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(../../[yjsjy.htm](#))

教授  
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## 宋翀

职称：教授

职务：副系主任

学历：博士

电子邮件：songchong@xmu.edu.cn

联系电话：0592-2580673

(Last updated in July 2021)



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 诚聘博士生与博士后, 欢迎对几何分析方向感兴趣的同学与我联系!

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## Research Interests

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Geometric analysis, including:

Blow-up analysis of Harmonic maps and Yang-Mills-Higgs fields;

Hamiltonian Geometric flows, especially Skew mean curvature flow, Schrodinger map flow and their geometric solitons.

## Research papers:

### Preprints:

16. "Harmonic map flow with low dbar-energy" (with Alex Waldron), arXiv:2009.07242 (<https://arxiv.org/abs/2009.07242>).

15. "Harmonic maps with free boundary from degenerating bordered Riemann surfaces"(with Lei Liu, Miaomiao Zhu), arXiv:1904.01539 (<https://arxiv.org/abs/1904.01539>)

(../)14. "Local existence and uniqueness of skew mean curvature flow  
(https://doi.org/10.1515/crelle-2021-0023)", J. Reine Angew. Math. No. 776, 1–26 (2021). DOI

(https://doi.org/10.1515/crelle-2021-0023)  
网站首页 学院概况 学院动态 本科教育 研究生教 师资队伍 学术科研 党建工作 思政工作 工会活动 校友工作 规章制度 文档资料

13. "Isolated singularities of Yang-Mills-Higgs fields on surfaces (http://math-  
(../index.htm)/xygk/xyjj.htm)/dt.htm)/bkjy.htm) (../szdw.htm)/xsky.htm)/djgz.htm)/szgz.htm)/../ghhd.htm)/xygz.htm)/gzzd.htm)/wdzl.htm)  
faculty.xmu.edu.cn/Upload/%5bIMRN%5dSing-YMH.pdf" (with Bo Chen), Intern. Math. Res. Not.  
Vol. 2021, No. 1, 551-581 (2020), DOI (https://doi.org/10.1093/imrn/rnaa030).  
(../yjsjy.htm)

12. "The boundary value problem for Yang--Mills--Higgs fields (http://math-  
faculty.xmu.edu.cn/Upload/%5bCVPDE%5dBoundary-YMH.pdf)" (with Wanjun Ai, Miaomiao  
Zhu), Calc. Var. PDE. 58(4), paper no. 157 (2019).

11. "Hessian estimates for convex solutions to quadratic Hessian equation (http://math-  
faculty.xmu.edu.cn/Upload/%5bANIHPC%5dsigma2.pdf)" (with Matt McGonagle, Yu Yuan), Ann.  
I. H. Poincaré - AN, 36(2), 451-454 (2019).

10. "Skew Mean Curvature Flow (http://math-faculty.xmu.edu.cn/Upload/SMCF-  
CCM.pdf)" (with Jun Sun), Commun. Contemp. Math. Vol. 21, No. 01, 1750090 (2019).

(http://www.worldscientific.com/doi/abs/10.1142/S0219199717500900)9. "Uniqueness  
of Schrodinger flow on manifolds (http://math-faculty.xmu.edu.cn/Upload/USch2-re-0413.pdf)"  
(with Youde Wang), Comm. Anal. Geom. 26, no. 1, 217–235(2018).

8. "Gauss map of Skew mean curvature flow (http://math-  
faculty.xmu.edu.cn/Upload/gauss.pdf)", Proc. Amer. Math. Soc. 145, no. 11, 4963–4970(2017).

7. "Heat flow of Yang-Mills-Higgs functional in dimension two (http://math-  
faculty.xmu.edu.cn/Upload/yhm-flow-arXiv.pdf)" (with Changyou Wang), J. Funct. Anal. 272, No.  
11, 4709–4751 (2017).

6. "Convergence of Yang-Mills-Higgs fields (http://math-faculty.xmu.edu.cn/Upload/YMH-  
pub.pdf)" , Math. Ann. Vol. 366, No. 1, 167-217(2016).



5. "Geometric soliton of Hamiltonian flow on manifolds (http://math-faculty.xmu.edu.cn/Upload/Geomtric%20soliton.pdf)" (with Xiaowei Sun, Youde Wang),Journal of Geomtric%20soliton.pdf" ol. 54, No. 12,121505(2013).

