CURRICULUM VITAE

Gueorgui Ivanov Petkov

Sex Male **| Date of birth** 12/02/1960 **| Nationality** Bulgarian

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Geo Milev district, 44 Shipchenski Prohod Blvd., Block 247, Fl. 5, Ap. 19
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> https://www.researchgate.net/profile/Gueorgui_Petkov
> https://www.mendeley.com/impact/gueorgui-petkov

EDUCATION AND DEGREES AWARDED

> *Moscow Power Engineering Institute (Technical University)*
> *Krasnokazarmennaya, 14, Moscow 111250 Russian Federation*

PhD in Technical Sciences

> **November 1988 - April 1992 (3.5 years)**

PhD dissertation: *'Development of techniques and algorithms for modeling and analysis of NPP system reliability'*, 19 June 1992, Diploma series КДП No. 011168, Supreme Attestation Commission, Moscow, Russian Federation/USSR (Recognition of the academic degree by the Higher Attestation Commission of the Republic of Bulgaria on 31 May 1993, Sofia, No. 1581).

> *Moscow Power Engineering Institute (Technical University)*
> *Krasnokazarmennaya, 14, Moscow 111250 Russian Federation*

Thermal Physicist Engineer (Master Degree in NPPs and installations)

> **September 1980 - February 1986 (5.5 years)**

Thesis: *'Loop-type District Heating Nuclear Power Plant 200MW with Natural Coolant Circulation'*, 22 February 1986, Diploma series MB No. 362422, *Power Engineering Institute*, Moscow, Russian Federation/USSR (Reg. No. 115852, 25 February 1986).

OTHER EDUCATION, RESEARCH, TRAINING AND QUALIFICATIONS

> *University of Tokyo, School of Engineering, Department of Quantum Engineering and*
> *Systems Science (QUEST), 7-3-1 Hongo, Bunkyo-ku, Tokyo 113-8656, Japan*

Japan Society for Promotion of Science Postdoctoral Fellow

> **March 1998 - February 2000 (2 years)**

The research develops new method for human reliability and accident analysis – "Performance Evaluation of Teamwork". Title: *'Investigation of Nuclear Power Plant Human-Machine Systems'* Japan Society for Promotion of Science Postdoctoral Fellowship Programme.

> *Technical University of Lisbon, Portugal*

Advanced NATO Visiting Researcher

> **May 2000 - September 2000 (4 months)**

Title: *'Application of Risk-Monitoring Concepts to Complex Systems and Processes',* NATO Science Fellowship Programme, Portugal.

> *Technical University of Lisbon, Portugal*

IST Invited Researcher

> **December 2000 - March 2001 (3 months)**

Title: *'Modeling of Human Factors',* Instituto Superior Tecnico Research Programme, Portugal.

> *National Maritime Research Institute, Japan*

Japan Society for Promotion of Science Visiting Researcher

> **January 2002 - April 2002 (3 months)**

Title: *'Reliability Analysis of Human-Machine Systems in Accidents (Nuclear and Maritime)',* Japan *Society for Promotion of Science* Short-term Research Fellowship Program, Japan.

WORK EXPERIENCE

Kozloduy Nuclear Power Plant Plc, 3321 Kozloduy, Bulgaria

Probabilistic Risk Assessment Chief Expert

July 2020 - present

I was responsible for carrying out the reliability and risk modeling, monitoring, assessments and safety analyses of VVER-1000 Units 5 & 6 of Kozloduy NPP (EP-2), providing engineering, methodological and technological support of PSA studies (level 1 & 2), especially for risk-informed applications and ensuring their quality.

Independent Consultant and Researcher
Geo Milev district, 44 Shipchenski Prohod Blvd.,Bl. 247, Sofia 1113, Bulgaria

Freelancer

2019 – July 2020

I am applying for different research projects and contracts, consulting and performing research studies and writing scientific papers for journals and conferences. The development of the project *"Dynamic contextual multi-unit PSA and HRA," "Dynamic contextual risk monitoring, PSA and HRA for multi-unit socio-technical system on NPP site"* and *"Decision-making under uncertainty in ambiguous and comparative context"* are in progress.

