

## 履歴書



1. 氏名：張 鋒 (Cho Ho)

2. 学歴：

1978年2月～1982年2月 南京理工大学 数学・力学学科入学 卒業  
1984年9月～1987年2月 同済大学 大学院力学学科 博士前期課程 修了  
1987年9月～1989年2月 同済大学 地下系 博士後期課程 中退  
1992年4月～1995年3月 京都大学 大学院工学研究科交通土木工学専攻 博士後期課程 修了

3. 職歴：

1982年2月～1984年9月；1987年2月～1987年9月 蘇州大学 助教  
1995年4月～1998年3月 中央復建コンサルタンツ(株) 係長  
1998年4月～1999年3月 国立 名古屋工業大学 助手  
1999年4月～2005年3月 国立 岐阜大学 助教授  
2005年4月～ 国立 名古屋工業大学 教授  
2006年4月～2008年3月 国立 名古屋工業大学 都市社会工学科 学科長  
2011年11月～2014年3月 国立名古屋工業大学 高度防災工学センター長

4. 学位： 平成7年3月23日 博士（工学）京都大学

論文題目：「CONSTITUTIVE MODELS FOR GEOLOGIC MATERIALS AND THEIR APPLICATION TO EXCAVATION PROBLEMS」

5. 加入学会名：地盤工学会（平成4年～）、土木学会（平成3年～）、地震学会（平成14年～）、材料学会（平成14年～）、国際地盤工学会（平成7年～）

6. 社会活動：

平成11年～平成14年 土木学会 地震工学委員会・杭基礎耐震検討小委員会 委員  
平成12年～平成14年 土木学会 地震工学委員会・レベル2地震動による液状化研究小委員会 委員  
平成11年～平成13年 地盤工学会 調査部 部員  
平成12年～平成14年 地盤工学会 施工過程を考慮した地盤の変形・破壊予測に関する研究委員会 委員  
平成11年 地盤工学会 中部支部 幹事長  
平成11年 地盤工学会 中部支部第4部会 委員長  
平成11年～平成17年 日本道路公団 中部支社管内のり面対策検討委員会 委員  
平成14年～平成18年 地盤工学会 国際部 部員  
平成15年～平成17年 国際地盤工学会 TC34 国内委員会 委員

平成 15 年～平成 24 年	地盤工学会 中部支部 評議員
平成 15 年～平成 17 年	JCI 中部支部技術評価・支援機構 委員
平成 15 年～平成 16 年	(財)名古屋高速道路 軟弱地盤構造検討委員会 副委員長
平成 16 年～平成 19 年	地盤工学会 「地盤工学会論文報告集」編集委員会 委員
平成 16 年～平成 19 年	地盤工学会 基礎構造の設計に関わる新技術評価に関する研究委員会 委員
平成 16 年～平成 19 年	地盤工学会 IT 推進委員会 部員
平成 17 年～平成 21 年	地盤工学会 中部支部 副支部長
平成 21 年～平成 23 年	地盤工学会 会誌部 講座小委員会 委員長
平成 21 年～平成 28 年	NEXCO 中日本 技術総合評価 技術審査委員
平成 22 年～	国土交通省 中部地方整備局 新技術活用評価会議 議員
平成 24 年	地盤工学会 中部支部 支部長
平成 25 年	材料学会 東海支部 支部長
2014 年～2017 年	地盤工学会 Soils and Foundations 編集委員会 幹事委員
2015 年～2018 年	電中研「人工バリアと周辺岩盤の長期挙動評価手法の構築」評価検討委員会 委員長
2016 年～	名古屋高速道路公社 入札監視委員

7. **連絡先** : 〒466-8555 名古屋市昭和区御器所町 大学院工学研究科 社会工学専攻 (ながれ領域) Tel&Fax: (052)735-7923(ダイヤルイン); E-mail : [cho.ho@nitech.ac.jp](mailto:cho.ho@nitech.ac.jp)

8. **賞罰** :

