WNU Tsinghua Week 2021

WNU, THU

ONLINE: The World Nuclear Industry Today

12 – 16 July 2021

DRAFT PROGRAMME as of 24/06/2021

Start Time (Beijing)	End Time (Beijing)	Title	Presenter/Speaker	Org.	Start Time (London)	Start Time (Vienna)	Start Time (Toronto)
12 July, Monday							
Moderator: TONG Jiejuan							
13:00	13:05	Opening and welcome remarks	TONG Jiejuan	THU	6:00	7:00	1:00
13:05	13:20	Opening Remarks WNU	Sama Bilbao y Leon	WNU	6:05	7:05	1:05
13:20	13:30	Overview of the WNU	Isis Leslie	WNU	6:20	7:20	1:20
13:30	14:30	The future of nuclear energy globally	Francois Morin	WNA	6:30	7:30	1:30
14:30	15:30	Nuclear and the Sustainable Development Goals	King Lee	WNA	7:30	8:30	2:30
15:30	16:30	Energy supply and nuclear energy in China: current status and prospect	ZHOU Sheng	THU	8:30	9:30	3:30

16:30	17:00	Technical tour of the IAEA Siebersdorf	Reagan Aylmer	WNU	9:30	10:30	4:30
17:00	17:30	Free Q&A	TONG Jiejuan	WNU,THU	10:00	11:00	5:00
17:30	19:00	Break			10:30	11:30	5:30
Moderator: Isis Leslie							
19:00	21:00	Basic economics and nuclear project structuring	Milton Caplan	MC	12:00	13:00	7:00
21:00	21:30	Free Q&A			14:00	15:00	9:00
13 July, Monday							
Moderator: Isis Leslie							
13:00	14:00	The role for nuclear outside energy production	David Hess	WNA	6:00	7:00	1:00
14:00	15:00	Effective nuclear risk communications	John Lindburg	WNA	7:00	8:00	2:00
15:00	16:00	Nuclear communications and advocacy	Jonathan Cobb	WNA	8:00	9:00	3:00
16:00	17:00	Fukushima	Abel Julio González	ARN	9:00	10:00	4:00
17:00	17:30	Free Q&A	TONG Jiejuan	WNU,THU	10:00	11:00	5:00
17:30	19:00	Break			10:30	11:30	5:30
Moderator: TONG Jiejuan							

19:00	21:00	International system for radioprotection, safety, security and safeguards	Abel Julio González	ARN	12:00	13:00	7:00
21:00	21:30	Free Q&A	TONG Jiejuan	WNU,THU	14:00	15:00	9:00
14 July, Monday							
Moderator: TONG Jiejuan							
13:00	14:30	Digital Transformation of Nuclear Energy System	ZHOU Sheng*	TONGYUAN	6:00	7:00	1:00
14:30	16:00	SMR's Position in China's Energy Development Strategy	ZHAO Chengkun	CNEA	7:30	8:30	2:30
16:00	17:30	Nuclear Technology R&D in China	CONG Peng	THU	9:00	10:00	4:00
17:30	18:00	Break			10:30	11:30	5:30
18:00	20:00	HPR1000 project progress	CHEN Guocai	CNNP	11:00	12:00	6:00
15 July, Monday							
Moderator: TONG Jiejuan							
13:00	15:00	Advanced Reactor Technologies in China: Generation IV reactors and HTR-PM	SUN Jun	THU	6:00	7:00	1:00
15:00	17:00	Nuclear Waste Management	LIU Xuegang	THU	8:00	9:00	3:00
17:00	17:30	Free Q&A		WNU,THU	10:00	11:00	5:00
17:30	19:00	Break			10:30	11:30	5:30

19:00	21:00	Homework time			12:00	13:00	7:00
16 July, Monday							
Moderator: Isis Leslie							
13:00	14:00	Recent global developments in nuclear technologies, including SMRs, GenIV and non-power technologies		WNA	6:00	7:00	1:00
14:00	15:00	Developments in fusion technologies			7:00	8:00	2:00
15:00	16:00	Panel on international opportunities in the nuclear workforce	Pedro DIEGUEZ PORRAS, Li (Jerry) Li, Yuji Kumagai, Callum Thomas	IAEA, WANO, OECD NEA, Thomas Thor	8:00	9:00	3:00
16:00	17:00	Closing	TONG Jiejuan	WNU,THU	9:00	10:00	4:00

