DOE OSTI
Open Science Infrastructure

NISO Plus 2022
February 15th, 2022

Carly Robinson
Assistant Director for
Information Products and Services

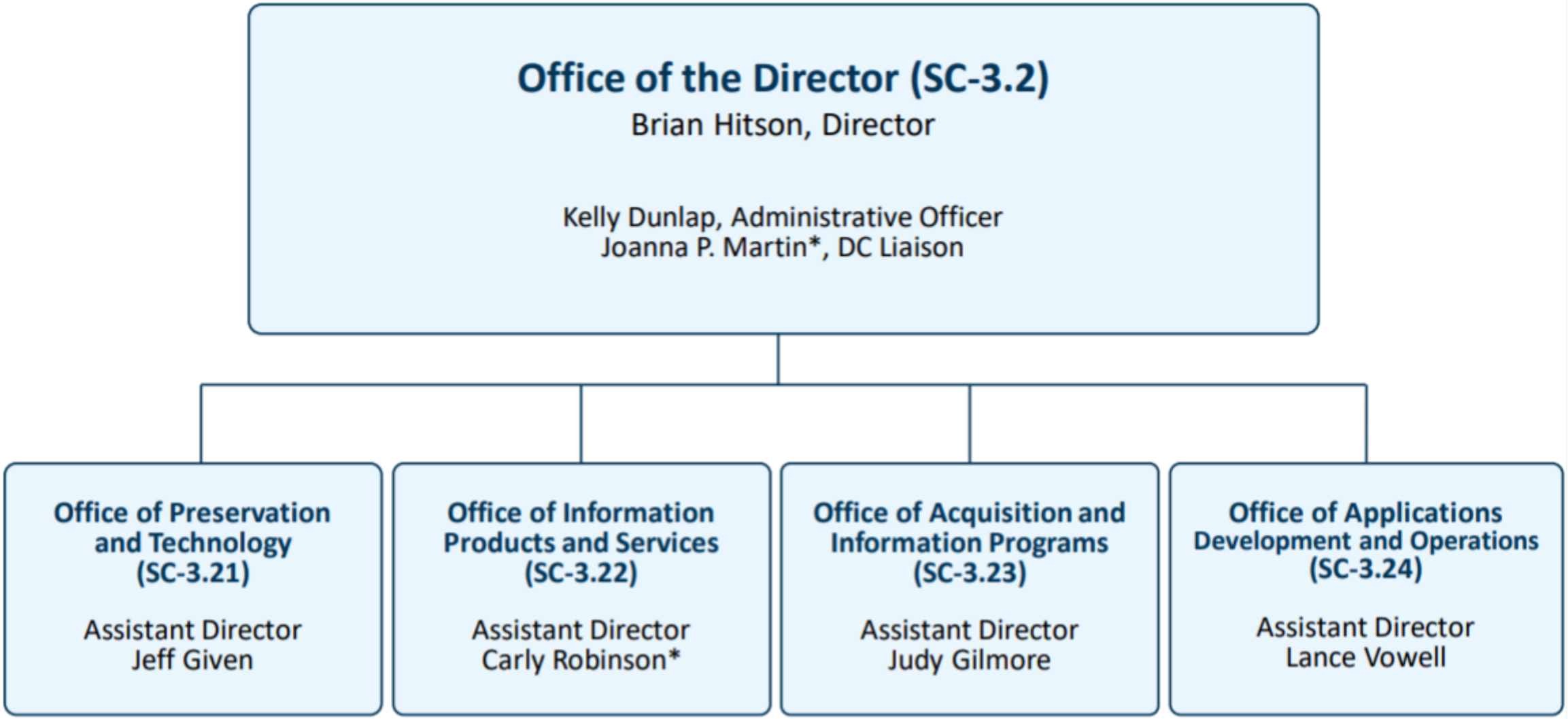
U.S. DEPARTMENT OF ENERGY | Office of Science | Office of Scientific and Technical Information

DOE OSTI Mission and Services

Mission: The Office of Scientific and Technical Information (OSTI) collects, preserves, and disseminates DOE-funded research and development results, both through OSTI search tools and through other commonly-used search engines.

Required by several laws: Energy Policy Act of 2005, P.L. 109-58, Section 982: "The Secretary, through the Office of Scientific and Technical Information, shall maintain within the Department publicly available collections of scientific and technical information resulting from research, development, demonstration, and commercial applications activities supported by the Department."

