Alexander M. **Long**

Staff Scientist · Material Science and Technology (MST) · Los Alamos National Laboratory

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Publication h-index: 11
Citizenship: United States of America

Education

University of Notre Dame

Notre Dame, Indiana USA

Ph.D., Physics — *(June 2009 - July 2016)*

- Thesis Topics: An Indirect Study of The Astrophysical ^{34}Ar(α,p)^{37}K Reaction and its Influence on Type-1 X-Ray Burst Light Curves.
- Advisor: Professor Michael Wiescher

Florida State University

Tallahassee, Florida USA

B.S., Physics with Honors — *(August 2004 - May 2009)*

- Honors Thesis Topic: Time-of-Flight Calibrations of Neutron Wall Array at John D. Fox Superconducting Accelerator Laboratory
- Advisor: Professor Grigory Rogachev (Now at Texas A&M University)

Research Experience

Lujan Neutron Scattering Center

LANSCE @ LANL, USA

Instrument Scientist for FP5 and FP11 — *Dec. 2018 - Present*

- **Main scientific point of contact for all neutron imaging measurements performed on Flight Path 5 and Flight Path 11**
  - Leading or supporting all measurements on FP5 (2019-present) and FP11 (2021-present).
  - Enabling world-class advanced neutron imaging capabilities through acquiring and commissioning several novel neutron imaging detectors, sample environments, and data analysis machines.
  - Supporting growth of neutron imaging community as LANSCE through weekly collaboration meetings, invited talks and seminars, and organizing conferences.
  - Actively developing new neutron imaging techniques to meet LANL's scientific missions.
- **Developed novel neutron imaging technique to measure thermophysical properties of molten salts and uranium metals**
  - Developed and successfully published novel density measurement technique called Density via Neutron Radiography (DvNR)
  - Successfully applied and published use of DvNR technique to measure densities of Uranium and Plutonium based molten salts
  - Part of team to bring first-of-a-kind DOE-NE GAIN funding to LANL
  - Lead scientist in developing DvNR to measure densities of molten Uranium and Uranium-Niobium metals
- **Developed Energy Resolved Neutron Imaging (ERNI) capabilities on Flight Path 5**
  - Mentoring grad students in developing a new state-of-the-art neutron resonance imaging analysis code called TRINIDI.
  - Lead first-of-a-kind ERNI measurements on irradiated nuclear fuel pellet.
  - Developed standards for more robust ERNI measurements and analysis at LANSCE/LANL and SNS/ORNL.
  - Leading complete rebuild of Flight Path 12 for future ERNI-based post-irradiation examination measurements.
  - Active participant in NSUF-funded collaboration with INL and ORNL to perform ERNI measurements on irradiated nuclear fuels.
- **Lead scientist in collaboration for enabling event-mode neutron imaging with Timepix-based technology at LANL**
  - Developing machine learning analysis routines to enable more advanced neutron imaging measurements at LANSCE.
  - Collaborating with scientist in Physics and NEN divisions on introducing Timepix technology to respective imaging efforts.
- **Developed hydrogen mapping capabilities using neutron imaging techniques**
  - Mentored post-docs in developing neutron imaging capabilities on FP5 to probe hydrogen diffusion in metal hydrided.
  - Successfully delivered several annual reports and publications for DOE-NE Microreactor program.
  - Built state-of-the-art compact dual zone furnace. Now in operation and available to the LANSCE neutron imaging community
  - Successfully built NEUP-funded collaboration with Dr. King group at Colorado School of Mines to investigate hydrogen in various metal hydrides.
- **Developed Neutron Grating Interferometry (nGI) capabilities on FP11/ASTERIX.**
  - Built and fostered collaboration of nGI expertise with scientist from NIST and PSI.
  - Supported several external nGI measurements to use dark field imaging to investigate pore sizes in AM metals and various concrete mixtures.
  - Part of team to successfully propose new neutron imaging beam line called CUPID for the Second Target Station (STS) at ORNL. This will be one of the first four beam lines to be commissioned at the STS.
- **Developed fast (MeV) neutron imaging and scintillation characterization capabilities on Flight Path 60R at WNR**
  - Co-mentored several research students with Sven Vogel.
  - Part of NA-22 funded collaboration with Sandia to characterize nano-guide scintillator materials for fast neutron imaging.
  - Successfully built and demonstrated event-mode imaging advanced Fast Neutron Resonance Radiography techniques at LANSCE.

