



## EMP and HPEM FELLOWS

November 2022

Name	Date of Election	Citation
<b>Abdalla, Michael D.</b>	July 7, 2010	For the development of high power hyperband and mesoband sources.
<b>Agee, Forrest Jack</b>	July 13, 2016	For contributions to protection from EMP environments and the development of HPM sources.
<b>Antinone, Robert J.</b>	June 5, 2002	For the development of HPRF assessment and hardening techniques.
<b>Arnesen, Odd Harry</b>	July 13, 2016	For contributions to the protection of critical technical infrastructures against Intentional EMI threats.
<b>Aurand, John</b>	July 23, 2008	For contributions to high-precision measurements in high-power electromagnetics.
<b>Bäckström, Mats</b>	June 5, 2002	For development of HPM test techniques and facilities.
<b>Baker, George H.</b>	July 22, 1992	For contributions to EMP generation and hardening technology, for development of standards and specifications, and management of R&D programs.
<b>Barnes, Paul R. (Randy)</b>	July 22, 1992	For contributions to EMP analysis and development of the test and protection methods for commercial power systems.
<b>Benford, James N.</b>	June 18, 1998	For development of HPM sources.
<b>Bhattacharya, Amitabha</b>	July 13, 2016	For contributions to microwave engineering and ground penetrating radars.
<b>Bigelow, W. Scott</b>	July 30, 2014	For the development of UWB antennas and HPM sources.

Name	Date of Election	Citation
<b>Bohl, Jürgen</b>	June 5, 2002	For determining the electromagnetic susceptibility of missile systems.
<b>Bombardt, John N.</b>	May 18, 1988	For contributions to the development of EMP technology for Army systems.
<b>Bowen, Leland</b>	July 23, 2008	For experimental development of ultra-wideband antennas and measurement systems.
<b>Butler, Chalmers M.</b>	July 14, 2004	For fundamental work in integral equation analysis of EMP and field penetration through apertures.
<b>Carron, Neal A.</b>	June 5, 2002	For the development for innovative techniques for the calculation of SGEMP environments.
<b>Carter, Nigel J.</b>	June 18, 1998	For development of innovative hardening and testing techniques for EMP, lightning and HPM.
<b>Casey, Kendall F.</b>	May 18, 1988	For contributions to the understanding of EMP interaction.
<b>Castillo, J. Phillip</b>	May 18, 1988	For contributions to the development of EMP system testing and assessment.
<b>Chen, Kenneth C.</b>	June 1, 2000	For the development of models for calculating the coupling to long cables.
<b>Chepelev, Vladimir M.</b>	August 26, 2020	For contributions to research of mechanisms of IEMI influence on electronic devices and development of concept of key parameters
<b>Christophe, Florent</b>	July 4, 2012	For leadership of HPM innovative projects and international working groups.
<b>Darrah, John H.</b>	May 18, 1988	For contributions to the development of EMP technology in the areas of system hardening, simulation and testing.
<b>Degauque, Pierre</b>	June 2, 1994	For contributions to modeling of EM fields radiated by lightning and to analysis of EM field interaction with and protection of systems.
<b>Dracott, E. Dennis</b>	May 18, 1988	For contributions to the understanding of EMP generation culminating in the development of codes for the air burst.
<b>Ehlen, Tilo</b>	July 30, 2014	For contributions to the determination and analysis of HPEM susceptibility of electronic systems.
<b>Erkkila, John H.</b>	June 1, 2000	For the development of codes to calculate high-altitude EMP.
<b>Farr, Everett G.</b>	June 1, 2000	For theoretical design and experimental development of impulse radiating antennas.

