Current and Pending Support

The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.

Investigator: Manish Parashar	Other agencies (including NSF) to which this proposal has been/will be submit- None

Support: ☒ Current ☐ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title: Exascale Co-Design Center

This project explores power/performance tradeoffs for the application workflows at extreme scales and specifically, the meta-skeleton framework for these tradeoffs. There are no overlaps with proposed research.

Source of Support: Department of Energy (DoE), via subcontract from Oak Ridge National Laboratory (ORNL)/UT Battelle

Total Award Amount: $300,000 Total Award Period Covered: 01/01/2012-12/31/2016

Location of Project: Rutgers, The State University of New Jersey, New Brunswick, NJ Award Number: 4000126989

Person-Months Per Year Committed to the Project. 0.0 Cal: Acad: Sumr: 0.0

Support: ☒ Current ☐ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title: Scalable Data Management, Analysis, and Visualization

This project focuses on developing and deploying a data staging substrate for application workflows on production high-end computing systems. There are no overlaps with proposed research.

Source of Support: Department of Energy Award Number: SC0007455

Total Award Amount: $625,000 Total Award Period Covered: 02/15/2012-2/14/2016

Location of Project: Rutgers, The State University of New Jersey, New Brunswick, NJ

Person-Months Per Year Committed to the Project. 0.5 Cal: Acad: Sumr: 0.5

Support: ☒ Current ☐ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title: Partnership for Edge Physics Simulation

This project is developing a framework for enabling coupled fusion simulations and is specifically targeting memory-to-memory coupling using data staging approaches. There are no overlaps with proposed research.

Source of Support: Department of Energy Award Number: SC0008455

Total Award Amount: $300,000 Total Award Period Covered: 07/01/2012-06/31/2017

Location of Project: Rutgers, The State University of New Jersey, New Brunswick, NJ

Person-Months Per Year Committed to the Project. 0.0 Cal: Acad: Sumr: 0.0

Support: ☒ Current ☐ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title: Exploring Cloud Paradigm and Practices for Science and Engineering

The goal of this is to understand innovative science and engineering application formulations that are enabled by a hybrid federated ACI that includes Clouds and HPC resources, and to explore programming and middleware support that can enable these new application formulations. There are no overlaps with proposed research.

Source of Support: NSF Award Number: ACI1339036

Total Award Amount: $299,984 Total Award Period Covered: 06/01/2013-05/31/16

Location of Project: Rutgers, The State University of New Jersey

Person-Months Per Year Committed to the Project. 2 Cal: 2 Acad: Sumr:

Support: ☒ Current ☐ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title: Error Estimation, Data Assimilation and Uncertainty Quantification for Multiphysics and Multiscale Processes in Geological Media

This project is developing a framework for enabling coupled fusion simulations and is specifically targeting memory-to-memory coupling using data staging approaches. There are no overlaps with proposed research.

Source of Support: National Science Foundation Award Number: DMS 1228203

Total Award Amount: $210,000 Total Award Period Covered: 09/01/2012-08/31/2015

Location of Project: Rutgers, The State University of New Jersey, New Brunswick, NJ

Person-Months Per Year Committed to the Project. 0.0 Cal: Acad: Sumr: 0.0

---

*If this project has previously been funded by another agency, please list and furnish information for immediately preceding funding period.

Current and Pending Support

The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.

Investigator: Manish Parashar	Other agencies (including NSF) to which this proposal has been/will be submitted. None

Support: ☒ Current ☐ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title: Scalable Data Coupling Abstraction for Data-Intensive Simulation Workflows

This project is exploring programming abstractions and runtime systems for coupled workflows from a computer science perspective. There are no overlaps with proposed research.

Source of Support: National Science Foundation Award Number: ACI - 1310283

Total Award Amount: $547,283 Total Award Period Covered: 05/01/2013-04/30/2016

Location of Project: Rutgers, The State University of New Jersey, New Brunswick, NJ

Person-Months Per Year Committed to the Project. 0.25 Cal: Acad: Sumr: 0.25

Support: ☒ Current ☐ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title: An Experimental Platform for Investigating Energy-Performance Tradeoffs for Systems with Deep Memory Hierarchies

This infrastructure project develops an experimental hardware platform for studying power/performance tradeoffs. There are no overlaps with proposed research.