Weapons Neutron Research Facility *LANSCE @ LANL, USA*

Post Doctoral Researcher *Sept. 2016 - Dec. 2018*

- **Assisted with development of the Low Energy (N,Z) (LENZ) experimental program at WNR/LANSCE.**
  - Developed digital data acquisition systems, along with unpacking and analysis codes for the LENZ experimental program.
- **Investigated H production reaction ^{55}Mn(n,p)^{55}Cr for core structural materials to be used in future nuclear reactor designs.**
  - Performed cross-section measurements on the ^{55}Mn(n,p)^{55}Cr reaction using LENZ to investigate the influence of this reaction as a source of neutron irradiation damage in structural materials in future fission and fusion devices.
- **Investigations of neutron irradiation damage in F-M steels through precision measurements of the He gas production reaction ^{56}Fe(n,α).**
  - Performed ^{56}Fe(n,α) reaction cross-section measurements using LENZ to better understand He production rates in various F-M steels materials to be used in future reactor core designs.
  - Proposed ^{54}Fe(n,α) and ^{52}Cr(n,α) reaction cross-section measurements using LENZ for 2018 LANSCE run cycle as a continuation of campaign to measure He production in F-M steels.

Awarded Funding

2019-2022	**Prioritizing the Prior: Advanced Inversion Algorithims for Scientific Data Analysis**, Co-I	*LANL LDRD-DR*
2021	**Exploring Safeguard Signatures with Energy Resolved Neutron Imaging for Future Molten Salt Reactor Designs**, PI	*LANL LDRD-MFR*
2021-2023	**Advanced Characterization to Enable Prediction of Actinide-Molten Salt Behavior**, Co-I	*LANL LDRD-DR*
2020-2023	**In-situ Spatial Mapping of Hydrogen in Yttrium Hydrides at LANSCE**, Co-PI	*DOE-NE MRP*
2021-2023	**Density Measurements of Plutonium Bearing Salts via Neutron Beam Dilatometry**, Co-I	*DOE-NE GAIN*
2022-2024	**Development of Hydrogen Transport Models for High Temperature Metal Hydride Moderators**, Co-PI	*DOE-NE NEUP*
2023	**Strengthening LANL's Radiography Applications via Event-Mode Imaging and ML Techniques**, Co-PI	*LANL LDRD-ER*
2023	**Thermophysical Density Measurements of Molten Uranium Niobium Alloys**, PI	*LANL LDRD-DI*

Mentoring

2022-2023	**James Torres (Post-Doc)**, Accepted staff position at SNS/ORNL in Neutron Imaging group	*Mentor*
2020-2023	**Thilo Balke (Graduate Student)**, Plans to graduate in Summer 2023	*Co-Mentor*
2020-2023	**Danielle Schaper (Graduate Student)**, Now Post-doc in P-1	*Co-Mentor*
2021-2023	**Daniel Eigenbach (Post-bach Student)**, Now Research Technologist in MST-8	*Co-Mentor*
2019-2020	**Darcy Newmark (Undergraduate Student)**, Now Graduate Student at MIT	*Mentor*

Honors

2008	**Guenter Schwarz Memorial Scholar Award**,	*FSU*
2014	**Notre Dame Graduate School Professional Development Award**,	*UND*
2014	**Notre Dame Graduate Student Union Conference Presentation Award**,	*UND*
2016	**Recipient of the Nuclear Science Laboratory's Cornelius P. Browne Memorial Award**,	*UND*

