

Senior postdoctoral associate

Oct 2020 – present **Senior postdoctoral associate**, *Massachusetts Institute of Technology*, Geneva, Switzerland/Cambridge, USA

Supervisor Prof. Ronald Fernando Garcia Ruiz

Description Leading role in design/construction of MIT lab and newly commissioned Resonance Ionization Spectroscopy Experiment (RISE) at FRIB, spectroscopy and developments for studying radioactive molecules for fundamental physics and astrophysics, supervision of PhD students at FRIB, MIT and CERN. Spokesperson of two experimental proposals approved at FRIB, and one at CERN. PI and other major roles in writing grant applications and obtaining funding. Local coordinator of Collinear Resonance Ionization Spectroscopy (CRIS) experiment (Oct 2020 - Feb 2022).

CERN Fellowship

Oct 2017 – Sep 2020 **Technical fellow**, *CERN*, Geneva, Switzerland

Supervisor Dr. Bruce Marsh

Description Operation of the Resonance Ionization Laser Ion Source (RILIS), first spectroscopy of RaF molecules, commissioning and operation of MEDICIS laser ion source, setting up and participating in in-source RIS and CRIS experiments.

Ph.D., Nuclear Physics

Sep 2014 – Oct 2017 **Awarded: January 2018**, *The University of Manchester*, Manchester, UK

Title *Collinear resonance ionization spectroscopy of exotic francium and radium nuclei*

Supervisor Prof. Kieran Flanagan

Description Development/optimization of the CRIS experiment, the installation, operation and development of laser systems, setting up and participating in experiments, analysis/publication of results.

MPhys., Physics

Sep 2010 – June 2014 **Graduated: July 2014 with First Class Honours**, *The University of Manchester*, Manchester, UK

MPhys project *In-flight X-ray emission of fission fragments*

Awards

Mar 2023 **IOP Nuclear Physics Group Early Career Researcher Prize 2022**

Aug 2021 **John W. Jarve (1978) Seed Fund for Science Innovation**

Radioactive molecules as a window into stellar nucleosynthesis (140k USD)

Oct 2020 **CERN Fellowship**

Spokesperson for experiments at international facilities

2023 (Experimental preparation) Towards determining the rotational fingerprints of the radioactive molecules ^{26}AlF and ^{32}SiO for astronomical studies, *FRIB*, **PAC 2 23060 (2023)**

(Data analysis) Laser spectroscopy of neutron-rich silicon isotopes, *FRIB*, **PAC 2 23023 (2023)**

- 2022 (Experimental preparation) Laser spectroscopy of neutron-rich indium isotopes across $N = 82$, *CERN*, **INTC 2022 048 P646** (2022)
- 2021 (Publications in progress) Laser ionization spectroscopy of AcF, *CERN*, **INTC 2021 053 P615** (2021)
(Complete) Radioactive molecules at ISOLDE, *CERN*, **INTC 2021 017 I227** (2021)
- 2020 (Publications in progress) Rotational and hyperfine structure of RaF Molecules, *CERN*, **INTC 2020 028 P555** (2020)
- 2018 (Complete) Collinear resonance ionization spectroscopy of RaF molecules, *CERN*, **INTC 2018 017 P546** (2018)

Selected publications (Total: 57, h-index: 25, citations: 1990 (Google Scholar))

- 2025 M. Athanasakis-Kaklamanakis, **S. G. Wilkins et al.**, *Nature Commun.*, **16** 2139 (2025)
S. G. Wilkins et al., *Submitted, arXiv*, **2408 14673** (2025)
S. G. Wilkins et al., *Submitted, arXiv*, **2311 04121** (2025)
- 2024 S. M. Udrescu, **S. G. Wilkins et al.**, *Nature Phys.*, **20** 202-207 (2024)
J. Karthein et al., *Nature Phys.*, **20** 1719-1725 (2024)
- 2023 M. Athanasakis-Kaklamanakis, **S. G. Wilkins et al.**, *Phys. Rev. X*, **13** 011015 (2023)
X. F. Yang, **S. G. Wilkins et al.**, *Prog. Part. Nucl. Phys.*, **129** 104005 (2023)
- 2022 A. R. Vernon et al., *Nature*, **607** 260-265 (2022)
- 2021 S. M. Udrescu et al., *Phys. Rev. Lett.*, **127** 033001 (2021)
Á. Koszorús et al., *Nature Phys.*, **17** 439-443 (2021)
- 2020 R. F. Garcia Ruiz et al., *Nature*, **581** 396-400 (2020)
R. P. de Groote et al., *Nature Phys.*, **16** 620-624 (2020)
D. Leimbach et al., *Nature Commun.*, **11** 3824 (2020)
- 2018 K. M. Lynch, **S. G. Wilkins et al.**, *Phys. Rev. C*, **97** 024309 (2018)
R. F. Garcia Ruiz et al., *Phys. Rev. X*, **8** 041005 (2018)
- 2017 **S. G. Wilkins et al.**, *Phys. Rev. C*, **96** 034317 (2017)
- 2015 R. P. de Groote et al., *Phys. Rev. Lett.*, **115** 132501 (2015)

Selected talks and seminars (Invited: 16, total: 28)

- Feb 2025 **Invited** Precision studies of radioactive atoms for nuclear science
Triangle Universities Nuclear Laboratory Durham, USA
- Feb 2025 **Invited** Precision studies of radioactive molecules for nuclear science
Duke University Durham, USA
- Feb 2025 **Invited** Precision studies of radioactive molecules for nuclear science
Michigan State University East Lansing, USA
- Jan 2024 **Invited** Precision studies of radioactive atoms and molecules for nuclear science
Lawrence Berkeley National Laboratory Berkeley, USA
- Jun 2023 **Invited** Precision studies of radioactive molecules relevant to fundamental physics
Gordon Research Conference - Nuclear Chemistry New London, USA
- Apr 2023 **Invited** Studies of radioactive molecules for fundamental physics and astrophysics
IOP UK Nuclear Physics Conference 2023 York, UK
- Nov 2022 **Invited** Precision studies of radioactive molecules relevant to fundamental physics
Fundamental Symmetries at FRIB East Lansing, USA
- Dec 2021 **Invited** 2021 at the CRIS experiment
ISOLDE Workshop 2021 CERN, Geneva, Switzerland