Colorado State University
College of Veterinary Medicine and Biomedical Sciences
*Department of Environmental and Radiological Health Sciences*

Alexander Brandl, PhD
(alexander.brandl@colostate.edu)

## A. Short Biography

Dr. Brandl has been concerned with radiological protection of workers and the general public for almost twenty five years. As scientific staff at the Austrian Research Centers Seibersdorf and Nuclear Engineering Seibersdorf, he first was responsible for internal dosimetry, providing dose assessment from incorporated radionuclides for occupationally exposed workers. As Radiation Safety Officer for the site, he later was also responsible for external dosimetry and environmental surveys and monitoring. He achieved and maintained an ISO 17025 accreditation for a high-activity radioactive source measurement and characterization laboratory, and served as the technical and quality manager for the accreditation. He has served as member and chair of the working group on internal dosimetry at the Austrian Institute of Standards, and as delegate to the corresponding working group at the International Standards Organization (ISO). He has chaired and co-chaired sessions on external and internal dosimetry and other current topics in radiological protection at national and international conferences. Dr. Brandl currently is faculty at Colorado State University (CSU) at the rank of Professor with tenure. Since 2022, he has served as Interim Department Head for Environmental and Radiological Health Sciences. He teaches such classes as Radiological Physics and Dosimetry, Monte Carlo Methods in Health Physics, and Radiation Public Health. These classes introduce students in the CSU graduate (M.S. and PhD) Health Physics program to the concepts of the interaction of ionizing radiation with matter and dosimetry, with the objective for those students to provide radiological protection protocols and worker exposure assessments for ionizing radiation in the workplace. Dr. Brandl's research focuses on radiation dosimetry for radiological protection of workers and the general public, and on tools to improve radiation detection for exposure monitoring, dose assessment, and national security purposes. As of late, he has been focusing some of his efforts on the study and evaluation of

professional ethics and communication in radiological protection, and on enhancing international collaboration of professionals in the field.

## B. Statement of Motivation

I believe that there is an important role for the International Radiation Protection Association (IRPA) in advancing the collective knowledge of IRPA's members and in supporting the translation and dissemination of this knowledge to the benefit of workers and the general public worldwide. As the association of and for radiological protection professionals, IRPA occupies a unique position in our international field by facilitating the transfer of scientific results to the operational profession, and by promoting professional competence, radiation protection culture, professional conduct, skills and knowledge, and best-practices in radiological protection.

For more than two decades, I have been an active radiological protection professional, working both in operations as well as in science in the field. I believe that my professional perspective renders me ideally suited to successfully support the work and responsibilities of IRPA, as I have had the opportunity to learn where practitioners and scientists may have different conceptions about the scientific basis for the system of radiological protection and its application and implementation. For twenty years, I have been serving with distinction and success as an officer and Secretary of the Austrian Radiation Protection Association and recently as their Vice President for International Affairs. In these positions, I was able to utilize and hone my technical expertise, my management, personal, and organizational skills, and my interaction with our members and national and international partner societies. I would bring this experience with me to the IRPA Executive Council to support IRPA's mission and initiatives. In particular, my more recent studies of professional ethics and communication will help further IRPA's outreach and education goals and projects; my experience with working on two continents and in various international environments has allowed me to recognize the importance of cultural sensitivity and understanding for the work of an international organization. My appointment as Chair of the International Collaboration Committee of the U.S. Health Physics Society has allowed me to further pursue what I consider one of the most important current initiatives within IRPA: to foster, support, and facilitate international collaboration and cooperation around the globe, and especially with countries which historically have not been represented as prevalently in the international community. The use and application of radiological sources is still increasing around the world; IRPA has the responsibility and opportunity to provide expertise and experience with its safe and prudent implementation. I will champion and spearhead such efforts, if elected.

I would be happy to provide my support to IRPA, the organization, and its international members.

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Österreichischer Verband für Strahlenschutz
Mitgliedsgesellschaft der International Radiation Protection Association

07.03.2024

Dr. Ana-Maria BOMBEN
Executive Officer
International Radiation Protection Association

Dr. Christian Katzlberger
President
Austrian Radiation Protection Association

## Austrian Radiation Protection Association; Nomination of Alexander Brandl for the 2024-2028 IRPA Executive Council

Dear Madam Executive Officer,

The Austrian Radiation Protection Association (ÖVS) respectfully submits to you a nomination for the 2024-2028 Executive Council (EC) of the International Radiation Protection Association (IRPA). After careful deliberation and consideration of the professional experience, leadership and managerial skills, and personal attributes necessary for a person serving in this important role in the international radiological protection community, we nominate Dr. Alexander BRANDL. Dr. BRANDL is co-nominated by the German-Swiss Fachverband für Strahlenschutz (FS).

Dr BRANDL, currently faculty in Health Physics at Colorado State University, has been an active member of the ÖVS for more than twenty years. For sixteen years, he has served with distinction as an officer and Secretary of our Society; for the past four years he has been the Association's Vice President for International Affairs. He has both operational radiation protection experience as Radiation Safety Officer (RSO) at the Austrian Research Centers Seibersdorf and Nuclear Engineering Seibersdorf as well as the scientific and technical expertise in teaching and conducting state-of-the-art research at a major research university in the United States of America. Dr. BRANDL has also been an active member of the German-Swiss Fachverband für Strahlenschutz (FS) for almost twenty years and the Health Physics Society (HPS) for more than a decade and currently chairs their International Collaboration Committee.

Dr. BRANDL's regional affiliation most clearly is with EUROPE. However, he also has very strong ties to NORTH AMERICA which we view as an additional asset to IRPA.

We believe that Dr. BRANDL is ideally suited to successfully support the work and responsibilities of IRPA and present our nomination for your kind consideration. In support of our nomination, we have attached his CV and his statements of Motivation and Willingness to Serve.

Sincerely,
Dr. Christian Katzlberger
President

**Der Präsident**
**Hansruedi Völkle**
Dr. rer. nat. habil, Prof. tit. i. R.
Rue de la Carrière 22, CH-1700 Fribourg - Schweiz
E-Mail: hansruedi.voelkle@unifr.ch

**Fachverband für Strahlenschutz e.V.**
Für Deutschland und die Schweiz
Mitgliedsgesellschaft der IRPA
International Radiation Protection Association

WIR STEHEN FÜR:
Sicherheit im Umgang mit Strahlung.

Freiburg/Fribourg (Schweiz), Dezember 18th 2023

**Nomination of Prof. Alexander Brandl**
**for the IRPA Executive Council**

Herrn
Mag. Dr. Christian Katzlberger, Präsident des ÖVS
Österreichische Agentur für Gesundheit und Ernährungssicherheit GmbH (AGES)
Spargelfeldstraße 191
A-1220 Wien

Dear Christian,

The board of the *Swiss-German Fachverband für Strahlenschutz* (The German-Swiss Association for Radiation Protection) has at its meeting on December 6th, 2023, decided to support the nomination of

**Professor Alexander Brandl**

Environmental and Radiation Health Sciences, Colorado State University, Fort Collins/CO/USA, member of the *Österreichischer Verband für Strahlenschutz* (ÖVS) and of the German-Swiss *Fachverband für Strahlenschutz* (FS),

**as candidate for IRPA Executive Council.**

With kind regards,

Hansruedi Völkle
President of the German-Swiss Radiation Protection Association

Copy to:
Mrs. Renate Czarwinski

Colorado State University
COLLEGE OF VETERINARY MEDICINE
AND BIOMEDICAL SCIENCES
*Department of Environmental and*
*Radiological Health Sciences*

February 29, 2024

IRPA President and Executive Council
c/o Dr. Bernard LEGUEN

Re.: Readiness to Serve on IRPA Executive Council

Dear Dr. LeGuen,
dear Colleagues,

I am writing to confirm my willingness and readiness to serve on the 2024-2028 Executive Council of the International Radiation Protection Association (IRPA) if the IRPA General Assembly finds my professional experience and personal attributes suitable for this role. I feel that my decades-long scientific, operational, and leadership experiences in the field of radiological protection are providing an excellent basis, and that sixteen years of service as the Secretary of the Austrian Radiation Protection Association (ÖVS) and four years as their Vice President for International Affairs have prepared me well to successfully contribute to the work of IRPA. My (abbreviated) CV, attached, provides additional information with regards to my professional achievements to date.

Please feel free to contact me with any further questions. I can be reached at (970) 491-2292 or alexander.brandl@colostate.edu.