Organizations and Committees

2011-5014	**Board Member**, Graduate Physics Students Conference Committee	*UND*
2010-2011	**Committee Member**, Department of Physics Graduate Recruitment Committee	*UND*
2016	**Vice Chair**, Frontiers in Nuclear Astrophysics Meeting Organizing Committee	*JINA-CEE*
2021-Pres.	**Reviewer**, Journal of Imaging; Crystals; and Quantum Beam Science	*MDPI*
2022-Pres.	**Reviewer**, Journal of Industrial & Engineering Chemistry Research	*ASC*
2023	**Organizing Member**, Computational Imaging XXI Conference	*IS&T*

Computational Experience

Base Languages C/C++, Python, BASH & SHELL, HTML, CSS, LaTeX

Programing ROOT, MIDAS, Qt, ImageJ, Scikit Learn, CUDA

Modeling TALYS, XNet, VH1, DWUCK4, Geant4, AutoCAD, SAMMY

Technical Experience

Imaging Systems	CCD, CMOS, and sCMOS cameras
	Timepix2 & Timepix3 based detectors
	Optical systems: scintillators, lenses, and image intensifiers
Ion Beam Production	Multi-Cathode Source of Negative Ions by Cesium Sputtering @ NSL: Operations
	Helium Ion Source @ NSL: Operations
	Electron Cyclotron Resonance Ion Source @ NSL: Operations and maintenance
Ion Beam Transportation	10 MV FN Tandem Accelerator @ NSL: Operations and maintenance
	5 MV Van der Graaf Accelerator @ NSL: Operations and maintenance
	Beamline optics and fabrication
	Dispersion matching of beam lines to magnetic spectrographs
Vacuum Systems	Roughing pumps, Roots Blowers, Turbo-molecular Pumps, Cryogenic pumps
Radiation Detection	Plastic Scintillators
	Silicon Detectors: Diodes and Double sided
	High Purity Germanium Detectors
	^{3}He Proportional Counters
	Multi-Wire Drift Chambers
	Mircochannel Plate Detectors
Analog Pulse Processing	Pre-Amplifiers, Constant Fraction Discriminators, Amplifiers, Gate-Generators, Analog-to-Digital Converters
Digital Pulse Processing	CAEN Family Digitizers

Seminars and Talks (invited)

Indirect Measurements of Influential αp-process Reactions: ^{26}Si(α,p)^{30}S and ^{34}Ar(α,p)^{38}Ca — *Los Alamos, NM*
Nuclear Data Seminar LANSCE Weapons Physics — *2016*

Probing He Gas Production Reactions using LENZ at LANSCE — *Los Alamos, NM*
ISR-1 Seminar — *2018*

Energy Resolved Neutron Imaging at LANSCE — *Virtual*
Denver X-ray Conference — *2020*

Neutron Imaging at LANSCE — *Virtual*
TMS Annual Meeting and Exhibition — *2021*

Material Characterization Using Neutron Radiography at LANSCE — *Lailua-Kona, HI*
12th International Conference on Methods and Applications of Radioanalytical Chemistry — *2022*

Characterizing Materials for Next Generation Nuclear Reactors using Neutron Imaging — *Virtual*
University of Las Vegas Nevada, NSST Consortium Seminar — *2022*

Neutron Imaging at LANSCE: Characterizing Future Materials for Next Gen. Nuclear Reactors — *Pittsburgh, PA*
Materials Science & Technology — *2022*

Publications

Peer-Reviewed: First Author

'Neutron Characterization of Irradiated Nuclear Materials' **A.M. Long**, S.C. Vogel, & A.E. Craft *Frontiers in Nuclear Engineering* (In Preparation)

'Spatial Mapping of Light Elements with Event-Mode Fast Neutron Resonance Radiography' **A.M. Long**, A.S. Losko, A. Wolfertx, S. Brodish, A.E. Craft, A. Khaplanov, S.C. Vogel, R. Nelson, & S. Wender *Journal of*

Imaging (In Preparation)

'Remote Density Measurements of Molten Salts via Neutron Radiography.' **Long, A. M.**, Parker, S. S., Carver, D. T., Jackson, J. M., Monreal, M. J., Newmark, D. A., & Vogel, S. C. *Journal of Imaging*, 7(5), 88 (2021).