Name	Date of Election	Citation
<b>Fichte, Lars Ole</b>	July 13, 2016	For contributions to the simulation of high-power electromagnetic interaction with electric devices and biological tissue, in addition to statistical methods for EMC.
<b>Fromme, David</b>	June 1, 2000	For innovations in electromagnetic lethality experimental techniques on operational systems and development of system effects test beds.
<b>Garbe, Heyno</b>	June 5, 2002	For contributions to the analysis of TEM waveguides.
<b>Gardner, Robert L.</b>	June 2, 1994	For fundamental contributions to the understanding of lightning phenomenology and the properties of multiconductor transmission lines.
<b>Gilbert, James L.</b>	July 22, 1992	For contributions to SREMP and SGEMP calculational methods and UGT analysis and design support.
<b>Giles, Joseph C. (Cliff)</b>	May 23, 1990	For contributions in the development of EMP simulation and instrumentation.
<b>Giri, David Venkat</b>	June 2, 1994	For contributions to EMP simulator design and HPM antenna design.
<b>Gonschorek, Karl-Heinz</b>	July 14, 2004	For contributions to the international standardization of susceptibility tests.
<b>Graham, William R.</b>	May 18, 1988	For contributions in the development of hardening engineering, test and evaluation.
<b>Gut, Jacob</b>	June 18, 1998	For leadership of the Swiss EMP program and development of the EMP concept of general defense.
<b>Harrison, Michael G.</b>	June 5, 2002	For contribution to research in EMP and HPM effects on systems.
<b>He, Jinliang</b>	August 30, 2018	For contributions to the understanding and protection of lightning discharging and electromagnetic effects
<b>Hemmady, Sameer</b>	August 26, 2020	For contributions to the development of High Power Electromagnetic (HPEM) systems including the development of complex computer models that accurately predict the susceptibility level of aerial electronic systems
<b>Hoad, Richard</b>	July 23, 2008	For contributions to the understanding of EMP and HPEM effects and for the development of detection and protection concepts.
<b>Hubbard, Martin</b>	July 30, 2014	For the provision of capability advice, the coordination and leadership of research and the facilitation of international cooperation, across the UK's HPEM activities.
<b>Hurtig, Tomas</b>	August 30, 2018	For development of compact HPM generators and contributions to HPM susceptibility testing

<b>Name</b>	<b>Date of Election</b>	<b>Citation</b>
<b>Hutchins, Robert L.</b>	May 30, 1996	For contributions to the analysis and design of EMP simulators and their use in system-level testing.
<b>Ianoz, Michel</b>	June 2, 1994	For contributions to EMP and lightning coupling techniques.
<b>Jang, Tae-Heon</b>	July 13, 2016	For contributions to the development of test methods for HEMP combination filters.
<b>Jecko, Bernard</b>	June 18, 1998	For contributions in the field of numerical techniques applicable to EMC, EMP and HPM analysis.
<b>Jones, Christopher C. R.</b>	July 7, 2010	For contributions to the protection of aircraft from EMP and other electromagnetic environments.
<b>Jones, Christopher W.</b>	May 23, 1990	For contributions to EMP environment calculations and system hardening.
<b>Junqua, Isabelle</b>	July 30, 2014	For pioneering power balance approaches in EM topology at high frequencies.
<b>Kälin, Armin W.</b>	June 1, 2000	For his leadership in the Swiss NEMP program, including pulse and CW testing of equipment and protected facilities.
<b>Kancleris, Žilvinas</b>	July 30, 2014	For contributions to the development of resistive sensors for HPM pulse measurement.
<b>Karlsson, Torbjörn</b>	July 22, 1992	For participation in, and technical leadership of the Swedish EMP program since 1974, for pioneering the generalized shield concept, and for extensive publications and conference presentations.
<b>Kasmi, Chaouki</b>	July 13, 2016	For contributions to electromagnetic and cyber security of critical services, internet and intranet systems.
<b>Kehrer, William S.</b>	June 2, 1994	For contributions to the development and application of EMP testing capabilities.
<b>Kouvshinnikov, Vadim M.</b>	May 30, 1996	For contributions to the understanding of the physics of high-altitude and surface-burst EMP generation, environments, and coupling to systems.
<b>Kuprienko, Vassily M.</b>	June 18, 1998	For contributions to the development of EMP, SGEMP and pulsed field simulators in Russia.
<b>Lazarev, Yuri N.</b>	July 13, 2006	For development of EMP, SGEMP and IEMP calculational techniques.
<b>Lee, Kelvin S. H.</b>	May 21, 1986	As one of the committee of founding fellows.
<b>Lehr, Jane M.</b>	August 30, 2018	For contributions to the development of fast closing pulsed power switches