Very Respectfully,

Alexander Brandl, PhD, CHP
Professor and Senior Associate Head of Department
Environmental and Radiological Health Sciences
Colorado State University

# CURRICULUM VITAE

## Employment History/ Awards

**NAME** Alexander Brandl, PhD, CHP

**ADDRESS** 2901 Clay Basket Court
Fort Collins, CO 80526

**PHONE** (970) 818-1970

### EDUCATION

| | |
|---|---|
| 1996 | B.S, Summa Cum Laude, Physics and Mathematics, University of New Mexico |
| 1999 | M.S., Physics, University of New Mexico |
| 2002 | PhD, Physics, University of New Mexico |
| 2011 | Comprehensive Certification, American Board of Health Physics |
| 2021 | Command and Staff College, Austrian Military Academy |

### ACADEMIC POSITIONS

(2023 – ) Senior Associate Department Head, Environmental and Radiological Health Sciences, Colorado State University

(2022 – ) Professor, Health Physics, Colorado State University

(2022 – 2023) Interim Head of Department, Environmental and Radiological Health Sciences, Colorado State University

(2020 – 2021) Associate Head of Department – Research and Operations, Environmental and Radiological Health Sciences, Colorado State University

(2019) Interim Head of Department, Environmental and Radiological Health Sciences, Colorado State University

(2016 – 2022) Associate Professor, Health Physics, Colorado State University

(2016 – ) Director, Irradiation Services Laboratory, Colorado State University

(2010 – 2016) Assistant Professor, Health Physics, Colorado State University

### OTHER POSITIONS

(2004 – 2010) Head of Department, Nuclear Engineering Seibersdorf, Seibersdorf, Austria

(2002 – 2004) Staff Scientist and Radiation Safety Officer, Austrian Research Centers Seibersdorf, Seibersdorf, Austria

(2000 – 2002) Staff Scientist, Austrian Research Centers Seibersdorf, Seibersdorf, Austria

(1989 – 1993) Austrian Armed Forces, Austria

## CURRENT JOB DESCRIPTION

15% Teaching 10% Research/Creative Activity 0% Service/Outreach 75% Admin

## HONORS AND AWARDS

2021, Oliver P. Pennock Distinguished Service Award, Colorado State University

2017, Pro Merito (For the Service) in Silver, Austrian Armed Forces / Seibersdorf Laboratories, Seibersdorf, Austria

2006, Honor Needle in Bronze, Austrian Standards Institute, Vienna, Austria

2000, Best Technical Presentation, NASA/PUSUE Program, Albuquerque, NM

2000, Student Travel Award, National Science Foundation, Albuquerque, NM

1999, Best Student Oral Presentation, Four Corners Section of the American Physical Society, Tucson, AZ

1999, Student Travel Award, Four Corners Section of the American Physical Society, Tucson, AZ

1997, Eoin Gray Award, Department of Physics and Astronomy, University of New Mexico, Albuquerque, NM

1995, Student Stipend Award, Department of Mathematics and Statistics, University of New Mexico, Albuquerque, NM

1994, Student Recognition Award, Department of Chemistry, University of New Mexico, Albuquerque, NM

## Publications/Scholarly Record

**PUBLISHED WORKS**

**Refereed Journal Articles:**

Wang, J., Brandl, A., 2020, Tritium Atom Exchange May Be Responsible for Activity Decrease in Plastic Liquid Scintillation Vials, Health Physics 119(3), 375-380.

Fabian, R., Bell, J., Brandl, A., 2020, A Radon Background-subtraction Algorithm for Electronic Personal Dosimeters, Health Physics 119(2), 216-221.

Martinez, S., Brandl, A., Leary, D., 2020, Monte Carlo Evaluation of Dose Enhancement Due to CuATSM or GNP Uptake in Hypoxic Environments with External Beam Radiation, International Journal of Nanomedicine 15, 3719-3727.

Brandl, A., Tschurlovits, M., 2020, "Why" Transforms Information Transfer into Effective Communication in Radiological Protection, Journal of Radiological Protection 40, 327-336.

Brogan, J., Brandl, A., 2019, Developing Detection Decisions on the Absence or Presence of a Radiological Source Using a Bayesian Interaction Model, Health Physics 117(6), 637-647.

Meengs, M., Brogan, J., Brandl, A., 2019, Optimization of Spectral String Data Analysis Using a Binomial Discriminator for Weak-source Detection Decisions, Health Physics 117(1), 28-35.

Lindsay, J., Meengs, M., Fischer, J. C., Brogan, J., Brandl, A., 2019, Low-Fidelity Spectral Analysis Utilizing a Binomial Discriminator for Weak-Source Detection Decisions, Health Physics 116(5), 727-735.

Brandl, A., Tschurlovits, M., 2018, Professional Ethics in Radiological Protection, Journal of Radiological Protection 38, 1524-1534.

Brogan, J., Brandl, A., 2018, Enhancing Test Statistics by Utilizing Data Patterns in Sequential Measurement Strings in Radiation Detection, Health Physics 115(6), 698-704.

Mann, J. E., Zoeger, N., Koppitsch, R., Brandl, A., 2018, Investigation of Dose Rates Exterior to an Above-Ground Waste Storage Facility Using Radiation Transport Models, Health Physics, 115(4), 539-544.

Owens, A., Bertelli, L., Brandl, A., 2018, Gamma and Beta Absorbed Dose Conversion Coefficients in the Range from 10 keV to 10 MeV for Accidental Exposures from Point Sources Placed in Clothing in Proximity to the Body, Health Physics, 115(2), 281-294.

Rosenberg, B. L., Ball, J. E., Shozugawa, K., Korschinek, G., Hori, M., Nanba, K., Johnson, T. E., Brandl, A., Steinhauser, G., 2017, Radionuclide Pollution inside the Fukushima Daiichi Exclusion Zone, Part 1: Depth Profiles of Radiocesium and Strontium-90 in Soil, Applied Geochemistry 85, 201-208.

Shozugawa, K., Riebe, B., Walther, C., Brandl, A., Steinhauser, G., 2016, Fukushima-derived Radionuclides in Sediments of the Japanese Pacific Ocean Coast and Various Japanese Water Samples (Seawater, Tap Water, and Coolant Water of Fukushima Daiichi Reactor Unit 5), Journal of Radioanalytical and Nuclear Chemistry, 307: 1787-1793.

Klumpp, J., Brandl, A., 2015, Simultaneous Source Detection and Analysis Using a Zero-inflated Count Rate Model, Health Physics, 109(1), 35-53.

Klumpp, J., Brandl, A., 2015, Bayesian Analysis of Energy and Count Rate Data for Detection of Low Count Rate Radioactive Sources, Health Physics, 108(3), 364-370.

Mannis, D., Brandl, A., 2015, Efficacy of Common Decontamination Methods for Cleaning Contaminated Wounds, Health Physics, 108(2), S5-S12.

Klumpp, J., Miller, G., Brandl, A., 2015, Characterisation of Non-constant Background in

Counting Measurements, Radiation Protection Dosimetry, 164(3), 408-421.

Atkinson, R., Eddy, T., Kuhne, W., Jannik, T, Brandl, A., 2014, Measurement of the Tritium Concentration in the Fractionated Distillate from Environmental Water Samples, Journal of Environmental Radioactivity, 135, 113-119.

Steinhauser, G., Brandl, A., Johnson, T., 2014, Comparison of the Chernobyl and Fukushima Nuclear Accidents: A Review of the Environmental Impacts, Science of the Total Environment, 470-471, 800-817.

Wellens, B., Brandl, A., 2013, Clearance Monitoring Using Hand-held Devices: Operational Implementation and Challenges, Health Physics, 105(5), S76-S82.

Brandl, A., 2013, Statistical Considerations for Improved Signal Identification from Repeated Measurements at Low Signal-to-background Ratios, Health Physics, 104(3), 256-263.

Valentin, C. P., Kratky, J., Brandl, A., 2012, Investigation of Alpha and Beta Self-Absorption Factors in the Calibration of Water Sample Measurements, Health Physics, 103(2), S124-S130.

Brandl, A., 2012, An Analytical Approach to Calculating the Dose to Animals Due to External Exposure, Health Physics, 102(6), 687-695.

McMillan D., Johnson T. E., Guo Y., Brandl, A., 2011, A Plan for the Handling of Externally Contaminated Livestock, Health Physics, 101(5), S164-S169.

Zoeger N., Brandl, A., 2011, Dose Rate Distribution from a Standard Waste Drum Arrangement, Health Physics, 101(5), S142-S147.

Brandl, A., 2011, The Standard Model of Particle Physics in the Health Physics Framework, Letter to the Editor, Health Physics, 100(6), 660-661.

Brandl, A., Herrera Jimenez, A. D., 2008, Statistical Criteria to Set Alarm Levels for Continuous Measurements of Ground Contamination, Health Physics, 95(Suppl. 2), S128-S132.

Andrasi, A., Bouvier, C., Brandl, A., de Carlan, L., Fischer, H., Franck, D., Höllriegl, V., Li, W. B., Oeh, U., Ritt, J., Roth, P., Schlagbauer, M., Schmitzer, C., Wahl, W., Zombori, P., 2007, Practical Implications of Procedures Developed in IDEA Project – Comparison with Traditional Methods, Radiation Protection Dosimetry, 125(1-4), 456-459.

Schlagbauer, M., Hrnecek, E., Rollet, S., Fischer, H., Brandl, A., Kindl, P., 2007, Uncertainty Budget for a Whole Body Counter in the Scan Geometry and Computer Simulation of the Calibration Phantoms, Radiation Protection Dosimetry, 125(1-4), 149-152.

Brandl, A., Hranitzky, C., Rollet, S., 2005, Shielding Variation Effects for 250 MeV Protons on Tissue Targets, Radiation Protection Dosimetry, 115(1-4), 195-199.

Schmitzer, C., Brandl, A., 2003, Internal Dosimetry: Enhancements in Application, Update on the IDEA Project, Radiation Protection Dosimetry, 105(1-4), 649-652.

Schmitzer, C., Brandl, A., Wahl, W., Roth, P., Franck, D., de Carlan, L., Andrasi, A., 2003, Developments in Internal Monitoring Techniques, Radiation Protection Dosimetry, 105(1-4), 451-456.

Gorelov, I., Brandl, A., Seidel, S., 2001, Three-jet Event Properties at CDF, International Journal of Modern Physics, 16(1A), 242-244.

Brandl, A., Seidel, S., Worm, S., 1997, Measurement of Proton-induced Radiation Damage Effects in Double-sided Silicon Microstrip Detectors, Nuclear Instruments and Methods in Physics Research, A 399, 76-84.

**Non-Refereed Journal Articles/Chapters/Proceedings/Transactions**:

Parker, A., Hofer, P., Brandl, A., 2021, Dose Rates and Doses from CBRN Attacks in Subterranean Environments, In: Proceedings of the Disaster Research Days, Disaster Competence Network Austria, Innsbruck, Austria.

Brandl, A., Koch, G., Schrenk, M., 2019, Milizionäre beim Seminar Einsatzführung der Waffengattung ABC-Abwehr(in German), In: LD50, Newsletter of the CBRN

Defense Center of the Austrian Armed Forces, Korneuburg, Austria.

