

## **Curriculum Vitae**

January, 2024

Douglas P. Wells  
New Mexico Institute of Mining and Technology  
(NMT)

### **Education:**

Ph.D.,            Physics, University of Illinois, 1990  
M.S.,            Physics, University of Illinois, 1985  
M.S.,            Mathematics, University of Virginia, 1984  
B.A.,            Physics and Mathematics, Rutgers University, 1982  
A.S.,            Physics, Brookdale Community College, 1980

### **Professional Experience:**

2017 – present: Professor of Physics, New Mexico Institute of Mining and Technology  
2017 – 2022:    Vice President of Academic Affairs, New Mexico Institute of Mining and Technology  
2012 – 2017:    Dean of Graduate Education and Professor of Physics, South Dakota School of M&T  
2011 – 2012:    Acting Chair, Department of Physics, Idaho State University  
2006 - 2012:    Director, Idaho Accelerator Center, Idaho State University  
2003 - 2006:    Chair, Department of Physics, Idaho State University  
2007 - 2012:    Professor, Department of Physics, Idaho State University  
2002 - 2007:    Associate Professor, Department of Physics, Idaho State University  
1997 - 2002:    Assistant Professor of Physics, Department of Physics, Idaho State University  
1996 - 1997:    Associate Professor of Physics (non-tenure track), Department of Physics, ISU  
1993 - 1996:    Health Physicist, Radiation Protection Division, Washington State Department of Health  
1990 - 1992:    Post-Doctoral Research Associate, Department of Physics, University of Washington  
1984 - 1990:    Research Assistant, Department of Physics, University of Illinois

## Leadership Experience:

The accomplishments that I list below, chronologically (in order of oldest to most recent), were achieved by teamwork and, thus, accomplishments of the entire team, but teams that I led.

As Chair of Physics at Idaho State University (ISU, from 2003 – 2006 and again from 2011 to 2012):

- Grew undergraduate enrollment of physics majors from less than 30 to over 100 in three years,
- Created a doctoral program in Applied Physics,
- Oversaw ABET accreditation of Health Physics Program,
- Led and oversaw departmental self-study and external review for NWCCU accreditation,
- Grew graduate enrollment from 10 students to over 50 students in three years,
- As Chair of Physics, a dozen faculty, 3 staff and 8 TAs reported directly to me, with an overall budget of approximately \$1.5M/yr.

As Director of the Idaho Accelerator Center, a nuclear research center of Idaho State University, from 2006 to 2012:

- Forged research partnerships with anthropology, molecular biology, physics, chemistry, pharmacy, nuclear engineering, materials science, and accelerator physics,
- Grew research funding from \$2M/yr to \$6M/yr,
- Worked with Idaho Congressional delegation, in partnership with private-sector companies to attract key funds for the Idaho Accelerator Center.
- Engaged with Idaho State legislators to attract funds for ISU partnerships with local technology businesses.
- Doubled research lab space via construction, using external funding,
- Oversaw and ensured regulatory compliance, both safety (radiation, chemical, occupational) and financial (OMB regulations, especially 2 CFR 220).
- As Director of the IAC, 6 faculty, 10 technical staff, 3 administrative staff and roughly 30 RAs reported directly to me. I managed an overall budget of approximately \$6M/yr, of which 100% was external grants and contracts. As the PI of the majority of those funds, it was a challenging task to keep those funds flowing.
- As simultaneous Director of the IAC and Chair of Physics of Idaho State University from 2011 to 2012, there were 18 faculty, 18 staff and nearly 40 TAs/RAs who reported to me, with an overall budget of approximately \$7M (of which roughly 80% was external funds).
- Expanded federal funding sources to include DOE, DoD, and federal research labs and built extensive connections and good working relations with scientists and engineers from many DOE national labs, including INL, LANL, SNL, LLNL, PNNL, FNAL, ANL and J-Lab, as well as DoD's NRL, ARL, AFRL.
- Built private sector partnerships, funding and donations from major corporations, including Boeing (who donated \$50 million worth of accelerator hardware to ISU), Raytheon, Lockheed-Martin, Battelle, L-3 Communications, Wyle, Sanford Research (a division of Sanford Health), and General Atomics, as well as smaller corporations.

