

唐小松



基本资料

姓名：唐小松

籍贯：广西桂林市全州县

民族：汉族

出生年月：1986/09

研究方向：水工岩土工程可靠度与风险控制、工程地质灾害风险评估

研究生导师：学术学位博士生导师(水工结构工程)、学术学位硕士生导师(水工结构工程、水利水电工程)、专业学位硕士生导师(土木水利)

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教育背景

- 2011/12-2013/10，新加坡国立大学土木与环境工程系，岩土工程，博士研究生联合培养（公派留学）
- 2008/09-2014/06，武汉大学水利水电学院，水工结构工程，工学博士
- 2004/09-2008/06，四川大学水利水电学院，水利水电工程，工学学士

工作经历

- 2016/12-至今，武汉大学水利水电学院，副教授
- 2014/12-2016/11，武汉大学水利水电学院，讲师
- 2014/10-2015/10，香港科技大学土木与环境工程系，博士后
- 2014/07-2016/07，武汉大学水利水电学院，师资博士后

研究兴趣

- 基于机器学习的水电高边坡变形与稳定性预测
- 岩土体不均匀性量化与参数变异性表征
- 岩土工程可靠度分析方法
- 工程地质灾害风险评估方法

教学工作

- 本科生教学：《土力学》、《水工建筑物》、《水工建筑物课程设计》、《水工地基处理》、《计算机辅助设计》
- 研究生教学：《水利水电工程结构可靠性与风险评估》

SCI 论文

- [1] **Tang XS**, Li DQ, Chen YF, Zhou CB, Zhang LM. Improved knowledge-based clustered partitioning approach and its application to slope reliability analysis [J]. **Computers and Geotechnics**, 2012, 45: 34-43.
- [2] Li DQ, **Tang XS**, Zhou CB, Phoon KK. Uncertainty analysis of correlated non-normal geotechnical parameters using Gaussian copula [J]. **Science China Technological Sciences**, 2012, 55(11): 3081-3089.
- [3] Li DQ, **Tang XS**, Phoon KK, Chen YF, Zhou CB. Bivariate simulation using copula and its application to probabilistic pile settlement analysis [J]. **International Journal for Numerical and Analytical Methods in Geomechanics**, 2013, 37(6): 597-617.
- [4] **Tang XS**, Li DQ, Rong G, Phoon KK, Zhou CB. Impact of copula selection on geotechnical reliability under incomplete probability information [J]. **Computers and Geotechnics**, 2013, 49: 264-278.
- [5] **Tang XS**, Li DQ, Zhou CB, Zhang LM. Bivariate distribution models using copulas for reliability analysis [J]. **Proceedings of the Institution of Mechanical Engineers, Part O: Journal of Risk and Reliability**, 2013, 227(5): 499-512.
- [6] **Tang XS**, Li DQ, Zhou CB, Phoon KK, Zhang LM. Impact of copulas for modeling bivariate distributions on system reliability [J]. **Structural Safety**, 2013, 44: 80-90.
- [7] **Tang XS**, Li DQ, Zhou CB, Phoon KK. Copula-based approaches for evaluating slope reliability under incomplete probability information [J]. **Structural Safety**, 2015, 52: 90-99.
- [8] Li DQ, **Tang XS***, Phoon KK. Bootstrap method for characterizing the effect of uncertainty in shear strength parameters on slope reliability [J]. **Reliability Engineering and System Safety**, 2015, 140: 99-106.
- [9] Li DQ, **Tang XS**, Zhou CB, Phoon KK. Characterization of uncertainty in probabilistic model using bootstrap method and its application to reliability of piles [J]. **Applied Mathematical Modelling**, 2015, 39(17): 5310-5326.
- [10] Li DQ, Zhang L, **Tang XS**, Zhou W, Li JH, Zhou CB, Phoon KK. Bivariate distribution of shear strength parameters using copulas and its impact on geotechnical system reliability [J]. **Computers and Geotechnics**, 2015, 68: 184-195.
- [11] Li DQ, Qi XH, Cao ZJ, **Tang XS**, Zhou W, Phoon KK, Zhou CB. Reliability analysis of strip footing considering spatially variable undrained shear strength that linearly increases with depth [J]. **Soils and Foundations**, 2015, 55(4): 866-880.
- [12] Li DQ, Qi XH, Cao ZJ, **Tang XS**, Phoon KK, Zhou CB. Evaluating slope stability uncertainty using coupled Markov chain [J]. **Computers and Geotechnics**, 2016, 73: 72-82.
- [13] Li DQ, Zheng D, Cao ZJ, **Tang XS**, Phoon KK. Response surface methods for slope reliability analysis: Review and comparison [J]. **Engineering Geology**, 2016, 203: 3-14.
- [14] Li DQ, Shao KB, Cao ZJ, **Tang XS**, Phoon KK. A generalized surrogate response aided-subset simulation approach for efficient geotechnical reliability-based design [J].