Lecturers' Biography

Sama Bilbao y Leon

Sama Bilbao y León became the Director General of World Nuclear Association in October 2020.Previously, and since June 2018, she was Head of the Division of Nuclear Technology Development and Economics at the OECD Nuclear Energy Agency. In her role at the NEA, she led a team of analysts responsible for providing Member Countries with authoritative studies in the intersection of technology, innovation and economics in support of their energy policy decision-making. Since January 2020, she was also Head of the Technical Secretariat for the Generation IV International Forum (GIF).From 2011, she was the Director of Nuclear Engineering Programs and Associate Professor at the Department of Mechanical and Nuclear Engineering at Virginia Commonwealth University (VCU). She was one of the key individuals involved in the creation and development of this thriving new Nuclear Engineering program. Sama was responsible for the academic and research aspects of the new VCU nuclear engineering program, including student and faculty recruitment, curriculum development, accreditation, funding, research collaborations, industrial partnerships, marketing, outreach, etc. She also taught undergraduate and graduate courses in areas such as thermal-hydraulics, heat transfer, multi-phase flow, nuclear reactor design, energy and environmental policy, economics of electricity production, etc. At VCU, she led an active research group including post-doctoral research associates, PhD, MS and undergraduate students, and was the principal investigator in several research and development, as well as educational grants, totalling about $4M.At her departure from VCU in May 2018, Sama was also a member of the Institute of Nuclear Power Operations (INPO) National Accreditation Board, and the Chairman of the Board of the Virginia Nuclear Energy Consortium (VNEC).From 2008, Sama was the Technical Head of the International Atomic Energy Agency (IAEA) Water Cooled Reactors Technology Development Unit and she was responsible for IAEA activities in support of the development and near term deployment of advanced water cooled reactors and their associated fuels. From February 2001 until March 2008, Sama was a Nuclear Safety Analysis Engineer at Dominion Energy, where she worked on the development and licensing of new methodologies in core thermal-hydraulics and nuclear safety analysis in support of Dominion's nuclear power stations. Sama is one of the seven founders of the North American Young Generation in Nuclear (NA-YGN), and served as Public Information Chair since its creation in 1999 until May 2005. Sama is also an active member of the American Nuclear Society (ANS) since 1995, both nationally and locally (VCU student section and Virginia local section). Her dedication to spreading the good news about nuclear earned her the ANS 2002 Public Communications Award. In 2007 she received the NA-YGN Founder Award, the highest award given to an NA-YGN member, which rewards leadership, vision and dedication. In 2007, and again in 2010, Sama was elected to the national Board of Directors of the American Nuclear Society. In 2011, she received the ANS Mary Jane Oestmann Women's Achievement

Award. In 2014 she received an ANS Presidential Citation for her continuous dedication to ANS. In 2018 she was presented with the W. Reed Johnson Award for Extraordinary Contributions to the Virginia Section of the ANS. Sama is also a member of SNE, ASME, ASEE, SWE and WiN.Sama, who is originally from Spain, holds a bachelor's degree in Mechanical Engineering and a master's degree in Energy Technologies from the Polytechnic University of Madrid; a master's degree and a PhD in Nuclear Engineering and Engineering Physics from the University of Wisconsin – Madison; and an MBA from Averett University.

Isis Leslie （Co-Chairperson）

Isis Leslie has joined the World Nuclear University as Programme Lead on a six month basis, having previously worked as Programme Coodinator for the WNU SI until 2015 and as Staff Director for the Security and Sustainable Used Fuel Working Groups. She has since been working on international Security and Non-Proliferation programmes with ORNL, WINS, the IAEA and other organizations as a contractor to Tetra Tech.

童节娟
TONG Jiejuan （Co-Chairperson）

清华大学核能与新能源技术研究院 副院长
清华大学核安全与环境领域 教授

Deputy Director, Institute of Nuclear and New Energy Technology, Tsinghua University
Professor in Nuclear Safety and Environment, Tsinghua University

King Lee

King Lee is the Director Harmony Programme at World Nuclear Association leading the Harmony Programme, the nuclear industry's vision for the future of electricity. In this role Mr Lee head a team promoting nuclear energy by working with the nuclear community to engage with key policy makers and stakeholders on the important role of nuclear energy as part of the clean energy future.