As Dean of Graduate Education at SDSM&T from Fall of 2012 to 2017:

- Grew graduate enrollment by 20%,
- Led the creation of distance education, professional development Masters of Engineering programs.
- As Dean of Graduate Education, 2.5 staff directly reported to me, with an annual budget of \$250K, and an advisory council of 15 faculty (one representative from each graduate program).
- Oversaw institutional distance education accreditation for Higher Learning Commission.

As Vice President of Academic Affairs of New Mexico Tech from January of 2017 to August, 2022:

- Grew enrollment: when key enrollment management units (Admissions, Financial Aid) were added to Academic Affairs in the Spring of 2020, we overhauled our practices and increased enrollment (headcount, credit-hours) by 4% in the Fall of 2021. This is the first increase we saw since 2014, prior to this NMT had been steadily and consistently seeing declining enrollment of approximately 5%/yr. And we had two successive increasing classes of increasing new-student headcount (Fall of 2021 and Fall of 2022).
- Grew articulation agreements, customized to particular degree programs, with New Mexico 2-year colleges, to better enable 2-year college students to transfer to NMT without loss of credits or loss of time-to-graduation. For some 2-yr colleges, these agreements included NMT offering distance education classes to ensure that pre-engineering students were fully prepared to enter NMT as juniors.
- Created a pilot program for six regional (non New Mexico) 2-year colleges, whereby custom articulation agreements and discounted tuition were begun for students of those colleges.
- Grew doctoral student enrollment by approximately 30% over the last 5 yrs.
- Engaged with the New Mexico “Joint Legislative Finance Committee” to successfully gain their support for new academic programs and new research centers.
- Engaged with New Mexico (federal) Senators to successfully gain their support for funding for NMT research centers.
- Led NMT reviews of new legislation impacting academics, faculty and students.
- Instituted enrollment projection models for both undergraduate and graduate students, which had not been done in the past at NMT.
- Grew Institutional Research and student success data analysis models to enable data-informed decisions regarding student success initiatives.
- Created or overhauled numerous policies, procedures and guidelines – ranging from tenure and promotion, to hiring practices, to professional development.
- Created the “Dean’s Scholar” program, whereby exceptionally research-successful faculty are rewarded with recognition, a pay raise, and a reduced (formal) instructional load.
- Solved numerous inherited faculty/department space problems (research labs, co-location of faculty within a department) to bring about better support for junior faculty and increase synergy between faculty (because proximity matters).
- Created major additional classroom space and additional distance/hybrid instructional space to solve long-standing deficits in this area.
- Grew diversity in leadership positions within Academic Affairs, such as female academic department Chair positions grew five-fold, two new Director positions were created (both female), and two new Directors were appointed (both Hispanic, one female).
- Wrote the first NMT faculty search hiring procedure, specifically to ensure a large and diverse pool of applicants.
- Steadily increased retention (crossing 80% for the first time in the Fall of 2020), persistence and 4-yr graduation rate (we nearly doubled this over five years), until the Covid pandemic hit, from which we are now recovering.
- Hired a Native American faculty and staff to help us grow better engagement with, and better serve, New Mexican and regional tribal and pueblo colleges and K-12 schools.
- Attracted a 5-year, \$5M grant from the U.S. Department of Energy to build a diverse pipeline of students, from the A.S. level to the Ph.D. level, who would reinvigorate the U.S. radioisotope industry (primarily medical isotopes).
- Oversaw institutional accreditation for ABET, ACS and Higher Learning Commission.
- Oversaw an annual budget of approximately \$30M/yr, including approximately 130 full-time faculty and another 100 part-time faculty and staff.