'α-unbound levels in ^{34}Ar from $^{36}Ar(p,t)^{34}Ar$ reaction measurements and implication for the astrophysical $^{30}S(\alpha,p)^{33}Cl$ reaction rate'. **A.M. Long**, T. Adachi, M. Beard, G. P. A. Berg, M. Couder, R. J. deBoer, M. Dozono, J. Görres, H. Fujita, Y. Fujita, K. Hatanaka, D. Ishikawa, T. Kubo, H. Matsubara, Y. Namiki, S. O'Brien, Y. Ohkuma, H. Okamura, H. J. Ong, D. Patel, Y. Sakemi, Y. Shimbara, S. Suzuki, R. Talwar, A. Tamii, A. Volya, T. Wakasa, R. Watanabe, M. Wiescher, R. Yamada, and J. Zenihiro *Physical Review C* 97, 054613 (2018)

'An indirect study of the stellar $^{34}Ar(\alpha,p)^{37}K$ reaction rate through $^{40}Ca(p,t)^{38}Ca$ reaction measurements' **A.M. Long**, T. Adachi, M. Beard, G. P. A. Berg, Z. Buthelezi, J. Carter, M. Couder, R. J. deBoer, R. W. Fearick, S. V. Förtsch, J. Göres, J. P. Mira, S. H. T. Murray, R. Neveling, P. Papka, F. D. Smit, E. Sideras-Haddad, J. A. Swartz, R. Talwar, I. T. Usman, M. Wiescher, J. J. Van Zyl, and A. Volya *Physical Review C* 95, 055803 (2017)

Peer-Reviewed: Co-Author

'TRINIDI: Time-of-Flight Resonance Imaging with Neutrons for Isotopic Density Inference' T. Balke, **A.M. Long**, S.C. Vogel, B. Wohlberg, & C.A. Bouman *IEEE Transactions on Computational Imaging* (Submitted)

'The Complex, Unique and Powerful Imaging Instrument for Dynamics (CUPI2D) at the Spallation neutron Source' A. Brugger, H.Z. Bilheux, J.Y.Y. Lin, G.J. Nelson, A. Kiss, D.J.P. Morris, M. Connolly, **A.M. Long**, A.S. Tremsin, A. Strzelec, M. Anderson, R.J. Agasie, C.E.A. Finney, M.L. Wissink, M.H. Hubler, R. Pellenq, C.E.White, B.J. Heuser, A. Craft, J.M. Harp, C. Tan, K. Morris, B, Schillinger, & S.C.Vogel *Review of Scientific Instruments* (Accepted)

'Effects of Hydrogen Redistribution at High Temperatures in Yttrium Hydride Moderator Material.' Trellue, H. R., **Long, A. M.**, Luther, E. P., Carver, D. T. & Mehta, V. K. *The Journal of The Minerals, Metals & Materials Society*, 73, 3513-3518 (2021).

'Flexible 3D printed silicones for gamma and neutron radiation shielding.' Talley, S. J., Robison, T., **Long, A. M.**, Lee, S. Y., Brounstein, Z., Lee, K. S., & Labouriau, A. *Radiation Physics and Chemistry*, 188, 109616 (2021).

'Determination of $^{20}Ne(p,\gamma)^{21}Na$ cross sections from E_p = 500 - 2000 keV'. S. Lyons, J. Gorres, R.J. deBoer, E. Stech, Y. Chen, G. Gilardy, Q. Liu, **A.M. Long**, M. Moran, D. Robertson, C. Seymour, B. Vande Kolk, and M. Wiescher *Physics Review C* 97 (2018)

