



孙东亮

所属学院 资源与环境工程学院

学科领域 安全工程

邮箱 dongliangsun@ecust.edu.cn

个人简介

孙东亮，男，工学博士，副教授，硕士生导师。资源与环境工程学院本科教学督导小组成员，青年教师协会理事。上海化学化工学院环境科学与工程委员会秘书；国家二级安全评估员；国家注册安全工程师；安全生产标准化审查员。

教育经历：

- 09/2008-06/2011，南京工业大学，安全技术与工程，博士；
- 09/2006-06/2008，南京工业大学，安全技术与工程，高级博士学位；
- 09 / 2002- 06/2006，南京工业大学，安全技术与工程学士。

科学研究和学术工作经验：

- 07 / 2016- 至今：华东理工大学资源与环境工程学院环境工程系，安全工程副教授。
- 华东理工大学资源与环境工程学院环境工程系安全工程系讲师，安全工程系讲师，07 / 2013-06 / 2016。
- 07 / 2011-06 / 2013，华东理工大学，环境科学与工程博士后科研工作站，博士后研究员。
- 09 / 2008-06 / 2011，南京工业大学城市建设与安全工程学院安全工程系，博士。
- 09 / 2006-06 / 2008，南京工业大学城市建设与安全工程学院，安全工程硕士。
- 2011 / 7-2013 / 7，华东理工大学，博士后，合作指导员：黄光团。

研究方向

- 区域风险评估，安全规划和紧急援助决策；
- 化学事故多米诺骨牌效应的风险评估与控制；
- 化工园区设计安全间距及布局研究；
- 化工园区安全风险伦理研究。

研究成果及主要发表文章

Main research projects:

Scientific research (17 items) :

- Shanghai natural science foundation project, 16ZR1408500, study on protective mechanism of domino effect protective layer of explosive debris in storage tank, 2016/07 -- 2016/06, 200,000 yuan, in progress, presided over.
- R&d fund, b100-41901, product development of urban safety risk assessment system, May 2019 -- December 2019, 200,000 yuan, in research and in charge.
- Research and development project of Qingdao institute of safety engineering, sinopec, risk analysis and control of safety and environment of aromatics combined plant, 313038, 2013/01-2015/123 million yuan, concluded and participated.
- Special fund for exploration and research of basic scientific research operating expenses of east China university of science and technology, WB1314056, parameter impact analysis on the risk of chain effect of explosive fragments in chemical storage tanks, 2013/07-2015/06, 120,000 yuan, concluded and presided over.
- China postdoctoral science foundation, 2012M520851, research on control technology of the risk of chain effect of explosive debris in chemical storage tanks, 2012/01-2013/12.50 million yuan, concluded and presided over.
- National natural science foundation of China, 71001051, study on risk assessment and control of chain accidents in chemical process units based on essential safety, 2011/01-2013/12, 177,000 yuan, completed and participated.
- National natural science foundation of China, 50904037, research on gas leakage mechanism and safety design method of connected device, 2010/01-2012/12, 200,000rmb, completed, participated.
- Horizontal research and development project of nanjing safety supervision bureau of jiangsu province, regional risk evaluation system, May 2010-may 2011, 51.3 million yuan, completed and participated in.
- Jiangsu province science and technology plan project, BE2008605, r&d and demonstration of safety production management, monitoring and early warning, and emergency treatment technology for chemical enterprises, 2009/01-2010/12, 200,000 yuan, concluded and participated.
- Research and innovation program for postgraduates in jiangsu province, CX09B_142Z, study on the mechanism of chain damage of chemical plant under the action of fire, 2009/01-2010/1230,000rmb, concluded and presided over.
- Horizontal research and development project of work safety supervision bureau of kunshan city, Jiangsu province, interactive urban major hazard source risk management system based on multi-technology integration, 10/2008-01/2011, 5 million yuan, completed and participated in.
- Project of the national science and technology support plan of the 11th five-year plan, 2006bak01b03-3, research on the simulation and response of hazardous chemical leakage and diffusion accidents and auxiliary decision support technology based on GIS and real-time meteorological information, 2008/01-2010/12, 450 thousand yuan, completed and participated;
- Shanghai university teachers production, study, research and practice project, 2014.6 -- 2015.6, 30,000, presided over, concluded;
- Research and development fund of nanjing anyuan technology co., LTD. : research and development of quantitative risk assessment system of chemical accident domino effect, December 2014 -- April 2015, 200,000 yuan, in charge of research;
- Research and development fund of xishi pharmaceutical packaging (China) co, LTD. : determination of water quality of high concentration cleaning wastewater, June, 2015 -- December, 2015, 60000, presided over, the project has been concluded;
- East China university of science and technology basic scientific research operating expenses interdisciplinary and major project cultivation fund: environmental chemical pollutants complex interface collaborative exposure risk mechanism and emergency response, December 2011 -- November 2015, 400,000 yuan, participation, completed;
- Science and technology project of Shanghai solid waste management center: pilot work of statistical investigation on enterprises producing and using environmental hormone chemicals in typical regions of Shanghai, Nov. 2015-jun. 2016, 180,000, participated in and under research.\