## **Faculty Experience**

**Teaching Experience:** I have taught at every college level, from introductory “100-level” courses to the highest graduate level (including doctoral dissertation credits). I have advised over 30 graduate students at ISU, SDSM&T and NMT. Of these, 19 completed their M.S. under my direction, and 10 completed their Ph.D.s. I currently have four doctoral students, on masters student, and 10 undergraduates working under my supervision. I also mentored and supported 4 post-docs during my career.

**Service Experience:** My record of service at NMT, SDSM&T and ISU includes the full gamut of “in-house” service (such as serving as graduate representative, as a graduate committee member, or as a college or university committee member, etc.), regional service (such as Chairing sessions for annual meetings, serving on regional peer grant review committee, etc.) and national service (serving as peer-reviewer for DOE and NIH grants, serving as co-organizer and editor of the international Conference on Accelerator Applications in Research and Industry, etc.). In addition, I served as Director of the Idaho Accelerator Center (2006-2012) and served as Chair of Physics from July 1, 2003 through June 30, 2006 (and as acting Chair through August 15, 2006), and more recently in 2011-2012. I also served as Graduate Dean at SDSMT (2012-2016) and VP Academic Affairs (2017 – 2022).

**Research Experience:** My research record and interests have changed over time. I began my career as a main-stream nuclear physicist (Ph.D. from the University of Illinois) and nearly all of my early publications were on topics of photo-nuclear physics. After the completion of my Post-Doc at the University of Washington I worked in environmental health physics for approximately six years. In that time I developed research interests in this field that have continued to the present. When I joined ISU as a tenure-track faculty member (Fall, 1997), I focused on applied nuclear science (physics and health physics). I am currently funded as PI on a 5-year, \$5M collaborative project between NMT, Idaho State University and Idaho National Lab that is focused on photo-nuclear production of medical isotopes and on training/educating a diverse pipeline of students in isotope science at the BS, MS and PhD levels. In all, there are 8 graduate students and more than 10 undergraduates funded by this project.

## Appendix:

### Publications:

G. Santisvan, R. Bentley, D. Wells, A. Hutton, A. Stavola, S. Benson, K. Jordan, J. Gubeli, P. Degtiarenko and L. Dabill, *Photonuclear Production of  $^{67}\text{Cu}$  from Gallium*, accepted for publication in peer-reviewed AccApp21 Conference Proceedings, August (2022).

R. Bentley, G. Santistevan, D. Wells, A. Hutton, A. Stavola, S. Benson, K. Jordan, J. Gubeli, P. Degtiarenko and L. Dabill, *Photon Activation Analysis in Gallium, Nickel and Vanadium*, accepted for publication in peer-reviewed AccApp21 Conference Proceedings, August (2022).

Borgwardt, T. C., D. P. Wells, D. C. Pagnac, Z. Sun, and C. R. Segebade, *A test of a non-consumptive nuclear forensics technique using Photon Activation Analysis of fossils and source matrices*, Journal of Paleontological Techniques 19: 1, 14 (2018).

D.P. Wells, Medical Isotope Production with Electron Linacs and Accelerator Driven Subcritical Systems (ADSS), Plenary Presentation, AccApp'15-12th International Topical Meeting on the Nuclear Applications of Accelerators, 10–13 November 2015, Washington, DC, USA

Sun, Z.J., D.P. Wells, Segebade, C., Quigley K. and Chemerisov, S., *A Comparison of Various Procedures in Photon Activation Analysis (PAA) with the Same Irradiation Setup*, Nuclear Instruments and Methods in Physics Research Section B, 339:53-57 (2014).

Sun, Z.J., D.P. Wells, Segebade C. and Chemerisov, S., *A Study of Quasi-absolute Method in Photon Activation Analysis*, Nuclear Science and Techniques, 25, 050201 (2014)

Valeriia N Starovoitova, Lali Tchelidze, D. P. Wells, *Production of Medical Isotopes with Electron Linacs*, Accepted for publication in Journal of Applied Radiation and Isotopes (2014).