DOE OSTI Organization



OSTI Strategic Priorities

- Develop and provide leading-edge search tools

OSTI.GOV

DEPARTMENT OF ENERGY
DOE PAGES
Public Access Gateway for Energy & Science

- Promote open science and linking research objects through persistent identifier services

PIDs@ OSTI.GOV

Data ID Services

- Integrate AI/ML into OSTI workflows and tools for labor savings, metadata quality enhancement, and increased search precision

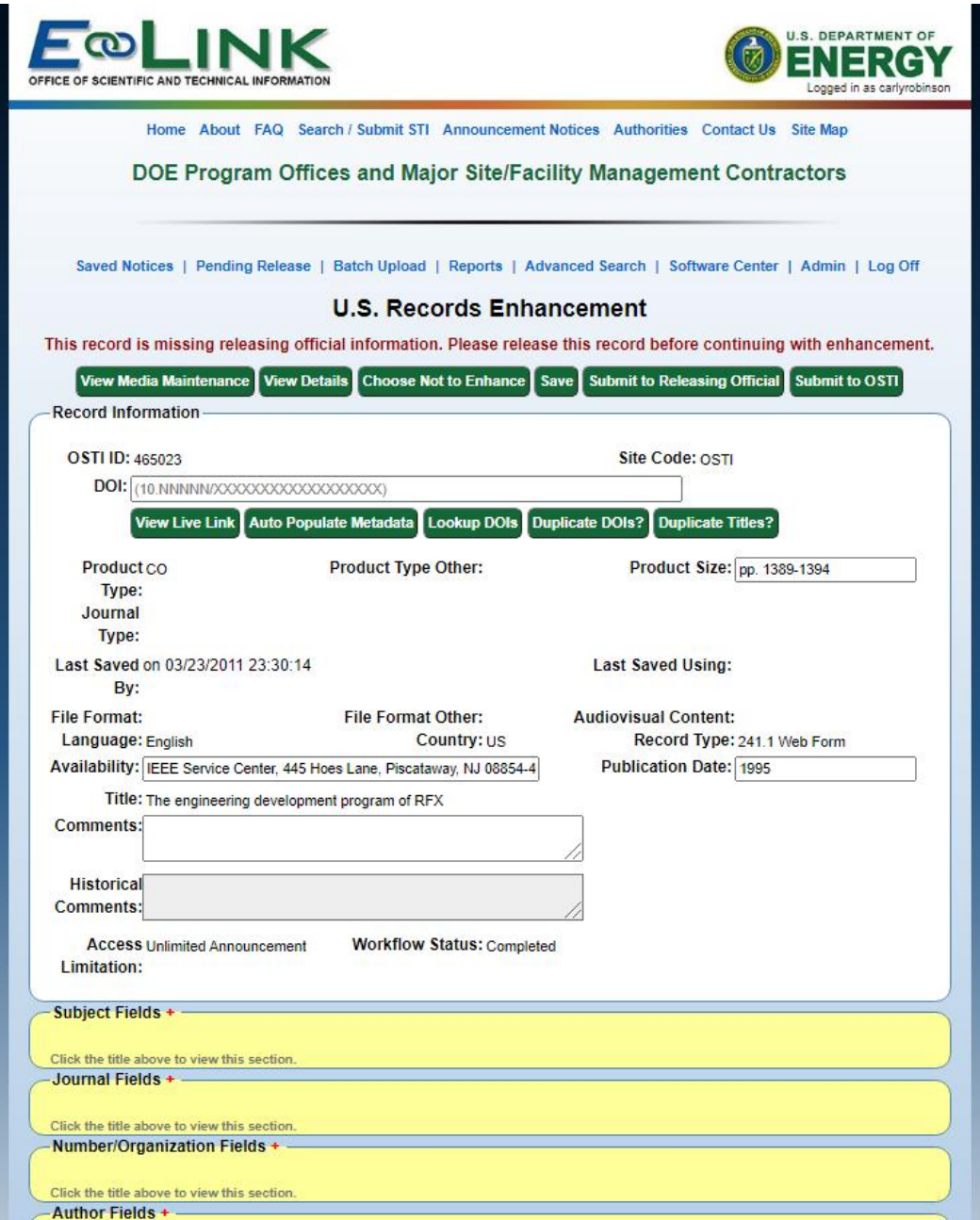
- Support strategic decision making through analytics of R&D outputs