'Probing astrophysically important states in the ^{26}Mg nucleus to study neutron sources for the s-process'. Talwar, R., Adachi, T., Berg, G.P.A., Bin, L., Bisterzo, S., Couder, M., DeBoer, R.J., Fang, X., Fujita, H., Fujita, Y., Gorres, J., Hatanaka, K., Itoh, T., Kadoya, T., **Long, A.**, Miki, K., Patel, D., Pignatari, M., Shimbara, Y., Tamii, A., Wiescher, M., Yamamoto, T., Yosoi, M. *Physics Review C* 93 (2016)

'Low energy neutron background in deep underground laboratories'. Best, A., Gorres, J., Junker, M., Kratz, K.-L., Laubenstein, M., **Long, A.**, Nisi, S., Smith, K., Wiescher, M. *Nuclear Instruments and Methods in Physics Research* 812 (2016)

'(α,γ) cross section measurements in the region of light p nuclei'. Quinn, S.J., Spyrou, A., Simon, A., Battaglia, A., Bowers, M., Bucher, B., Casarella, C., Couder, M., Deyoung, P.A., Dombos, A.C., Gorres, J., Kontos, A., Li, Q., **Long, A.**, Moran, M., Paul, N., Pereira, J., Robertson, D., Smith, K., Smith, M.K., Stech, E., Talwar, R., Tan, W.P., Wiescher, M. *Physics Review C* 92 (2015)

'Systematic study of (α,γ) reactions for stable nickel isotopes'. Simon, A., Beard, M., Spyrou, A., Quinn, S.J., Bucher, B., Couder, M., DeYoung, P.A., Dombos, A.C., Gorres, J., Kontos, A., **Long, A.**, Moran, M.T., Paul, N., Pereira, J., Robertson, D., Smith, K., Stech, E., Talwar, R., Tan, W.P., Wiescher, M. *Physics Review C* 92 (2015)

'First Direct Measurement of C12(C12,n)Mg23 at Stellar Energies'. Bucher, B., Tang, X.D., Fang, X., Heger, A., Almaraz-Calderon, S., Alongi, A., Ayangeakaa, A.D., Beard, M., Best, A., Browne, J., Cahillane, C., Couder, M., Deboer, R.J., Kontos, A., Lamm, L., Li, Y.J., **Long, A.**, Lu, W., Lyons, S., Notani, M., Patel, D., Paul, N., Pignatari, M., Roberts, A., Robertson, D., Smith, K., Stech, E., Talwar, R., Tan, W.P., Wiescher, M., Woosley, S.E. *Physical Review Letters* 114 (2015)

'First application of the γ-summing technique in inverse kinematics'. Quinn, S.J., Spyrou, A., Simon, A., Battaglia, A., Bowers, M., Bucher, B., Casarella, C., Couder, M., Deyoung, P.A., Dombos, A.C., Greene, J.P., Gorres, J., Kontos, A., Li, Q., **Long, A.**, Moran, M., Paul, N., Pereira, J., Robertson, D., Smith, K., Smith, M.K., Stech, E., Talwar, R., Tan, W.P., Wiescher, M. *Nuclear Instruments and Methods in Physics Research* 575 (2014)

'Measurement of the 58Ni(α,γ)62Zn reaction and its astrophysical impact'. Quinn, S.J., Spyrou, A., Bravo, E., Rauscher, T., Simon, A., Battaglia, A., Bowers, M., Bucher, B., Casarella, C., Couder, M., Deyoung, P.A., Dombos, A.C., Gorres, J., Kontos, A., Li, Q., **Long, A.**, Moran, M., Paul, N., Pereira, J., Robertson, D., Smith, K., Smith, M.K., Stech, E., Talwar, R., Tan, W.P., Wiescher, M. *Physics Review C* 89 (2014)

'Measurement of the 90,92Zr(p,γ)91,93Nb reactions for the nucleosynthesis of elements near A=90'. Spyrou, A., Quinn, S.J., Simon, A., Rauscher, T., Battaglia, A., Best, A., Bucher, B., Couder, M., Deyoung, P.A., Dombos, A.C., Fang, X., Gorres, J., Kontos, A., Li, Q., Lin, L.Y., **Long, A.**, Lyons, S., Meyer, B.S., Roberts, A., Robertson, D., Smith, K., Smith, M.K., Stech, E., Stefanek, B., Tan, W.P., Tang, X.D., Wiescher, M. *Physics Review C* 88 (2013)

