Pengcheng Li (李鹏程)

Personal

Basic: 1992/07/27; born at Gao'an city, Jiangxi Province, P.R. China.

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Positions

03/2023–present	Assistant Professor, Department of Mathematics, School of Sciences, **Great Bay University**.
03/2021–02/2023	Postdoctor, Department of Mathematics, **Southern University of Science and Technology**; supervisor: Yifei, Zhu (朱一飞).
09/2020–01/2021	Visiting Research Fellow, Center for Topology and Geometry based Technologies, **Hebei Normal University**; supervisor: Jie Wu (吴杰).

Education

09/2015–06/2020	M.S.-Ph.D. in Pure Mathematics, Academy of Mathematics and Systems Science (AMSS), **University of Chinese Academy of Sciences** (UCAS); supervisor: Jianzhong Pan (潘建中).
09/2011–07/2015	B.S. in Mathematics and Applied Mathematics, School of Mathematical Science, **Dalian University of Technology**.

Research Interests

My research field lies in **algebraic topology**; I am particularly interested in the homotopy theory of $(n-1)$-connected $(n+2)$-dimensional finite CW-complexes ($\mathbf{A}_n^2$-complexes), modular cohomotopy theory, homotopy types of manifolds.

Publications

My ResearchGate is Pengcheng-Li-3, MR author ID is 1326070, ORCID is 0000-0003-3845-3796, and Web of Science ResearcherID is GPF-5329-2022.

Published or accepted articles

6. **Pengcheng Li**, Zhongjian Zhu*, *The Homotopy Decomposition of the Suspension of a non-simply-connected* 5*-manifold*, to appear in **Proceedings of the Royal Society of Edinburgh Section A: Mathematics**. DOI:10.1017/prm.2024.49.

5. **Pengcheng Li***. *Homotopy types of suspended* 4*-manifolds*, **Algebraic and Geometric Topology**, vol. 24 (2024), Issue 5: 2933-2956. DOI: 10.2140/agt.2024.24.2933.

4. **Pengcheng Li**, Jianzhong Pan, and Jie Wu*. *On Modular Cohomotopy Groups*, **Israel Journal of Mathematics**, vol. 253, 2023: 887-915. DOI: 10.1007/s11856-022-2409-0.

3. **Pengcheng Li***. *Self-closeness numbers of product spaces*, **Homology, Homotopy and Applications**, vol. 25 (1), 2023: 249-264. DOI:10.4310/HHA.2023.v25.n1.a13.

2. **Pengcheng Li***. *(Co)Homology self-closeness numbers of simply-connected spaces*, **Homology, Homotopy and Applications**, vol. 23(1), 2020: 1-16. DOI: 10.4310/HHA.2021.v23.n1.a1.

1. Zhongjian Zhu, Pengcheng Li and Jianzhong Pan. *Periodic problem on homotopy groups of Chang complexes* $C_r^{n+2,r}$, **Homology, Homotopy and Applications**, vol. 21(2), 2019: 363-375. DOI: 10.4310/HHA.2019.v21.n2.a20.

Preprints

3. **Pengcheng Li** and Zhongjian Zhu, *Suspension Homotopy of* $(n-1)$*-connected* $(2n+2)$*-dimensional Poincaré Duality Complexes*, arXiv: 2306.12869.

2. Ruizhi Huang, Pengcheng Li*, *Suspension homotopy of simply-connected* 7*-manifolds*, arXiv: 2208.13145.

1. **Pengcheng Li***, *Homotopy classification of maps between* $\mathbf{A}_n^2$*-complexes and applications in self-homotopy equivalences*, arXiv: 2008.03049.

Grants and Awards

01/2022–12/2023	The Young Scientists Program of National Natural Science Foundation of China, Grant no. 12101290: "The homotopy theory of $(n-1)$-connected $(n+2)$-dimensional CW-complexes and its applications in geometry and physics".
06/2021–03/2023	The fellowship of China Postdoctoral Science Foundation (Grant no. 2021M691441).
2020	Zhu-Li yuehua Outstanding Doctoral Scholarship (non-western), UCAS.
2017	Amy scholarship Excellence Award, AMSS, UCAS.
2015	Outstanding Ph. D. Student Entrance Scholarship of AMSS, UCAS.

Presentations on conferences or workshops

Workshop: Advances in Homotopy theory, I & II

Speaker for the Workshop I, *Modular cohomotopy and cohomology*.

Organizers: The Southampton Centre for Geometry, Topology and Applications (CGTA) and the Beijing Institute of Mathematical Sciences and Applications (BIMSA); online.

Time: I on September 15–17, 2021; II on May 2–4, 2022.

Teaching

Teaching Assistant:

- Linear Algebra (MA113), Autumn 2022, instructor: Xuli Han (韩旭里), Southern University of Science and Technology.

Instructor, Great Bay University:

- Introduction to Topology.