

# **Nuclear Computational Resource Center - Status and FY21 Plans**

Robert K Podgorney

December 2020



The INL is a U.S. Department of Energy National Laboratory  
operated by Battelle Energy Alliance

# **Nuclear Computational Resource Center - Status and FY21 Plans**

**Robert K Podgorney**

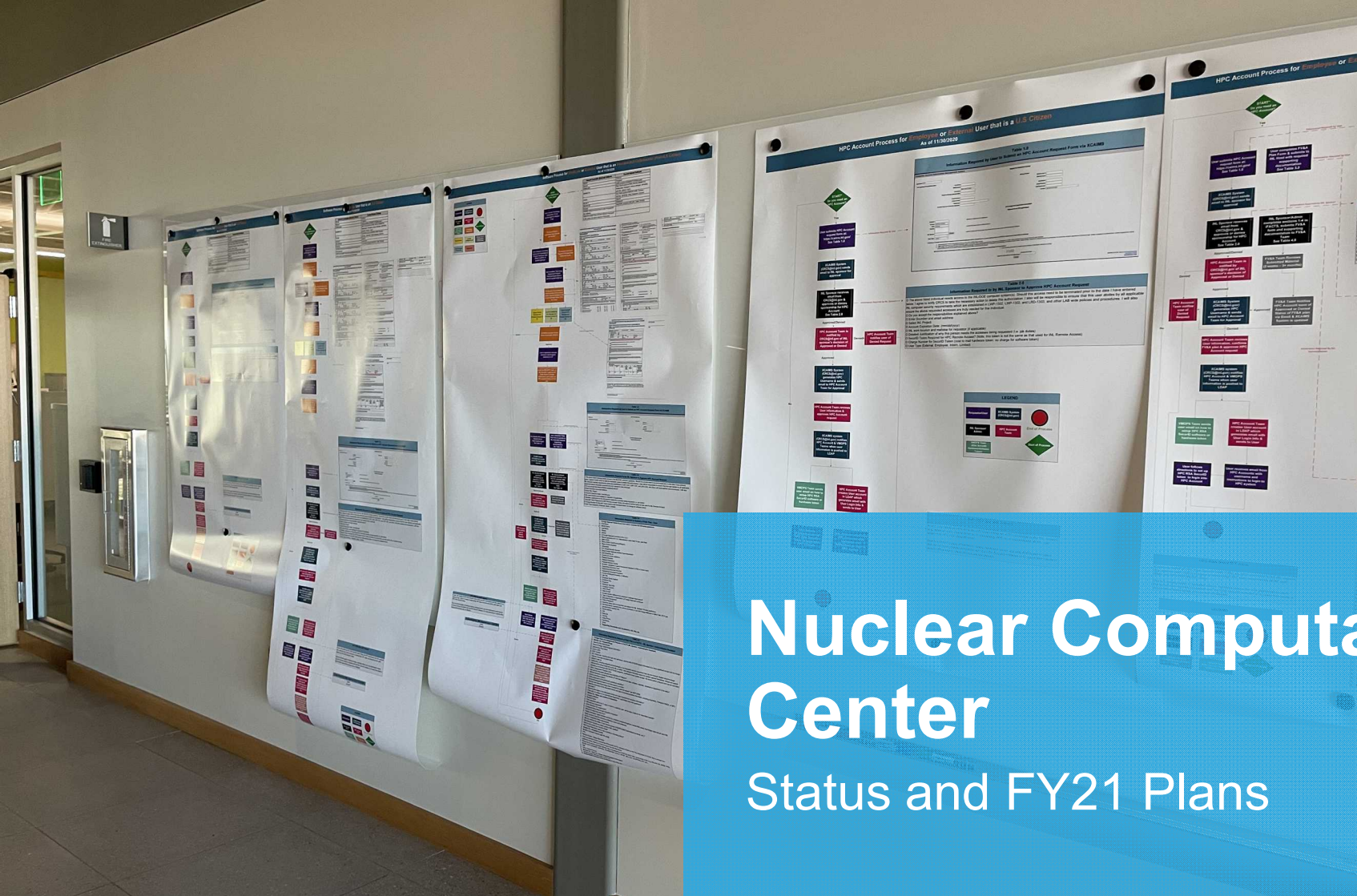
**December 2020**

**Idaho National Laboratory  
Idaho Falls, Idaho 83415**

**<http://www.inl.gov>**

**Prepared for the  
U.S. Department of Energy**

**Under DOE Idaho Operations Office  
Contract DE-AC07-05ID14517**



December 9, 2020

**Robert Podgorney**  
Chief Computational Scientist

# Nuclear Computational Resource Center

## Status and FY21 Plans

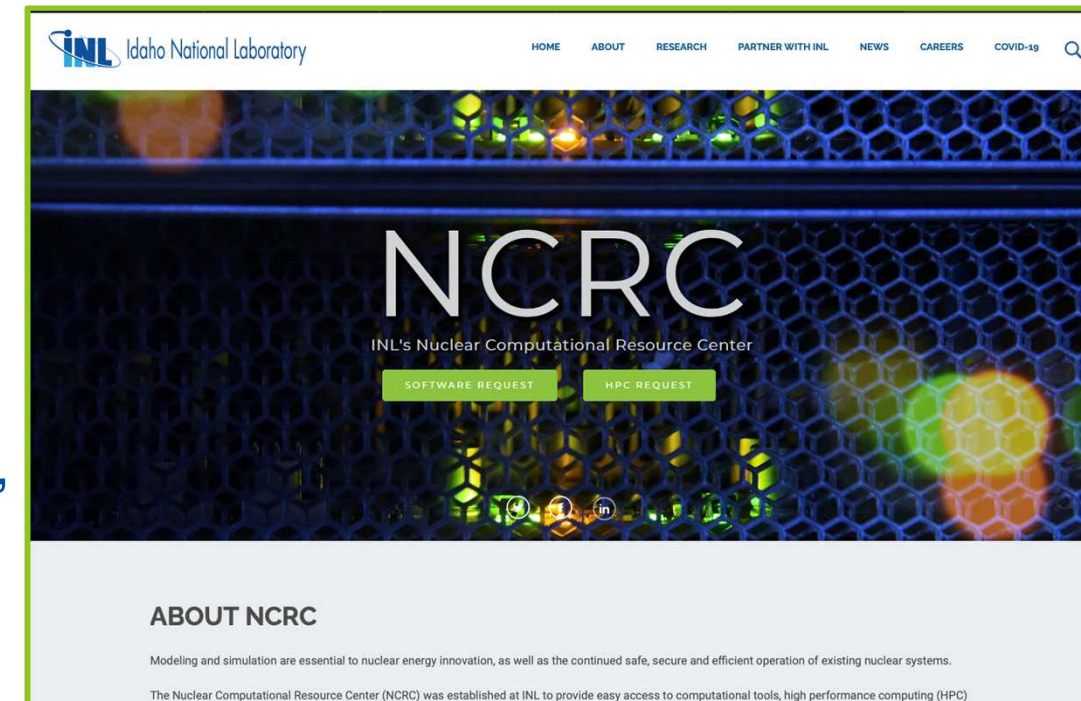
# NCRC History, Goals, and Objectives

- The Goal of NCRC is to enable industry, universities, and laboratories to have access to the NE supported codes on high-performance computing platforms
  - Simplify access to computational tools, HPC resources, and training
  - Ensure access levels are enforced
  - This will be how you request many of the NEAMS-developed simulation tools
- Many of the existing processes are functional but are stove piped, which leads to confusion, redundancy, and oftentimes significant delays in granting access to codes or HPC resources
- Major objectives of NCRC are to
  - Streamline the software request process and [hopefully] make it significantly faster
  - Manage the distribution of source code and executables to protect them from inappropriate distribution
  - Enable users of varying abilities to effectively utilize INL HPC resources.



