

The National Academies of
SCIENCES • ENGINEERING • MEDICINE

NUCLEAR AND RADIATION STUDIES BOARD

Fortieth Meeting: April 19-20, 2022

PUBLIC AGENDA

(April 18, 2022, Draft)

This meeting will be conducted ON-LINE with REMOTE ACCESS ONLY for the public.

THIS MEETING WILL BE RECORDED.

Tuesday, April 19, 2022 (All times are ET.)

PUBLIC SESSION 1

OPEN SESSION connection details:

<https://nas-sec.zoomgov.com/j/1604868227>

Meeting ID: 160 486 8227

Dial by your location

+1 669 254 5252 US (San Jose); +1 669 216 1590 US (San Jose)

+1 646 828 7666 US (New York)

+1 551 285 1373 US

833 568 8864 US Toll-free

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Join by H.323

161.199.138.10 (US West)

161.199.136.10 (US East)

Join by Skype for Business

<https://nas-sec.zoomgov.com/skype/1604868227>

Test your Zoom connection: <https://nas-sec.zoomgov.com/test>

1:00 pm

Call to Order and Welcome to NRSB's Open Session

William H. Tobey, NRSB Chair

1:05 pm

Dispatches from the War in Ukraine: Radiological Dimension

Vadim Chumak, Ph.D., Head of Laboratory – National Research Center
for Radiation Medicine, National Academy of Medicine, Ukraine
(confirmed)

1:55 pm

**Briefing on the Global Material Security Programs of the U.S.
National Nuclear Security Administration (NNSA)**

Nuclear and Radiation Studies Board

500 Fifth Street, NW Washington, DC 20001

Phone: 202 334-3066 www.nationalacademies.org

Art Atkins, Assistant Deputy Administrator for Global Materials Security,
NNSA (confirmed)

2:45 pm

Adjourn Open Session 1

Speaker Biographies

Art Atkins has served in the U.S. Department of Energy's (DOE) National Nuclear Security Administration (NNSA) since 2000 in cooperative international programs to promote nuclear nonproliferation. Currently, Mr. Atkins holds the position of Assistant Deputy Administrator for Global Material Security within the Office of Defense Nuclear Nonproliferation (DNN), overseeing programs that increase the security of nuclear and radioactive materials around the globe and enable the detection of illicit trafficking of those materials. Previous to this position, Mr. Atkins served as the Assistant Deputy Administrator for Global Threat Reduction from July 2013 through December 2014 and the Associate Assistant Deputy Administrator for the Office of International Material Protection and Cooperation from 2011 to 2013. Prior to becoming a member of the senior executive service, Mr. Atkins held several management and staff positions overseeing nuclear material security cooperation in Russia and other international partners. Before his federal service, Mr. Atkins conducted arms control and nonproliferation analysis at Science Applications International Corporation and at the Arms Control Association as a Scoville Peace Fellow.

Mr. Atkins holds a Master of Arts degree in National Security Studies from Georgetown University and a Bachelor of Arts in International Affairs from Lewis and Clark College.

Vadim V. Chumak is a head of Laboratory of external exposure dosimetry, National Research Centre for Radiation Medicine National Academy of Medical Sciences Ukraine. His professional affiliations covered:

- 1986 – present: National Research Centre for Radiation Medicine National Academy of Medical Sciences Ukraine, Department of Dosimetry and Radiation Hygiene in position of senior engineer, junior scientist, scientist, senior scientist, since 1994 - head of Laboratory of External Exposure Dosimetry;
- 1994 – 2018: head of Department of Applied Dosimetry, Radiation Protection Institute ATS Ukraine;
- 2020 – present: head of Division for Prospective Dosimetric Studies, Research and Production Enterprise DOSIMETRICA;
- 2000 – present: member of the Commission of Hygiene Regulation of Radioactive Materials and Radiation Factors, Committee on Hygiene Regulation of Ministry of Health, Ukraine.

His scientific experience and interests lay in the areas of:

- dosimetry of external exposure;
- detection of ionizing radiation;
- retrospective dosimetry;
- Monte Carlo photon transport simulations;
- stochastic approaches in dosimetric models;
- EPR-dosimetry;
- medical physics;
- individual dosimetric monitoring.