Mr Lee led strategic cooperation with key international institutions, such as United Nations Economic Commission for Europe (UNECE), Association of Southeast Asian Nations (ASEAN), Clean Energy Ministerial and World Energy Council, on development of nuclear power.

Previously, Mr Lee was Head of Nuclear Development at Lloyd's Register, where he led strategic business development and provided technical and commercial oversight of major nuclear projects in UK, China, Korea and UAE. This includes advice to government and industry leaders on regulatory and safety issues concerning the challenges for the nuclear industries. He has also been involved a range of power and energy projects with considerable experience on risk and assurance management.

Mr Lee was the Vice-Chair of the Energy Institute Process Safety Committee. He is a member of the Nuclear Energy Agency (NEA) Nuclear Innovation 2050 Advisory Panel and Clean Energy Ministerial (CEM) Flexible Nuclear Campaign Working Group. Mr Lee is the Chair of UNECE Nuclear Fuel Working Group and Vice Chair of UNECE Group of Experts on Cleaner Electricity Systems.

周胜
ZHOU Sheng

清华大学,核能与新能源技术研究院，博士，副研究员。

研究方向：能源模型与能源政策，核能政策，全球气候变化和碳市场。

主持或者参与的研究工作：全球背景下的中国能源消费与 CO2 排放，全球碳市场发展趋势及其对中国的影响，中国工业部门 CO2 排放路线图，工业部门能源消费和 CO2 排放峰值，非化石能源在中国温室气体减排目标中的作用，核能在中国能源供应中的地位和作用，中国核能发展的机遇和挑战等。

He is an associate professor at Institute of Nuclear and New Energy Technology of Tsinghua University in China. His research focuses on energy model and energy policy, nuclear policy, hydrogen energy policy, climate change and carbon market in China. He worked on China energy and CO_2 emission under a global perspective, global carbon market trend and it is impact on China, the roadmap of China industry CO_2 emission, peak of industry energy consumption and CO_2 emission. He also worked on non fossil energy role under national target of emission reduction, nuclear role under energy supply in china, opportunities and challenges of nuclear energy development in China, hydrogen role in China energy system transition.
Email: zhshinet@tsinghua.edu.cn

Email：zhshinet@tsinghua.edu.cn

Reagan Aylmer

Ms Reagan Aylmer is an Associate Partnerships and Implementation Officer for the International Atomic Energy Agency (IAEA) in Vienna, Austria, where she works on strategic communication for the Department of Nuclear Sciences and Applications' laboratories. Originally from Chicago, Illinois in the United States, Reagan attended university at Trinity College (BSc) and the Diplomatic Academy of Vienna (Master's of Advanced International Studies).

Milton Caplan

With more than 40 years in the nuclear industry, Milt Caplan specializes in advising governments and utilities on how to increase confidence and reduce risk for large energy projects with a focus on managing projects for success. Of the many projects in his career, he is currently providing independent oversight of the Darlington Refurbishment Program to the Ontario Minister of Energy, Northern Development and Mines. Milt was also a senior member of the Economics and Finance working group for the Canadian SMR Roadmap issued in 2018 and continues to provide strategic advice to stakeholders on SMR development and deployment.
Milt is the chair of the World Nuclear Association (WNA) Economics Working Group, teaches nuclear economics and nuclear plant structuring

and financing for the World Nuclear University (WNU), and is the author of a pro-nuclear blog addressing issues of interest to the industry.

David Hess

David Hess is a Policy Analyst at the World Nuclear Association and part of the Harmony Programme where he works to help the nuclear industry meet the challenge of providing 25% of global electricity by 2050. One part science communicator, one part industry analyst and one part evidence-based policy advocate, David's main focus areas include nuclear technology, economics, climate change, sustainable development and now (increasingly) space exploration

John Lindburg

John C.H. Lindberg FRSA is a recognised expert on nuclear and radiological risk communication, currently researching the cognitive and psychological foundations of radiophobias at King's College London and Imperial College. John is also public affairs manager at the World Nuclear Association, and has previously worked as an adviser to think tanks, politicians and the UK Government on energy, regulation, and foreign affairs.