'Testing the mutually enhanced magicity effect in nuclear incompressibility via the giant monopole resonance in the 204,206,208Pb isotopes'. Patel, D., Garg, U., Fujiwara, M., Adachi, T., Akimune, H., Berg, G.P.A., Harakeh, M.N., Itoh, M., Iwamoto, C., **Long, A.**, Matta, J.T., Murakami, T., Okamoto, A., Sault, K., Talwar, R., Uchida, M., Yosoi, M. *Physics Letters B* 726 (2013)

'Systematic study of (p,γ) reactions on Ni isotopes'. Simon, A., Spyrou, A., Rauscher, T., Fröhlich, C., Quinn, S.J., Battaglia, A., Best, A., Bucher, B., Couder, M., Deyoung, P.A., Fang, X., Gorres, J., Kontos, A., Li, Q., Lin, L.-Y., **Long, A.**, Lyons, S., Roberts, A., Robertson, D., Smith, K., Smith, M.K., Stech, E., Stefanek, B., Tan, W.P., Tang, X.D., Wiescher, M. *Physics Review C* 87 (2013)

'SuN: Summing NaI(Tl) gamma-ray detector for capture reaction measurements'. Simon, A., Quinn, S.J., Spyrou, A., Battaglia, A., Beskin, I., Best, A., Bucher, B., Couder, M.,Deyoung, P.A., Fang, X., Gorres, J., Kontos, A., Li, Q., Liddick, S.N., **Long, A.**, Lyons, S.,Padmanabhan, K., Peace, J., Roberts, A., Robertson, D., Smith, K., Smith, M.K., Stech, E., Stefanek, B., Tan, W.P., Tang, X.D., Wiescher, M. *Nuclear Instruments and Methods in Physics Research* 730 (2013)

Conference Proceedings:

'Recent Nuclear Astrophysics Measurements using the TwinSol Separator'. Bardayan, D.W., Ahn, T., Allen, J., Becchetti, F.D., Blackmon, J.C., Brodeur, M., Frentz, B., Gupta,Y.K., Hall, M.R., Hall, O., Henderson, S., Hu, J., Kelly, J.M., Kolata, J.J., **Long, A.**, Long, J., Macon,K., Nicoloff, C., O'Malley, P.D., Ostdiek, K., Pain, S.D., Riggins, J., Schultz, B.E., Smith, M., Strauss, S., Torres-Isea, R.O. *Journal of Physics: Conference Series* 703 (2016)

'First direct measurement of 12C(12C,n)23Mg at stellar energies'. Tang, X.D., Bucher, B., Fang, X., Heger, A., Almaraz-Calderon, S., Alongi, A., Ayangeakaa, A.D., Beard, M., Best, A., Browne, J., Cahillane, C., Couder, M., DeBoer, R.J., Kontos, A., Lamm, L., Li, Y.J., **Long, A.**, Lu, W., Lyons, S., Notani, M., Patel, D., Paul, N., Pignatari, M., Roberts, A., Robertson, D., Smith, K., Stech, E., Talwar, R., Tan, W.P., Wiescher, M., Woosley, S.E. *EPJ Web of Conferences* 109 (2016)

'Constraining the 12C+12C fusion cross section for astrophysics'. Bucher, B., Fang, X., Tang, X.D., Tan, W.P., Almaraz-Calderon, S., Alongi, A., Ayangeakaa, A.D., Beard, M., Best, A., Browne, J., Cahillane, C., Couder, M., Dahlstrom, E., Davies, P., DeBoer, R., Kontos, A., Lamm, L., **Long, A.**, Lu, W., Lyons, S., Ma, C., Moncion, A., Notani, M., Patel, D., Paul, N., Pignatari, M., Roberts, A., Robertson, D., Smith, K., Stech, E.,