- Computers and Geotechnics**, 2016, 74: 88-101.
- [15] Qi XH, Li DQ, Phoon KK, Cao ZJ, **Tang XS**. Simulation of geologic uncertainty using coupled Markov chain [J]. **Engineering Geology**, 2016, 207: 129-140.
- [16] Xu Y, **Tang XS***, Wang JP, Kuo-Chen H. Copula-based joint probability function for PGA and CAV: a case study from Taiwan [J]. **Earthquake Engineering and Structural Dynamics**, 2016, 45(13): 2123-2136.
- [17] **Tang XS**, Li DQ, Cao ZJ, Phoon KK. Impact of sample size on geotechnical probabilistic model identification [J]. **Computers and Geotechnics**, 2017, 87: 229-240.
- [18] Zheng D, Li DQ, Cao ZJ, **Tang XS**, Phoon KK. An analytical method for quantifying the correlation among slope failure modes in spatially variable soils [J]. **Bulletin of Engineering Geology and the Environment**, 2017, 76(4): 1343-1352.
- [19] Xiao T, Li DQ, Cao ZJ, **Tang XS**. Full probabilistic design of slopes in spatially variable soils using simplified reliability analysis method [J]. **Georisk: Assessment and Management of Risk for Engineered Systems and Geohazards**, 2017, 11(1): 146-159.
- [20] Zhang L, Li DQ, **Tang XS***, Cao ZJ, Phoon KK. Bayesian model comparison and characterization of bivariate distribution for shear strength parameters of soil [J]. **Computers and Geotechnics**, 2018, 95: 110-118.
- [21] **Tang XS**, Wang JP, Yang W, Li DQ. Joint probability modeling for two debris-flow variables: copula approach [J]. **Natural Hazards Review**, 2018, 19(2): 05018004.
- [22] Li DQ, Zhang FP, Cao ZJ, **Tang XS**, Au SK. Reliability sensitivity analysis of geotechnical monitoring variables using Bayesian updating [J]. **Engineering Geology**, 2018, 245: 130-140.
- [23] **Tang XS**, Li DQ, Wang XG, Phoon KK. Statistical characterization of shear strength parameters of rock mass for hydropower projects in China [J]. **Engineering Geology**, 2018, 245: 258-265.
- [24] Wang JP, **Tang XS***, Wu YM, Li DQ. Copula-based earthquake early warning decision-making strategy [J]. **Soil Dynamics and Earthquake Engineering**, 2018, 115: 324-330.
- [25] Li DQ, Zheng D, Cao ZJ, **Tang XS**, Qi XH. Two-stage dimension reduction method for meta-model based slope reliability analysis in spatially variable soils [J]. **Structural Safety**, 2019, 81: 101872.
- [26] Cao ZJ, Peng X, Li DQ, **Tang XS**. Full probabilistic geotechnical design under various design scenarios using direct Monte Carlo simulation and sample reweighting [J]. **Engineering Geology**, 2019, 248: 207-219.
- [27] Wang MX, **Tang XS***, Li DQ, Qi XH. Subset simulation for efficient slope reliability analysis involving copula-based cross-correlated random fields [J]. **Computers and Geotechnics**, 2020, 118: 103326.
- [28] Lü TJ, **Tang XS***, Li DQ, Qi XH. Modeling multivariate distribution of multiple soil parameters using vine copula model [J]. **Computers and Geotechnics**, 2020, 118: 103340.
- [29] Liu XF, **Tang XS***, Li DQ, Qi XH. Jackknifing for modeling sampling properties of soil statistics for geotechnical reliability analysis [J]. **Computers and Geotechnics**, 2020, 125: 103685.
- [30] **Tang XS**, Wang MX, Li DQ. Modeling multivariate cross-correlated geotechnical random fields using vine copulas for slope reliability analysis [J]. **Computers and Geotechnics**,

2020, 127: 103784.

