*PI/co-PI/Senior Personnel Name: Thomas Gilray

***Required fields**

Note: NSF has provided 15 project/proposal and 10 in-kind contribution entries for users to populate. Please leave any unused entries blank.

Project/Proposal Section:

Current and Pending Support includes all resources made available to an individual in support of and/or related to all of his/her research efforts, regardless of whether or not they have monetary value.[1] Information must be provided about all current and pending support, including this project, for ongoing projects, and for any proposals currently under consideration from whatever source, irrespective of whether such support is provided through the proposing organization or is provided directly to the individual. This includes, for example, Federal, State, local, foreign, public or private foundations, non-profit organizations, industrial or other commercial organizations, or internal funds allocated toward specific projects. Concurrent submission of a proposal to other organizations will not prejudice its review by NSF, if disclosed.[2]

[1] If the time commitment or dollar value is not readily ascertainable, reasonable estimates should be provided.
[2] The Biological Sciences Directorate exception to this policy is delineated in PAPPG Chapter II.D.2.

Projects/Proposals

1. *Project/Proposal Title : PPoSS: A Full-stack Approach to Declarative Analytics at Scale

*Status of Support : ○ Current ◉ Pending ○ Submission Planned ○ Transfer of Support

Proposal/Award Number (if available):

*Source of Support: NSF

*Primary Place of Performance : University of Alabama at Birmingham

Project/Proposal Start Date (MM/YYYY) (if available) : 08/2022

Project/Proposal End Date (MM/YYYY) (if available) : 08/2023

*Total Award Amount (including Indirect Costs): $ 166,232

*Person-Month(s) (or Partial Person-Months) Per Year Committed to the Project

*Year (YYYY)	*Person Months (##.##)	Year (YYYY)	Person Months (##.##)
1. 2022	1.26	4.	
2.		5.	
3.			

*Overall Objectives : Development of a full-stack approach to declarative analytics, covering four broad topic areas.

*Statement of Potential Overlap : This proposal is itself.

Projects/Proposals

2. *Project/Proposal Title : OAC: Optimizing Computation, Comunication, and IO for Iterated Parallel Relational Algebra

*Status of Support : ○ Current ◉ Pending ○ Submission Planned ○ Transfer of Support

Proposal/Award Number (if available):

*Source of Support: NSF

*Primary Place of Performance : University of Alabama at Birmingham

Project/Proposal Start Date (MM/YYYY) (if available) : 08/2022

Project/Proposal End Date (MM/YYYY) (if available) : 08/2025

*Total Award Amount (including Indirect Costs): $ 582,733

*Person-Month(s) (or Partial Person-Months) Per Year Committed to the Project

*Year (YYYY)	*Person Months (##.##)	Year (YYYY)	Person Months (##.##)
1. 2022	1.44	4.	
2. 2023	1.44	5.	
3. 2024	1.44		

*Overall Objectives : Make algorithmic innovation in all three aspects of computation, communication and IO to scale RA primitives to large scale supercomputers.

*Statement of Potential Overlap : This proposal deals with the HPC aspects of scaling just a parallel RA operation, while, the proposal in submission is a planning grant will make the initial steps in all aspects of the full stack of a logical inference system.

Projects/Proposals

3. *Project/Proposal Title : POLYMORPH (Promotion to Optimal Languages Yielding ModularOperator-driven Replacements and Programmatic Hooks)

*Status of Support : (•) Current ( ) Pending ( ) Submission Planned ( ) Transfer of Support

Proposal/Award Number (if available):

*Source of Support: DARPA

*Primary Place of Performance : University of Alabama at Birmingham

Project/Proposal Start Date (MM/YYYY) (if available) : 07/2021

Project/Proposal End Date (MM/YYYY) (if available) : 07/2025

*Total Award Amount (including Indirect Costs): $ 400,000

*Person-Month(s) (or Partial Person-Months) Per Year Committed to the Project

*Year (YYYY)	*Person Months (##.##)	Year (YYYY)	Person Months (##.##)
1. 2021	1.50	4. 2024	1.50
2. 2022	1.50	5.	
3. 2023	1.50		

*Overall Objectives : The POLYMORPH project will enable domain experts to re-engineer legacy C/C++ systems by replacing components, recomposing existing components, and adding hook systems to enable end-user extensibility.

*Statement of Potential Overlap : No significant overlap.