Dovre Group Plc (Areva NP SAS, Olkiluoto 3 Construction Site)
Maapallonkuja 1 B, FI-02210 Espoo, Finland

Accidental Procedure Writer

January 2018 - December 2018

I was acting as an Accidental Procedure Writer in the project related to the Olkiluoto 3 NPP for writing, verification and validation on engineering and full-scope simulators of Operational Manuals (OMs) (event-based and symptom-based Emergency Operating Procedures - EOPs), Detailed Instruction Modules (DIMs) Part 4, and Reactor Control, Surveillance and Limitation (RCSL) displays; preparing a report on the OL3 NPP strategy for transitioning from paper based (pOM) to electronic based (eOM) procedures (EDA/EDE - Event Diagnosis for Abnormal/Emergency Operation/Displays) based on my profound technical expertise and experience in nuclear power plant systems and nuclear industry.

Independent Consultant and Researcher
Volewijkshof 20, 1031 AH, Amsterdam, the Netherlands

Freelancer

February 2016 - December 2017

I was applying for different research projects and contracts, consulting and performing research studies and writing scientific papers for journals and conferences. The development of the projects *"Symptom-based approach for dynamic human reliability assessment and risk management through holistic context evaluation"* and *"Qualitative and quantitative Fukushima Daiichi Accident context and human performance evaluation and lessons learned"* were in progress.

EC Joint Research Centre, Institute for Energy and Transport
Westerduinweg 3 - P.O. Box 2, 1755 ZG Petten, the Netherlands

Scientific / Technical Support Officer

February 2014 - January 2016

I was responsible for carrying out the accident analysis with specific focus on Severe Accident modeling for Gen-II & III and Gen-IV reactors, harmonization and providing scientific, methodological and technical support of Severe Accident Management Guidelines (SAMGs) for European NPPs, safety assessments of innovative Gen III+ and Gen IV reactors and fuels, support to evolving EU legislation and development of high safety standards in the EU, modeling and

assessment of safety and human performance for Gen-II&III and Gen-IV reactors, lecturing in VVER Nuclear Power Plants (with Russian PWR).

Kozloduy Nuclear Power Plant Plc, 3321 Kozloduy, Bulgaria

Probabilistic Safety Analysis Group Leader

December 2008 - January 2014

I was responsible for supervising the PSA teams and carrying out the reliability and risk modeling, monitoring, assessments and analyses of VVER-1000 Units 5 & 6 of Kozloduy NPP (EP-2), providing engineering, methodological and technological support of PSA studies (level 1 & 2), risk-informed applications and ensuring their quality. I was also the Defence-in-Depth modeler in the joint project "RS Risk Watcher monitoring model of Kozloduy NPP 5&6 units based on the PSA Levels 1&2" (co-operation between Kozloduy NPP & Lloyd's Register PSA teams, 2013).

Technical University of Sofia, Department of Thermal and Nuclear Power Engineering, Block 2, Room 2356, 8 St. Kliment Ohridski Blvd., 1797 Sofia, Bulgaria

Associate Professor

October1995 - January 2014

I have been teaching courses in nuclear engineering, safety and reliability for BS and MS students (lecturer and tutor) and supervisor of PhD students. The list of my higher education courses in teaching is the following:

1. Reliability and Risk Analysis of NPP, Technical University of Sofa, lecturer and tutor M-2006/07÷2011/12, lecturer M-2012/13.
2. Nuclear Safety, Technical University of Sofa, lecturer M-1995/96, tutor M-1996/97, M-2000/01, lecturer M-2012/13, M-2013/14;
3. Operation, Diagnostics and Support of NPP, Technical University of Sofa, lecturer M-1995/96, lecturer and tutor M-2000/01÷2003/04;
4. Diagnostics, Operation and Repair of NPP, Technical University of Sofa, lecturer and tutor M-1996/97, M-1997/98;
5. Economics of Nuclear Power Engineering, Technical University of Sofa, lecturer and tutor M-1996/97;
6. Nuclear Power Reactors, Technical University of Sofa, lecturer and tutor B-2000/01, B-2004/05;
7. Theory of Nuclear Reactors, Technical University of Sofa, tutor M-1996/97 and M-1997/98, lecturer M-2005/06;
8. Nuclear Engineering and Technology, Technical University of Sofa, lecturer and tutor B-2000/01, B-2003/04; B-2004/05; B-2005/06;
9. Operation of Thermal and Nuclear Power Plants, Technical University of Sofa, lecturer and tutor M-2004/05; M-2005/06;
10. Radiation Protection, Technical University of Sofa, tutor M-1996/97, lecturer and tutor M/B-1997/98, B-2000/01÷2011/12, lecturer B-2012/13;
11. Technical Diagnostics of NPP, Technical University of Sofa, lecturer and tutor B-2001/02÷2007/08;
12. Nuclear Fuel, Materials and Thermo-mechanical Processes in Nuclear reactors, Technical University of Sofa, lecturer M-2006/07÷2007/08;
13. Construction, Operation and Decommissioning of NPP, Technical University of Sofa, lecturer and tutor M-2006/07÷2010/11.
    Note: B - Bachelor, M – Master/Magister

I was also a researcher, consultant and manager of projects concerning nuclear safety and reliability, radiological protection, PSA, HRA, human and organizational factors, main control room operators training and teamwork, accident sequence analysis, operation, technical diagnostics and maintenance, ageing PSA and lifetime management of NPP, for example:

EC Joint Research Center IET Petten, Netherlands

Researcher & member of the Steering Committee of the EC JRC APSA Network

2004-2016

I have participated in the JRC FP6 Institutional Project Nr. 3131 "Analysis and Management of Nuclear Accidents."

National Science Fund, Ministry of Education and Science of Bulgaria

Project manager
2008-2011
I was a manager of the project, No. HS-I-308/2007, ' Development of training program, data collection and performance evaluation system of students on a NPP computer simulator with WWER.'
National Electrical Copany PLC

Consultant
2006
I have consulted the NEC PLC in the project 'Selection of a contractor for the design, construction and commissioning of units 1 and 2 of Belene NPP'
Kozloduy NPP PLC, Bulgaria

Consultant of the Kozloduy NPP in Human Factors
2004-2006
I have consulted the Training Centre in the UK DTI NSP/04-B15B16 project "Development of Procedures for Human Error Data Collection and HEART Quantification Technique for HRA and their Implementation in Kozloduy NPP" performed by Serco Group Plc. UK.
Risk engineering LTD, Bulgaria

Consultant
1996
I have consulted the RE LTD in the *PSA Level 1 for Unit 3 &4* for NPP Kozloduy with VVER-440.

College of Nuclear Power Engineering, Technical University of Sofia, Block 2, Room 2356, 8 St. Kliment Ohridski Blvd., 1797 Sofia, Bulgaria

Main Assistant Professor
May 1994 - September 1995
I have been teaching courses in nuclear engineering for BS students (lecturer and tutor).
I was also a researcher, modeler and consultant in a project concerning nuclear safety, reliability and risk analysis, e.g.
EQE Bulgaria AD, Bulgaria

Modeler and Consultant
1994-1995
I have participated in the project - Top Level Risk Study for Units 1÷4 NPP Kozloduy with VVER-440. I was responsible for the development of event tree/accident sequence analysis models.
Risk engineering LTD, Bulgaria

Senior Engineer
July 1992 - May 1994
I have participated in the projects Probabilistic Safety Assessment Level 1 for Units 5 & 6 NPP Kozloduy with VVER-1000, and NPP Kozloduy Reliability Database System.

Moscow Power Engineering Institute (Technical University)
Krasnokazarmennaya, 14, Moscow 111250 Russian Federation

PhD student
November 1988 - April 1992 (3.5 years)
I have conducted a research that gives alternative approach for reliability evaluation and technical diagnostics of complex power engineering systems as NPP '*Analysis of Topological Reliability of Digraphs'* (ATRD).