- [31] **Tang XS**, Wang MX, Li DQ. Reply to the discussion on “Modeling multivariate cross-correlated geotechnical random fields using vine copulas for slope reliability analysis” [J]. **Computers and Geotechnics**, 2021, 132: 104023.
- [32] Liu XF, **Tang XS***, Li DQ. Efficient Bayesian characterization of cohesion and friction angle of soil using parametric bootstrap method [J]. **Bulletin of Engineering Geology and the Environment**, 2021, 80(2): 1809-1828.
- [33] Li DQ, Ding YN, **Tang XS**, Liu Y. Probabilistic risk assessment of landslide-induced surges considering the spatial variability of soils [J]. **Engineering Geology**, 2021, 283: 105976.
- [34] Ou-Yang JY, Li DQ, **Tang XS**, Liu Y. A patching algorithm for conditional random fields in modeling material properties [J]. **Computer Methods in Applied Mechanics and Engineering**, 2021, 377: 113719.
- [35] Chen XJ, Li DQ, **Tang XS**, Liu Y. A three-dimensional large-deformation random finite-element study of landslide runout considering spatially varying soil [J]. **Landslides**, 2021, 18(9): 3149-3162.
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学术专著

- [1] Li DQ, **Tang XS**. Modeling and simulation of bivariate distribution of shear strength parameters using copulas. Chapter 2, Risk and Reliability in Geotechnical Engineering [M]. **CRC Press**, 2014, 77-128.
- [2] 李典庆, **唐小松**, 周创兵. 基于 Copula 理论的岩土体参数不确定性表征与可靠度分析 [M]. 北京: 科学出版社, 2014.
- [3] 李典庆, **唐小松**, 曹子君. 基于 ISO2394 的岩土工程可靠度设计 [M]. 北京: 中国水利水电出版社, 2017.

主持项目

- [1] 国家重点研发计划课题 (联系人) (课题编号: 2017YFC1501301, 执行年限: 2018/01-2021/12)
- [2] 国家自然科学基金面上项目 (项目编号: 52079100, 执行年限: 2021/01-2024/12)
- [3] 国家自然科学基金面上项目 (项目编号: 51879204, 执行年限: 2019/01-2022/12)
- [4] 国家自然科学基金青年基金项目 (项目编号: 51509188, 执行年限: 2016/01-2018/12)
- [5] 湖北省自然科学基金青年基金项目 (项目编号: 2015CFB509, 执行年限: 2015/01-2016/12)
- [6] 中国博士后科学基金特别资助项目 (项目编号: 2016T90726, 执行年限: 2016/07-2017/06)
- [7] 中国博士后科学基金面上资助项目 (项目编号: 2015M572196, 执行年限: 2015/07-2016/06)

- [8] 武汉大学自主科研项目学科交叉类资助项目（项目编号：2042018kf0243，执行年限：2018/01-2019/12）
- [9] 武汉大学自主科研项目青年教师资助项目（项目编号：2042015kf0004，执行年限：2015/01-2016/12）

科技奖励

- [1] 教育部自然科学一等奖，水工岩土工程不确定性分析与可靠性控制, 2021年03月, 排名第4
- [2] 湖北省自然科学一等奖，边坡工程系统可靠度评估与风险控制方法, 2017年12月, 排名第4
- [3] 湖北省优秀博士学位论文，基于 Copula 理论的岩土体参数不确定性建模与可靠度分析, 2015年12月, 排名第1
- [4] 2019年度《Computers and Geotechnics》期刊 Sloan 杰出论文奖, Impact of copula selection on geotechnical reliability under incomplete probability information, 2019年07月, 排名第1
- [5] 2017年度 F5000 论文（领跑者 5000 中国精品科技期刊顶尖学术论文），基于 Copula 函数的基桩荷载-位移双曲线概率分析, 2018年11月, 排名第1
- [6] 第十五届湖北省自然科学优秀学术论文一等奖, Impact of copula selection on geotechnical reliability under incomplete probability information, 2014年11月, 排名第1

学术荣誉

- [1] 中国科协青年人才托举工程入选者
- [2] 湖北省优秀博士学位论文获得者
- [3] 武汉大学珞珈青年学者
- [4] 武汉大学水资源与水电工程科学国家重点实验室“优秀青年人才腾飞计划”入选者

学术任职

- [1] 国际岩土工程安全学会（GEOSNet）委员
- [2] 国际土力学与岩土工程学会（ISSMGE）风险评估与管理专委会（TC304）委员
- [3] 国家自然科学基金委工程与材料科学部水利工程学科 E09 和建筑与土木工程学科 E08 评审专家
- [4] 中国土木工程学会工程风险与保险研究分会第三届理事
- [5] 中国土木工程学会工程风险与保险研究分会第二届青年论坛委员
- [6] 中国水利学会第七届青年科技工作委员会委员
- [7] 担任岩土工程领域 20 余个国际权威 SCI 期刊审稿人