# Main Tasks Planned

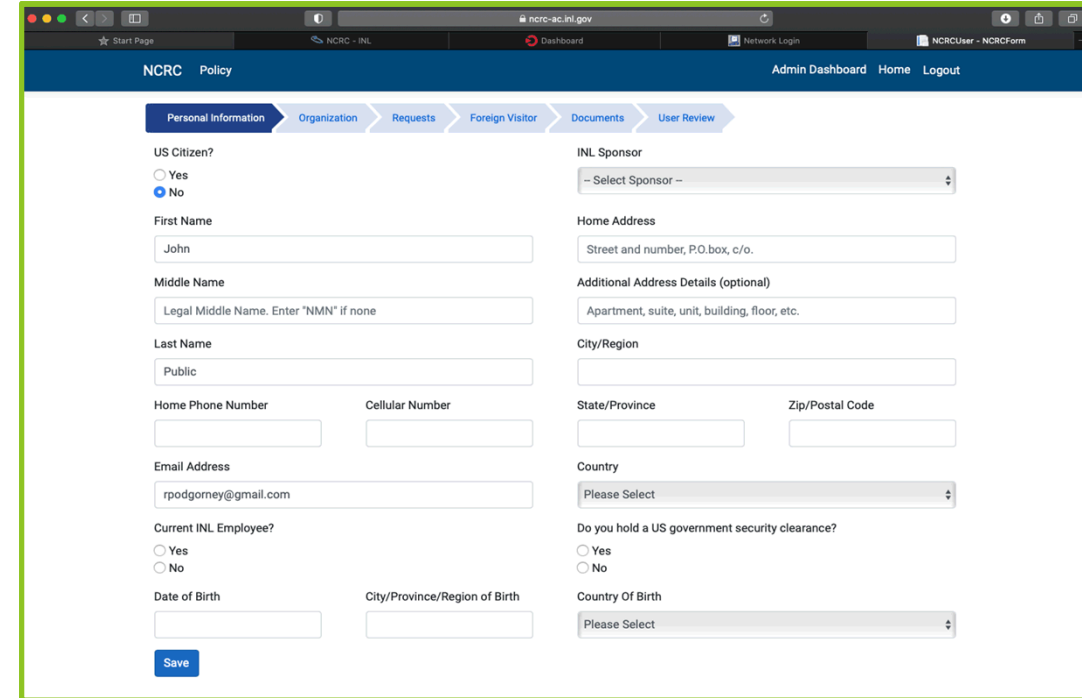
- Four main tasks have been identified and are underway
  - External web presence and process descriptions/documentation
  - User account creation and management framework
  - Code deployment and distribution strategy, management, and implementation
  - HPC cluster access, integration, and user interface.
- The NCRC does not supplant or replace existing code licensing or HPC processes or organizations. It simply helps these and other processes connect and communicate.
- Actively working to identify and remove redundancies in the evaluation and approval process.



NCRC Website (<https://inl.gov/ncrc/>)

# Status, Schedule, and Timeline

- Lots of moving parts at the moment!!
- External website is undergoing a major redesign on an internal development server
- Software and HPC request process database is being consolidated on the front end, and will feed data to existing systems and processes
  - Minimize back and forth with requestor
- Gathering input from users regarding HPC User Interface
- Soft launch/beta testing planned for March 2020
- Full external launch June 2020



The screenshot displays a web browser window with the URL `ncrc-ac.inl.gov`. The page is titled "NCRC Policy" and features a navigation bar with links to "Start Page", "NCRC - INL", "Dashboard", "Network Login", and "NCRCUser - NCRCForm". The main content area is divided into two columns. The left column contains a "Personal Information" section with fields for "US Citizen?" (radio buttons for Yes and No, with No selected), "First Name" (John), "Middle Name" (Legal Middle Name. Enter "NMN" if none), "Last Name" (Public), "Home Phone Number", "Cellular Number", "Email Address" (rpodgorney@gmail.com), "Current INL Employee?" (radio buttons for Yes and No, with No selected), "Date of Birth", and "City/Province/Region of Birth". The right column contains an "INL Sponsor" section with a dropdown menu for "Select Sponsor", a "Home Address" field (Street and number, P.O. box, c/o.), an "Additional Address Details (optional)" field (Apartment, suite, unit, building, floor, etc.), "City/Region", "State/Province", "Zip/Postal Code", "Country" (Please Select), and "Do you hold a US government security clearance?" (radio buttons for Yes and No, with No selected). A "Country Of Birth" dropdown menu (Please Select) is also present. A "Save" button is located at the bottom left of the form.

Example of request system



# Questions?