Main research papers (25) :

- [1] Sun D L, Jiang J C*, Zhang M G, Wang A R, Huang G T, Qiao J J, Parametric approach of the domino effect for structural fragments, Journal of Loss Prevention in the Process Industries, 2012, 25 (1): 114 ~ 126 (SCI)
- [2] Sun D L, Huang G T*, Jiang J C, Zhang M G, Wang Z R, Influence of the Protective Layer of Improved Polycarbonate on Domino Effect Risk Caused by Fragments, Research Journal of Chemistry and Environment, 2012, 16(S1): 39 ~ 45 (SCI)
- [3] Sun D L*, Jiang J C, Zhang M G, Wang Z R, Ballistic experiments on the mechanism of protective layer against domino effect caused by projectiles, Journal of Loss Prevention in the Process Industries, 2016, 40: 17 ~ 28 (SCI)
- [4] Sun D L*, Jiang J C, Zhang M G, Wang Z R, Influence of the source size on domino effect risk caused by fragments, Journal of Loss Prevention in the Process Industries, 2015, 35: 211 ~ 223(SCI)
- [5] Sun D L*, Jiang J C, Zhang M G, Wang Z R, Zhang Y N, Cai L W, Investigation of multiple domino scenarios caused by fragments, Journal of Loss Prevention in the Process Industries, 2016, 40: 591 ~ 602 (SCI)
- [6] Sun D L*, Jiang J C, Zhang M G, Wang Z R, Zhang Y N, Yan L, Zhang H, Du X X, Zou Y S, Investigation on the approach of intercepting fragments generated by vessel explosion using barrier net, Journal of Loss Prevention in the Process Industries, 2017, 49: 989 ~ 996 (SCI)
- [7] Sun D L*, Sun J H, Li Z J, Jiang J C, Zhang M G, Wang Z R, Investigation of the influence of the projected proportion of a burst vessel on the hazard caused by fragments, Journal of Loss Prevention in the Process Industries, 2019 (SCI, In Press)
- [8] Sun D L*, Jiang J C, Zhang M G, Wang Z R, Xu M J, Zhang Y N, Yan L, Zhang H, Du X X, Zou Y S, Evaluation of the explosion energy of vessel based on the fragments characteristics on the accident site, Journal of Loss Prevention in the Process Industries(submitted) (SCI)
- [9] Sun D L*, Jiang J C, Zhang M G, Wang Z R, Influence of the Cylindrical Source Size on Impact Probability Caused by Fragments, Procedia Engineering, 2014, 84: 786 ~ 795 (EI)
- [10] Sun D L, Jiang J C*, Zhang M G, Wang Z R, Study on Impact Probability between Fragments from Spherical Vessel Explosion and Cylindrical Tank, Journal of Northeastern University (natural science), 2011, 32 (S2) : 27 ~ 33, 40 (EI)
- [11] Sun D L, Jiang J C*, Zhang M G, Wang Z R,Effect of baffle and protective layer on the probability of chain damage of explosive fragments in spherical tank,Journal of chemical industry,2011,62 (S1): 208 ~ 214 (EI)
- [12] Sun D L, Jiang J C*, Zhang M G, Wang Z R,Probability distribution of the number of explosive fragments in a horizontal tank based on the maximum entropy principle,Journal of chemical industry,2011,62 (S1): 219 ~ 224 (EI)
- [13] Sun D L, Jiang J C*, Zhang M G, Wang Z R, Investigation on Impact Probability between Fragments from Horizontal Cylindrical Vessel Explosion and Spherical Objective, 2010 International Symposium on Safety Science and Technology, Hangzhou, P.R. China, 2010.10.22-10.25: 1296 ~ 1302 (ISTP)