Jonathan Cobb

Dr Jonathan Cobb is the Senior Communication Manager at World Nuclear Association.

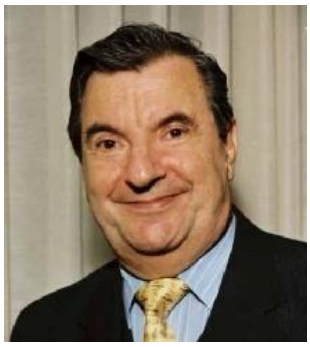
Dr Cobb is leading the Association's contribution to the upcoming COP26 climate change meeting in Glasgow. He is the lead author of the World Nuclear Performance Report, an annual publication providing information on trends in nuclear construction and generation as well as spotlight case

studies from around the world. He is programme manager of World Nuclear Association's Annual Symposium, the global nuclear industry's premier conference.

Dr Cobb responds to press enquiries and has spoken on behalf of the association on television and radio, including appearances on Al Jazeera, BBC World, CGTN, Channel NewsAsia, France 24, Sky News, TRT Newsmakers, Voice of Islam (UK Radio).

Dr Cobb studied chemistry at the University of Liverpool, before joining British Nuclear Fuels at its Sellafield plant. He then worked at BNFL's Marketing and Corporate Strategy Departments, before joining World Nuclear Association in 2004.

Abel Julio González



Mr. Abel Julio González is Academician at the Argentine Academies of Environmental Sciences and of the Sea, Senior Adviser of the Argentine Nuclear Regulatory Authority, member of the Commission of Safety Standards of the International Atomic Energy Agency (IAEA) and member of the Argentine delegation to IAEA's General Conference and Board of Governors.

After his graduation at the University of Buenos Aires, Mr. González worked for many years for the regulatory branch of the Argentine Atomic Energy Commission (CNEA) and became CNEA Director. In the 1980s, he moved to the IAEA as Director of the Division of Radiation Transport and Waste Safety, where he led many environmental radiological evaluations, such as those in the Bikini Atoll in the Marshall Islands, the Mururoa and Fangataufa Atolls in the French Polynesia and the Semipalatinsk area in Kazakhstan, as well as in many radiation accidents appraisals including the international assessment of the Chernobyl accident.

Already in 1976, Mr. González became member of ICRP Committee 4, in 2000 he was appointed to the ICRP Main Commission, which he was vice-chairing from 2009 to 2013. Mr. González has also been the Vice-President of the International Radiation Protection Association (IRPA) and the President of IRPA's 12th International Congress in 2008.

He has been honoured with several international awards including the Morgan Award twice in 2000 and 2003, the Sievert Prize in 2004, the Lauriston S. Taylor Lecturer Award in 2005 and the Marie Curie Prize in 2008.

Mr. González participated in UNSCEAR since 1968, first as delegate from Argentina and then representing the IAEA between 1985 and 2005. He has been representative of Argentina since the fifty-fourth session in 2006.

周胜
ZHOU Sheng*

周胜，苏州同元软控信息技术有限公司，核能领域专家。

周胜 2006 年由哈工程核学院本科毕业后进入清华大学核研院硕博连读，开展聚变裂变混合堆、高温气冷堆研发。2011 年博士毕业后一直从事反应堆工程设计与研发，负责了中广核研究院堆工中心各个重大项目及多个专业方向的研究工作，包含中广核在运在建机组、华龙一号、小型海洋堆、集团尖峰计划等科研项目。2017 年 4 月调入华龙国际，担任华龙一号工程项目联合设计、华龙一号 2020 科研与标准初步设计项目堆工所负责人，负责所内联合设计项目管理、进度管理及跨专业管理工作。作为堆芯方向主任设计师，承担核设计、热工水力、燃料、辐射屏蔽、核环保、安全分析等专业工作。

2020 年底进入苏州同元软控，主管 Modelica 多领域统一建模仿真技术在核能行业深入应用以及国际合作推广，负责公司核能行业经营、技术及市场战略制定，并结合核能行业特性，开展核能行业 MBSE 应用研究。

Sheng ZHOU, nuclear energy field application expert from Suzhou Tongyuan Software & Control Technology Co., Ltd.