- Partner with other agencies and private sector to promote access to unclassified R&D results

NSF Public Access Repository (NSF-PAR)
A partnership with the Department of Energy, Office of Scientific and Technical Information

Ingesting DOE R&D Results Infrastructure

Metadata Curation Infrastructure



OSTI PID Services Infrastructure

Service Name	Research Object	Service Partner
PIDs for Research Results		
E-Link (research output ingest system)	Technical/Workshop Reports Conference Posters Presentations	Crossref
DOE Data ID Service	Data	DataCite
Interagency Data ID Service (IAD)	Data/Research Outputs	DataCite
DOE CODE	Software	DataCite
PIDs for Awards		
Award DOI Service	Awards	Crossref Grant ID
PIDs for People		
US Government ORCID Consortium	Researchers	ORCID
PIDs for Organizations		
Organization Authority	Research/Funding Organizations	ROR
Open Funder Registry	Funding Organizations	Crossref/Elsevier

Data ID Services

https://www.osti.gov/data-services

DOE CODE

https://www.osti.gov/doecode/

E-Link

https://www.osti.gov/elink/

Award DOI Service

https://www.osti.gov/award-doi-service/

US Government ORCID Consortium

https://www.osti.gov/orcid-consortium/

DOE OSTI Search Tools Infrastructure

Primary Search Tool

OSTI.GOV

Science, technology, and engineering research information funded by DOE

Specialized Search Tools for Specific Resources

DEPARTMENT OF ENERGY DOE PAGES Public Access Gateway for Energy & Science

Scholarly scientific publications resulting from DOE-funded research

DOE Data Explorer

Scientific research data resulting from DOE-funded research

DOE CODE

Open source, submission and search tool for DOE-funded software

DOE Patents

Patents resulting from DOE-funded research

DOE ScienceCinema

Scientific videos featuring DOE-funded research

Federated U.S. Agency and International Scientific and Technical Information Search Tools

Science.gov

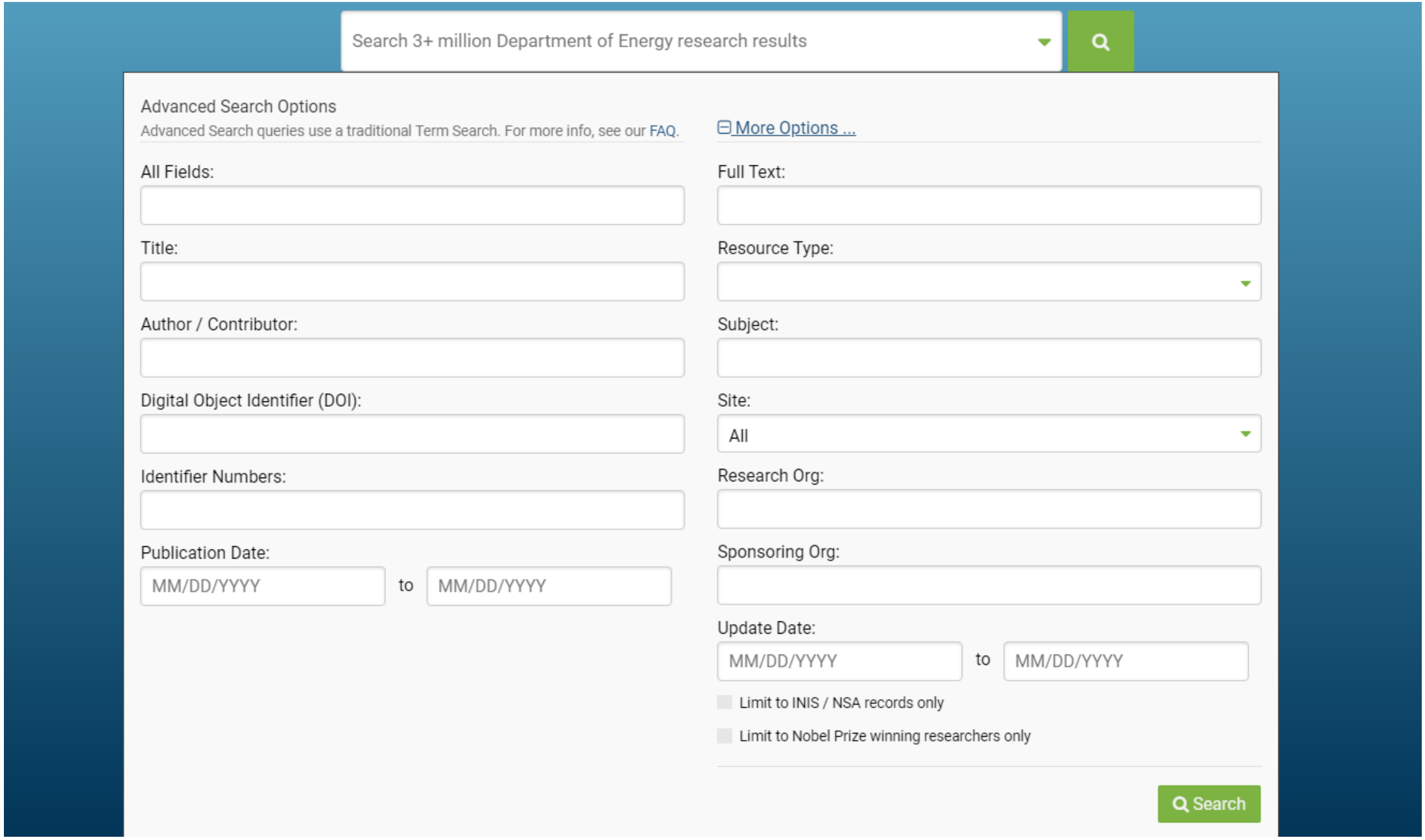
U.S. government funded science information