- **地盤工学会論文賞** (地盤工学会論文報告集、Soils and Foundations), 2003 年 3 月 18 日, 「F. Zhang and M. Kimura, 2002. Numerical prediction of the dynamic behaviors of RC group-pile foundation, Soils and Foundations, Vol. 42, No.3, 77-92」の論文で受賞
- **地盤工学会論文賞** (地盤工学会論文報告集、Soils and Foundations), 2011 年 3 月 16 日, 「H. M. Shahin, T. Nakai, F. Zhang, M. Kikumoto & E. Nakahara, 2011. Behavior of Ground and Response of Existing Foundation Due to Tunneling, Vol. 51, No.3, 395-409」の論文で受賞
- **土木学会論文賞** 2007 年 4 月 24 日, 「斜杭を有する群杭基礎の地震時の力学特性 (総合題目)」
- **日本材料学会 支部功労賞** 2014 年度

9. **専門分野** :

- 土質力学と岩盤力学
- 耐震工学
- 地盤材料の構成式
- 地盤工学に関する数値解析

## 研究業績目録

### 著書・専門書

1. New Frontier in Computational Geotechnics, Proc. 1<sup>st</sup> International Workshop on New Frontiers in Computational Geotechnics, Banff, Canada, 共著者：A. Yashima, **F. Zhang** and R. G. Wan, 2003 年 9 月, 岐阜新聞社, ISBN4-87797-056-8 C3051.
2. New Frontier in Computational Geotechnics, Proc. 2<sup>nd</sup> International Workshop on New Frontiers in Computational Geotechnics, Fortaleza, Brazil, 共著者：**F. Zhang**, M. M. Farias and A. Yashima, 2005 年 6 月, 岐阜新聞社, ISBN4-87797-107-6 C3051.
3. New Frontier in Computational Geotechnics, Proc. 3<sup>rd</sup> International Workshop on New Frontiers in Computational Geotechnics, Xi'an, China, 共著者：**F. Zhang**, A. Yashima and H. H. Zhu, 2007 年 6 月, 岐阜新聞社, ISBN 978-4-87797-121-2 C3051.
4. New Frontier in Computational Geotechnics, Proc. 4<sup>th</sup> International Workshop on New Frontiers in Computational Geotechnics, Pittsburgh, USA, 共著者：**F. Zhang**, J. S. Lin and A. Yashima, 2009 年 8 月, 岐阜新聞社, ISBN 978-4-87797-149-6 C3051.
5. New Frontier in Computational Geotechnics, Proc. 5<sup>th</sup> International Workshop on New Frontiers in Computational Geotechnics, Brisbane, Australia, 共著者：H. MD. Shahin, D. M Pedroso, **F. Zhang** and A. Yashima, 2011 年 6 月, 岐阜新聞社, ISBN 978-4-87797-177-9 C3051.
6. New Frontier in Computational Geotechnics, Proc. 6<sup>th</sup> International Workshop on New Frontiers in Computational Geotechnics, Takayama, Japan, 共著者：H. MD. Shahin, **F. Zhang** and A. Yashima, 2013 年 8 月, 岐阜新聞社, ISBN 978-4-87797-190-8 C3051.
7. 計算土力学, 単著、**張 鋒**、2007 年 10 月, 人民交通出版社(中国), ISBN 978-7-114-06713-6.

### Keynote Speech (till 2015)

1. 「群杭基礎の耐震性能評価」、張 鋒、第 20 回横浜国立大学地盤工学セミナー、2003 年 11 月 29 日
2. 「地盤・群杭基礎の相互作用」、張 鋒、第 24 回地盤工学若手セミナー、2004 年 10 月 16 日
3. Invited speaker, “Mechanical behavior of soft sedimentary rock, testing and modeling”, **F. ZHANG**, International Workshop on Constitutive Modelling-Development, Implementation, Evaluation, and Application, January 12-13, 2007, Hong Kong.
4. Keynote speaker, “Numerical Simulation of Vibration Damping Effect of Soilbag”, **F. ZHANG**, APCOM'07 in conjunction with EPMESC XI, December 3-6, 2007, Kyoto, JAPAN.
5. Keynote speaker, “A constitutive model for soils considering overconsolidation, structure and anisotropy”, **F. ZHANG**, International Conference on PLASTICITY 2008, January 3-8, 2008, Kona, Hawaii, USA.
6. Keynote speaker, 核廃料深埋処理の数値分析 (Numerical analysis for the nuclear waste disposal in sedimentary rock mass)、**F. ZHANG**, 2010 中国水工岩土大会、上海、2010 年 8 月 25 日.