<b>Name</b>	<b>Date of Election</b>	<b>Citation</b>
<b>Leuthäuser, Klaus-Dieter</b>	May 30, 1996	For leadership in Germany and Europe in the calculation of the HEMP environment.
<b>Libelo, Louis F.</b>	May 30, 1996	For contributions to the understanding of electromagnetic interactions and for leadership in HPM.
<b>Loborev, Vladimir M.</b>	May 30, 1996	For leadership of Russian nuclear effects research program and contributions to theoretical and experimental investigations of nuclear weapons effects.
<b>Lövstrand, Karl G.</b>	June 1, 2000	Outstanding combination of theoretical and practical knowledge in EMC and EMP testing, particularly of aircraft.
<b>MacDiarmid, Ian P.</b>	July 7, 2010	For contributions to the protection of aircraft from EMP and other electromagnetic environments.
<b>Magda, Igor I.</b>	June 18, 1998	For development of facilities for HPM testing of electronic equipment.
<b>McLemore, Donald P.</b>	June 5, 2002	For contributions to commercial and military applications of HPM/UWB technologies.
<b>Meng, Cui</b>	July 13, 2016	For contributions in computing the HEMP environment and developing HPEM environment standards.
<b>Merewether, David E.</b>	May 23, 1990	For contributions to the application of numerical methods in EMP coupling analysis.
<b>Messier, Michael A.</b>	May 30, 1996	For developing the theory of DEMP, the theory of EMP reflections including frequency-dependent ground parameters, and evaluating the polarization of HEMP waveforms.
<b>Miletta, Joseph R.</b>	June 18, 1998	For contributions to research on EMP effects on components, circuits and systems.
<b>Miller, Robert B. (Bruce)</b>	June 5, 2002	For pioneering the super Reltron HPM source.
<b>Mo, Charles T. C.</b>	June 2, 1994	For unique contributions to the development and application of statistical models of EMP interaction with large complex systems.
<b>Mora Parra, Nicolas</b>	August 30, 2018	For contributions to IEMI sources and coupling to communication lines
<b>Morrow-Jones, Jonathan</b>	July 4, 2012	For contributions to analytical and numerical modeling of HPEM coupling and effects, testing, and data processing.
<b>Naff, John T. (Tom)</b>	June 5, 2002	For development of pulse generators for EMP simulation and HPM generation.
<b>Nitsch, Daniel</b>	July 13, 2006	For contributions to the testing and analysis of complex systems to EMP and UWB waveforms.

<b>Name</b>	<b>Date of Election</b>	<b>Citation</b>
<b>Markus Nyffeler</b>	November 16, 2022	For development of EMP test facilities and conducting tests of many critical assets
<b>Ochs, Wilhelm</b>	June 5, 2002	For contributions to EMP and HPM interaction with and effects on electronic systems.
<b>Page, William E.</b>	June 18, 1998	For contributions to EMP environment calculations, system testing and coupling analysis.
<b>Pande, D. C.</b>	July 13, 2016	For leadership of research and facilitation of international cooperation across India's HPEM activities.
<b>Parfenov, Yuri V.</b>	May 30, 1996	For contribution to calculations and experimental methods to study SGEMP effects and simulators for combined effects of EMP and ionizing radiation.
<b>Parker, Roberts L.</b>	May 18, 1988	For contributions to the test and hardening of strategic systems.
<b>Parkes, David M.</b>	June 1, 2000	For research on fast transient coupling to systems, high power microwaves and ultrawideband radar.
<b>Parmantier, Jean P.</b>	June 1, 2000	For pioneering application of electromagnetic topology with the CRIPTE code for the calculation of electromagnetic response of complex systems.
<b>Perala, Rodney A.</b>	June 18, 1998	For contributions to EMP interaction modeling.
<b>Petit, Barney J.</b>	November 16, 2022	For contributions to research in high-power electromagnetic environments, effects and co-existence
<b>Petrov, Peter V.</b>	July 13, 2006	For development of EMP, SGEMP and IEMP calculational techniques.
<b>Phelps, Alan D. R.</b>	August 30, 2018	For research and development of high power microwave sources.
<b>Prather, William D.</b>	June 18, 1998	For development of EMP and HPM test techniques and hardening standards.
<b>Rachidi, Farhad</b>	July 13, 2006	For contributions to the coupling of EM fields radiated by lightning.
<b>Radasky, William A.</b>	May 18, 1988	For contributions to understanding EMP generation and computation.
<b>Rambousky, Ronald</b>	July 30, 2014	For contributions to the analysis of open TEM waveguides.
<b>Ribi�re-Tharaud, Nicolas</b>	August 26, 2020	For contributions to critical infrastructure HPEM analysis and protection.

