

**MICHIGAN STATE  
UNIVERSITY****MEMORANDUM**

Date: 25 February 2020

To: Bryan Parker

From: Petra Grivins, RSO

Copies: Dr. Morrissey, Dr. Mantica

Subject: Request for amendment, license 21-00021-31

I am requesting the following amendments to the above license:

1. Change the Radiation Safety Committee Chair from Dr. David Morrissey to Dr. Paul Mantica, as Dr. Morrissey will be retiring. Attached is Dr. Mantica's Delegation of Authority, acceptance, CV, and certificate of completion of a Radiation Safety Officer class.
2. Increase possession limits on line item 'J,' to: Any byproduct material with atomic nos. 1 through 83, Activation Products, 10 millicuries per source and 200 millicuries total, same as item 9A.

This increase will help to facilitate ongoing scientific research at our facility.



Petra Grivins  
Environmental Safety, Health  
and Quality Manager

**Facility for  
Rare Isotope  
Beams**

840 S. Shaw Lane  
East Lansing, MI  
48824

517-908-7674  
grivins@frib.msu.edu

Respectfully submitted,

Petra Grivins, RSO

**MICHIGAN STATE  
UNIVERSITY**

February 13, 2020

**TO:** Radioactive Materials Principal Investigators and Users  
**FROM:** Kevin Eisenbeis, J.D.  
Environmental Health & Safety Director  
**SUBJECT:** Delegation of Authority for Radiation Safety Committee Chair

Dr. Paul Mantica, Chair of the FRIB Radiation Safety Committee together with the FRIB Radiation Safety Committee and FRIB Radiation Safety Officer are responsible for ensuring the safe use of licensed or permitted radioactive materials for the Facility for Rare Isotope Beams (FRIB) NRC Broad Scope license.

The FRIB Radiation Safety Committee and RSC Chair are responsible for implementing the radiation safety program; establishing policies and procedures for managing the radiation safety program; promoting a culture of safety; identifying radiation safety problems; initiating, recommending or providing corrective actions; verifying implementation of corrective actions; and ensuring compliance with regulations for the use of licensed or permitted radioactive material. The FRIB Radiation Safety Committee and RSC Chair are hereby delegated the authority necessary to meet these responsibilities.

**Vice President  
for Research  
and Innovation**

Office of  
Environmental  
Health & Safety

4000 Collins Rd, Suite 820  
Lansing, MI 48910

517-365-0153  
Fax: 517-363-4871  
ehs.msu.edu

The FRIB Radiation Safety Committee and RSC Chair have the authority to immediately stop any operations involving the use of licensed or permitted radioactive material in which health and safety may be compromised or may result in non-compliance with the U.S. Nuclear Regulatory Commission Requirements.

Thank you,

  
Kevin Eisenbeis, J.D.  
Environmental Health & Safety  
Michigan State University

**MICHIGAN STATE**  
**UNIVERSITY**

14 February 2020

To: Petra Grivins, FRIB Radiation Safety Officer

From: Paul Mantica, designated FRIB Radiation Safety Committee Chair

RE: Acceptance of role as Chair of FRIB Radiation Safety Committee

I acknowledge that I have read, understand, and accept the role of Chair of the FRIB Radiation Safety Committee communicated in the letter dated 13 February 2020 from Kevin Eisenbels, J.D. regarding the Delegation of Authority for Radiation Safety Committee Chair.

Duly acknowledged,



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Paul Mantica

Paul Mantica  
Deputy Laboratory Director

**Facility for  
Rare Isotope  
Beams**

East Lansing, MI  
48824-1321

517-908-7458  
mantica@frib.msu.edu

**Paul F. Mantica**

Facility for Rare Isotope Beams  
640 S. Shaw Lane  
Michigan State University  
East Lansing, MI 48824

Office: (517) 908-7456  
Cell: (517) 303-1625  
mantica@msu.edu  
<http://people.nscl.msu.edu/~mantica/>

**Education**

University of Maryland, College Park, MD  
Ph.D., January 1990, Nuclear Chemistry

Rensselaer Polytechnic Institute, Troy, NY  
B.S., December 1985, Chemistry

**Dissertation**

"Shape coexistence in Xenon and Tellurium: Nuclear structure studies on levels in  $^{118,121}\text{Te}$  and  $^{120,126,127,136}\text{Xe}$ ."

**Professional Positions**

Michigan State University, East Lansing, MI

University Distinguished Professor, Department of Chemistry and NSCL, 7/2011 to present  
Project Manager and Deputy Laboratory Director, Facility for Rare Isotope Beams, 4/2016 to present

Deputy Project Manager and Deputy Laboratory Director, Facility for Rare Isotope Beams, 3/2015 to 3/2016

Associate Project Manager, Facility for Rare Isotope Beams, 12/2014 to 2/2015

Director, MSU Kuali Coeus Project, 10/2012 to 11/2014

Associate Director for Operations, NSCL, 5/2009 to 4/2012

Department Head, NSCL Experimental Nuclear Science, 10/2007 to 5/2009

Professor, Department of Chemistry and NSCL, 7/2005 to 6/2011

Associate Professor, Department of Chemistry and NSCL, 7/2001 to 6/2005

Assistant Professor, Department of Chemistry and NSCL, 8/1995 to 6/2001

ACS Nuclear and Radiochemistry Summer Schools

National Director, 1/2007 to 1/2012

Oak Ridge Institute for Science and Education, Oak Ridge, TN

Staff Scientist, UNISOR, 2/1993 to 8/1995

Postgraduate Research Fellow, UNISOR, 2/1990 to 1/1993

University of Tennessee, Knoxville, TN

Instructor, Department of Physics, 8/1991 to 12/1991

**Professional Affiliations**

American Chemical Society, ACS Fellow (2011)