7. Keynote speaker, "Judgement of the state of sand based on confining pressure and void ratio", **F. ZHANG**, International Symposium on Recent Advances and Challenges in Soil Dynamics and Special Soil Mechanics, Harbin, China, July 25-26, 2015.
8. Keynote speaker, "Geologic repository of high-level nuclear waste", **F. ZHANG**, International Symposium on Systematic Approaches to Environmental Sustainability in Transportation, Fairbanks, Alaska, USA, August 2-5, 2015.
9. Special lecture, "Judgement of the state of sand based on confining pressure and void ratio", **F. ZHANG**, 6<sup>th</sup> Japan-China Geotechnical Symposium, Sapporo, Japan, September 1, 2015.
10. Keynote speaker, "Unified description of clean sand", **F. ZHANG**, 3<sup>rd</sup> International Workshop on Long-Term Behaviour and Environmentally Friendly Rehabilitation Technologies of Dams, Hohai University, Nanjing, China, October 17-19, 2015.
11. Special lecture, "Unified description of clean sand and its application in seismic assessment of reinforced-soil retaining wall", **F. ZHANG**, 1<sup>st</sup> International Workshop on Seismic Design of Embankment, Tokyo, Japan, December 2, 2015.

### Invited speech (till 2015)

1. “3D dynamic finite element analysis on soil-structure interaction with a soil-pile foundation-superstructure system considering strong nonlinear behavior of soil and structure”, University of Calgary, Canada, April, 18, 2002.
2. “Elasto-viscoplastic behavior of soft sedimentary rock and its modeling with  $t_{ij}$  intermediate-stress-dependency concept and subloading surface”, Bristol University, UK, June 20, 2005.
3. 「地盤・構造物一体系の動的挙動の FEM による数値シミュレーション」、E-defense, Japan, Sep. 21, 2005.
4. 「地盤～杭動的相互作用に関する FEM を用いた数値解析の試み」、E-defense, Japan, March 20, 2006.
5. 「地盤調査、室内試験の重要性」、同済大学、Aug. 20, 2007.
6. 「有限変形を考慮する地盤の液状化解析」、岡山大学 (Okayama University)、日本、March 5, 2007.
7. 「地盤・構造物一体系の動的挙動の FEM による数値シミュレーションおよびその精度」、岡山大学 (Okayama University)、日本、Jan. 22-23, 2008.
8. 「地盤災害とその数値シミュレーション」、東海旅客鉄道、日本、Dec. 6, 2009.
9. 「ひずみ軟化、時間依存性及び温度効果を考慮した軟岩の構成式」、清水建設技術研究所、日本、March 3, 2010.
10. “Mechanical behavior of sand subjected to different loading under different drained conditions and its unified description with elastoplastic model”, Queensland University, Australia, March 19, 2010.
11. 「地盤工学諸問題に関わる材料の構成式の開発」、鉄道総合研究所、日本、Dec. 16, 2010.
12. 「地盤工学諸問題に関わる材料の構成式の開発」、地域地盤環境研究所 (Geo-Research Institute)、日本、Oct. 21, 2010.
13. 堆積岩的熱弾粘塑性模型及在核廃料深埋处理的数值分析中的应用 (Thermo-elasto-viscoplastic model of sedimentary rock mass and its application in the numerical analysis for the nuclear waste disposal), 光華講座教授講演 I, Aug. 29, 2010.
14. 「使用統一状態変量的飽和・不飽和土の弾粘塑性模型 (Constitutive model for unsaturated-saturated soil using unified state variables)」, 光華講座教授講演 II, Aug. 30, 2010.
15. 「岩盤の長期安定性の予測 – ひずみ軟化、時間依存性及び温度効果を考慮した堆積軟岩の構成式 –」、地盤工学会四国支部特別講演、May 21, 2010.
16. 「地盤工学諸問題に関わる材料の構成式の開発」、中南大学、Dec. 27, 2010.
17. 「使用統一状態変量的飽和・不飽和土の弾粘塑性模型 (Constitutive model for unsaturated-saturated soil using unified state variables)」, 北京航空航天大学、中国、March 30, 2011.
18. 「砂の統一的な解釈の試み」、大成建設技術研究所、日本、June 17, 2011.
19. 「高レベル核廃棄物地層処分の THM 解析」、京都大学、日本、July 13, 2011.
20. 「Unified description of sand behavior and its application in describing re-liquefaction of