Kozloduy Nuclear Power Plant Plc, 3321 Kozloduy, Bulgaria

Senior Engineer Operator *(Licensed Senior Reactor Operator on Main Control Room)*
May 1986 - October 1988
I have supervised the primary side team for carrying out the new build construction, start-up, experimental and commissioning tests of VVER-1000 (Russian PWR), unit 5, of Kozloduy NPP, for conducting technological operations and being responsible for control on nuclear fuel, reactor and primary circuit systems.

OTHER SKILLS
- Language skills: English and Russian - fluently; Bulgarian - native language
- Programming skills (FORTRAN, PASCAL, MS Office Word, Excel, Power Point, etc.)
- Work with reliability and risk assessment computer tools – SAPHIRE, Risk Spectrum PSA/HRA, GO FLOW and ATRD;
- Use the results for nuclear safety and accident analyses the following integrated accident and severe accident computer codes: ASTEC, MELCOR, ATHLET, RELAP5 Mod 3.2, MAAP5 & CFD.
- More than 95 publications (see below) and presentations and lectures were delivered by me in 20 different countries and published in scientific books, journals, proceedings of international conferences, symposiums, meetings and workshops.

INVITED LECTURES

- *Mitsubishi Heavy Industries, Yokohama, Japan, 09-06-1998:*
1. Nuclear energy in Bulgaria
2. Application of the Analysis of Topological Reliability Digraphs (ATRD)

- *Engineering Academy of Japan (EAJ), Tokyo, Japan, 19-02-2002:*
3. Reliability evaluation of the networks using the ATRD method

- *Japan Society of Mechanical Engineers (JSME), Tokyo, Japan, 11-03-2002:*
4. Quantitative evaluation of the operators' performance in accidents

- *National Maritime Research Institute, Mitaka, Japan, 13-03-2002:*
5. Performance Evaluation of Teamwork (PET) method

- *Kozloduy NPP, Simulator Training Facility, Bulgaria, 23-9-2002÷21-03-2003:*
6. Quantitative assessment of the operators' actions, 23-09-2002
7. Quantitative assessment of the operators' performance in a retrospective analysis of the TMI#2 accident
8. Retrospective analysis of the operator actions based on thermo-hydraulic analysis, 23-5-2002
9. Quantitative assessment of operator actions: *Analysis of the records for the simulator training exercise 'Scram'*, 10-1-2003
10. Quantitative system for reliability evaluation of the MCR operators: *Analysis of the records for the simulator training exercise 'Scram'*, 14-3-2003
11. Quantitative system for reliability evaluation of the MCR operators: Principles of HMI, 21-3-2003
12. CSE: Safety study of team performance in emergency situations, 21-3-2003

- *EU JRC Institute for Energy and Transport, Petten, the Netherlands - 2014÷2016:*
13. VVER course, Lecture 1: Past, present & future of VVER, 04-06-2014
14. VVER course, Lecture 2: Reactor pressure vessel, core, fuel assembly and control system, 11-06-2014
15. VVER course Lecture 3: Primary circuit equipment & systems, 18-06-2014
16. VVER course, Lecture 4: Secondary circuit equipment and systems. Interface between primary and secondary sides, 25-06-2014
17. VVER course, Lecture 5: Safety systems, 02-07-2014
18. VVER course, Lecture 6: Supply and control systems, 17-09-2014
19. VVER course, Lecture 7: Normal operation, 24-09-2014
20. VVER course, Lecture 8: Outage, refueling & maintenance, 08-10-2014
21. VVER course, Lecture 9: Accident management: DBAs, BDBAs & SAs, 15-10-2014
22. VVER course, Lecture 10: Regulation, organisation and management, 17-10-2014
23. Performance Evaluation of Teamwork Accident Analysis & Management, 14-01-2016.