Valeriia N Starovoitova, Lali Tchelidze, D. P. Wells, *Production of medical radioisotopes with linear accelerators*, Applied radiation and isotopes: including data, instrumentation and methods for use in agriculture, industry and medicine 12/2013; 85C:39-44 (2013)

Sun, Z.J., D.P. Wells, Segebade, C., Maschner, H. and Benson, B., *A Provenance Study of Coffee by Photon Activation Analysis*, Journal of Radioanalytical and Nuclear Chemistry, 296:293-299, 2013.

Liu Jiwen, Valeriia N Starovoitova, D. P. Wells, *Long-term variations in the surface air ( $^7\text{Be}$ ) concentration and climatic changes*, Journal of environmental radioactivity 10/2012; 116C:42-47 (2012)

Sun, Z.J., D.P. Wells, Segebade and Green, J., *Web-based Spectrum Analysis Software for Photon Activation Analysis*, Journal of Radioanalytical and Nuclear Chemistry, 291:287-292, 2012.

L. Tchelidze, D. P. Wells, S. A. Maloy, *Defect studies of stainless steel via positron annihilation energy spectroscopy*, Journal of Physics Conference Series 01/2011; 265(1):2011

J. F. Harmon, D. P. Wells and A. W. Hunt, *Neutrons and Photons in Nondestructive Detection*, Reviews of Accelerator Science and Technology, Vol. 4 (2011) 83–101, World Scientific Publishing Company.

D.P. Wells and C.R. Segebade, *An Overview of Photon Activation Analysis Techniques and Applications*, Proceedings of 21st International Conference on the Application of Accelerators in Research & Industry, AIP press, Vol. 1336, pg 452, (2011).

Z.J Sun, D.P. Wells, C.R. Segebade and J.R. Green, *Standardizing Photon Activation Analysis*, Proceedings of 21st International Conference on the Application of Accelerators in Research & Industry, AIP press, Vol. 1336, pg 473, (2011).

V. Starovoitova, D.P. Wells et al., *Cu-67 Photoneuclear Production*, Proceedings of 21st International Conference on the Application of Accelerators in Research & Industry, AIP press, Vol. 1336, pg 502, (2011).

S. F. Naeem, D.P. Wells, T. White and T. Roney, Activation Analysis for Transuranic (TRU) Waste Assay and Imaging, Nuclear Instruments & Methods in Physics Research A (in press).

Mestari, M.A., D. P. Wells, L.C .DeVeaux, and S. F. Naeem, *Real-Time Dosimetry System for Radiobiology Experiments Using a 25 MeV LINAC*, Proceedings of 20th International Conference on the Application of Accelerators in Research & Industry, AIP press, Vol. 1099, pgs. 3-6, (2009).

J. Green, D. P. Wells, B. Benson, Z. J. Sun, and H. D. G. Maschner, *A Priori Method of Using Photon Activation Analysis to Determine Unknown Trace Element Concentrations in NIST standards*, Proceedings of 20th International Conference on the Application of Accelerators in Research & Industry, AIP press, Vol. 1099, pgs. 919-924 (2009).

G. Kharashvili, V. Makarashvili, M. Mitchell, W. Beezhold, R. Spaulding, D. P. Wells, T. F. Gesell, W. Wingert, *Development and Testing of Gallium Arsenide Photoconductive Detectors for Ultra Fast, High Dose Rate Pulsed Electron and Bremsstrahlung Radiation Measurements*, Proceedings of 20th International Conference on the Application of Accelerators in Research & Industry, AIP press, Vol. 1099, pgs. 55-58 (2009).

**D. P. Wells**, J. Williams, V. Makarashvili, L. Tchelidze, S. Thompson, J. Ralph and F. Selim, Limits of Positron Annihilation Spectroscopy using *in situ* Pair-Production, Proceedings of the 8th International Positron Studies of Defects (PSD-08) Conference, Prague, [Czech Republic](#), September 1 to 5, 2009.