- sandy ground in 3.11 Great East Japan Earthquake」、大連理工大学、中国、September 17, 2012.
21. 「Unified description of sand and its application to liquefaction in multi-earthquake vibration」、華南理工大学、中国、December 27, 2012.
  22. 「Unified description of Toyoura sand under different loading and drainage conditions」、The University of Newcastle、Australia、February 26, 2013.
  23. 「Constitutive model for unsaturated-saturated soil and its application in slope failure analysis based on fully coupled soil-water-air 3-phase field theory」、同濟大学、中国、March 14, 2013.
  24. 「Try for a unified description of sand and its applications to boundary value problems」、台湾大学、April 24, 2015.
  25. 「Constitutive models and boundary value problems」、哈爾濱工科大学、中国、May 4, 2014.
  26. 「Geologic repository of nuclear waste: Element tests, field tests, constitutive model, field equation and numerical simulation」、清華大学、中国、November 4, 2014.
  27. Invited speaker, “Rational constitutive model for unsaturated-saturated soils and its application to slope failure problem with soil-water coupling FE-FD method”, *F. ZHANG*, International conference of 3<sup>rd</sup> AP-UNSAT2015, Unsaturated Soils: Research & Applications, Guilin, China, 23-26 Oct 2015.

## 論文リスト (Journal, 査読付論文)

1. Q. C. Zhao and **F. Zhang**, 1988, The Method of Coating Caustics and Its Application in Fracture Mechanics, *Journal of Tongji University (Quarterly)*, Vol. 16, No.4, 485-492 (in Chinese).
2. T. Adachi, F. Oka, A. Yashima, and **F. Zhang**, 1991, Finite element analysis with strain-softening constitutive model, *Proc. 7th Int. Conf. on Computer Methods and Advances in Geomechanics*, Cairn, Balkema, Beer, Booker & Carter (eds), 535-540.
3. 足立記尚・大西有三・岡二三生・**張 鋒**, 1991. 岩盤不連続面の硬化—軟化型構成式, *ダム工学*, Vol.3, 34-40.
4. T. Adachi, F. Oka, A. Yashima, and **F. Zhang**, 1991, A FEM analysis of strain localization using a non-local strain-softening plasticity, *Proc. 3rd Int. Conf. on Constitutive Laws for Engineering Materials, Theory and Application*, Tucson, Balkema, 625-628.
5. T. Adachi, **F. Zhang**, Y. Matsushita, and T. Hashimoto, 1993, Shallow tunnel in soft rock with NATM, *Proc. 1st Int. Symp. Geotechnical Engineering of Hard Soils-Soft Rocks*, Athens, Anagnostopoulos et al. (eds), Balkema, 1365-1372.
6. T. Adachi, F. Oka, and **F. Zhang**, 1993, Finite element analysis for constitutive model with strain softening, *Computational Mechanics*, Valliappan et al. (eds), Balkema, 325-330.
7. T. Adachi, M. Kimura, and **F. Zhang**, 1994, Analyses on ultimate behavior of lateral loading cast-in-place concrete piles by three-dimensional elasto-plastic FEM, *Proc. 8th Int. Conf. Computer Method and Advance in Geomechanics*, Siriwardane & Zaman (eds), Balkema, Vol.3, 2279-2284.
8. T. Adachi, F. Oka, and **F. Zhang**, 1994, An elasto-viscoplastic constitutive model with strain softening and its application to the progressive failure of a cut slope, *AMD-Vol.183/MD-Vol.50, Material Instabilities, Theory and Applications*, ASME, 203-217.
9. T. Adachi, F. Oka, A. Yashima, and **F. Zhang**, 1994, Analysis of earth tunnel by strain softening constitutive model, *Proc. 13th ICSMGE*, Vol.2, 879-882.
10. M. Kimura, T. Adachi, H. Kamei, and **F. Zhang**, 1995, 3-D finite element analysis of the ultimate behavior of laterally loaded cast-in-place piles, *Proc. 5th Int. Symp. Numerical Models in Geomechanics*, Pande & Pietruszczak (eds), Davos, Swaziland, Balkema, 589-594.
11. T. Adachi, J. Liu, A. Koike and **F. Zhang**, 1996, Finite element analysis of Biot's consolidation in slope excavation based on a constitutive model with strain softening, *Proc. 7th Int. Symp. Landslides*, Senneset (eds), Trondheim, Norway, Balkema, 1131-1136.
12. M. Kimura and **F. Zhang**, 1997, Seismic evaluation of pile foundation, *Proc. 6th Int. Symp. Numerical Models in Geomechanics*, Pietruszczak & Pande (eds), Montreal, Balkema, 545-548.
13. M. Kimura, **F. Zhang**, K. Natsukawa and R. Tanaka, 1997, Evaluation of the Interaction between Pile-foundation and Ground in Dynamic Analysis with Nonlinear Springs, *Proc. 9th Int. Conf. Computer Method and Advance in Geomechanics*, Yuan (eds),

