate programs
- Complex lives, need to earn (beyond program salary)



VCU IMSD/MARC undergrad: What might translate to other institutions?

- “Molecular Lab Skills” Bootcamp (1 week)
- Travel awards to ABRCMS
- Career development series
- Organized summer program for undergraduate researchers
- Build sense of community for students with STEM interests (Research club)
- Seminar series featuring diverse faculty in the sciences (role models)



VCU PREP-What?

- Program for recent college grads aspiring to do PhD in biomedical sciences
- One year of research intensive training with a faculty mentor (75% research)
- Coaching on writing proposals, GRE test taking, choosing grad schools to apply to, writing personal statements, interview skills
- Graduate class or classes to fill undergraduate gaps

VCU PREP program

Successes

- Authorships
- Of 25 former students, 80% went to graduate school
- Several students have stayed at VCU for PhD
- 100% retention in graduate programs

Challenges

- Some students to medical school
- Difficult to transition students who aspire to MD/PhD programs



VCU PREP: What might translate to other institutions?

- Coaching for underrepresented postbacs or Masters students who want to do PhD
- Underrepresented postbacs could be hired as technicians, be volunteers, or be Masters students to get research experience



VCU IMSD PhD-What?

- Salary support provides additional slots for biomedical sciences PhD students from underrepresented groups
- Career development and social activities provide a network for PhD students and near-peer mentoring
- Academic enrichment available – slower pace if necessary

VCU IMSD PhD program

Successes

- Pipeline from VCU PREP to VCU IMSD
- Pipeline from PhD Portal admissions to IMSD
- Several PhD students have now graduated or are in final year

Challenges

- Recruiting underrepresented PhD students



VCU IMSD PhD: What might translate to other institutions?

- Support a faculty member to spearhead career development events for underrepresented PhD students and help create sense of community
- Recruit more advanced PhD students to mentor new PhD students
- Spreading out academics if necessary



VCU IRACDA-What?

- Postdoctoral research training at VCU (~75% effort)
- Training in teaching through Preparing Future Faculty (PFF) course series at VCU, and Summer Teaching Institutes
- Teaching externship at VSU or VUU partner institutions, teach an entire course and assimilate into faculty
- Instill an interest in research in students at the partner schools, take students into their VCU research lab
- Provide avenues for research collaborations between VCU and partner schools



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VCU IRACDA postdoctoral program

Successes

- Postdoctoral fellows get tenure-eligible faculty positions
- Improved courses and teaching methods at partner schools
- Students from partner schools into VCU labs and VCU PREP
- Great support from VCU
- 36% URM postdocs in VCU IRACDA

Challenges

- Recruiting postdoctoral fellows in early years
- Evaluation of research goals at partner institutions
- Unbudgeted costs for travel of trainees and applicants



VCU IRACDA: What might translate to other institutions?

- Facilitate opportunities for postdoctoral fellows to get teaching experience at community colleges, local minority-serving institutions
- Provide competitive travel funding for postdoctoral fellows to attend career development activities (such as National Academies Summer Institutes)
- Encourage postdoctoral fellows to obtain Preparing Future Faculty or similar certificates (provide tuition remission)

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