Brandl, A., Tschurlovits, M., 2019, Effective Communication in Radiological Protection is More Than Information Transfer, In: Proceedings of the 64th Annual Meeting of the Health Physics Society, Health Physics Society, Orlando, FL.

Tschurlovits, M., Brandl, A., 2019, Strahlenschutz heute und morgen (Teil 1) (in German), In: Strahlenschutz aktuell, Newsletter of the Austrian Radiation Protection Association, Vienna, Austria.

Brandl, A., Brogan, J., 2018, Dateninterpretation in der Strahlenschutz-Messtechnik: klassische statistische und Bayes Modelle (in German), In: Strahlenschutz aktuell, Newsletter of the Austrian Radiation Protection Association, Vienna, Austria.

Tschurlovits, M., Brandl, A., 2018, Why Scientific Integrity and Competence Are No Longer Sufficient for Effective Communication with the Public, In: Proceedings of the International Symposium on Communicating Nuclear and Radiological Emergencies to the Public, International Atomic Energy Agency, Vienna, Austria.

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Wang, J., Brandl, A., 2018, Long Term Effects of Tritium in Plastic Liquid Scintillator Vials, In: Proceedings of the 63rd Annual Meeting of the Health Physics Society, Health Physics Society, Cleveland, OH.

Brandl, A., Brogan, J., Fischer, J., Lindsay, J., Mann, J., Meengs, M., 2018, Utilizing Data Patterns in String Measurements to Enhance Radiological Detection Capabilities, In: Proceedings of the 5th European Congress of the International Radiation Protection Association, International Radiation Protection Association, The Hague, Netherlands.

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Wang, J., Brandl, A., 2017, Tritium Diffusion by Plastic Liquid Scintillator Vials, In: Proceedings of the 62nd Annual Meeting of the Health Physics Society, Health Physics Society, Raleigh, NC.

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Brandl, A., Hajek, M., 2016, Der Strahlenschutz im Wandel der Zeit (in German), In: 50. Jahrgang Sonderausgabe Strahlenschutz aktuell, 50-year Anniversary Special Edition Newsletter of the Austrian Radiation Protection Association, Vienna, Austria.

Brogan, J., Brandl, A., 2016, Development of Bayesian Statistical Algorithms for Radiation Detection at the Decision Threshold, In: Proceedings of the 61st Annual Meeting of the Health Physics Society, Health Physics Society, Spokane, WA.

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Meeting of the Health Physics Society, Health Physics Society, Spokane, WA.
Brandl, A., 2016, Strahlenschutz und Strahlenschutzgesetzgebung oder: Wie übersetzen wir wissenschaftliche Erkenntnisse in exekutierbare Gesetze? (in German), Chapter in: Österreich in einer nuklearen Welt, Schriftenreihe der ABC-Abwehrschule, Band 5, BMLVS/Heeresdruckzentrum, Korneuburg, Austria.
Brandl, A., Hajek, M., 2016, Der Österreichische Verband für Strahlenschutz: Aufgaben und Tätigkeitsfelder (in German), Chapter in: Österreich in einer nuklearen Welt, Schriftenreihe der ABC-Abwehrschule, Band 5, BMLVS/Heeresdruckzentrum, Korneuburg, Austria.
Brandl, A., Hajek, M., Maringer, F. J., 2015, Strahlen | Schutz | Gesundheit (in German), Summary Report on the 8. Gemeinsame Tagung OEVS-FS, submitted to the Austrian Federal Ministry of Agriculture, Forestry, Environment, and Water Management, Austrian Radiation Protection Association, Vienna Austria.
Brandl, A., 2015, Project Trinity: Strahlenschutzmaßnahmen und Dosimetrie für die erste nukleare Detonation (in German), In: Strahlenschutz aktuell, Newsletter of the Austrian Radiation Protection Association, Vienna, Austria.
Brandl, A., Mann, J., Labrake, M., Klumpp, J., 2015, Messungen an der Erkennungsgrenze des Messsystems: statistische Betrachtungen zu Hintergrundmessungen und –korrekturen (in German, In: Proceedings of the 8. Gemeinsame Tagung ÖVS/FS, Austrian Radiation Protection Association, Baden, Austria.
Ordinario, D., Brandl, A., 2015, Neutron / Muon Correlation Functions to Improve Neutron Detection Capabilities outside Nuclear Facilities, In: Proceedings of the 60th Annual Meeting of the Health Physics Society, Health Physics Society, Indianapolis, IN.
Bell, J., Mann, K., Kraft, S., Brandl, A., 2015, Monte Carlo Based Internal Dosimetry of Canine Cancer Patients Treated with $^{64}$Cu-ATSM, In: Proceedings of the 60th Annual Meeting of the Health Physics Society, Health Physics Society, Indianapolis, IN.
Labrake, M., Brandl, A., 2015, Detection of Nuclear Material below Counting Threshold, In: Proceedings of the 60th Annual Meeting of the Health Physics Society, Health Physics Society, Indianapolis, IN.
Mann, J., Brandl, A., 2015, Development of Novel Algorithms for Improved Source Detection Using Bayesian and Classical Statistics, In: Proceedings of the 60th Annual Meeting of the Health Physics Society, Health Physics Society, Indianapolis, IN.
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Brandl, A., Hajek, M., 2015, Salutations from the Austrian Radiation Protection Association - Editorial Letter, In: Proceedings of the 10th Symposium of the Croatian Radiation Protection Association, Croatian Radiation Protection Association, Sibenik, Croatia.
Parson, J., Zoeger, N., Koppitsch, R., Brandl, A., 2014, Dose Rate Profile Surrounding a Waste Repository, In: Proceedings to the Waste Management Symposia 2014, Waste Management Symposia, Phoenix, AZ.
Parson, J., Zoeger, N., Koppitsch, R., Brandl, A., 2013, Dose Rate Profile Surrounding a Waste Repository, In: Proceedings of the 58th Annual Meeting of the Health Physics Society, Health Physics Society, Madison, WI.
Allardice, A.M., Custis, J., LaRue, S.M., Brandl, A., 2013, Neutron Production and Transport at a Medical Accelerator, In: Proceedings of the 58th Annual Meeting of the Health Physics Society, Health Physics Society, Madison, WI.
Sublett, S., Guss, P., Wasiolek, P., Brandl, A., 2013, Methodology Used to Evaluate and Further Analyze Radionuclide Measurements Following Fukushima, In: Proceedings of the 58th Annual Meeting of the Health Physics Society, Health Physics Society, Madison,

WI.
Gillis, J., Jackson, D., Gay, D., Brandl, A., 2013, Detection and Analysis of Low-Level Tritium in Rainwater for a Proposed Environmental Monitoring Program, In: Proceedings of the 58th Annual Meeting of the Health Physics Society, Health Physics Society, Madison, WI.
Sprenger, P., Brandl, A., Johnson, T., 2013, The Development of a Livestock Decontamination Protocol, In: Proceedings of the 58th Annual Meeting of the Health Physics Society, Health Physics Society, Madison, WI.
Scallan, L., Kiser, M., Brandl, A., 2013, Efficiency Modeling for Neutron Detectors, In: Proceedings of the 58th Annual Meeting of the Health Physics Society, Health Physics Society, Madison, WI.
Parson, J., Zoeger, N., Koppitsch, R., Brandl, A., 2013, Design Basis for a Waste Repository, In: Proceedings to the Waste Management Symposia 2013, Waste Management Symposia, Phoenix, AZ.
Parson, J., Zoeger, N., Koppitsch, R., Brandl, A., 2013, Dose Rate Profile Surrounding a Repository, In: Proceedings of the ASME 2013 15th International Conference on Environmental Remediation and Radioactive Waste Management, Brussels, Belgium.
Klumpp, J., Brandl, A., 2013, Bayesian Analysis of Count Rate Data for Detection and Characterization of Low Count Rate Radioactive Sources, In: Proceedings of the ASME 2013 15th International Conference on Environmental Remediation and Radioactive Waste Management, Brussels, Belgium.
McMillan, D., Johnson, T., Brandl, A., 2012, Considerations for Management of Radioactively Contaminated Livestock, In: Proceedings of the 57th Annual Meeting of the Health Physics Society, Health Physics Society, Sacramento, CA.
Atkinson, R., Eddy, T., Kuhne, W., Jannik, T., Brandl, A., 2012, Tritium Uncertainty Analysis for Surface Water Samples at the Savannah River Site, In: Proceedings of the 57th Annual Meeting of the Health Physics Society, Health Physics Society, Sacramento, CA.
Kaspar, M., Johansen, M., Brandl, A., 2012, Environmental Dose Assessment at the Maralinga Nuclear Test Site, In: Proceedings of the 57th Annual Meeting of the Health Physics Society, Health Physics Society, Sacramento, CA.
Brandl, A., Johnson, T. E., Sprenger, P., 2012, The Calculation of Dose to Externally Contaminated Livestock and Animal Triage for Livestock Handling and Processing, In: Proceedings to the 13th IRPA International Congress, International Radiation Protection Association, Glasgow, United Kingdom.
Zoeger, N., Brandl, A., 2012, Dose Rate Distribution from a Standard Waste Drum Arrangement, In: Proceedings to the 13th IRPA International Congress, International Radiation Protection Association, Glasgow, United Kingdom.
Abraham, J. P., Brandl, A., 2012, Disposal Process for High Activity Sources by a University Through the U.S. Department of Energy's Off-site Source Recovery Project, In: Proceedings to the Waste Management Symposia 2012, Waste Management Symposia, Phoenix, AZ.
Atkinson, R., Brandl, A., Kuehne, W., 2011, Uncertainty Analysis for Surface Water Sampling to Measure the Tritium Concentration at the Savannah River Site, In: Proceedings of the 56th Annual Meeting of the Health Physics Society, Health Physics Society, West Palm Beach, FL.
Adams, D., Lee, M., George, G., Brandl, A., Johnson, T., 2011, A Comparison of MCNP Modeling against Empirical Data for the Measurement of the Effectiveness of Lead Apron Shielding, In: Proceedings of the 56th Annual Meeting of the Health Physics Society, Health Physics Society, West Palm Beach, FL.
Brandl, A., Hefner, A., Beyerknecht, R., 2008, Projected Worker and Public Doses from Long-

term Intermediate Storage of Radioactive Waste at Nuclear Engineering Seibersdorf, In: Proceedings to the 11th European ALARA Workshop, European ALARA Network, Athens, Greece.