V. Makarashvili, **D. P. Wells**, A. K. Roy, 3-D defect density plots of large scale structural materials with positron annihilation spectroscopy: feasibility and optimization, Proceedings of the 8th International Positron Studies of Defects (PSD-08) Conference, Prague, [Czech Republic](#), September 1 to 5, 2009.

L. Tchelidze, **D. P. Wells**, S.A. Maloy, Defect Studies of Stainless Steel via Positron Annihilation Energy Spectroscopy, Proceedings of the 8th International Positron Studies of Defects (PSD-08) Conference, Prague, [Czech Republic](#), September 1 to 5, 2009.

V. Makarashvili and **D. P. Wells**, *MCNPX simulations for positron production mechanisms to generate defect density images using positron annihilation energy spectroscopy*, Proceedings of the Eighth International Topical Meeting on Nuclear Applications and Utilization of Accelerators (American Nuclear Society), p. 973, 2008.

H. Maschner, B. Benson, J. Green and **D.P. Wells**, *Photon Activation for Archaeological Analysis at Idaho State University*, Proceedings of the Eighth International Topical Meeting on Nuclear Applications and Utilization of Accelerators (American Nuclear Society), p. 307, 2008.

Mestari\*, M.A., **D. P. Wells**, L.C .DeVeaux, and S. F. Naeem\*. 2008. Real-Time Dosimetry System for Radiobiology Experiments Using a 25 MeV LINAC, CAARI 2008: 20th International Conference on the Application of Accelerators in Research and Industry Conference Proceedings, 3-6.

K. Chouffani, S. Naeem, **D. Wells** and F. Harmon, *Generation and Application of Laser-Compton Scattering from Relativistic Electron Beams to Hybrid K-Edge densitometry*, AIP proceedings of the Free Electron Laser conference, pgs. 417-420, FEL 2008.

S. Naeem, K. Chouffani and **D. Wells**: “X-ray Fluorescence (XRF) Analysis using Laser Compton Scattered (LCS) X-rays”, Proceedings of 20th International Conference on the Application of Accelerators in Research & Industry AIP press, Vol. 1099, pg. 843-846, (2009).

Mestari, M.A., **D. P. Wells**, L.C. DeVeaux, and S. F. Naeem, *Real-Time Dosimetry System for Radiobiology Experiments Using a 25 MeV LINAC*, Proceedings of 20th International Conference on the Application of Accelerators in Research & Industry, AIP press, Vol. 1099, pgs. 3-6, (2009).

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G. Kharashvili, V. Makarashvili, M. Mitchell, W. Beezhold, R. Spaulding, **D. P. Wells**, T. F. Gesell, W. Wingert, *Development and Testing of Gallium Arsenide Photoconductive Detectors for Ultra Fast, High Dose Rate Pulsed Electron and Bremsstrahlung Radiation Measurements*, Proceedings of 20th International Conference on the Application of Accelerators in Research & Industry, AIP press, Vol. 1099, pgs. 55-58 (2009).

L. Tchelidze, **D. P. Wells** and S. A. Maloy, *Positron Annihilation Energy and Lifetime Spectroscopy Studies for Radiation Defects in Stainless Steel*, Proceedings of 20th International Conference on the Application of Accelerators in Research & Industry, AIP press, Vol. 1099, pgs. 985-988 (2009).

V. Makarashvili, **D.P. Wells**, A.K. Roy, *Doppler broadening analysis of steel specimens using accelerator based in situ pair production*, Proceedings of 20th International Conference on the Application of Accelerators in Research & Industry, AIP press, Vol. 1099, pgs. 900-903 (2009).

Gygli, P.E., L.C. DeVeaux, et. Al. and **D.P. Wells**, *Resistance of the Extreme Halophile Halobacterium sp. NRC-1 to Multiple Stresses* Proceedings of 20th International Conference on the Application of Accelerators in Research & Industry, AIP press, Vol. 1099, pgs. 993-996 (2009).

