**Template for White Paper Competition. Place your title here.**

**DMREF Project number:** DMREF Project Title

**DMREF PIs:** Department, University/National Laboratory, email address. [List those that will be affected by the proposed work (up to 5)]

**Partner Agency/Program:** Identify partner among those in the Interagency Collaborative Opportunity document.

**PIs from Partner Agency/Program:** Department, University/National Laboratory, email address. [List those that will be affected by the proposed work (up to 5)]

[White paper text is Times New Roman, 11 pt. White Papers are limited to 2 pages of text. A third page may be used if figures and references are incorporated. Margins are 0.75”.]

**Relevance to DMREF Project**

The White Paper must be led by a DMREF team. This section should clearly define how the proposed collaboration benefits the goals of the DMREF project. Supplemental funding will not be provided to start new projects or to significantly change the scope of the current project. It is acceptable to include more than one DMREF team, if this effort will provide a broader benefit. **Each DMREF team is limited to the equivalent of 1 White Paper**. It is possible that a DMREF team could contribute to two white papers if both contained a DMREF partner.

**Relevance to Partner (non-DMREF) Project**



**Figure.** Figures are optional, but can be used to emphasize certain points. [Figure caption font is Times New Roman, 10 pt.]

This activity is to encourage partnerships between DMREF teams and MGI-related efforts outside of DMREF. The accompanying document 'Interagency Collaborative Opportunities' provides an overview of MGI-related activities at DOE-BES (Computational Science Centers), DOE-EERE (Energy Materials Network), the Air Force Research Laboratory (AFRL), the National Institute of Standards and Technology (NIST), and NSF Material Innovation Platforms (MIPs). These are eligible partners. Please describe how the proposed collaboration also benefits the Partner. The PI Meeting will provide an opportunity to make meaningful connections.

**Proposed Work**

Please provide a detailed explanation as to how the proposed collaboration will accelerate research efforts consistent with the MGI vision. Most relevant here are topics that relate to data-driven research and efforts that will advance the progression of fundamental discoveries in processes, materials, or devices along the materials development continuum.

This MGI PI Meeting provides an opportunity to connect with other DMREF teams and MGI-related activities at other Federal Agencies. The [Materials\_Genome\_Strategic\_Plan](https://www.mgi.gov/sites/default/files/documents/mgi_strategic_plan_-_dec_2014.pdf) defines four specific goals: 1) Enable a Paradigm Shift in Culture, 2) Integrate Experiments, Computation, and Theory, 3) Facilitate Access to Materials Data, and 4) Equip the Next Generation Workforce. Objective 1.1 is to Encourage and Facilitate Integrated R&D. This objective specifically mentions that connections among theory, computation, and experiment; academia, National and Federal laboratories, and industry; science and engineering disciplines; and even Federal agencies are all critical to achieving the vision and demonstrating the value of the MGI approach. Successfully integrated research programs need strong multidisciplinary teams that span materials research activities. Communication within and among teams and across material and application domains is also a key component. The Federal Government can further emphasize integration among academia, National and Federal laboratories, and industry by supporting activities that increase interactions between the communities. Examples include establishing new partnership opportunities around foundational science and engineering problems, wherein an integrated, multidisciplinary team applies computational and experimental techniques toward achieving a specific performance goal in a material, process, or component. With broad Federal agency involvement in MGI, there are growing opportunities for cross-agency collaboration to take advantage of agency-specific expertise. Specifically, Milestone 1.1.4 relates to identifying new MGI-related cross-agency grants or coordinated projects.

  In this regard, at the 2018 MGI PI Meeting, NSF's DMREF program will make available opportunities for our PIs to collaborate with our Material Innovation Platforms, the DOE-BES's Computational Science Centers, the DOE-EERE's Energy Materials Network, NIST's Material Data Resources, Material Modeling Software and Tools, ChiMad, and MGI-related research programs at the AFRL and ARL. By definition, an effective collaboration must benefit both partners. These collaborations would be encouraged through possible supplements to DMREF projects to support meaningful interactions, generally facilitated through a graduate student or postdoc. This collaboration would be required to meaningfully support the goal of the DMREF project through application of the MGI philosophy. Specifically encouraged are components that would advance computationally-led and data-driven approaches to focused research and those that will progress fundamental research along the Materials Development Continuum.

**Request**

Briefly describe the resources that are required to accomplish the proposed work.

**Budget justification**

Supplement requests are generally not to exceed $100 K. These funds would often support a graduate student or postdoc that would interface between the DMREF team and the Partner, but are not specifically limited to this. Salary and travel support would likely be required. Other necessary resources will be considered, if appropriately justified. Official budget pages are not needed at this time.

**References**

References are not required. If references are necessary, please limit to no more than 10. Provide full citation, including title and full author list. Use Times New Roman 10 point.

1. A. B. Author, C. D. Author, and E. F. Co-Author, *Title of the Publication*, Journal **Volume**, page (year).

**Text for the White Paper is limited to 2 pages.**

**If a figure or references are included, the length must not exceed 3 pages.**

**Please submit as a PDF to:**

John Schlueter, [JSchluet@nsf.gov](mailto:JSchluet@nsf.gov)

**White paper deadline is Monday, April 9, 2018**