Brandl, A., Hampel, G., 2007, Recommendations by the Working Group on Decommissioning of the German Radiation Protection Association, In: Proceedings to the 40th Midyear Topical Meeting on Decontamination, Decommissioning, and Environmental Cleanup, Health Physics Society, Knoxville, TN.

Brandl, A., Piniel, R., Steininger, R., 2007, A Method for Site Characterization at the Austrian Research Centers Seibersdorf, In: Proceedings to the 40th Midyear Topical Meeting on Decontamination, Decommissioning, and Environmental Cleanup, Health Physics Society, Knoxville, TN.

Brandl, A., Hampel, G., 2005, Inkorporationsüberwachung bei Rückbauprojekten – Die Arbeitsgruppe Rückbau im Fachverband für Strahlenschutz (in German), In: Proceedings to the 37th Annual Meeting of the German Radiation Protection Association, TÜV VerlagGmbH, Koeln.

Brandl, A., Meyer, F., Steger, F., Casta, J., Feichtinger, J., Mück, K., 2005, Die Dekommissionierung des ASTRA Forschungsreaktors am Standort der Austrian Research Centers Seibersdorf (in German), In: Proceedings to the 37th Annual Meeting of the German Radiation Protection Association, TÜV VerlagGmbH, Koeln.

Hranitzky, C., Rollet, S., Brandl, A., 2005, Study of Secondary Particles Produced by 250 MeV Protons on Various Targets, In: Proceedings to The Monte Carlo Method: Versatility Unbound in a Dynamic Computing World, American Nuclear Society, Chattanooga, TN.

Brandl, A., 2004, Inkorporationsüberwachung in Österreich: Die Önorm S 5220 zur Überwachung von Personen hinsichtlich inkorporierter radioaktiver Stoffe (in German), Strahlenschutz Praxis, Heft 3/2004.

Brandl, A., Hrnecek, E., Steger, F., 2004, Detection Limits for a Selected Set of Radionuclides and Their Translation into Committed Effective Dose, In: Proceedings of the 11th International Congress of the IRPA, International Radiation Protection Association, Madrid, Spain.

Brandl, A., Friedmann, H., Hrnecek, E., Katzelberger, C., Maringer, F. J., Ringer, W., Tschurlovits, M., 2003, Radiologische Umweltüberwachung in Österreich (in German), Strahlenschutz Praxis, Heft 4/2003.

Brandl, A., Hrnecek, E., Karacson, P., Kurz, H., Meyer, F., Steger, F., 2003, Release from Control of Inactive Material from Decommissioning the ASTRA Research Reactor, In: Proceedings of the IRPA Regional Congress, International Radiation Protection Association, Bratislava, Slovakia.

Brandl, A., 2003, Analysis of a Constancy Check Source, In: Proceedings of the QUADOS Workshop, an EU Concerted Action for the Intercomparison on the Usage of Computational Codes in Radiation Dosimetry, European QUADOS Network, Bologna, Italy.

Brandl, A., Schwaiger, M., Steger, F., 2002, Qualitätsmanagement bei ARC Seibersdorf research: Nationale Akkreditierung als Vorgabe internationaler Kunden (in German), Strahlenschutz Praxis, Heft 3/2002.

Brandl, A., Mück, K., Steger, F., 2002, Umgebungsüberwachung des Forschungszentrums Seibersdorf: Konsequenzen aus der EU-Richtlinie 92/29/EURATOM (in German), In: Proceedings of the 2002 ÖSRAD Symposium, Austrian Radiation Protection Association, Vienna, Austria.

Brandl, A., 2002, Die ÖNORM S 5220: „Überwachung von Personen hinsichtlich inkorporierter Radionuklide“ Stand der Arbeiten zur Inkorporationsüberwachung in Österreich im Hinblick auf die Novellierung der österreichischen Strahlenschutzverordnung (in

German), In: Proceedings of the 34th Annual Meeting of the Fachverband für Strahlenschutz, Fachverband für Strahlenschutz, Kloster Seeon, Germany.

Brandl, A., Seidel, S., 2000, Comparison of Three-jet Events at CDF to a Next-to-leading Order Calculation, In: Proceedings of the 35th Rencontres de Moriond, 2000 QCD and High Energy Hadronic Interactions (ed.: Tran Thanh Van, J), The Gioi Publishers, 17-20.

**Other (e.g. lab texts, book reviews, technical reports, in-house reports)**:

Brandl, A., Seidel, S., 1999, Unsmearing CDF Data in the Dalitz Variables for Studies of Multi-jet Events, CDF Internal Note 5100.

Brandl, A., Seidel, S., 1999, Comparison of Three-jet Events to Predictions from a Next-to-leading-order Calculation, CDF Internal Note 4948.

The ATLAS Collaboration, 1999, The ATLAS Silicon Pixel Sensors, CERN-EP/99-152.

The ATLAS Collaboration, 1997, Technical Specifications of the First Prototype Pixel Sensors for ATLAS, ATLAS Internal Note, INDET-No-180.

## CONTRACTS & GRANTS

**Externally-Funded Projects as PI**

| | |
|---|---|
| (2020) | Algorithms to Subtract Background from Radon Emission in Readings from Electronic Personal Dosimeters, US Department of Defense, US Air Force, $41,500.00 |
| (2019) | Determination of Local Ecological Factors on Soil-Plant Transfers in Fukushima Forest Ecosystems, no Co-PI, University of Tsukuba, $1,460.00 |
| (2014 – 2018) | Colorado State University Health Physics Fellowship Program, currently no Co-PI, Nuclear Regulatory Commission, $387,844.00 |
| (2014 – 2018) | Improving Source Detection in Changing Area Background, Co-PI: T. E., Johnson, US Department of Homeland Security, $586,684.00 |

**Externally-Funded Projects as Co-PI**

| | |
|---|---|
| (2020 – 2025) | Establishing a Radioanalytical Measurements Laboratory (RAM LAB) for Food Monitoring at Colorado State University, PI: R. Sudowe, Food and Drug Administration |
| (2020 – 2025) | Mountain and Plains Education Research Center (ERC) – Health Physics, PI: T. E. Johnson, University of Colorado – Denver |
| (2020 – 2022) | TRISH 2, PI: M. Weil, NASA |
| (2020 – 2022) | NSCOR Addendum - Neutron Source Replacement, PI: M. Weil, NASA |
| (2015 – 2020) | Mountain and Plains Education Research Center (ERC) – Health Physics, PI: T. E. Johnson, University of Colorado - Denver, $810,647.00 |
| (2015) | Neutron Detector Training for Alcorn State University, PI: T. E. Johnson, Department of Energy – National Nuclear Security Administration, $30,000.00 |
| (2013 – 2014) | Treatment Methodologies for RF Injuries, PI: T. E. Johnson, Wyle, $254,708.00 |
| (2012 – 2014) | Statistical Methods for Health Physicists, PI: T. E. Johnson, Nuclear Regulatory Commission, $171,069.00 |
| (2012 – 2013) | Revitalizing Health Physics Education for Nuclear Energy Careers, PI: T. E. Johnson, US Department of Energy, $251,870.00 |
| (2010 – 2012) | Management of Agricultural Animals in a Radiological or Nuclear Incident, PI: T. E. Johnson, US Department of Agriculture, $300,000.00 |

**Internally-Funded Awards**

| | |
|---|---|
| (2013 – 2014) | Statistical Algorithms, no Co-PI, CVMBS – College Research Council, $15,500.00 |

**PAPERS PRESENTED/SYMPOSIA/INVITED LECTURES/PROFESSIONAL MEETINGS/WORKSHOPS**

July 07 – July 11, 2019, 64th Annual Meeting of the Health Physics Society, Health Physics Society, invited presentation and Session Co-Chair, Orlando, FL (not refereed)

July 15 – July 19, 2018, 63rd Annual Meeting of the Health Physics Society, Health Physics Society, invited presentation and Session Co-Chair, Cleveland, OH (not refereed)

June 04 – June 08, 2018, 5th European Congress of the International Radiation Protection Association, International Radiation Protection Association, scientific presentation and Session Co-Chair, The Hague, Netherlands (not refereed)

August 08 – August 10, 2016, Internal Dosimetry, Duke Energy, invited lecture series, Charlotte, NC (not refereed)

April 28, 2016, 2016 CBRN-Keynotes, keynote presentation, Korneuburg, Austria (not refereed)

April 27, 2016, Brigade CBRN-Seminar Series, two invited lectures, Mautern, Austria (not refereed)

October 05 – October 09, 2015, 8. Gemeinsame Tagung ÖVS/FS, Austrian Radiation Protection Association, member of the Scientific Committee, keynote speaker, and Session Co-Chair for two scientific sessions, Baden, Austria (not refereed)

July 12 – July 16, 2015, 60th Annual Meeting of the Health Physics Society, Health Physics Society, invited lecture, Indianapolis, IN (not refereed)

November 27, 2014, 24th General Assembly and 2014 Annual Fall Meeting of the Austrian Radiation Protection Association, Austrian Radiation Protection Association, Meeting Co-Organizer and Session Co-Chair, Vienna, Austria (not refereed)

June 23 – June 27, 2014, 4th European Regional IRPA Congress, International Radiation Protection Association, Session Co-Chair for two scientific sessions, Geneva, Switzerland (not refereed)

June 18, 2014, The Fukushima Nuclear Accident and Public Health, Fort Collins Rotary Club, invited speaker, Fort Collins, CO (not refereed)

March 02 – 06, 2014, Waste Management Symposia 2014, Waste Management Symposia, Session Co-Chair, Phoenix, AZ (refereed)

August 19 – August 21, 2013, Internal Dosimetry for Alpha Contamination, Duke Energy, invited lecture series, Charlotte, NC (not refereed)

April 16, 2013, Radiological Emergency Preparedness, Kansas Department of Health and Environment, invited lecture series, Wichita, KS (not refereed)

February 24 – February 28, 2013, Waste Management Symposia 2013, Waste Management Symposia, Session Co-Chair, Phoenix, AZ (refereed).