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<b>Romanchenko, Ilya V.</b>	August 26, 2020	For the development of high power gyromagnetic nonlinear transmission lines and HPM sources on its basis.
<b>Romero, Carlos</b>	August 26, 2020	For contributions on the measurement and analysis of lightning and high power EMP simulators and coupling to civil and military systems.
<b>Rubinstein, Marcos</b>	July 4, 2012	For contributions to the understanding of lightning discharges and their electromagnetic effects.
<b>Ruffing, Klaus</b>	July 14, 2004	For leadership in the German HPM susceptibility investigations of defence systems.
<b>Rynne, Timothy M.</b>	July 4, 2012	For contributions to EMP hardening and IEMI lethality.
<b>Sabath, Frank</b>	July 13, 2006	For contributions to the development of high-power impulse-radiating antennas.
<b>Sakharov, Konstantin Yu.</b>	July 4, 2012	For contributions to the development of methods and facilities for EMP/UWB generation including measuring instruments to determine their parameters.
<b>Savage, Edward B.</b>	July 13, 2006	For contributions to the understanding of the susceptibility of electronic equipment to pulsed waveforms.
<b>Schaefer, Richard R.</b>	May 23, 1990	For contributions to the development of EMP hardness assessment methodology.
<b>Schamiloglu, Edl</b>	July 13, 2006	For development of pulse power and high-power microwave tubes.
<b>Schlegel, Gerard K.</b>	May 23, 1990	For contributions to the development of EMP hardness assessment methodology.
<b>Scott, Walter J.</b>	June 5, 2002	For contributions to EMP simulator testing, and for development of standards and management of R&D programs.
<b>Serafin, Dominique J.</b>	May 30, 1996	For playing a leading role in developing theoretical and experimental programs in France and for contributions to interaction analysis and system testing.
<b>Sevat, Peter</b>	June 2, 1994	For leadership in EMP research in the areas of shielding, assessments, coupling, and semiconductor vulnerability and for design and construction of EMP simulators.
<b>Shi Li-Hua</b>	July 7, 2010	For contributions to EMP measurement and signal processing technology.

Name	Date of Election	Citation
<b>Shiloh, Joseph</b>	May 30, 1996	For leadership and contributions to EMP and HPM protection and testing in Israel.
<b>Skipper, Michael C.</b>	July 7, 2010	For the development of high power hyperband and mesoband sources.
<b>Smith, Kenneth</b>	July 23, 2008	For contributions to EMP environment and system coupling calculations.
<b>Smith, Ian D.</b>	June 1, 2000	For contributions to pulsers for EMP simulation and impulse radiating antennas.
<b>Smith, Paul</b>	July 14, 2004	For contributions and leadership in projects modeling short-pulse electromagnetic and ultrawideband radar.
<b>Sonnemann, Frank</b>	July 30, 2014	For contributions to the analysis of electromagnetic effects on electro-explosive devices (EED) with connected firing circuits at pulsed wideband irradiation.
<b>Soper, Gordon K.</b>	May 30, 1996	For contributions to the nuclear hardening of strategic missile systems and to the management of the EMP technology development program.
<b>Smith, Kenneth</b>	July 23, 2008	For contributions to EMP environment and system coupling calculations.
<b>Smith, Ian D.</b>	June 1, 2000	For contributions to pulsers for EMP simulation and impulse radiating antennas.
<b>Smith, Paul</b>	July 14, 2004	For contributions and leadership in projects modeling short-pulse electromagnetic and ultrawideband radar.
<b>Sonnemann, Frank</b>	July 30, 2014	For contributions to the analysis of electromagnetic effects on electro-explosive devices (EED) with connected firing circuits at pulsed wideband irradiation.
<b>Soper, Gordon K.</b>	May 30, 1996	For contributions to the nuclear hardening of strategic missile systems and to the management of the EMP technology development program.
<b>Sturm, Richard</b>	June 2, 1994	For leadership of the German EMP program and development of EMP interaction models, testing and protection techniques.