4. "The Cauchy problem of generalized Landau-Lifshitz equation into Sn (http://math-faculty.xmu.edu.cn/Upload/GLLE-Science%20China.pdf)" (with Jie Yu),Science in China Series A, Vol. 56, No. 2, 283-300(2013).

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3. "The KdV-Airy curve and the Schrodinger-Airy curve (http://math-faculty.xmu.edu.cn/Upload/KdV-PAMS.pdf)" , Proc. Amer. Math. Soc., 140, 635-644(2012).

(../index.htm)/xygk/xyjj.htm)../bkjy.htm)../szdw.htm)/xsky.htm)/djgz.htm)/szgz.htm)/ghhd.htm)/xygz.htm)/gzzd.htm)/wdzl.htm)

2. "Schrodinger solitons from Lorentzian manifolds (http://math-faculty.xmu.edu.cn/Upload/Schro%20Soliton\_acta.pdf)" (with Youde Wang),Acta Mathematica Sinica, English Series" , Vol. 27, No. 8, 1455-1476(2011).

1. "Critical points of Yang-Mills-Higgs functional (http://math-faculty.xmu.edu.cn/Upload/YMH-CCM.pdf)" ,Commun. Contemp. Math., Vol. 13, No. 3, 463-486(2011)

## Teaching

Lecture notes for Differentiable Manifolds (2020) pdf (http://math-faculty.xmu.edu.cn/Upload/Notes-2020-complete.pdf)

Slides for Maths in Natural Sciences I(2019) part1 (http://math-faculty.xmu.edu.cn/Upload/Calculus-1.pdf) part2 (http://math-faculty.xmu.edu.cn/Upload/Calculus-2.pdf)

教学比赛ppt (http://math-faculty.xmu.edu.cn/Upload/%E5%8F%82%E8%B5%9Bppt.rar) (2015)

## Research Grants

7. 2020, 教育部“长江学者奖励计划”青年学者, no. Q2020111;

的两类几何发展方程研究”, NSFC 面上项目, no. 11971400;

ENGLISH  
(<http://math.xmu.edu.cn/en>)

(../)5. 2017-2019, "斜平均曲率流". Fundamental Research Funds for the Central University, no. 20720170009;

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4. 2014-2016, "扭曲调和映射的若干问题及其应用", Natural Science Foundation of Fujian Province

of China, no. 2014J01023;

(../index.htm)/xygk/xyjj.htm)dt.htm)../bkjy.htm) (/../szdw.htm)/xsky.htm)../djgz.htm)../szgz.htm)../ghhd.htm)/xygz.htm)../gzzd.htm)../wdzl.htm)

3.2013-2015, "KdV曲线与KdV孤立子", NSFC 青年项目, no. 11201387;

(../yjsjy.htm)

2.2013-2015, "一类几何偏微分方程的爆破分析". Specialized Research Fund for the Doctoral Program of Higher Education(SRFDP), no. 20120121120022;

1. 2011, "扭曲调和映射模空间的紧化", China Postdoctoral Science Foundation, no. 201110490223.

## Working Experiences

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2020.8-- Professor,

2013.8--2020.7 Associate Professor,

2011.6--2013.7 Assistant Professor,

School of Mathematical Sciences, Xiamen Univ., China

2009.7--2011.6 Postdoc, Advisor: Tian, Gang

School of Mathematical Sciences, Peking Univ., China

## Visiting positons

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UNIVERSITY OF BRITISH COLUMBIA(hosted by Chen, Jingyi), June 1-August 30, 2015  
(../..)

University of Washington(hosted by Yuan, Yu), September 7, 2015-September 7, 2016 CSC

visiting scholar

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2004.9--2009.7 Ph.D. , Academy of Mathematics, Chinese Academy of Sciences, China Advisor:  
Wang, Youde and Tian, Gang

2000.9--2004.7 B.S., School of Mathematics, Wuhan University, China

Links: MathReview (<https://mathscinet.ams.org/mathscinet/search/author.html?mrauthid=942764>) / Orcid (<http://orcid.org/0000-0003-4249-2034>) / ResearchGate ([https://www.researchgate.net/profile/Chong\\_Song3](https://www.researchgate.net/profile/Chong_Song3)) / arXiv ([https://arxiv.org/a/song\\_c\\_3](https://arxiv.org/a/song_c_3))



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