December 11, 2012, 23rd General Assembly and 2012 Annual Fall Meeting of the Austrian Radiation Protection Association, Austrian Radiation Protection Association, Meeting Co-Organizer and Session Co-Chair, Vienna, Austria (not refereed)

December 07, 2012, The Use and Detection of Ionizing Radiation for National Security, Health Physics symposium, organizer and responsible for scientific program, Fort Collins, CO (not refereed)

August 22, 2012, Externally Contaminated Animals and Animal Triage, Nebraska Department of Agriculture, invited speaker, Kearney, NE (not refereed)

July 22 – July 26, 2012, Considerations for Management of Radioactively Contaminated Livestock, Health Physics Society, research presentation, Sacramento, CA (not refereed)

July 17, 2012, Externally Contaminated Animals and Animal Triage, US Department of Energy – Amber Waves Exercise, invited speaker, Kansas City, MO (not refereed)

May 14 – May 18, 2012, 13th International Congress of the International Radiation Protection Association, International Radiation Protection Association, Session Co-Chair, Glasgow, United Kingdom (not refereed)

February 26 – March 01, 2012, Waste Management Symposia 2012, Waste Management Symposia, Session Co-Chair, Phoenix, AZ (refereed)

July 27, 2011, Fukushima NPP, Emergency Response, and Public Health, CSU – Burning Issues summer lecture series, invited speaker, Estes Park, CO (not refereed)

June 05, 2011, Fukushima NPP, Emergency Response, and Public Health, Austrian Armed Forces – CBRN specialists, invited lecture, Vienna, Austria (not refereed)

November 18, 2010, 22nd General Assembly and 2010 Annual Fall Meeting of the Austrian Radiation Protection Association, Austrian Radiation Protection Association, Meeting Co-Organizer and Session Co-Chair, Vienna, Austria (not refereed)

December 01, 2008, 21st General Assembly and 2008 Annual Fall Meeting of the Austrian Radiation Protection Association, Austrian Radiation Protection Association, Meeting Co-Organizer and Session Co-Chair, Vienna, Austria (not refereed)

June 05, 2008, Interne Dosimetrie (Definitionen, Messprinzipien, Dosisberechnung) (in German), Austrian Radiation Protection Association, invited speaker, Vienna, Austria (not refereed)

November 19, 2007, ONorm S 5223: Estimation of Dose Due to Work Activities Involving Materials Containing Naturally Occurring Radionuclides, European ALARA Network, invited speaker, Dresden, Germany (not refereed)

May 22, 2007, Individual, Work Place, and Environmental Monitoring at Nuclear Engineering Seibersdorf, Austrian Federal Ministry of Agriculture, Forestry, Environment, and Water Management, invited speaker, Seibersdorf, Austria (not refereed)

March 01, 2007, Erfahrungen aus dem Rückbau des ASTRA-Reaktors am Standort Seibersdorf, State of Lower Austria Department of Emergency Preparedness and Response, invited lecture, Sankt Pölten, Austria (not refereed)

January 22, 2007, A Method for Site Characterization at the Austrian Research Centers Seibersdorf, Health Physics Society, research presentation, Knoxville, TN (not refereed)

December 06, 2006, Gegenwart und Zukunft des Strahlenschutzes (in German), Austrian Radiation Protection Association, invited speaker, Vienna, Austria (not refereed)

December 06, 2006, 20th General Assembly and 2006 Annual Fall Meeting of the Austrian Radiation Protection Association, Austrian Radiation Protection Association, Meeting Co-Organizer and Session Co-Chair, Vienna, Austria (not refereed)

May 15 – May 19, 2006, Challenges, Problems, and Solutions for Radiation Protection in Decommissioning Activities, International Radiation Protection Association, invited lecture, Paris, France (not refereed)

April 06, 2006, Status der Inkorporationsüberwachung in Österreich (in German), Working Group Incorporation Monitoring, invited speaker, Würgassen, Germany (not refereed)

March 28, 2006, Aktuelle Problemstellungen im praktischen Strahlenschutz (in German), Safety Management Seminar Series, invited seminar, Vienna, Austria (not refereed)

September 28, 2005, Die ÖNORM S 5220: Überwachung von Personen hinsichtlich inkorporierter Radionuklide (in German), Working Group Incorporation Monitoring, invited speaker, Rossendorf, Germany (not refereed)

September 12, 2005, Die Dekommissionierung des ASTRA Forschungsreaktors am Standort der Austrian Research Centers Seibersdorf (in German), German Fachverband für Strahlenschutz, invited speaker, Basel, Switzerland (not refereed)

December 02, 2004, 19th General Assembly and 2004 Annual Fall Meeting of the Austrian Radiation Protection Association, Austrian Radiation Protection Association, Meeting Co-Organizer and Session Co-Chair, Vienna, Austria (not refereed)

2004, Health Physics at the Austrian Research Centers Seibersdorf, Idaho State University, invited seminar, Pocatello, ID (not refereed)

February 12, 2004, Radioaktive Kontamination von Lebensmitteln (in German), Austrian Federal Ministry of Agriculture, Forestry, Environment, and Water Management, invited presentation to the Undersecretary of Agriculture, Seibersdorf, Austria (not refereed)

December 16, 2003, Operational Radiation Protection, Personal Dosimetry, and Radioactive Sources in Austria, Delegation from the Competent Authorities of the Czech Republic accompanied by officials from the Austrian Federal Ministry for Exterior Affairs, invited presentation, Seibersdorf, Austria (not refereed)

December 02, 2003, Grundlagen des Strahlenschutzes (in German), Boehringer Ingelheim, invited lecture, Vienna, Austria (not refereed)

November 19, 2003, Aktuelle Strahlenschutzfragen und –probleme bei ARC Seibersdorf (in German), Workshop for Competent Authorities and Radiation Protection Experts, invited speaker, Seibersdorf, Austria (not refereed)

October 2003, Katastrophenübung DEKO 2003 (in German), State of Lower Austria, public emergency exercise announcement, exercise co-organizer, Dobersberg, Austria (not refereed)

October 2003, Katastrophenübung DEKO 2003 (in German), State of Lower Austria, public emergency exercise announcement, exercise co-organizer, Geras, Austria (not refereed)

September 22 – September 26, 2003, Release from Control of Inactive Material from Decommissioning the ARC Seibersdorf ASTRA Research Reactor, International Radiation Protection Association, research presentation, Bratislava, Slovakia (not refereed)

August 2003, Katastrophenübung DEKO 2003 (in German), State of Lower Austria Emergency Management Buro, exercise co-organizer, St. Pölten, Austria (not refereed)

July 2003, The Results of the June IAEA Mission to PAKS, HUNGARY, Austrian Federal Ministry of Agriculture, Forestry, Environment, and Water Management, invited presentation, Vienna, Austria (not refereed)

October 29, 2002, Strahlenschutz am Forschungszentrum Seibersdorf (in German), Parent-Teacher Committee Seibersdorf Elementary School, invited presentation, Seibersdorf, Austria (not refereed)

October 08 – October 11, 2002, Award System at the Austrian Research Centers Seibersdorf Radiation Protection Academy, International Radiation Protection Association, oral

presentation, Florence, Italy (not refereed)

October 02, 2002, Die ÖNORM S 5200: Radioaktivität in Baustoffen (in German), ERRICCA2 Conference, invited speaker, Vienna, Austria (not refereed)

September 19, 2002, Schutz und Maßnahmen bei großräumigen Kontaminationen (in German), Mobilkom Österreich, invited lecture, Vienna, Austria (not refereed)

July 17, 2002, Schutz und Maßnahmen bei großräumigen Kontaminationen (in German), Verbund Österreich, invited lecture, Graz, Austria (not refreed)

June 06, 2002, Umgebungsüberwachung des Forschungszentrums Seibersdorf: Konsequenzen aus der EU-Richtlinie 92/29/EURATOM (in German), Austrian Radiation Protection Association, oral presentation, Vienna, Austria (not refereed)

May 28, 2002, Ground-based In-situ Gamma Spectrometry, Summary Report for Team Austria, ECCOMAGS EU-funded project, oral presentation, Glenluce, United Kingdom (not refereed)

April 21 – April 25, 2002, Die ÖNORM S 5220: „Überwachung von Personen hinsichtlich inkorporierter Radionuklide“ (in German), 34$^{th}$ Annual Meeting of the German Fachverband für Strahlenschutz, oral presentation, Kloster Seeon, Germany (not refereed)

2002, Die ÖNORM S 5220: „Überwachung von Personen hinsichtlich inkorporierter Radionuklide“ Stand der Arbeiten zur Inkorporationsüberwachung in Österreich im Hinblick auf die Novellierung der österreichischen Strahlenschutzverordnung (in German), Working Group on Incorporation Monitoring of the German Fachverband für Strahlenschutz, invited presentation, Salzburg, Austria (not refereed)