<b>Name</b>	<b>Date of Election</b>	<b>Citation</b>
<b>Suhrke, Michael</b>	July 30, 2014	For contributions to the testing and analysis of electronic systems to HPEM environments.
<b>Tarasov, Oleg A.</b>	August 30, 2018	For contributions to analytical and numerical modeling of NEMP and HPEM coupling and effects and for theoretical research on the influence of electromagnetic waveforms on antenna-feeder devices and communication and power supply lines.
<b>Taylor, Clayborne D.</b>	May 18, 1988	For pioneering work in numerical methods for EMP interaction and coupling studies.
<b>ter Haseborg, Jan L.</b>	June 18, 1998	For development of techniques for the calculation of coupling to shielded multiconductor transmission lines.
<b>Tesche, Frederick M.</b>	May 21, 1986	As one of the committee of founding fellows.
<b>Terekhin, Vladimir A.</b>	July 14, 2004	For developments of EMP calculation and testing techniques.
<b>Thottappillil, Rajeev</b>	July 7, 2010	For contributions to the understanding of the effects of lightning and intentional EMI on electrified railway systems.
<b>Tkachenko, Sergey</b>	July 23, 2008	For theoretical investigations of high-frequency electromagnetic field coupling to transmission lines in different environments.
<b>Torres, Robert</b>	July 23, 2008	For source technology development and effects research.
<b>Turkin, Vladimir A.</b>	July 4, 2012	For contributions to the creation of high-power EMP simulators and UWB sources.
<b>Tyo, Scott</b>	July 23, 2008	For contributions to mesoband and hyperband antenna design and measurements.
<b>Uslenghi, Piergeorgio L. E.</b>	June 5, 2002	For pioneering contributions to nonlinear electromagnetics.
<b>van Lint, Victor A. J.</b>	July 14, 2004	For contributions to the basic theory and insight into the mechanisms of EMP and SGEMP.
<b>Vega, Felix</b>	July 30, 2014	For contributions to the modeling and design of mesoband sources.
<b>Vodopyanov, Georgy</b>	July 23, 2008	For contributions to the investigation of the immunity of radio equipment, electronic systems and components to EMP.