Source of Support: National Science Foundation Award Number: CNS - 1305375

Total Award Amount: $300,000 Total Award Period Covered: 04/01/2013-03/31/2016

Location of Project: Rutgers, The State University of New Jersey, New Brunswick, NJ

Person-Months Per Year Committed to the Project. 0.0 Cal: Acad: Sumr: 0.0

Support: ☒ Current ☐ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title: Runtime System for I/O staging in support of Voluminous in-situ Processing of extreme scale data: (RSVP)

This project explores conceptual solutions for runtime systems for in-situ processing of data intensive applications at extreme scales. There are no overlaps with proposed research.

Award Number: SC0008455

Source of Support: Department of Energy via subcontract from Oak Ridge National Laboratory (ORNL)/UT Battelle

Total Award Amount: $300,000 Total Award Period Covered: 11/01/2013 – 10/31/2016

Location of Project: Rutgers, The State University of New Jersey, New Brunswick, NJ

Person-Months Per Year Committed to the Project. 0.5 Cal: Acad: Sumr: 0.5

Support: ☒ Current ☐ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title: Advanced Compute and Data Cloud

This infrastructure project develops an experimental hardware platform for studying power/performance tradeoffs. There are no overlaps with proposed research.

Source of Support: New Jersey Higher Education Capital Facilities Grant Program Award Number: 047-12

Total Award Amount: $10,000,000 Total Award Period Covered: 11/01/2013 – 10/31/2016

Location of Project: Rutgers, The State University of New Jersey, New Brunswick, NJ

Person-Months Per Year Committed to the Project. 0.0 Cal: Acad: Sumr: 0.0

Support: ☒ Current ☐ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title: Development and Dissemination of MuscleMiner: An Imaging Informatics Tool for Muscle

The project designs, develops, validates and disseminates an image analysis and imaging informatics system (MuscleMiner). There are no overlaps with proposed research.

Source of Support: University of Florida Award Number: UFOER00010411

Total Award Amount: $150,000 Total Award Period Covered: 09/01/2014-08/31/2019

Location of Project: Rutgers, The State University of New Jersey, New Brunswick, NJ

Person-Months Per Year Committed to the Project. 0.5 Cal: Acad: Sumr: 0.5

*If this project has previously been funded by another agency, please list and furnish information for immediately preceding funding period.

Current and Pending Support

The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.

Investigator: Manish Parashar	Other agencies (including NSF) to which this proposal has been/will be submit- None

Support: ☒ Current ☐ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title: EAGER: Exploring Federations of Campus and National Cyberinfrastructure as Scalable Platforms for Science: A Case Study using Open Science Grid

The project is used as a case study for using the open science grid. There are no overlaps with proposed research.

Source of Support: National Science Foundation Award Number: ACI1441376

Total Award Amount: $279,624 Total Award Period Covered: 09/01/2014 – 04/30/2016

Location of Project: Rutgers, The State University of New Jersey, New Brunswick, NJ

Person-Months Per Year Committed to the Project. 0.0 Cal: Acad: Sumr: 0.0

Support: ☒ Current ☐ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title: OOI Rutgers Cyberinfrastructure Operations and Maintenance (PI) Award Number: 032775-001-019

This project operates and maintains OOI software/web interfaces; manages, archives, and does quality control of OOI data streams coming through the Regional Scale Node, Coastal and Global Scale Node and Endurance Array. There are no overlaps with proposed research. Source of Support: Consortium for Ocean Leadership (COL), National Science Foundation Ocean Observatories Initiative (OOI)

Total Award Amount: $11,542,986 Total Award Period Covered: 0 5 / 0 1 / 2 0 1 5 - 0 9 / 3 0 / 2 0 1 7

Location of Project: Rutgers, The State University of New Jersey, New Brunswick, NJ

Person-Months Per Year Committed to the Project. 0.0 Cal: Acad: Sumr: 0.0

Support: ☐ Current ☒ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title: S2I2: Impl: Chemicals and Materials Prediction Software-Institute

The goal is to develop cyber infrastructure enabled, multiscale, computational institute to enable the design of future chemicals and materials from first principles. There are no overlaps with proposed research.

Source of Support: National Science Foundation

Total Award Amount: $1,159,393 Total Award Period Covered: 02/01/2016 – 1/31/2021

Location of Project: Rutgers, The State University of New Jersey, New Brunswick, NJ

Person-Months Per Year Committed to the Project. 0.5 Cal: 0 Acad: 0 Sumr: 0.5

Support: ☐ Current ☒ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title: Fractured Subsurface Characterization using High Performance Computing & Guided by Big Data

The purpose of this research will emphasize high performance computation approaches for characterizing fractures using large subsurface seismic data sets, advanced computational approaches for modeling flow and transport in fractured subsurface systems and big data analytics for extraction of fracture related information. There are no overlaps with proposed research.