Bachelor of engineering from Harbin Engineering University in 2006, Ph.D. from Institute of Nuclear and New Energy Technology(INET) of Tsinghua University in 2011. During Ph.D., he carried out some basic research of fusion fission hybrid reactor and high temperature gas-cooled reactor. After graduation, he has been engaged in reactor engineering design and research for 10 years. He has been responsible for the research work of various major projects and multiple professional directions of the reactor engineering center of China General Nuclear Power Research Institute, including operation and under construction CPR1000, HPR1000, small ocean reactor ACPR50S, and other group Research projects. He was transferred to Hualong International in April 2017 and served as section head, and department project manager of the HPR1000 joint design and the HPR 2020 design.

At the end of 2020, he entered Suzhou Tongyuan Software & Control, in charge of the in-depth application of Modelica multi-field unified modeling and simulation technology in the nuclear energy industry and the promotion of international cooperation, responsible for the company's nuclear energy industry operation, technology and market strategy formulation, and carried out the nuclear energy industry MBSE application research.

赵成昆
ZHAO Chengkun

赵成昆 1966 年毕业于上海交通大学工程物理系船舶反应堆工程专业。研究员级高级工程师。

美国哥伦比亚大学工学院应用物理和核反应堆工程系核安全防护与计量学专业访问学者。

曾任核工业部第一研究设计院工程师、广东大亚湾核电站工程部总体处处长、分部经理、核工业一院设计部副主任、中国核动力研究设计院副总工程师兼秦山二期 60 万压核电站总设计师、中国核动力研究设计院副院长、院长，国家环保总局核安全与辐射环境管理司司长、国家核安全局常务副局长、国家核安全局局长、中国核能行业协会副理事长。

现任中国核能行业协会专家委员会常务副主任。

Mr. Chengkun Zhao graduated from Department of Nuclear Engineering, Shanghai Jiaotong University in 1966 and he is Senior Engineer of Research Level. He has been the Visiting Scholar of Department of Applied Physics & Nuclear Engineering, Columbia University, NY, USA.

He has successively served as Deputy Director General of Nuclear Power Institute of China (NPIC), Deputy Chief Engineer of NPIC, Chief Design Engineer of Qinshan Phase-IINPP, Director General of NPIC, Executive Deputy Director General of National Nuclear Safety Administration(NNSA), Director General of NNSA, Vice Chairman of China Nuclear Energy Association (CNEA).

He is currently Executive Deputy Director of expert committee of CNEA.

丛鹏
CONG Peng

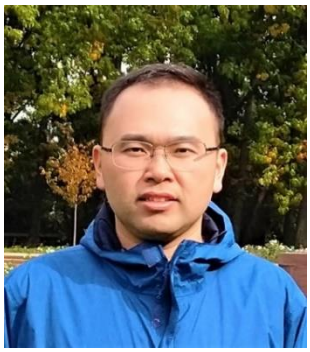
Professor in nuclear technology application, INET, Tsinghua University

陈国才
CHEN Guocai

陈国才，清华大学在读工程博士生。现任中核国电漳州能源有限公司党委书记、董事长，兼任福建省科协常委，中国核能行业协会专家委员会专家，福建省电力协会副会长，正高级工程师。从事核电工作二十余年，先后参与国家“九五”重点工程秦山三期重水堆核电站（加拿大 CANDY6)、浙江三门核电站（美国 AP1000 首台机组）、福清核电站等工程建设，机组调试，生产运营。全面主持并领导中国三代核电自主知识产权“华龙一号”示范工程建设。曾荣获 2015-2017 年度中国十大核科技进步奖，福建省第十届紫金科技创新奖，福建省第十八届优秀企业家等荣誉。