LIST OF PUBLICATIONS

1. P. L. Makarovsky and G. I. Petkov, 1991, 'Analysis of Methods and Programs for Calculating the Structural Reliability of Nuclear Power Plants,' Issues of NPP reliability and safety//Proceedings of MPEI, Moscow, Issue 646, pp.14-22.

2. G. I. Petkov, 1992, 'Application of Topological Models at Reliability Analysis of Nuclear Power Plants,' Standardization Certification and Metrology, Sofia, No. 3, pp.12-14, 19.

3. G. I. Petkov, 1993, 'Modeling of Reliability and Risk of NPP Using Petri-like Digraphs,' Mathematical Models in Nuclear Safety and Radiological Protection, CUAEPP, Sofia, pp.16-24.

4. G. Petkov and S. Doytchinov, 1994, 'Application of Petri-Nets-Based Model to Reliability and Risk Analysis of Nuclear Power Plant,' Proceedings of PSAM-II Conference (San Diego, CA, USA, 20-25 March 1994), Apostolakis et al., Vol.1, pp.013 1-6.

5. G. Petkov and S. Doytchinov, 1995, 'Petri-Nets-Based Method to Reliability and Risk Analysis,' Proceedings of ASME/JSME-PVP Hawaii Conference (Honolulu, Hawaii, USA, 23-27 July 1995), ASME PVP-Vol.296, SERA-Vol.3, pp. 537-542, ISBN: 0791813274.

6. G. Petkov, S. Doytchinov and J. Argirov, 1995, 'Applications of Petri-Nets-Based Method and Fuzzy Rules to Availability, Vulnerability and Decision Support Analysis of NPP,' Proceedings of ASME/JSME-PVP Hawaii Conference (Honolulu, Hawaii, USA, 23-27 July 1995), ASME PVP-Vol.296, SERA-Vol.3, pp. 303-310, ISBN: 0791813274.

7. G. Petkov and S. Doytchinov, 1995, 'Petri-Nets-Based Method for Availability and Risk Monitoring System,' Proceedings of IMECE'95 (San Francisco, CA, USA, 12-17 November 1995), ASME PVP-Vol.320, SERA-Vol.5, pp.305-312, ISBN: 079181727X.

8. J. Argirov and G. Petkov, 1995, 'Assessment of Internal NPP Location Fire Impact of Plant Normal Operation Mode and Fire Fighting Measure Urgency,' Proceedings of IMECE'95 (San Francisco, CA, USA, 12-17 November 1995), ASME PVP-Vol.320, SERA-Vol.5, pp.133-140, ISBN: 079181727X.

9. G. Petkov and S. Doytchinov, 1995, 'Petri-Nets-Based Method and Fuzzy Parametric Availability for Development and Updating NPP Reliability Database,' Proceedings of PSA'95 (Seoul, Korea, 26-30 November 1995), KAERI, Vol.2, pp.1059-1064.

10. G. Petkov and S. Doytchinov, 1996, 'Application of Neural Network Module for ATRD Decision Support System,' Proceedings of ESREL'96 - PSAM-III (Crete, Greece, 24-28 June 1996), Springer London Ltd., Vol.3, pp.2147-2152.

11. G. Petkov, 1996, 'Requirements for NPP Risk Monitoring,' Proceedings of EMF'96 (Technical University - Sofia, Bulgaria, 10-11 October 1996), Technical University of Sofia, Vol.1, No. 23.

12. G. Petkov, P. Groudev and J. Argirov, 1997, 'A Procedure for Temperature-Stress Fields Calculation of WWER-1000 Primary Circuit in PTS Event,' Proceedings of the IAEA Specialists Meeting on 'Methodology for Pressurized Thermal Shock Evaluation' (Esztergom, Hungary, 5-8 May 1997), IAEA, Austria, IWG-LMNPP-96/1, pp.181-190.

13. G. Petkov, 1997, 'Application of Petri-Nets-Based Method for Reliability Analysis of NPP Safety System,' Proceedings of ESREL'97 (Lisbon, Portugal, 17-20 June 1997), Elsevier Ltd., ISBN: 0-08-042835.