Source of Support: National Science Foundation

Total Award Amount: $314,574 Total Award Period Covered: 01/01/2016 – 12/31/2018

Location of Project: Rutgers, The State University of New Jersey, New Brunswick, NJ

Person-Months Per Year Committed to the Project. 0.5 Cal: 0 Acad: 0 Sumr: 0.5

Support: ☐ Current ☒ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title: NRT-IGE: Data Science Learning Concierge

This will serve as an immediate resource for students who have specific questions but will also facilitate peer learning to create a sustainable community for mentoring students from beginner to expert. There are no overlaps with proposed research.

Source of Support: National Science Foundation

Total Award Amount: $499,320 Total Award Period Covered: 01/01/2016 – 12/31/2018

Location of Project: Rutgers, The State University of New Jersey, New Brunswick, NJ

Person-Months Per Year Committed to the Project. 0.25 Cal: 0 Acad: 0 Sumr: 0.25

*If this project has previously been funded by another agency, please list and furnish information for immediately preceding funding period.

Current and Pending Support

The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.

Investigator: Manish Parashar	Other agencies (including NSF) to which this proposal has been/will be submitted. None

Support: ☐ Current ☒ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title: CC*DNI DIBBS: Rutgers University Virtual Data Facility (RU-VDF)

The goal is to conceptualize, design and implement ruVDF as a scalable shared-data infrastructure that will drive data-enabled collaborative research, and science and engineering innovation. There are no overlaps with proposed research.

Source of Support: National Science Foundation

Total Award Amount: $4,319,587 Total Award Period Covered: 09/01/2015 – 08/31/2020

Location of Project: Rutgers, The State University of New Jersey, New Brunswick, NJ

Person-Months Per Year Committed to the Project. 0.25 Cal: 0 Acad: 0 Sumr: 0.25

Support: ☐ Current ☒ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title: CSR: Medium: Sustainable and Resilient Computing in Virtualized Systems with Deep Memory Hierarchies

The goal of this research is to realize sustainable and resilient computing through autonomic management of instrumented datacenters with deep memory hierarchy. There are no overlaps with proposed research.

Source of Support: National Science Foundation

Total Award Amount: $799,275 Total Award Period Covered: 08/01/2015 – 07/31/2018

Location of Project: Rutgers, The State University of New Jersey, New Brunswick, NJ

Person-Months Per Year Committed to the Project. 0.5 Cal: 0 Acad: 0 Sumr: 0.5

Support: ☐ Current ☒ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title: BD Hubs: Collaborative Proposal: NORTHEAST: The North East Big Data Innovation Hub

Goal is to create and infrastructure that links together organizations across the region that are working in data science enabling sharing data, infrastructure, software and research approaches. There are no overlaps with proposed research.

Source of Support: National Science Foundation

Total Award Amount: $1,250,000 Total Award Period Covered: 10/01/2015-09/30/2018

Location of Project: Rutgers, The State University of New Jersey, New Brunswick, NJ

Person-Months Per Year Committed to the Project. 0.0 Cal: 0 Acad: 0 Sumr: 0.0

Support: ☐ Current ☒ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title: D3RM: Dynamic Distributed Data-centric Resource Management

The purpose will be a new approach to distributed resource management at experimental facilities in which science data, user requirements, and resource owner requirements are all first-class objects, named and capable of being reasoned about. There are no overlaps with proposed research.

Source of Support: Department of Energy (DOE)

Total Award Amount: $375,000 Total Award Period Covered: 09/01/2015-08/31/2018

Location of Project: Rutgers, The State University of New Jersey, New Brunswick, NJ

Person-Months Per Year Committed to the Project. 1.0 Cal: 0 Acad: 0 Sumr: 1.0

Support: ☐ Current ☒ Pending ☐ Submission Planned in Near Future ☐ *Transfer of Support

Project/Proposal Title: S2ES: Science-driven Data Management for multi-tiered storage (THIS PROPOSAL)

The project aims to develop a cooperative approach for storing and retrieving data where the user and the storage system work together to optimize performance with respect to user requirements, current system state, and characteristics of the tiered-storage system. There are no overlaps with proposed research.

Source of Support: Department of Energy (DOE)

Total Award Amount: $510,000 Total Award Period Covered: 09/01/2015-08/31/2018

Location of Project: Rutgers, The State University of New Jersey

Person-Months Per Year Committed to the Project. 0.75 Cal: 0 Acad: 0 Sumr: 0.75

---

*If this project has previously been funded by another agency, please list and furnish information for immediately preceding funding period.