Since 1989 he was involved in a broad spectrum of collaborative studies with international research institutions from Europe, USA and Japan. Particularly noteworthy collaborations are:

- 1989: work on whole body counting in framework of the Joint Soviet-Japanese Scientific Cooperation on Radiation Medicine Program, NIRS, Chiba
- 1990 – 1999: retrospective dose reconstruction in cooperation with GSF Forshungszentrum fuer Umwelt und Gesundheit (now – Helmholtz Zentrum Munich), Noeherberg, Germany
- 1992 – 1996: work under the WHO IPHECA project, ESR-dosimetry
- 1993 – 2002: participation in the Ukrainian American Chernobyl Ocular Study, PI Dosimetry
- 1994 – 2000: participation in EU project ECP-10 “Retrospective Dosimetry and Dose Reconstruction” and INCO-Copernicus project
- 1996 – 1998: participation in the IAEA CRP “Implementation of the ICRU Operational Quantities for Individual Monitoring in Ukraine” (part of project J.1.10.08, Intercomparison for Individual Monitoring of External Exposure from Photon Radiation)
- 1997 – present: participation in a series of projects in collaboration with the US National Cancer Institute in a role of the head of dosimetry group (studies among Chornobyl clean-up workers of Leukemia, Thyroid Cancer, TRIO)
- 1997 – 2001: participation in IAEA CRP “Radiation Dosimetry through Biological Indicators”
- 1999 – 2004: participation in German-French Initiative "Chernobyl", PI, sub-project 3.7.1 “Dosimetry of Chernobyl clean-up workers”
- 2010 – 2011: implementation of the contract with NOVARKA consortium “Airborne external radiation level measurements works”, project leader
- 2014 – 2016: participation in EC CO-CHER project
- 2016 – 2017: participation in EC SHAMISEN project
- 2017 – 2020: participation in EC SHAMISEN-SINGS project
- 2019 – present: participation in EU HORIZON-2020 project HARMONIC, PI for validation of dose calculations.

Dr. Chumak holds membership in professional societies:

- 2001 – 2010: International Solid State Dosimetry Organization, member-at-large;
- 2003 – present: EURADOS, voting member;
- 2019 – present: All-Ukrainian Association of Medical Physicists and Engineer, president;
- 2019 – present: Ukrainian Association of Medical Physicists, member.

In 1986, he graduated from the Taras Shevchenko Kyiv State University, the Radiophysical Faculty, specialty by diploma (“Radiophysics and Electronics”, diploma with honors). In 1992, he acquired a Ph.D. degree in Biology in specialty “Radiobiology”, with his Ph.D. theses, “External Gamma-Exposure of Population Evacuated from the 30-km Chernobyl Zone (Analytical Retrospective Assessment)”. Since 2001, he was made a Doctor of Sciences in specialty “Hygiene” with the theses, “Retrospective assessment of external gamma exposure doses as a radiation hygiene factor during acute phase of a large communal accident (on the example of Chernobyl accident)”.

His publications total is 230, including 101 in peer reviewed journals (Scopus ID: 7003376794, ORCID: 0000-0001-6045-9356, h-index – 26).

Dr. Chumak is an Honored Scientist of Ukraine (2013).

Wednesday, April 20, 2022 (All times are ET.)

OPEN SESSION 2

OPEN SESSION connection details:

Use the same open session details and links as April 19.

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| 9:00 am | Call to Order and Introduction of Session
Jim Brink, Vice Chair |
| 9:01 am | Briefing on Priorities of the U.S. Department of Energy's Office of Environmental Management (DOE-EM)
William "Ike" White, EM-1, Senior Advisor for DOE-EM |
| 9:45 am | Adjourn Open Sessions |

Speaker Biography

William "Ike" White is the Senior Advisor for the Office of Environmental Management (EM). Prior to being appointed in this capacity in November 2021, he served as the Acting Assistant Secretary for EM from January 2021-November 2021 and as Senior Advisor to the Under Secretary for Science overseeing the Office of Environmental Management from June 2019 to January 2021. He provides leadership for the safe cleanup of the environmental legacy brought about from five decades of nuclear weapons development and government-sponsored nuclear energy research.

Under his leadership, EM made major progress in liquid waste treatment systems, including beginning operations at the Salt Waste Processing Facility at the Savannah River Site and completing construction of the facilities supporting the Direct Feed Low-Activity Waste Treatment approach at Hanford. At Oak Ridge demolition was completed at the East Tennessee Technology Park, making it the first site in the world to remove an entire uranium enrichment complex. He issued EM's [10-year Strategic Vision](#) outlining planned accomplishments over the next decade.

Before joining EM, he served as the Chief of Staff and Associate Principal Deputy Administrator for the National Nuclear Security Administration (NNSA) where he served as the primary point of contact within the Office of the Administrator for field office managers, providing leadership and coordination on operational and technical issues. Previously, White was the Deputy Associate Administrator for Safety and Health where he enabled the NNSA mission in the areas of nuclear and occupational safety, directly supporting the Administrator and senior managers throughout the NNSA enterprise. Earlier in his career, White served in a variety of leadership and technical positions in NNSA and at the Defense Nuclear Facilities Safety Board focused on nuclear safety and operations. White has a Bachelor of Science in Electrical Engineering from the University of Mississippi and a Master of Science in engineering from the University of California, Berkeley.