14. G. Petkov and A. Atanassov, 1998, 'Application of Petri-Nets-Based Method for Top Level Risk Study of NPP,' Proceedings of ASME/JSME-PVP Conference (San Diego, USA, 27-30 July 1998), ASME-PVP, Vol.378, pp.77-83.

15. G. Petkov and K. Furuta, 1998, 'Application of PN-Based Method for Identification and Classification of Human Actions in NPP TLRS,' Proceedings of PSAM-IV (New York, USA, 13-17 September 1998), Springer London Ltd., Vol.2, pp.1136-1141.

16. G. Petkov and P. Groudev, 1999, 'Correlation between Human and Material Shocks In Symptom-Based Emergency Procedures,' Proceedings of 1999 ASME-PVP Conference (Boston, MA, USA, August 1-5, 1999), ASME-PVP, Vol.392, pp.25-35.

17. G. Petkov, 1999, 'Bayes' Approach to Specification of HCR Correlation Coefficients,' Proceedings of 1999 ASME-PVP Conference, (Boston, MA, USA, August 1-5,1999), ASME-PVP, Vol.285, pp.3-10.

18. G. I. Petkov, 1999, Networked Risk Images in Human Action Context, CT'99 Conference, (San Francisco, CA, USA, August 11-14, 1999) http://www.cogtech.org/CT99

19. G. Petkov 2000, 'Identification and Fitting of Human Cognition Model,' Proceedings of the ASME-PVP Conference, Seattle, USA, ASME-PVP, Vol. 400, pp. 35-48.

20. G. Petkov and S. Petkov, 2000, 'Towards Defense-in-Depth of Human-Machine Interaction,' Proceedings of the PSAM-V Conference, Osaka, Japan, Universal Academy Press, Inc., ISBN 4-946443-64-9, 2000.

21. G. Petkov and S. Petkov, 2000, 'Second Regeneration of Human Cognitive Reliability Correlation,' Proceedings of the PSAM-V Conference, Osaka, Japan, Universal Academy Press, Inc., ISBN 4-946443-64-9, 2000.

22. G. Petkov, 2001, 'Macroscopic Probabilistic Evaluation of Group Communication Process', Proceedings of "Energy Forum 2001", Varna, Bulgaria, June 10-12, 2001, Vol. 2, pp. 166-169.

23. G. Petkov, 2001, 'Macroscopic Probabilistic Evaluation of Operator's Decision-making Process', Proceedings of "Energy Forum 2001", Varna, Bulgaria, June 10-12, 2001, Vol. 2, pp. 170-173.

24. G. Petkov, 2001, 'Performance Evaluation of Teamwork Method,' Proceedings of "Energy Forum 2001", Varna, Bulgaria, June 10-12, 2001 Vol. 2, pp. 174-177.

25. G. Petkov, P. Antao and C. Guedes Soares, 2001, 'Context Quantification of Individual Performance in Accidents,' Proceedings of ESREL'2001, Vol. 3, Torino, Italy, 16-20 September 2001, pp.1851-1858.

26. G. Petkov, 2001, 'Cognitive Error Probability in Pressurized Shock Event,' Proceedings of the IAEA Technical Meeting 'Risk Informed Aspects of Nuclear Power Plant Life Management - Emphasis on Integrity of Primary Circuit Components, Budapest, Hungary, 8-10 October 2001, TWG-LMNPP-01/4, IAEA, Vienna, Austria, 2002, pp.224-239.G. Petkov, 2002, 'Quantitative Assessment of the Operators' Performance in Accident Events', Third International Forum on Safety Engineering and Science (IFSES III), Tokoroazwa, Saitama, JAPAN, 10-11 January, 2002.

28. G. Petkov, 2002, 'Reliability and Risk Analysis by ATRD Method,' Journal of Reliability Engineering Association of Japan, REAJ, Vol.24, No.2, 2002.3, pp.155-164, ISSN 0919-2697.