- [14] Sun D L, Jiang J C*, Zhang M G, Wang Z R, Study on Impact Probability between Fragments from Spherical Vessel Explosion and Cylindrical Tank, 2010 International Colloquium on Safety Science and Technology, Shenyang, P.R. China, 2010.9.25-9.27: 704 ~ 710
- [15] Sun D L, Jiang J C*, Zhang M G, Wang Z R,Impact probability analysis of debris ejection from cylindrical tank explosion,2010 national symposium on innovation and development of safety science and technology & BBS papers for doctoral students of safety science and technology in jiangsu province,Nanjing,China,2010.11.13-11.14: 9 ~ 15
- [16] Sun D L, Huang G T*, Jiang J C, Zhang M G, Wang Z R, Monte-Carlo Approach of Ground Distribution for Structural Fragments, Procedia Engineering, 2012, 37(7): 348 ~ 353 (EI)
- [17] Sun D L, Huang G T*, Jiang J C, Zhang M G, Wang Z R, Reduction effect of the clapboard of polyphenylene oxide on domino effect risk caused by fragments, Journal of Convergence Information Technology, 2013, 8(1): 388 ~ 393 (EI)
- [18] Sun D L, Huang G T*, Jiang J C, Zhang M G, Wang Z R,The influence of calculation parameters on the thickness of PVC resin anti-debris protective layer,Journal of Northeastern University (natural science),2013,34 (S1): 235 ~ 238, 243 (EI)
- [19] Sun D L, Huang G T*, Jiang J C, Zhang M G, Wang Z R,Comparison of the effect of protective layer on the probability of chain damage of explosive debris,Journal of Northeastern University (natural science),2013,34 (S1): 248 ~ 250, 264 (EI)
- [20] Sun D L, Huang G T*, Jiang J C, Zhang M G, Wang Z R, A new methodology for creating probit models to assess the domino effect caused by overpressure, Journal of Northeastern University (natural science),2011, 34 (S1): 265 ~ 272 (EI)
- [21] Sun D L, Huang G T*, Jiang J C, Zhang M G, Wang Z R, Parametric Approach of Fragment Trajectory and Target Terms for Structural Fragments, Journal of Modeling and Optimization, 2012, 4(1): 27 ~ 36
- [22] Sun D L, Huang G T*, Jiang J C, Zhang M G, Wang Z R,Impact probability of projectile from debris of spherical tank explosion,Journal of wuhan university of technology,2013, 35 (1): 119 ~ 123, 130(Chinese core)
- [23] Sun D L, Huang G T*, Jiang J C, Zhang M G, Wang Z R, Investigation on Impact Probability between Fragments from Horizontal Cylindrical Vessel Explosion and Cylindrical Tank, International Journal of Advancements in Computing Technology, 2013, 5(7): 48 ~ 57 (EI)
- [24] Sun D L,Wang Z R,Huang G T*,Jiang J C, Zhang M G, Research progress on the chain effect of explosion debris in storage tanks, Scientific Journal of Mathematics Research (SJMR),2013,3 (3): 93 ~ 104(Chinese core)
- [25] Sun D L, Huang G T*, Jiang J C, Zhang M G, Wang Z R, Investigation into the probability of fragments from spherical vessel explosion impact over spherical objective by Monte Carlo method, International Journal of Safety and Security Engineering (EI)

Main teaching paper (1) :

Sun D L, Development and feasibility study of safety engineering major in east China university of science and technology[J]. ECUST education,2014,(1): 19-22.