- Wuhan, Balkema, Vol.3, 2155-2158.
14. 足立紀尚・岡二三生・張 鋒、1998、ひずみ軟化型弾・粘塑性構成式、第44回地盤工学シンポジウム論文集、47-54
  15. T. Adachi, F. Oka and **F. Zhang**, 1998, An elasto-viscoplastic constitutive model with strain softening, *Soils and Foundations*, Vol. 38, No.2, 27-35, DOI: [https://doi.org/10.3208/sandf.38.2\\_27](https://doi.org/10.3208/sandf.38.2_27).
  16. M. Kimura and **F. Zhang**, 1998, Seismic evaluation of pile foundation by 3-D finite element analyses, *Proc. 7<sup>th</sup> Int. Conf. & Exhibition on Piles and Deep Foundations*, 5.21.1-5.21.8.
  17. **F. Zhang**, M. Kimura and T. Nakai, 1998, Field tests and numerical analyses on pile foundation undergone lateral cyclic loading, *Proc. 8<sup>th</sup> KKNN Seminar on Civil Engineering*, Swaddiwudhipong et al. (eds), Singapore, 314-319.
  18. M. Kimura, **F. Zhang**, and T. Inoue, 1998, Investigation on the behavior of pile foundation undergone cyclic lateral loading by 3-D finite element analysis (DGPILE-3D), *Proc. 3<sup>rd</sup> Int. Geotechnical Seminar, Deep Foundation on Bored and Auger Piles*, Van Impe (eds), 145-150.
  19. M. Kimura and **F. Zhang**, 1999, Seismic evaluation of pile foundation by static and dynamic 3-D finite element analyses, *Proc. the 11<sup>th</sup> Asian Regional Conference of Int. Society for Soil Mechanics and Geotechnical Engineering*, Seoul, Vol. 1, 507-510.
  20. T. Adachi, F. Oka, H. Osaki, H. Fukui and **F. Zhang**, 1999, Soil-water coupling analysis of progressive failure of cut slope using a strain softening model, *Proc. Int. Conf. on Slope Stability Engineering (IS-Shikoku)*, Yagi et al. (eds), Matsuyama, Japan, Balkema, Vol.1, 333-338.
  21. M. Kimura and **F. Zhang**, 2000, Dynamic Behavior of Group-Pile Foundation by Three-Dimensional Elasto-Plastic Finite Element Analyses, *Proc. 12<sup>th</sup> World Conference on Earthquake Engineering (12<sup>th</sup> WCEE)*, Auckland, New Zealand, 1409.1-8
  22. M. Kimura and **F. Zhang**, 2000, Seismic evaluation of pile foundations with three different methods based on three-dimensional elasto-plastic finite element analysis, *Soils and Foundations*, Vol. 40, No.5, 113-132, DOI: [https://doi.org/10.3208/sandf.40.5\\_113](https://doi.org/10.3208/sandf.40.5_113).
  23. **F. Zhang**, M. Kimura, T. Nakai and T. Hoshikawa, 2000, Mechanical behavior of pile foundations subjected to cyclic lateral loading up to the ultimate state, *Soils and Foundations*, Vol. 40, No.5, 1-18, DOI: [https://doi.org/10.3208/sandf.40.5\\_1](https://doi.org/10.3208/sandf.40.5_1).
  24. **F. Zhang**, M. Kimura and R. Furuta, 2000, Dynamic behavior of group-pile foundation, *Proc. the 4<sup>th</sup> Japan conference on structural safety and reliability (JCOSSAR2000)*, 301-308.
  25. **F. Zhang**, A. Yashima, M. Kimura and R. Uzuoka, 2000, 3-D FEM Analysis of Laterally Cyclic Loaded Group-Pile Foundation Based on an Axial-Force Dependent Hysteretic Model For RC, *Proc. Int. Conf. on Geotechnical and Geological Engineering (GeoEng2000)*, Melbourne, Balkema, CD-ROM.
  26. T. Boonyatee, M. Kimura & **F. Zhang**, 2000, Three-dimensional finite element analysis