29. G. Petkov, 2002, 'Retrospective Human Reliability Analysis by Performance Evaluation of Teamwork Method,' Proceedings of the PSAM-VI Conference, (San Juan, Puerto Rico, USA, 23-28 June, 2002).

30. G. Petkov and T. Matsuoka, 2002, 'Reliability Inducements for Dynamic Systems by GO-FLOW and ATRD Methods,' Proceedings of the PSA'02 Conference, Detroit, MI, USA, October 8-11, 2002, pp.391-398.

31. G. Petkov, V. Todorov, T. Takov, K. Stoychev, V. Vladimirov, I. Chukov and V. Petrov, 2003, 'Safety Investigation of Team Performance in Accidents', ESReDA Seminar on Safety Investigation of Accidents, EC-JRC, Petten, Netherlands, 12-13 May 2003, pp.292-305/1027-1073.

32. G. Petkov, V. Todorov, T. Takov, V. Petrov, V. Vladimirov, K. Stoychev, and I. Chukov, 2004, 'Safety Investigation of Team Performance in Accidents', Journal of Hazardous Materials, ISSN: 0304-3894, Vol. 111, pp. 97-104.

33. B. Milev and G. Petkov, 2003, 'Evaluation of Operator's Actions in Chernobyl Accident', Proceedings of EMF'2003, Sofia, October 31st – December 1st, 2003, Vol. 1, pp. 131-136, ISNN 1310-9405.

34. G. Petkov, V. Todorov, T. Takov, V. Petrov, V. Vladimirov, K. Stoychev, and I. Chukov, 2003, 'Control Room Operators' Reliability Assessment by FSS-1000', Proceedings of EMF'2003, Sofia, October 31st – December 1st, 2003, Vol. 1, pp. 137-142, ISNN 1310-9405.

35. G. Petkov and T. Matsuoka, 2004, 'Controllable Dynamic System Reliability Models for Risk Assessment of Process Control Systems,' Proceedings of the PSAM 7 Conference, (Berlin, Germany, 14-18 June, 2004), pp. 694-700.

36. G. Petkov, 2004, 'Dealing with Dynamic Aspects of Operators' Performance,' Proceedings of the FLINS'2004 Conference 'Applied Computational Intelligence', (6th International Fuzzy Logic and Intelligent technologies in Nuclear Science Conference, Duinse Polders, Blankerberge, Belgium, September 1-3, 2004), World Scientific, ISBN 981-238-873-7, pp. 677-683.

37. G. Petkov, V. Todorov, T. Takov, V. Petrov, V. Vladimirov, K. Stoychev, and I. Chukov, 2004, 'Evaluation System of Main Control Room Operators' Reliability', Proceedings of the EMF'04 Conference, (Varna, Bulgaria, 20-21 September, 2004), Vol. 1, pp.102-107, ISNN 1310-9405.

38. T. Matsuoka and G. Petkov, 2004, 'Comparison between the GO-FLOW and the ATRD Methodologies for the Analysis of a Dynamic System', Proceedings of the EMF'04 Conference, (Varna, Bulgaria, 20-21 September, 2004), Vol.1, pp.108-113, ISNN 1310-9405.

39. G. Petkov, 2004, Radiation Protection, Textbook, Technical University of Sofia, Sofia, 2004, 120p.

40. A. Spurgin and G. Petkov, 2005, 'Advanced Simulator Data Mining for Operators' Performance Assessment,' chapter in book 'Intelligent Data Mining: Techniques and Applications', Physica Verlag, A Springer-Verlag, pp.543-572.

41. Petkov, G., Mondeshky, I. and Milev, D., 2006, 'HRA Corroborative Studies Based on Dynamic Context Description', 3rd International Symposium on Systems & Human Science: Complex Systems Approaches for Safety, Security and Reliability (SSR 2006), EC-JRC, Vienna, Austria, 6-8 March 2006.