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- L.C. DeVeaux, J. R. Smith, S. Hobdey, E. C. Spindler, **D.P. Wells**, C. Frandsen, T. Webb, W. Beezhold, Effect of Electron Beam Dose Rate on Microbial Survival, Proceedings of the Eighth International Topical Meeting on Nuclear Applications and Utilization of Accelerators, (2007).
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- P. Cole, J. Farley, R. Spaulding, J.F. Harmon, **D.P. Wells**, Measuring the 20.2 ms half-life of the 472 keV line from the Isomer  $^{24m}\text{Na}$  with Pulsed Photons at the Idaho Accelerator Center, Nuclear Instruments and Methods in Physics **B 261** (1-2) 822 (2007).
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F.A. Selim, J. Williams, **D.P. Wells**, J.F. Harmon, Investigation of Shock Wave Effects in on Positron Annihilation in Copper and Tungsten, Nuclear Instruments and Methods **B 241**, 253 (2005).

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## **Grant and Contract Funding:**

**Funded:** D.P. Wells (PI), “Isotope Production Education and Research via a Systematic Study of Photo-nuclear Reaction Yields and Excitation Functions”, DOE Office of Science, \$5,000,000 (2023-2027).

**Funded:** D.P. Wells (co-PI, Jefferson National Accelerator Facility is the lead institution), et al., Isotope Production with a High-Power CW Electron Linac, DOE Office of Science, \$800,000, (2016-2017).

**Funded:** D.P. Wells (PI), Feasibility Study of Medical Isotope Production with Electron Linacs, Jefferson National Accelerator Facility, \$15,000, (2015).

**Funded:** D.P. Wells (PI), CASPAR: Y2 DIANA Demonstrator Project for Nuclear Astrophysics, SURF, \$500,000, (2014-2016).

**Funded:** D.P. Wells (PI), CASPAR: Y1 DIANA Demonstrator Project for Nuclear Astrophysics, SURF, \$500,000, (2013-2014).

**Funded:** D.P. Wells (PI – since transferred to Co-PI A.W. Hunt, since I left ISU) Development of commercially-viable, accelerator-produced materials for medical and semiconductor industry applications, State of Idaho IGEMs program, \$2,000,000 (July 1, 2012 – June 30, 2015).

**Funded:** D.P. Wells (PI), Mobile Munitions Assessment System and Digital Radiography, Battelle Energy Alliance, \$200,000 (Oct., 2009 – Sept., 2012).

**Funded:** D.P. Wells (PI), Assessment of NDA Capabilities for Assay of Transuranic-bearing Wastes, Battelle-CWI, \$150,000.00 (Oct. 1, 2008 - Sept. 30, 2012).

**Funded:** D.P. Wells (PI) et al., Medical Isotope Production with Photo-nuclear Reactions, DOE, \$2,500,000 (September 2009 – September, 2012).

**Funded:** D.P. Wells (PI) et al., Small Accelerators for Non-Destructive Testing, DoD, \$3,500,000 (March 2010 – September, 2012).

**Funded:** D.P. Wells (PI) et al., Intense Neutron/Gamma Sources for Nuclear Fuels Materials Irradiations and Applications, DOE, \$1,500,000 (July 2011 - September 2012).

**Funded:** D.P. Wells (PI), Mobile Munitions Assessment System and Digital Radiography, Battelle Energy Alliance, \$141,000 (7/1/2007 - 7/31/2008).

**Funded:** D.P. Wells (PI), Assessment of NDA Capabilities for Assay of Transuranic-bearing Wastes, Battelle-CWI, \$117,608.00 (Oct. 1, 2007 - Sept. 30, 2008).

**Funded:** D.P. Wells (PI) et al., Small Accelerators and Detection Systems for Homeland Defense and National Security Applications, DoD, \$2,000,000 (September 2007 - January 2009).

**Funded:** D.P. Wells (PI) et al., Small Accelerators and Detection Systems for Homeland Defense and National Security Applications, DoD, \$2,000,000 (October 2008 – March 2009).

**Funded:** D.P. Wells (PI) et al., Small Accelerators and Detection Systems for Homeland Defense and National Security Applications, DoD, \$2,000,000 (March 2010 – September, 2011).