WorldWide Science.org

Global science gateway

DOE OSTI Search Tool Infrastructure – OSTI.GOV

DOE OSTI Search Tools Infrastructure – OSTI.GOV



DOE OSTI Search Tools Infrastructure – OSTI.GOV

Sign In | Create Account

OSTI.GOV | U.S. Department of Energy
Office of Scientific and Technical Information

Search 3+ million Department of Energy research results

Submit Research Results | Search Tools | Public Access Policy | Data Services & Dev Tools | About | FAQs | News

OSTI.GOV / Search for All Records / Page 1 of 329,631

3,296,306 Search Results

Sorted by Relevance | Save Results | Prev | ... | Next

All Records | Figures / Tables

SEARCH FOR:
All Records

REFINE BY:

RESOURCE TYPE
- Journal Article
- Technical Report
- Data
- Software
- Patent

more

AVAILABILITY
- Full Text / Resource Available
- Citation Only

PUBLICATION DATE

1. Abstract for Accelerator Magnets Magnetic Field Measurements

The chapter develops the formalism for the two-dimensional representation of the fields which are commonly found in accelerator magnets. The chapter describes the sense windings and associated components used in the precise measurement of these fields.

Full Text Available

2. NERC MISOPS

This investigation was commissioned by the Office of Electricity of the Department of Energy in response to reviewing the NERC State of Reliability report. The study is an attempt to proactively address electric utility industry needs. “Monitoring, analyzing, and tracking trends in Protection System Misoperations are critical to improve BES reliability. Historically, Protection System Misoperations have exacerbated the severity of most cascading power outages.” [1] The NERC misoperations data shows that unnecessary trips are by far the leading category of reported misoperations and that a majority of misoperations are those of line protection packages. A significant number of mis-operations are more »

https://doi.org/10.2172/1836418 | Full Text Available

DOE OSTI Search Tools Infrastructure – OSTI.GOV

Optimization and supervised machine learning methods for fitting numerical physics models without derivatives

Full Record | References (39) | Other Related Research

JOURNAL ARTICLE:

Free Publicly Available Full Text

This content will become publicly available on December 31, 2022

Publisher's Version of Record
https://doi.org/10.1088/1361-6471/abd009

Copyright Statement

OTHER AVAILABILITY

Search WorldCat to find libraries that may hold this journal

SAVE / SHARE:

Export Metadata

Save to My Library

Abstract

Here, we address the calibration of a computationally expensive nuclear physics model for which derivative information with respect to the fit parameters is not readily available. Of particular interest is the performance of optimization-based training algorithms when dozens, rather than millions or more, of training data are available and when the expense of the model places limitations on the number of concurrent model evaluations that can be performed. As a case study, we consider the Fayans energy density functional model, which has characteristics similar to many model fitting and calibration problems in nuclear physics. We analyze hyperparameter tuning considerations and variability associated with stochastic optimization algorithms and illustrate considerations for tuning in different computational settings.