Mr. Chen Guocai, an engineering doctoral student in Tsinghua University. He is chairman of CNNC Guodian Zhangzhou Energy Co., Ltd., member of the Standing Committee of Fujian Province Association for science and technology, expert of the expert committee of China Nuclear Energy Industry Association, Vice President of Fujian Province Electric Power Association, He is also a senior engineer of professor level. He has been engaged in nuclear power for more than 20 years. He has successively participated in the construction, commissioning, production and operation of Qinshan Phase III heavy water reactor nuclear power plant (CANDU6, Canada), Zhejiang Sanmen Nuclear Power plant (the first unit of the U.S. AP1000) and Fuqing nuclear power plant. He presided over and led the construction of China's "HPR1000" demonstration project, which uses generation III technology and has independent intellectual property. He has won the 2015-2017 China top ten Nuclear Science and Technology Progress Award, the 10th Zijin Science and Technology Innovation Award of Fujian Province, and the 18th Outstanding Entrepreneur of Fujian Province, etc..

孙俊
SUN Jun



孙俊是清华大学副教授，核研院反应堆物理、热工与系统模拟研究室主任，2016 年起担任四代堆核能系统教育培训工作组中方代表。研究领域包括反应堆热工水力学、核电模拟机、空间堆以及国际合作等。

Mr. Jun Sun is the Associate Professor in Institute of Nuclear and New Energy Technology (INET), Tsinghua University. He is also the Division Head of Reactor Physics, Thermal Hydraulics, and System Simulation, in INET. Started from 2016, he is assigned as the Representative of China in the Education and Training Working Group, Generation IV International Forum (GIF). His research interests include reactor thermal hydraulics, nuclear reactor simulators, space nuclear reactor designs and international cooperation.

刘学刚
LIU Xuegang

刘学刚，博士，清华大学核能与新能源技术研究院（核研院）工作。现任研究员，博士生导师。在清华大学主讲“核燃料循环战略”和“核化学工程”两门研究生课程。主要从事核化学化工、核燃料循环和放射性废物处理等领域的研究工作。同时负责核退役方面的科研、工程项目的管理工作。主要研究内容和兴趣领域包括：乏燃料后处理、放射性废物处理处置、核退役技术、核燃料循环战略和政策等。

Dr. Xuegang LIU, research professor, is now working in the Institute of Nuclear and New Energy Technology (INET), Tsinghua University. He has taught two graduate courses as “nuclear fuel cycle strategy” and “nuclear chemical engineering”. His work focuses on nuclear chemical engineering, fuel cycle, radioactive nuclides separation technologies and so on. Meanwhile, he is also responsible for the management on research and engineering projects of nuclear decommissioning. The areas of his research and interest include nuclear reprocessing, radioactive waste management, decommissioning technology, nuclear fuel cycle strategy and policy.

Li (Jerry) Li

WANO London Office 2021/03-NOW Performance Analysis Senior Advisor
Assist the Performance Analysis programme by screening WANO event reports, analysing performance data and participating in international workshops and seminars. This work supports the development of high quality operating experience products for WANO members and promptly provides insights into industry trends.
Sanmen Nuclear Power Co., Ltd
2006/07-2021/03
Operator Trainee
Senior Operator
Shift Supervisor
Shift Manager
Shift manager is responsible for the safe and reliable operation of the plant. As one of the very first group of shift managers in Sanmen, I had participated and led most AP1000 startup activities, also with full experiences in plant commissioning and operation. Sanmen unit 1 has been put on commercial operation since 2018 without any unplanned trip during the startup phase, and for the year of 2019, it was the best performance unit in China, and shift manager would be the critical person who led the operation team to success.

Additional Information

The official coordinator and envoy of our company(SMNPC) with Southern nuclear company(SNC, United States), I reviewed and shared all the important experiences and event reports to southern nuclear during Sanmen commissioning phase, also, I organized all the visits and exchanges between two groups, from the plants to the fleets.
The evaluator of Sanmen RO/SRO qualification exam;

Working experience in Vogtle nuclear power plant(SNC, United States), and exchange information between two companies, gradually perfected sanmen operation management system;
Had several evaluation experiences, including Tianwan CPO 2018/ Hainan peer review 2017, and self-evaluation in ops department;
I am good at English, both written and oral. And there were more than 100 foreigners in sanmen site during startup phase, they all knew me and willing to work with me. I believe I am an excellent team player, which is one of the most critical characters in WANO.