Talwar, R., Thomas, S., Wiescher, M. *EPJ Web of Conferences* 93 (2015)

'P process overview: (p,γ) and (α,γ) reactions in regular and inverse kinematics'. Spyrou, A., Quinn, S.J., Simon, A., Battaglia, A., Best, A., Bucher, B., Couder, M., DeYoung, P.A., Dombos, A.C., Fang, X., Gorres, J., Greene, J., Kontos, A., Li, Q., Lin, L.Y., **Long, A.**, Lyons, S., Meyer, B.S., Rauscher, T., Roberts, A., Robertson, D., Smith, K., Smith, M.K., Stech, E., Tan, W.P., Tang, X.D., Wiescher, M. *Proceedings of Science* (2014)

'Searching for the low-energy resonances in the 12C(12C,n)23Mg reaction cross section relevant for s-process nucleosynthesis'. Bucher, B., Fang, X., Almaraz-Calderon, S., Alongi, A., Ayangeakaa, A.D., Beard, M., Best, A., Browne, J., Cahillane, C., Couder, M., Deboer, R., Kontos, A., **Long, A.**, Lu, W., Lyons, S., Notani, M., Patel, D., Paul, N., Roberts, A., Robertson, D., Smith, K., Stech, E., Talwar, R., Tan, W., Tang, X.D. *Journal of Physics: Conference Series* 420 (2013)

'Experimental investigation of the 12C+12C fusion at very low energies by direct and indirect methods'. Fang, X., Bucher, B., Almaraz-Calderon, S., Alongi, A., Ayangeakaa, A.D., Best, A., Berg, G.P.A.,Cahillane, C., Dahlstrom, E., Deboer, R.J., Freer, M., Fujita, H., Fujita, Y., Gorres, J., Hatanaka, K., Howard, A., Itoh, T., Kadoya, T., Kawabata, T., Kolata, J.J., Li, Q., Li, Y.J., Liu, B., **Long, A.**, Lui, Y.-W., Lyons, S., Matsuda, Y., Miki, K., Paul, N., Roberts, A., Smith, M.K., Talwar, R., Tamii, A., Tan, W.P., Tang, X.D., Wiescher, M., Yokota, N. *Journal of Physics: Conference Series* 420 (2013)

'P-process measurements with SuN'. Spyrou, A., Simon, A., Quinn, S.J., Battaglia, A., Best, A., Beskin, I., Bucher, B., Couder, M., DeYoung, P.A., Fang, X., Gorres, J., Kontos, A., Li, Q., Liddick, S.N., **Long, A.**, Lyons, S., Padmanabhan, K., Peace, J., Roberts, A., Robertson, D., Smith, K., Smith, M.K., Stech, E., Stefanek, B., Tan, W.P., Tang, X.D., Wiescher, M. *AIP Conference Proceedings* 1498 (2012)

'High precision measurements for the rp-process'. Berg, G.P.A., Fujita, Y., Gorres, J., Harakeh, M.N., Hatanaka, K., **Long, A.**, Neveling, R., Smit, F.D., Talwar, R., Tamii, A., Wiescher, M. *Journal of Physics: Conference Series* 387 (2012)

'Measurements of ISGMR in Sn, Cd and Pb isotopes and the asymmetry of nuclear matter incompressibility'. BFujiwara, M., Li, T., Patel, D., Garg, U., Berg, G.P.A., Liu, Y., Marks, R., Matta, J., Nayak, B.K., Madhusudhana-Rao, P.V., **Long, A.**, Sault, K., Talwar, R., Hashimoto, H., Nakanishi, K., Okumura, S., Yosoi, M., Ichikawa, M., Itoh, M., Matsuo, R., Terazono, T., Uchida, M., Iwao, Y., Kawabata, T., Murakami, T., Sakaguchi, H., Terashima, S., Yasuda, Y., Zenihiro, J., Akimune, H., Iwamoto, C., Okamoto, A., Kawase, K., Adachi, T., Harakeh, M.N. *AIP Conference Proceedings* 1377 (2011)