**Funded:** D.P. Wells (PI) , J.F. Harmon and K. Chouffani, Compact Laser-Compton Sources for Non-Proliferation Applications, DOE, \$300,000 (September 2007 - August 2008).

**Funded:** D.P. Wells (PI) and A.W. Hunt, Advanced Fuel Cycle Initiative, DOE, \$600,000 (August 2008 - September 2009).

**Funded:** D.P. Wells (PI) and A.W. Hunt, Advanced Fuel Cycle Initiative, DOE, \$600,000 (September 2009 – September 2010).

**Funded:** D.P. Wells (PI), Non-Destructive TRU Waste Assay, \$60,000 (Oct. 2009 - Sept, 2010).

**Funded:** Chouffani (PI), Wells (Co-PI), “Hybrid K-edge/X-ray Fluorescence Densitometry with Laser-Compton Scattered X-rays” Granting period: 10- 01-08 to 09-30-09, U.S. DOE, \$497,085.

**Funded:** DeVaux (PI), Wells (Co-PI), “Security Solutions from Life in Extreme Environments Center (SSLEEC)” (\$1.2 million for year 1; \$2M for year 2: 2008 - 2010), U.S. DoD.

**Funded:** Hunt (PI), Wells (Senior Investigator), High Repetition Rate, Linac based Nuclear Resonance Fluorescence (NRF) for FY09 NA-22 Life Cycle Plan (PI), National Nuclear Security Administration through Idaho National Laboratory, \$598,450, 11/2008 through 10/2009

**Funded:** Hunt (PI), Wells (Senior Investigator), Support of Large Standoff Fissionable Material Detection for the DTRA MPTDS Project 2008 (PI) Department of Defense through Idaho National Laboratory, \$368,249 4/2008 through 11/2008

**Funded:** Hunt (PI), Wells (Senior Investigator), Actively-Induced, Prompt Radiation Emission Characterization (PI) Department of Homeland Security through Idaho National Laboratory, \$213,397, 3/2008 through 2/2009

**Funded:** Hunt (PI), Wells (Senior Investigator), High Repetition Rate, Linac-based Nuclear Resonance Fluorescence (NRF) National Nuclear Security Administration through Idaho National Laboratory, \$199,000, 2/2008 through 10/2008

**Funded:** Shropshire (PI), Wells (Senior Investigator) NSF Physics Education and Interdisciplinary Research, “REU Site for Applied Nuclear Physics”, \$274,244, 2009-2011.

**Funded:** D.P. Wells (PI), Assessment of NDA Capabilities for Assay of Transuranic-bearing Wastes, Batelle-CWI, \$117,608.00 (Oct. 1, 2007 - Sept. 30, 2008).

**Funded:** T. Forest (PI), A.W. Hunt and D.P. Wells (Co-PI), Positron source for fundamental nuclear physics at JLAB, DOE-EPSCoR, \$411,509 (2007).

**Funded:** D.P. Wells (PI) , J.F. Harmon and K. Chouffani, Compact Laser-Compton Sources for Non-Proliferation Applications, DOE, \$250,000 (September 2007 - August 2008).

**Funded:** J.F. Harmon (PI), D.P. Wells (Co-PI) and A.W. Hunt, Advanced Fuel Cycle Initiative, DOE, \$2,000,000 (July 2007 - June 2008).

**Funded:** D.P. Wells (PI), Non-Destructive TRU Waste Assay, \$100,000 (Oct. 2006 - Sept, 2007).

**Funded:** J.F. Harmon (PI), A.W. Hunt and D.P. Wells (Co-PI), Advanced Fuel Cycle Initiative, DOE, \$2,000,000.00 (August 2006 through August 2007).

**Funded:** J.F. Harmon (PI), A.W. Hunt and D.P. Wells (Co-PI), Advanced Fuel Cycle Initiative, DOE, \$3,000,000.00 (May 2005 through May 2006).