Scientific research achievements (4 items) :

- [1]"Interactive risk management system for major urban hazard sources based on multi-technology integration"software;
 - [2]"Regional quantitative risk assessment" software;
 - [3]"Quantitative risk assessment of chemical accident domino effect"software;
 - [4]"Risk assessment of urban public safety"software (in research)
- The main reward:
- Software and technology award (1):
- "Software and hardware technology and its application for emergency management of urban industrial hazard", a result obtained from technological development, has won the second prize of scientific and technological progress of institutions of higher learning of the Ministry of Education of the People's Republic of China,specific as follows:
- SUNG DongLiang (9/9), Software and hardware technology of emergency management of urban industrial hazard sources and its application,National Ministry of Education,Ministry of Education higher education science and technology progress award,The second prize,2012
- (JIANG JunCheng, ZHANG MingGuang, WANG Yan, WANG ZhiRong, ZHENG XiaoFeng, DING XiaoYe, QIAN JiaNan, HAN XueFeng, SUNG DongLiang)

Supervising master students:

At present, there are 12 postgraduate students in related fields

Academic and social activities:

Major academic activities (14):

- 10/2012,9th ASIA-OCEANIA SYMPOSIUM ON FIRE SCIENCE AND TECHNOLOGY,Make a topic report;
- 11/2012,2012 INTERNATIONAL SYMPOSIUM ON SAFETY SCIENCE AND TECHNOLOGY,Make a topic report;
- 11/2014,2014 INTERNATIONAL SYMPOSIUM ON SAFETY SCIENCE AND TECHNOLOGY,Make a topic report;
- 10/2015,2015 national university safety engineering academic annual conference, Study;
- 04/2016,8th International Seminar on Fire and Explosion Hazards,Make a topic report;
- 07/2016,11th International Symposium on Hazards, Prevention, and Mitigation of Industrial Explosion, Make a topic report;
- Since 10/201,The "13th five-year plan" textbook of sinopec press was compiled, 2 textbooks were edited, participated in compiling 5 textbooks;
- 08/2017,The 17th Congress, Asian Pacific Confederation of Chemical Engineering Conference, Make a topic report;
- 09/2017,Participate in international chemical process safety conference;
- 10/2017,Participated in the 2017 national university safety engineering academic annual conference;
- 11/2017,Participate in performance design of fire engineering BBS;
- 08/2018,2018 INTERNATIONAL SYMPOSIUM ON SAFETY SCIENCE AND TECHNOLOGY,Make a topic report;
- 08/2018,Participated in the first national symposium on thermal safety, Make a topic report;
- 10/2018,Participate in the 2018 national university safety engineering academic annual conference.

Main social activities:

- Since 2012, participated in more than 10 international conferences on safety science; And participate in the sinopec press chemical safety class "13th five-year plan" textbook compilation;
- Since 2011, participated in the safety engineering qualification examination and obtained the qualification certificate: Participated in 4 safety evaluation projects;
- In the autumn of 2013, participated in the "advanced English training class for overseas students of the Ministry of Education" held by Shanghai international studies university;
- 01/2014—04/2015,Participate in public welfare environmental protection project of Shanghai environmental science research institute; Participated in the research and development project of safety inspection vehicle of 701 research institute of China shipbuilding industry corporation;
- 2012—2019,Responsible for the undergraduate enrollment publicity of east China university of science and technology;
- 06/2016,Participated in the investigation and analysis of the cause of the aluminum ash splashing accident of a light metal co, LTD in Qingdao,Shandong;
- 05/2014,Applied for the project of "production, study, research and practice program for college teachers in Shanghai", and applied for the horizontal research and development project;12/2015,the examination result is qualified;
- 08/2016,Taught the third session of quantitative risk assessment training course hosted by China hazardous chemicals association in naniing safety technology co. LTD. iiangsu province;
- 08/2016,Participated in the "national backbone teachers' advanced research class on engineering ethics" held in tsinghua university