<b>Name</b>	<b>Date of Election</b>	<b>Citation</b>
<b>Walters, Dolores A.</b>	May 30, 1996	For box IEMP analysis and code methods development.
<b>Wenaas, Eric P.</b>	July 22, 1992	For performance and technical management in the areas of SGEMP theory and experiments, as well as microwave interaction and effects on military equipment.
<b>Wik, Manuel W.</b>	July 22, 1992	For contributions to the standardization of EMP environments and hardening procedures for non-military installations, for work with the International Electrotechnical Commission (IEC), and for management of the Swedish EMP program.
<b>Wraight, Anthony</b>	July 23, 2008	For development of predictive methods and contributions to the assessment of system-level EMP and HPEM effects.
<b>Xiao, Renzhen</b>	August 26, 2020	For contributions to novel beam-wave interaction mechanisms and phase locking.
<b>Xie, Yan-Zhao</b>	July 7, 2010	For contributions to EMP interaction, modeling and measurement.
<b>Yang, F. C.</b>	May 30, 1996	For development of simple analytical techniques to calculate and understand EM coupling to complex systems.
<b>Zdoukhov, Leonid N.</b>	May 30, 1996	For contributions to EMP coupling to aerial and underground cables, SREMP coupling to antennas and flying vehicles, and computational and experimental methods for combined EMP and ionizing radiation effects.
<b>Zwamborn, Adrianus P. M.</b>	July 14, 2004	For leadership of the EMP and HPM programs of the Netherlands.
<b>Wenaas, Eric P.</b>	July 22, 1992	For performance and technical management in the areas of SGEMP theory and experiments, as well as microwave interaction and effects on military equipment.
<b>Wik, Manuel W.</b>	July 22, 1992	For contributions to the standardization of EMP environments and hardening procedures for non-military installations, for work with the International Electrotechnical Commission (IEC), and for management of the Swedish EMP program.
<b>Wraight, Anthony</b>	July 23, 2008	For development of predictive methods and contributions to the assessment of system-level EMP and HPEM effects.
<b>Xiao, Renzhen</b>	August 26, 2020	For contributions to novel beam-wave interaction mechanisms and phase locking.



## DECEASED EMP & HPEM FELLOWS

November 2022

Name	Date of Election	Citation
<b>Abercrombie, Stanley D.</b>	May 18, 1988	For contributions to EMP environmental measurements, beginning in the 1950's.
<b>Baum, Carl E.</b>	May 21, 1986	As one of the committee of founding fellows.
<b>Gao, You-Gang</b>	July 7, 2010	For contributions to the protection of communications systems from the effects of lightning and EMP.
<b>Harrison, Charles W. Jr.</b>	June 5, 2002	For contributions in EMP interaction and modeling.
<b>Higgins, Daniel F.</b>	July 22, 1992	For contributions to SGEMP technology and for the development of user-friendly computer methods for estimating NEMP effects and coupling to systems and system vulnerability.
<b>Hoelt, Luther O. (Bud)</b>	June 1, 2000	For developing practical electromagnetic protection technologies.
<b>Karzas, William J.</b>	May 21, 1986	As one of the committee of founding fellows.
<b>Kohlberg, Ira</b>	July 14, 2004	For fundamental work in the development of the theory of electromagnetic effects and simulation.
<b>Kondratiev, Valeri M.</b>	May 30, 1996	For contributions to the understanding of EMP generation, environments, and coupling to systems.

<b>Name</b>	<b>Date of Election</b>	<b>Citation</b>
<b>Longmire, Conrad, L.</b>	May 21, 1986	As one of the committee of founding fellows.
<b>Lubell, Jerry I.</b>	June 1, 2000	For contributions to military specifications for system HEMP hardening and testing and to aircraft HEMP testing and assessments.
<b>Malik, John S.</b>	May 18, 1988	For contributions to understanding the roles of nuclear radiation sources and transport in EMP generation.
<b>Marin, Lennart O.</b>	May 21, 1986	As one of the committee of founding fellows.
<b>Martin, John C. (Charlie)</b>	May 18, 1988	For development of pulse power for EMP simulation.
<b>Morgan, Gene E.</b>	May 18, 1988	For development and application of EMP hardening to strategic systems.
<b>Nalborczyk, Jan</b>	July 30, 2014	For contributions to advances in HEMP filter design.
<b>Nitsch, Jürgen B.</b>	June 18, 1998	For leadership of the German EMP and HPM programs, and for pioneering contributions to the analysis of nonuniform multiconductor transmission lines.
<b>Partridge, Ralph E.</b>	May 18, 1988	For pioneering contributions to EMP measurement and simulation.
<b>Siniy, Leonid L.</b>	July 13, 2006	For development of EMP measurement techniques.
<b>Sower, Gary D.</b>	June 1, 2000	For development of electromagnetic sensors and EMP simulators.
<b>Stahl, Ralph H.</b>	May 23, 1990	For contributions to the source-region EMP physics data-base.
<b>Vance, Edward F.</b>	May 21, 1986	As one of the committee of founding fellows.