**Funded:** D.P. Wells (PI), Non-Destructive Analysis of Trans-Uranic Waste, Battelle-CWI Inc., \$55,000.00 (Oct. 1, 2005 through April 30, 2006).

**Funded:** J.F. Harmon (PI) and D.P. Wells (Co-PI) with General Atomics Corporation, Development of an Intense LCS X-ray Source, U.S. Department of Energy, \$1,000,000.00 (March, 2006 - March, 2007) .

**Funded:** D.P. Wells (PI), and J. F. Harmon, A. W. Hunt, W. Beezhold, R. Brey, P. Cole, E. Farfan, L. DeVeaux, R. Rodriguez, Small Accelerators and Detection Systems for Homeland Defense and National Security Applications, Department of Defense, \$1,500,000.00. (September 2006 through January 2008).

**Funded:** J.F. Harmon (PI), and A.W. Hunt and D.P. Wel (Co-PI), Advanced Fuel Cycle Initiative, \$2,000,000.00 (May 2003 - May 2004.)

**Funded:** D.P. Wells (PI), Non-Destructive Analysis of Trans-Uranic Waste, Bechtel BWXT Idaho Inc., \$30,000.00 ( July 1, 2004 - Sept. 30, 2004)

**Funded:** D.P. Wells (PI), Renewal of Non-Destructive Analysis of Trans-Uranic Waste, Bechtel BWXT Idaho Inc., \$74,235.00 (Oct. 1, 2004 through April 30, 2005).

**Funded:** A.W. Hunt (PI) and J.F. Harmon and D.P. Wells (Co-PI), De-Excitation of  $^{178m2}\text{Hf}$  using Polychromatic X-rays, U.S. Department of Energy, \$30,000.00 (March, 2004 - October, 2004).

**Funded:** A.W. Hunt (PI) and V. Dimitrov and D.P. Wells, Theoretical Mechanisms of De-Excitation of  $^{178m2}\text{Hf}$ , U.S. Department of Energy, \$30,000.00 (January, 2005 - May, 2005).

**Funded:** J.F. Harmon (PI), W. Beezhold, R. Brey and D.P. Wells, Advanced Fuel Cycle Initiative, \$1,500,000.00 (May 2003 - May 2004).

**Funded:** J.F. Harmon (PI), W. Beezhold, R. Brey and D.P. Wells (Co-PI), Advanced Accelerator Applications in the Nuclear Fuel Cycle, \$1,500,000.00 (May 2002 through May 2003).

**Funded:** J.F. Harmon (PI), D.P. Wells (Co-PI), K. Chouffani, and A. Hunt, Production and Application of Compact, Exotic X-ray Sources Department of Defense DEPSCOR Program, \$500,000.00 (2002).

**Funded:** J.F. Harmon (PI), D.P. Wells (Co-PI), J. Knox, R. Brey, Applications of Radiation Science and Accelerator Technology, Idaho State Board of Education Research Center Program, \$996,000 (July of 2001 through June 2004).

**Funded:** D.P. Wells (PI) and F. Harmon (Co-PI), Compton Back-Scattered Photons: Development of an Intense Source of Polarized X-rays U.S. Department of Energy EPSCoR University/National Laboratory Collaboration program, \$150,000 (August, 2000 - August 2002).



**Funded:** D.P. Wells (PI), Non-Destructive Assay and Imaging with Accelerator- based X-ray Fluorescence for Sub-Surface Science, Inland Northwest Research Alliance, \$180,000 (September, 2000 - September 2003).

**Funded:** D.P. Wells (PI) Pure and Applied Photo-Nuclear Science, ISU University Research Committee, \$10,000 (1999).

**Funded:** D.P. Wells (PI), Pure and Applied Photo-Nuclear Science, ISU Research Coordinating Council, \$3,346 (1999).

**Patents:**

Irradiation Device and Method for Producing High Specific Activity Radioisotopes, U.S. Patent Number  
Pub. No.: US 2012/0281799 A1

Defect imaging device and method, Patent No.: US 7,718,962 B2