42. G. Petkov, 2006, 'Reliability and Risk Assessment of Dynamic Systems and Processes', JRC Information Day in Bulgaria, 28 April, 2006, http://www.jrc.cec.eu.int/more_information/infodays/200604_bulgaria/data/21%20petkov.pdf

43. A. Spurgin, A. Bareith, G. Petkov, Huhong He and Xiang-rui Huang, 2006, 'Analysis of Simulator Data for HRA Purposes,' Proceedings of the PSAM 8 Conference, (New Orleans, USA, May 14-19, 2006).

44. G. Petkov, A. Spurgin, V. Todorov and V. Papazov, 2006, 'Applicability of HRA Methods for External Event PSA Based on Simulator Training,' Proceedings of the PSAM 8 Conference, (New Orleans, USA, May 14-19, 2006).

45. A. J. Spurgin and G. I. Petkov, 2006, 'Power Plant Simulators: Data Collection and Insights from Data', Journal of Safety and Reliability 'Human Performance Data Collection Edition', Vol. 26, No. 2, Summer 2006, p. 47-67, ISSN 0961-7353.

46. G. Petkov, 2006, 'Evaluation of Communication and Decision-making Erroneous Actions Based on Dynamic Accident and Hazard Event Context Quantification,' Proceedings of the International Disaster Reduction Conference (IDRC, Davos, Switzerland, August 27 – September 1, 2006), Vol.2, p. 433-436.

47. G. Petkov and M. Pekov, 2006, 'Communication Analysis between MCR Operators in Decision-making Process in Steam Generator Tube Rupture Accident', Proceedings of EMF'2006 Conference, Varna, September 18th–20th, 2006, Vol.1 p.110-115, ISSN 1310-9405.

48. M. Pekov and G. Petkov, 2006, 'Evaluation of Faster Human-Machine Interface Influence on Main Control Room Operators' Crew Reliability in SGTR Accident', Proceedings of EMF'2006 Conference, Varna, September 18th–20th, 2006, Vol.1 p.104-109, ISSN 1310-9405.

49. G. Petkov, M. Pekov, 2006, 'Application of Performance Evaluation of Teamwork Method for Sensitivity Study of Performance Shaping Factors', Proceedings of Interatomenergo'2006 Workshop, Varna, Sept. 25th–Oct. 2nd, 2006.

50. G. Petkov, V. Todorov and K. Stoychev, 2006, 'Use of Regular Full-Scope Simulator Training Archives for MCR Operators' Reliability Control Goals', Proceedings of Interatomenergo'2006 Workshop, Varna, September 25th–October 2nd, 2006.

51. B. Kalchev, I. Moncheva and G. Petkov, 2006, 'Human Reliability Assessment During Start-up of WWER-1000', Proceedings of Interatomenergo'2006 Workshop, Varna, September 25th–October 2nd, 2006.

52. G. Petkov, 2007, 'Alternative reliability and risk analysis methods for incorporation of ageing effects in PSA', Proceedings of EMF'2007 Conference, Sozopol, September 18th–20th, Vol. 1 p.110-115, ISSN 1310-9405.

53. G. Petkov, 2007, 'Retrospective Operators' Performance Monitoring and Data-mining', Abstracts of X International Conference "NPP Safety and Personnel Training", Obninsk, Russia, October 1–4, 2007, pp. 88-89, ISBN 5-89075-028-3 (in Russian).

54. G. Petkov, 2007, 'Reliability of Dynamic Human-Machine Safety System', Abstracts of X International Conference "NPP Safety and Personnel Training", Obninsk, Russia, October 1–4, pp. 87-88, ISBN 5-89075-028-3 (in Russian).

55. G. Petkov, 2007, 'Application of Dynamic System Reliability Methods for Incorporation of Age-dependent Reliability Parameters and Data into the PSA Model', Proceedings of 2nd IAEA International Symposium on Nuclear Power Plant Life Management, Shanghai, China, October 15th–18th, 2007.

56. G. Petkov, 2007, 'Communication Errors in Risky Situations', Proceedings of the ERCES-SCRAE Conference, Sofia, Bulgaria, October 24th–26th, 2007.

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