11 January, 2002, The Newly Certified Austrian Radionuclide Laboratory in the Framework of the Nuclear Test Ban Treaty, European Commission Joint Research Centers for Trans Uranium Elements, invited presentation, Karlsruhe, Germany (not refereed)

2001, Qualitätsmanagement bei den Austrian Research Centers Seibersdorf (ARCS) (in German), Working Group on Incorporation Monitoring of the German Fachverband für Strahlenschutz, oral presentation, Dortmund, Germany (not refereed)

2001, ÖVS – FS Tagung Gmunden (in German), Working Group on Incorporation Monitoring of the German Fachverband für Strahlenschutz, oral presentation, Dortmund, Germany (not refereed)

2001, Grundlagen des Strahlenschutzes (in German), Vienna State Public School Administration, invited lecture, Vienna, Austria (not refereed)

March 18 – March 25, 2000, Comparison of Three-jet Events at CDF to a Next-to-leading Order Calculation, Les Rencontres de Moriond, research presentation, Les Arcs, France (refereed)

2000, “Things” Too Small to See (Even with a Microscope), and the Universe, Visiting Scientists Program in Middle and High Schools, two invited lectures, State of NM (not refereed)

2000, NLO Three-jet Comparisons at the Tevatron, Fermi National Accelerator Laboratory, research presentation, Chicago, IL (not refereed)

2000, Status of the Measurement of $\alpha_S$ by Comparison of Energy Partitioning in Multi-jet Events to Predictions from a Next-to-leading-order Calculation, Fermi National Accelerator Laboratory, research presentation, Chicago, IL (not refereed)

1999, Dijet Mass and Dijet Differential Cross Section Studies at CDF, American Physical Society Four Corners Section, research presentation, Tucson, AZ (refereed)

1999, Update to the Measurement of $\alpha_S$ by Comparison of Energy Partitioning in Multi-jet Events to Predictions from a Next-to-leading-order Calculation, Fermi National Accelerator Laboratory, research presentation, Chicago, IL (not refereed)

1998, The Measurement of $\alpha_S$ by Comparison of Energy Partitioning in Multi-jet Events to Predictions from a Next-to-leading-order Calculation, Fermi National Accelerator Laboratory, research presentation, Chicago, IL (not refereed)

1998. Preparatory Studies for the Measurement of $\alpha_S$ by Comparing the Energy Partitioning in Multi-jet Events to Predictions from Next-to-leading-order Calculations, Fermi National Accelerator Laboratory, research proposal, Chicago, IL (not refereed)

1998, IV and P-stop Potential Measurements on Pixel Test Structures, European Organization for Nuclear Research, research presentation, Geneva, Switzerland (not refereed)

1997, Particle Physics, Albuquerque Technical Vocational Institute, invited lecture, Albuquerque, NM (not refereed)

## Evidence of Teaching and Advising Effectiveness

### TEACHING:

| Year | Semester | Course No./Title | Cr. Hrs. | Enrollment |
|---|---|---|---|---|
| 2011 | Spring | ERHS630 – Radiological Physics and Dosimetry II | 3 | 4 |
| 2011 | Spring | ERHS561 – Radiation Public Health | 2 (30%) | 10 |
| 2011 | Spring | ERHS693D – Research Seminar-Health Physics | 1 (10%) | 2 |
| 2011 | Fall | ERHS530 – Radiological Physics and Dosimetry I | 3 | 7 |
| 2011 | Fall | ERHS693D – Research Seminar-Health Physics | 1 (10%) | 7 |
| 2012 | Spring | ERHS630 – Radiological Physics and Dosimetry II | 3 | 6 |
| 2012 | Spring | ERHS561 – Radiation Public Health | 2 (75%) | 7 |
| 2012 | Spring | ERHS693D – Research Seminar-Health Physics | 1 (10%) | 4 |
| 2012 | Fall | ERHS530 – Radiological Physics and Dosimetry I | 3 | 14 |
| 2012 | Fall | ERHS693D – Research Seminar-Health Physics | 1 (10%) | 10 |
| 2012 | Fall | ERHS786 – Practicum | 3 (5%) | 1 |
| 2013 | Spring | ERHS630 – Radiological Physics and Dosimetry II | 3 | 10 |
| 2013 | Spring | ERHS561 – Radiation Public Health | 2 (75%) | 6 |
| 2013 | Spring | ERHS300 – Introduction to Radiation Biology | 3 (5%) | 39 |
| 2013 | Spring | ERHS693D – Research Seminar-Health Physics | 1 (10%) | 5 |
| 2013 | Spring | ERHS784 – Supervised College Teaching | 1 | 3 |
| 2013 | Fall | ERHS530 – Radiological Physics and Dosimetry I | 3 | 6 |
| 2013 | Fall | ERHS556 – Monte Carlo Methods in HP | 3 | 8 |
| 2013 | Fall | ERHS526 – Industrial Hygiene | 3 (5%) | 9 |
| 2013 | Fall | ERHS693D – Research Seminar-Health Physics | 1 (10%) | 9 |
| 2013 | Fall | ERHS784 – Supervised College Teaching | 1 | 4 |
| 2013 | Fall | ERHS786 – Practicum | 3 (5%) | 5 |
| 2014 | Spring | ERHS630 – Radiological Physics and Dosimetry II | 3 | 6 |
| 2014 | Spring | ERHS561 – Radiation Public Health | 2 (75%) | 12 |
| 2014 | Spring | ERHS300 – Introduction to Radiation Biology | 3 (5%) | 51 |
| 2014 | Spring | ERHS693D – Research Seminar-Health Physics | 1 (10%) | 3 |
| 2014 | Fall | ERHS530 – Radiological Physics and Dosimetry I | 3 | 9 |
| 2014 | Fall | ERHS556 – Monte Carlo Methods in HP | 3 | 2 |
| 2014 | Fall | ERHS526 – Industrial Hygiene | 3 (5%) | 7 |
| 2015 | Spring | ERHS630 – Radiological Physics and Dosimetry II | 3 | 6 |
| 2015 | Spring | ERHS561 – Radiation Public Health | 2 (75%) | 3 |
| 2015 | Spring | ERHS693D – Research Seminar-Health Physics | 1 (10%) | 4 |
| 2015 | Spring | ERHS498 – Independent Study | 2 | 1 |
| 2015 | Spring | ERHS450 – Introduction to Radiation Biology | 3 (5%) | 32 |
| 2015 | Fall | ERHS530 – Radiological Physics and Dosimetry I | 3 | 10 |
| 2015 | Fall | ERHS556 – Monte Carlo Methods in HP | 3 | 11 |
| 2015 | Fall | ERHS784 – Supervised College Teaching | 1 | 1 |
| 2016 | Spring | ERHS561 – Radiation Public Health | 2 | 4 |
| 2016 | Spring | ERHS630 – Radiological Physics and Dosimetry II | 3 | 9 |
| 2016 | Spring | ERHS784 – Supervised College Teaching | 1 | 1 |
| 2016 | Spring | ERHS786 – Practicum | 3 (5%) | 2 |
| 2016 | Fall | ERHS530 – Radiological Physics and Dosimetry I | 3 | 7 |

| | | | | |
|---|---|---|---|---|
| 2016 | Fall | ERHS556 – Monte Carlo Methods in HP | 3 | 7 |
| 2016 | Fall | ERHS693D – Research Seminar-Health Physics | 1 (10%) | 13 |
| 2017 | Spring | ERHS561 – Radiation Public Health | 2 | 12 |
| 2017 | Spring | ERHS565 – Chemical and Biological Warfare Agents | 3 (10%) | 37 |
| 2017 | Spring | ERHS630 – Radiological Physics and Dosimetry II | 3 | 7 |
| 2017 | Summer | ERHS786 – Practicum | 3 (5%) | 2 |
| 2017 | Fall | ERHS530 – Radiological Physics and Dosimetry I | 3 | 9 |
| 2017 | Fall | ERHS556 – Monte Carlo Methods in HP | 3 | 7 |
| 2017 | Fall | ERHS526 – Industrial Hygiene | 3 (5%) | 6 |
| 2017 | Fall | ERHS786 – Practicum | 3 (5%) | 5 |
| 2018 | Spring | ERHS561 – Radiation Public Health | 2 | 7 |
| 2018 | Spring | ERHS565 – Chemical and Biological Warfare Agents | 3 (10%) | |
| 2018 | Spring | ERHS630 – Radiological Physics and Dosimetry II | 3 | 7 |
| 2018 | Spring | ERHS786 – Practicum | 3 (5%) | 1 |
| 2018 | Fall | ERHS530 – Radiological Physics and Dosimetry I | 3 | 7 |
| 2018 | Fall | ERHS556 – Monte Carlo Methods in HP | 3 | 5 |
| 2018 | Fall | ERHS693D – Research Seminar-Health Physics | 1 (50%) | |
| 2019 | Spring | ERHS561 – Radiation Public Health | 2 | 5 |
| 2019 | Spring | ERHS565 – Chemical and Biological Warfare Agents | 3 (10%) | |
| 2019 | Spring | ERHS630 – Radiological Physics and Dosimetry II | 3 | 7 |
| 2019 | Summer | ERHS786 – Practicum | 3 (50%) | 6 |
| 2019 | Fall | ERHS526 – Industrial Hygiene | 3 (5%) | |
| 2019 | Fall | ERHS530 – Radiological Physics and Dosimetry I | 3 | 10 |
| 2019 | Fall | ERHS556 – Monte Carlo Methods in HP | 3 | 8 |
| 2019 | Fall | PSY692D – Industrial / Organizational Psychology | 1 (5%) | |
| 2020 | Spring | ERHS410 – Waste Management | 3 (5%) | |
| 2020 | Spring | ERHS561 – Radiation Public Health | 2 | 5 |
| 2020 | Spring | ERHS565 – Chemical and Biological Warfare Agents | 3 (10%) | |
| 2020 | Spring | ERHS630 – Radiological Physics and Dosimetry II | 3 | 7 |
| 2020 | Fall | ERHS526 – Industrial Hygiene | 3 (5%) | |
| 2020 | Fall | ERHS530 – Radiological Physics and Dosimetry I | 3 | 7 |
| 2020 | Fall | ERHS556 – Monte Carlo Methods in HP | 3 | 4 |
| 2021 | Spring | ERHS410 – Waste Management | 3 (5%) | |
| 2021 | Spring | ERHS561 – Radiation Public Health | 2 | 14 |
| 2021 | Spring | ERHS565 – Chemical and Biological Warfare Agents | 3 (10%) | |
| 2021 | Spring | ERHS630 – Radiological Physics and Dosimetry II | 3 | 6 |
| 2021 | Fall | ERHS526 – Industrial Hygiene | 3 (5%) | |
| 2021 | Fall | ERHS530 – Radiological Physics and Dosimetry I | 3 | 4 |
| 2021 | Fall | ERHS556 – Monte Carlo Methods in HP | 3 | 4 |
| 2022 | Spring | ERHS410 – Waste Management | 3 (5%) | |
| 2022 | Spring | ERHS561 – Radiation Public Health | 2 (10%) | 2 |
| 2022 | Spring | ERHS565 – Chemical and Biological Warfare Agents | 3 (10%) | |
| 2022 | Spring | ERHS630 – Radiological Physics and Dosimetry II | 3 | 4 |
| 2022 | Fall | ERHS430 – Human Disease and the Environment | 3 (5% - Coordinator) | 17 |
| 2022 | Fall | ERHS526 – Industrial Hygiene | 3 (5%) | |
| 2022 | Fall | ERHS530 – Radiological Physics and Dosimetry I | 3 | 10 |
| 2023 | Spring | ERHS630 – Radiological Physics and Dosimetry II | 3 | 5 |