Division of Nuclear Chemistry and Technology

American Physical Society, APS Fellow (2012)

Division of Nuclear Physics

American Association for the Advancement of Science

Project Management Institute

Project Management Professional Certification (2011)

**Current Committee Assignments**

FRIB Laboratory Advisory Committee 2015 - present

FRIB Laboratory-wide IT Committee (Chair) 2016-present

FRIB Radiation Safety Committee 2017- present

**Current Grant Support**

U.S. Department of Energy 3/15/2018 – 1/14/2023 \$199,000,000  
T. Glasmacher, J. Wei, B.M Sherrill, P.F. Mantica, G. Bollen  
Facility for Rare Isotope Beams Transition to Operation and Operation as Scientific User Facility

**Recent Teaching Assignments**

CEM 141: General Chemistry, Fall 2016  
CEM 985: Selected Topics in Nuclear Chemistry – Project Management, Fall 2018

**Recent Professional Activities**

Sub-Panel Co-Chair, ASCR-NP Exascale Requirements Review, held June 2016.  
External Examiner, Ph.D. Thesis, Andrea Tiegelhofer, University of Manitoba, 2017.  
Search Committee Member, MSU IPF Director of Utilities, 2017-18.  
Chair, Selection Committee for the ACS National Award, the Glenn T. Seaborg Award in Nuclear Chemistry, 2017-2018.  
Reviewer, European Spallation Source Annual Review, held 12-14 December 2018 in Lund, Sweden.  
Reviewer, eRHIC Director's Cost and Schedule Review, held 23-25 April 2019 in Upton, NY.  
Member, ARIEL Scientific Steering Committee, TRIUMF, 2017-present.  
Panel Member, NP ESNet Requirements Review, held May 2019.  
Subcommittee Chair, DOE OPA Proton Power Upgrade CD-3B review, June 2019.  
Panel Member, NSF Mid-scale Research Instrumentation 2 Reverse Site Visit, held 4-8 November 2019.

**135 Refereed Publications, 69 Contributed Papers, 66 Invited Talks, 73 Invited Seminars**

**Recent Publications**

"Proton superfluidity and charge radii in proton-rich calcium isotopes," A.J. Miller, K. Minamisono, A. Klose, D. Garand, C. Kujawa, J. Lantis, Y. Liu, B. Maaß, P.F. Mantica, W. Nazarewicz, W. Nörtershäuser, S. Plünder, P.-G. Reinhard, D.M. Rossi, F. Sommer, C.S. Sumithrarachchi, A. Teigelhöfer, and J. Watkins, *Nature Physics* s41567-019-0416-9 (7 pages) (2019).

"First determination of ground state electromagnetic moments of  $^{63}\text{Fe}$ ," A.J. Miller, K. Minamisono, D.M. Rossi, R. Beerwerth, B.A. Brown, S. Fritzsche, D. Garand, A. Klose, Y. Liu, B. Maass, P.F. Mantica, P. Mueller, W. Noertershaeuser, M.R. Pearson, and C. Sumithrarachchi, *Phys. Rev. C* **96**, 054314 (9 pages) (2017).

"RFQ beam cooler and buncher for collinear laser spectroscopy of rare isotopes," B.R. Barquest, G. Bollen, P.F. Mantica, K. Minamisono, R. Ringle, S. Schwarz, and C.S. Sumithrarachchi, *Nucl. Instrum. Methods A* **866**, 18-28 (2017).

"Charge radii of neutron deficient  $^{52,53}\text{Fe}$  produced by projectile fragmentation," K. Minamisono, D.M. Rossi, R. Beerwerth, S. Fritzsche, D. Garand, A. Klose, Y. Liu, B. Maass, P.F. Mantica, A.J. Miller, P. Mueller, W. Nazarewicz, W. Noertershaeuser, E. Olsen, M.R. Pearson, P.-G. Reinhard, E.E. Saperstein, C. Sumithrarachchi, and S.V. Tolokonnikov, *Phys. Rev. Lett.* **117**, 252501 (6 pages) (2016).

"Population distribution subsequent to charge exchange of 29.85 keV  $\text{Ni}^+$  on sodium vapor," C.A. Ryder, K. Minamisono, H.B. Asberry, B. Isherwood, P.F. Mantica, A. Miller, D.M. Rossi, and R. Strum, *Spectrochimica Acta B* **113**, 16-21 (2015).

"Charge radii of neutron-deficient  $^{38}\text{K}$  and  $^{37}\text{K}$ ," D. Rossi, K. Minamisono, H.B. Asberry, G. Bollen, B.A. Brown, K. Cooper, B. Isherwood, P. F. Mantica, A. Miller, D. J. Morrissey, R. Ringle, J. A. Rodriguez, C. A. Ryder, A. Smith, R. Strum, and C. Sumithrarachchi, *Phys. Rev. C* **92**, 014305 (9 pages) (2015).

# Certificate of Training

Awarded To

***Paul Mantica***

Recognizing completion of 5 days of specialized instruction in

## Radiation Safety Officer

**January 10, 2020**

Presented By

***NV5 - Dade Moeller Training Academy***

9200 Corporate Boulevard, Suite 380 Rockville, MD 20850  
<https://training.nv5.com/training/> -- 301-990-6006

ABIH Diplomates can claim this course for 40 hours in the IH CM Area.  
AAHP has awarded this course 40 Continuing Education Credits, 2019-09-01-646

  
Alan Fellman, Ph.D., CHP

  
Clark Barton, CHP