Authors: Bollapragada, Raghu [1]; Menickelly, Matt [2]; Nazarewicz, Witold [3]; O'Neal, Jared [2]; Reinhard, Paul-Gerhard [4]; Wild, Stefan M. [2]

+ Show Author Affiliations

Publication Date: 2021-12-31

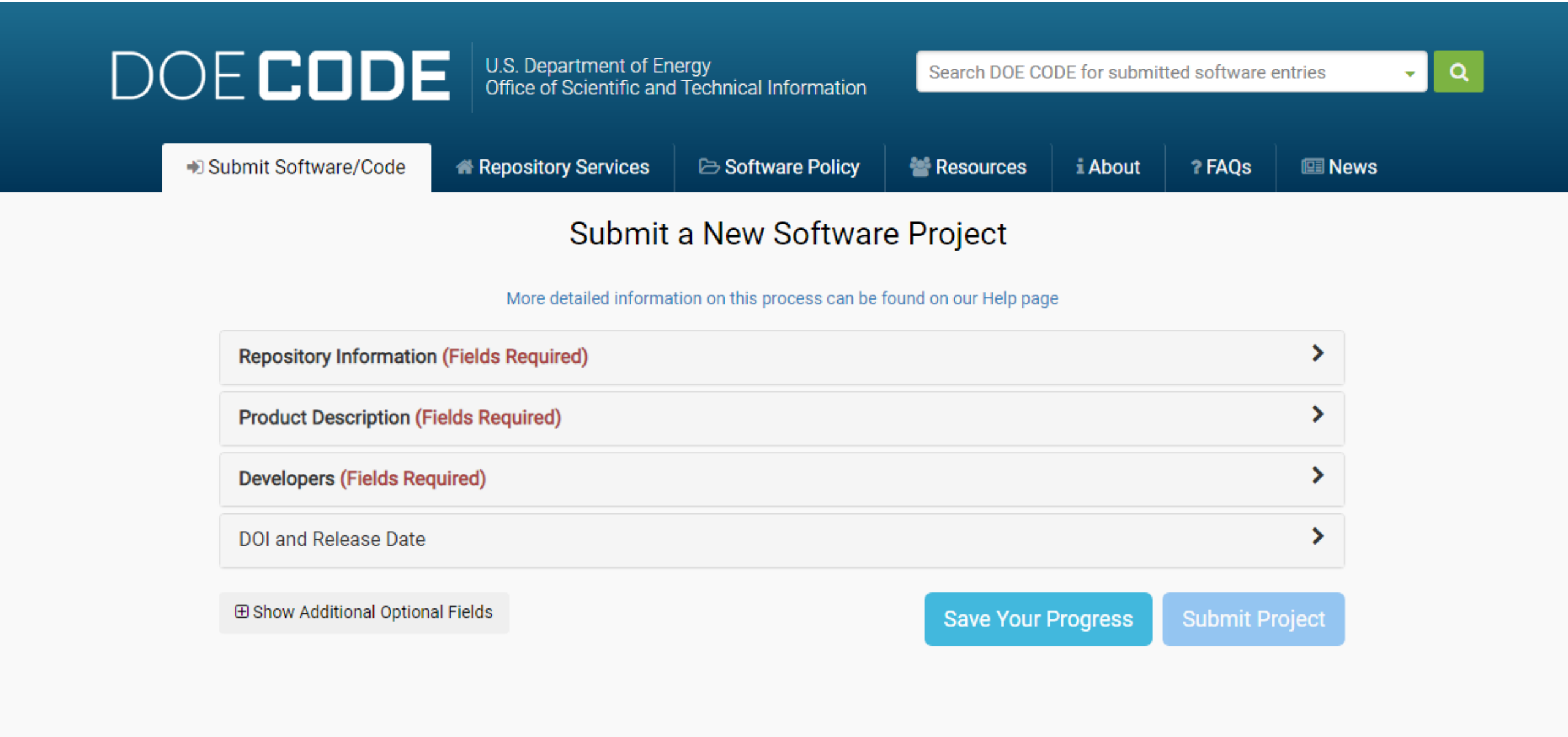
Research Org.: Argonne National Lab. (ANL), Argonne, IL (United States)