| | | | | |
|---|---|---|---|---|
| 2023 | Fall | ERHS530 – Radiological Physics and Dosimetry I | 3 | 5 |
| 2023 | Fall | ERHS556 – Monte Carlo Methods in HP | 3 | 7 |
| 2024 | Spring | ERHS410 – Waste Management | 3 | 14 |
| 2024 | Spring | ERHS561 – Radiation Public Health | 2 | 6 |
| 2024 | Spring | ERHS630 – Radiological Physics and Dosimetry II | 3 | 4 |

**Course Syllabi, Assignments, and Other Materials**

ERHS530 and ERHS 630: Radiological Physic and Dosimetry I and II

This two-semester course sequence provides a thorough introduction to Radiological Physics and Dosimetry. It is designed to be accessible to a rather diverse group of incoming graduate students whose prior education and training might range from physics or nuclear engineering (sometimes with extensive experience in operational health physics) to environmental health and chemistry or the life sciences (i.e., biology, radiobiology, microbiology, etc.) It therefore needs to include a thorough review of the concepts of classical and modern physics and the mathematical tools necessary to compute atomic and subatomic phenomena. The physics of ionizing radiation and its interaction with media, such as the human body, eventually lead to considerations of the practical applications of radiation, including nuclear power generation and medical applications. The course curriculum includes topics from physics, engineering, biology, and chemistry.

ERHS556: Monte Carlo Methods in Health Physics

This is a new course designed to introduce health physics students to modern computational tools used in the field. While most practical applications do not require the user to be familiar with the concepts, mathematics, and statistics of Monte Carlo computation, the more through treatment of the theory of Monte Carlo methods beyond the application user interface will allow students to connect their understanding of the fundamentals of radiological physics, radiation transport and interaction, and the statistics of radiation measurements with calculations of highly complex every-day health physics and radiation protection problems. This course prepares students for work beyond the simple application of computational tools, and for further scientific development of Monte Carlo tools and for their use in more advanced scientific investigations.

ERHS561: Radiation Public Health

This is the capstone class for students in the Health Physics M.S. program. It draws from and introduces a large variety of practical health physics problems in the scientific community and in the workplace. This course requires the students to synthesize the knowledge gained in the course of their education and training in the program to solve "real-world" problems they might encounter in their future workplaces.

**Peer Evaluations of Teaching**

Peer evaluations during in-class sessions were solicited from two colleagues in two different classes and on two different dates.

Dr. Regina Schoenfeld-Tacher, CVMBS Coordinator of Instructional Design (ERHS630; March 29, 2013):

Dr. Schoenfeld-Tacher felt that the teaching style used and the rapport established between Dr. Brandl and the class were exceptional. She concluded that Dr. Brandl was an outstanding instructor with excellent presentation skills.

Dr. Schoenfeld-Tacher noticed that some of Dr. Brandl's slides might contain too many lines to

be clearly readable everywhere in the classroom. Subsequent revisions of class materials included a thorough review to avoid, wherever possible without omission of crucial information (equations), over-crowding of slides. Upon suggestion by Dr. Schoenfeld-Tacher, Dr. Brandl also now avoids red, brown, orange, or yellow, whiteboard markers, mostly using the colors black, blue, and green to improve readability of information provided on the classroom whiteboard. Also, the class has since moved to another classroom with improved lighting and projection capabilities.

Dr. Thomas Johnson, Associate Professor and Section Head (ERHS561, March 14, 2013):
Dr. Johnson felt that Dr. Brandl provided a well organized and structured lecture on International Recommendations in Radiation Protection. The lecture was intended to provide the students with a clearer understanding of the impact of science and scientific results on international and national policy, regulations, and public health considerations
Dr. Johnson noted that Dr. Brandl succeeded in engaging the students in lively discussions on the topic, that he encouraged students to think about the material presented in the class, and to perform their own analysis.
For further improvement of the course structure and flow, Dr. Johnson recommended that students be required to read class materials prior to the start class. The class syllabus, and all subsequent syllabi for ERHS561, had contained that particular requirement, including a statement on the grading policy for classroom participation by the students. Dr. Brandl has been providing somewhat stricter enforcement of that grading policy in the meantime.

**Student Course Surveys**

Student course surveys for the classes taught by Dr. Brandl in the 2010 – 2014 timeframe to the most part have been positive, assigning "excellent" and "above average" in almost all survey categories. The mean scores in most categories (1 – 5 scale) range between 4 and 5.

Student suggestions and comments (ERHS556, Fall 2013), recommending changes to the syllabus to allow for more timely practical application of the Monte Carlo simulation, have resulted in a revised syllabus for the following year.

Other suggestions, such as using more examples worked in class (ERHS530, Fall 2014) – including some of the more difficult homework examples, have spurred discussions within the Radiation Protection and Measurement Section whether a "flipped classroom" might provide an opportunity to work through calculations. At the same time, however, student comments seem to indicate that they appreciate an explanation and discussion of the, sometimes difficult, physical and mathematical concepts in the textbook and in complementary reading, while the readings themselves might not provide sufficient clarity on the subject. A compromise between basic concepts and practical examples to be provided in class has proven difficult to implement. This discussion is ongoing.

At least one student (ERHS530, Fall 2014) felt that some material / concepts had been covered or explained an on various occasions which could be perceived as rendering the class more boring. This is certainly an important observation; in particular, since class time in the ERHS530 / ERHS630 sequence is already tight. However, the instructor tried to use repeated review of particular topics to emphasize the most important concepts and results. But even then, examination questions pertaining to these most emphasized topics showed that, at least some, students still struggled with them. While some students appear to be able to understand these topics more easily and more quickly, getting bored with repeated (brief) reviews, others had difficulties applying those concepts to more challenging homework problems or during

examinations. Dr. Brandl is trying to find a suitable compromise that would accommodate the large variety of student backgrounds and skills in the class most optimally.

**Examples of Course Improvements**

ERHS556: Monte Carlo Methods in Health Physics

The first time the course was taught, student comments indicated that they had difficulties relating the theoretical / mathematical / statistical basis of Monte Carlo methods discussed at the beginning of the course (first five weeks) to Monte Carlo applications in computer simulation code. The time for working with the computer code assigned for the class to complete assigned projects then was too short. The syllabus was changed to more closely associate theoretical concepts to their implementation in the code (i.e., geometry, random source sampling, radiation transport, etc.) and to allow for an earlier introduction of the assigned code package. Student perception of that change the following year (Fall 2014) was positive.

ERHS561: Radiation Public Health

The course is continually updated to reflect current problems and solutions in the workplace and events in the public sphere. In the Spring 2014 term, following the world-wide discussion of and emphasis on Professional Ethics in Radiation Protection and a recommendation by the ABET Advisory Board, a week's class session was newly introduced to discuss this topic. Current world events relating to international civilian and military nuclear programs and their potential effects on national and international politics and policies have been added to the curriculum. And radiological emergency response discussions have been geared towards the nuclear accident and its aftermath at Fukushima, Japan.

**Development of New Courses**

ERHS556: Monte Carlo Methods in Health Physics

This newly designed course allows students to gain an understanding of commonly used and applied computational tools beyond the simple user interface. This will allow students to identify problems, uncertainties, and errors that might be introduced by the uninitiated in the application of such tools for complex operational / practical scenarios. Students learn to critically interpret computational results outside the scope of simplified operational calculations.

Graduate Certificate Program: Nuclear and Radiological Safety

This newly designed program will allow working professionals to receive a graduate certificate to advance their career in the military service or in the private industry. Award of a certificate requires 9-12 CR. All credits completed for the graduate certificate will transfer if a students decided to complete a MS degree in the graduate health physics program at CSU.