- of statnamic load test, *Proc. the Int. Symp. of Application of Stress-Wave Theory to Piles*, Niyama & Beim (eds), Balkema, 563-566.
27. A. Yashima, **F. Zhang**, R. Uzuoka and H. Sawada, 2001, 3-D finite element liquefaction analysis of a petroleum tank-ground-foundation system based on a kinematic hardening elastoplastic model, *Proc. 4<sup>th</sup> Int. Conf. on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics*, San Diego, Balkema, 4.10, CD-ROM.
  28. R. Uzuoka, T. Kubo, A. Yashima and **F. Zhang**, 2001, Numerical study on 3-dimensional behavior of a damaged pile foundation during 1995 Hyogo-Ken Nanbu earthquake, *Proc. 4<sup>th</sup> Int. Conf. on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics*, San Diego, Balkema, 6.22, CD-ROM.
  29. **F. Zhang**, A. Yashima and R. Uzuoka, 2001, 3-D liquefaction analysis of reclaimed ground with tank and foundation, *Proc. 10<sup>th</sup> Int. Conf. on Computer Methods and Advances in Geomechanics*, Desai et al. (eds), Tucson, Balkema, Vol. 2, 1145-1149.
  30. T. Adachi, F. Oka, H. Kobayashi, S. Kimoto and **F. Zhang**, 2001, Progressive failure of cut slope in anisotropic ground, *Proc. 10<sup>th</sup> Int. Conf. on Computer Methods and Advances in Geomechanics*, Desai et al. (eds), Tucson, Balkema, Vol. 2, 1531-1535.
  31. **F. Zhang** and A. Yashima, 2001, New approach for assessing long-term stability of tunnel and remedial work, *Proc. 16<sup>th</sup> ICSMGE*, Vol. 3, 1435-1438.
  32. **F. Zhang**, A. Yashima, T. Adachi and F. Oka, 2001, A fundamental study on a trapdoor in sandy ground using FEM with a strain softening model, *Proc. Regional conference on Geotechnical Engineering in Soft Ground*, Liu & Liao (eds.), Shanghai, Tongji University Press, 575-580.
  33. T. Adachi, F. Oka, M. Kimura, K. Kishida, M. Kikumoto, T. Takeda & **F. Zhang**, 2001, Numerical simulation of centrifuge test of trapdoor by 3-D FEM, *Proc. Int. Conf. on Modern Tunneling Science and Technology (IS-Kyoto 2001)*, Adachi et al. (eds), Kyoto, Balkema, Vol.1, 147-152.
  34. 渦岡 良介・久保 哲夫・八嶋 厚・張 鋒, 2001, 不飽和層への浸透現象を考慮した液状化解析, *土木学会論文集*, No.694, III-57, 153-163, DOI: [https://doi.org/10.2208/jscej.2001.694\\_153](https://doi.org/10.2208/jscej.2001.694_153).
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