Sponsoring Org.: USDOE Office of Science (SC), Nuclear Physics (NP); USDOE Office of Science (SC), Advanced Scientific Computing Research (ASCR)

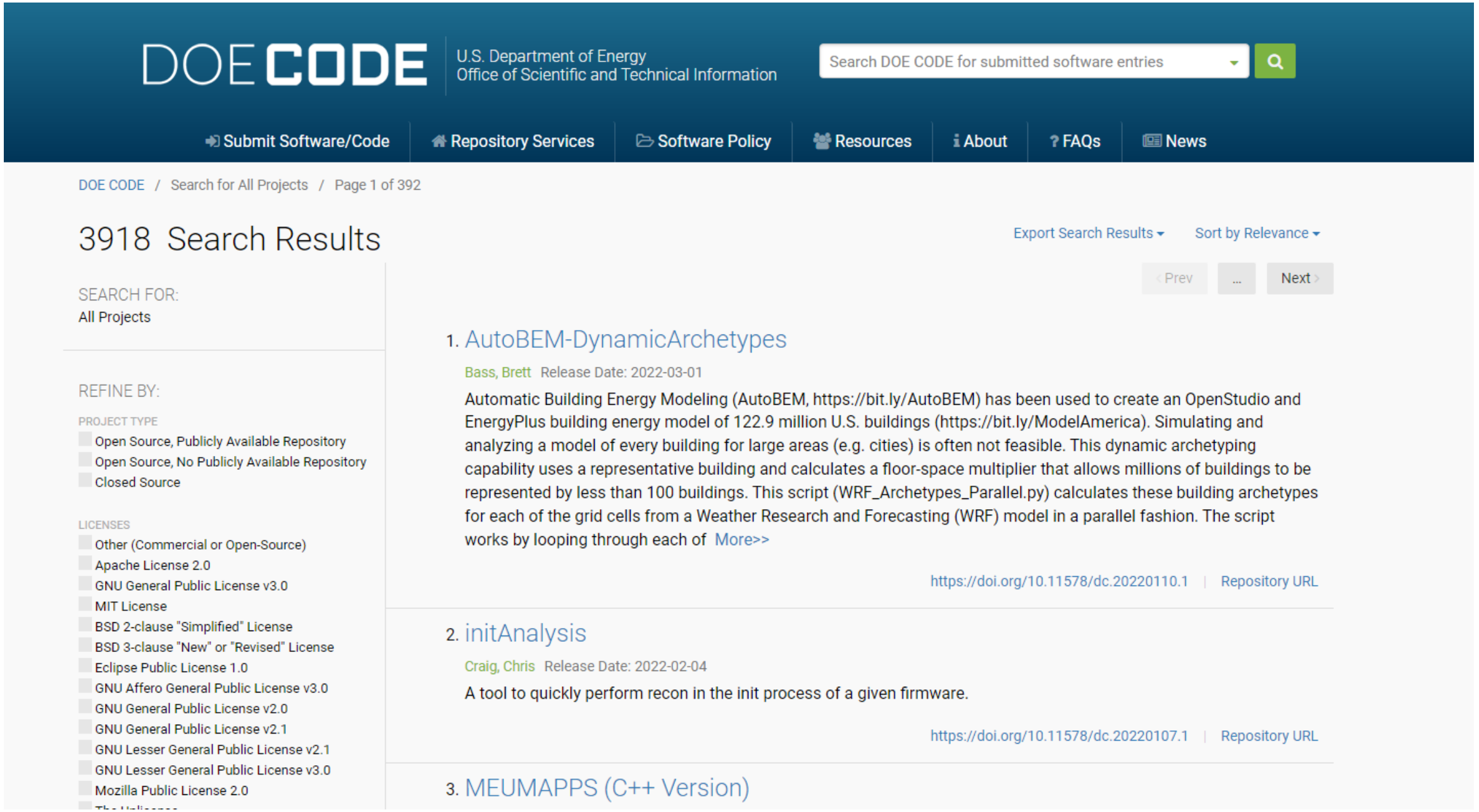
OSTI Identifier: 1765468

DOE OSTI Search Tools Infrastructure – DOE CODE

DOE OSTI Search Tools Infrastructure – DOE CODE



DOE OSTI Search Tools Infrastructure – DOE CODE



Questions?

www.osti.gov

carly.robinson@science.doe.gov

@osti.gov