**Participation in Professional Development Activities Related to Teaching**

Faculty Training Workshop: Mentoring Trainees for Success

Proper communication tools to mentoring students, especially in a laboratory / research setting

On-line Training: At-risk for University and College Faculty

Identification of students in the classroom at risk, academically, personally, and physically

TILT Training Workshop: Inclusive Pedagogy

Designing courses and their curricula for improving access and equity for all students; realizing how own experiences and student experiences shape the classroom environment; identifying classroom dynamics and recognizing microaggressions; providing a safe and equitable environment for all students

CVMBS Training Workshop: Teaching Courses Online and Using Canvas

Designing course content for the pandemic where many courses will need to be taught through a remote instruction format; optimizing use of online tools to afford students the best possible

learning experience

CVMBS Supervisor Workshop: Do You Create Mattering

As a supervisor, how to allow staff and students to feel they matter in and contribute to the organization; individuals strive to be Noticed – Affirmed – Needed in their organization

## ADVISING:

### STUDENT ADVISING/GRADUATE SUPERVISION

**GRADUATE STUDENTS**:

Current Graduate Advisees:

Pete Sprenger (PhD)

Awards and Honors: 2013 Health Physics Society Travel Grant
2012 Health Physics Society Travel Grant

Justin Bell (PhD)

Awards and Honors: 2016 CRMCHPS Student Presentation Award

David Oertli (PhD)
Paige Witter (PhD)
Patrick Mattera (MS)
Maeve Kelly (MS)
Tyler Benner (MS)
Alex Parker (MS)
Conrad Schaefer (MS)
Joseph Fehrman (MS)

Current Graduate Committee Memberships (excluding those chaired):

4 MS/MA
7 PhD

Graduate Committee Memberships (for past 5 years, not including those above)

23 MS/MA
8 PhD

Graduate Degrees Completed under Your Supervision (past 5 years):

Matthew Meengs, 2021, PhD
Current position: Idaho National Engineering Laboratory, Idaho Falls, ID

Paige Witter, 2021, MS
Current position: PhD student, Colorado State University, Fort Collins, CO

Ryan Fabian, 2019, MS
Current position: Idaho National Laboratory, Idaho Falls, ID

John Brogan, 2018, PhD
Current position: Los Alamos National Laboratory, Los Alamos, NM

John Wang, 2018, MS
Current position: Unites States Air Force, Wright-Patterson Air Force Base, Fairborn, OH

Matthew Meengs, 2018, MS
Current position: PhD student, Colorado State University, Fort Collins, CO

Joseph Fischer, 2018, MS
Current position: Johns Hopkins University, Baltimore, MD

Andrew Owens, 2017, MS
Current position: Oak Ridge Associated Universities, Oak Ridge, TN

Michael Labrake, 2016, MS
Current position: Los Alamos National Laboratory, Los Alamos, NM

Jenelle Mann (Parson), 2016, PhD
Current position: Los Alamos National Laboratory, Los Alamos, NM

Awards and Honors: 2016 CRMCHPS Student Presentation Award

Brett Rosenberg, 2016, PhD
Current position: contractor for Pacific Northwest National Laboratory, Richland, WA

John Klumpp, 2014, PhD
Current position: Los Alamos National Laboratory, Los Alamos, NM
Awards and Honors: 2013 Health Physics Society Fellowship

Donald Ordinario, 2016, MS
Current position: U.S. Navy

Justin Bell, 2015, MS
Current position: PhD student, Environmental and Radiological Health Sciences

Heather Healy, 2015, MS
Current position: Los Alamos National Laboratory, Los Alamos, NM

Amber Allardice, 2014, MS
Current position: United States Air Force, Kirtland Air Force Base, Albuquerque, NM
Awards and Honors: 2013 Health Physics Society Travel Grant

Jessica Gillis, 2014, MS
Current position: Los Alamos National Laboratory, Los Alamos, NM
Awards and Honors: 2013 Health Physics Society Travel Grant

Jenelle Mann (Parson), 2014, MS
Current position: Colorado States University, PhD program, Fort Collins, CO
Awards and Honors: 2014 Colorado State Fellowship Award
2014 Roy G. Post Graduate Scholarship Award
2013 Health Physics Society Travel Grant
2013 Waste Management Symposia Travel Award
2013 Outstanding M.S. Candidate Award in Rad. Science

Lisa Roach (Scallan), 2014, MS
Current position: United States Air Force, Wright-Patterson Air Force Base, Fairborn, OH
Awards and Honors: 2013 Health Physics Society Travel Grant

Sarah Sublett, 2014, MS
Current position: United States Army, Landstuhl Regional Med. Center, Landstuhl, Germany
Awards and Honors: 2013 Health Physics Society Travel Grant

Matthew Kaspar, 2013, MS
Current position: National Nuclear Security Agency, Albuquerque, NM
Awards and Honors: 2012 Health Physics Society Travel Grant
2012 Outstanding M.S. Candidate Award in Rad. Science

Marilyn Magenis, 2013, MS
Current position: Palo Verde Nuclear Generating Station, Wintersberg, AZ
Awards and Honors: 2012 Health Physics Society Travel Grant

Daniel Mannis, 2013, MS
Current position: United States Navy, Defense Threat Reduction Agency, Fort Belvoir, VA
Awards and Honors: 2012 Health Physics Society Travel Grant

**Descriptions of Mentoring Activities**

Undergraduate advisement during honors thesis preparation:
Jason Pacini – 2015

Undergraduate advisement in the laboratory (use of health physics measurement equipment and instrumentation)
Isaac Gonzalez – 2015
Joyce Squillante – 2015
Andrea Shacklock - 2014

**OTHER ACTIVITIES/ACCOMPLISHMENTS – TEACHING/ADVISING**

Taught a three-day (24 h) class on internal dosimetry for a major utility (Duke Energy)
received highest praise as feedback from organizer

Taught a three-day (24 h) class on alpha dosimetry for a major utility (Duke Energy)
received highest praise as feedback from organizer

Taught one-day lecture series on Radiological Emergency Preparedness for Kansas Department of Health and Environment
received highest praise as feedback from organizer

Taught a one-week (40-h) class for the US Particle Accelerator Summer School program
received good student evaluations

# Evidence of Outreach/Service

## COMMITTEES

University Committees:
- Radiation Safety Committee, 2012 –
- ROTC Advisory Committee, 2014 –
- Goldwater Scholarship Selection Committee, 2014 –

College Committees:
- Research Information Technology Governance Council, 2011 – 2018

Department Committees:
- Radiochemistry Search Committee, 2012, Chair
- Medical Physics Search Committee, 2013 – 2015
- Radiochemistry Search Committee, 2015 – 2016, Chair
- Promotion and Tenure Committee, 2016 – 2019

## PROFESSIONAL AFFILIATIONS AND ACTIVITIES

National Affiliations and Activities:

Health Physics Society, Plenary Member, 2004 –
- International Collaboration Committee, Member, 2012 – 2015
  Chair, 2017 –
- Academic Education Committee, Member, 2012 – 2017

American Physical Society, Member 1997 –

Council for Ionizing Radiation Measurements and Standards, Member, 2001 – 2010

Kappa Mu Epsilon Mathematics Honor Society, Member, 1995 –

Grant reviewer, Nuclear Regulatory Commission, 2015 –
- 2015 Scholarship and Fellowship Education Grant
- 2016 Scholarship and Fellowship Education Grant
- 2018 Scholarship and Fellowship Education Grant
- 2020 Scholarship and Fellowship Education Grant
- 2022 Scholarship and Fellowship Education Grant

Grant reviewer, North Carolina Biotechnology Center, 2017 – 2018

Grant reviewer, National Nuclear Security Administration
- 2021 Radiochemistry

American National Standards Institute, Member, 2014 –
- International Standards Organization, Member, 2014 –

International Affiliations and Activities:

Austrian Radiation Protection Association, Secretary (re-elected for 4th four-year term), 2005 –
- Austrian Radiation Protection Association, Member, 2001 –
- Delegate to the International Radiation Protection Association (3rd four-year term)
  - Working Group on Professional Education and Certification, Member, 2014 –
  - Working Group on Education of the Public, Member, 2014 –

German-Swiss Fachverband für Strahlenschutz, Member, 2002 –

Austrian Standards Institute, Convener and Member, 2002 – 2013
- International Standards Organization, Member, 2002 – 2013

Editorial Board, Scientific Reports, A Nature Publication, 2019 –

Manuscript reviewer, Health Physics Journal, 2013 –
Manuscript reviewer, International Journal of Environmental Research and Public Health, 2014 –
Manuscript reviewer, Applied Radiation and Isotopes, 2015 –
Manuscript reviewer, Chemico-Biological Interactions, 2016 –
Manuscript reviewer, Science of the Total Environment, 2018 –
Manuscript reviewer, Scientific Reports (A Nature Publication), 2018 –
Session chair, 64th Annual Meeting of the Health Physics Society, 2019
Session chair and Session Co-chair, 63rd Annual Meeting of the Health Physics Society, 2018
Session Co-chair, 5th European Regional IRPA Congress, 2018
Session Chair (two sessions), 61st Annual Meeting of the Health Physics Society, 2016
Session Chair (two sessions) and Member Scientific Committee, 8. Gemeinsame Tagung ÖVS/FS, 2015
Meeting Co-organizer and Session Co-chair, 2014 Annual Fall Meeting of the Austrian Radiation Protection Association, 2014
Session Co-chair (two session), 4th European Regional IRPA Congress, 2014
Session Rapporteur (two sessions), 13th International Congress of IRPA, 2012

## OTHER ACTIVITIES/ACCOMPLISHMENTS – SERVICE/OUTREACH

Public presentations:

Consequences of the Fukushima Accident, Fort Collins Rotary Club, 2014
Livestock Emergency Disease Response System, Nebraska Department of Agriculture, 2012
Livestock Dosimetry and Triage, DOE Amber Waves Senior Leadership Seminar, 2012
The Fukushima Nuclear Accident, Burning Issues Summer Lecture Series, 2011
The Fukushima Accident, Austrian Armed Forces, 2011