



# Research experiences sharing and insights into publishing in top journals



**Baojing Gu**

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# Who am I?

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## □ Education

- 2002-2006 Zhejiang Univ **Biological science** Bachelor
- 2006-2011 Zhejiang Univ **Ecology** PhD
- 2007-2008 Alberta Univ **Soil science** Joint PhD

## □ Work experience

- 2011-2016 Zhejiang Univ **Economics** Post-Doc
- 2016-2022 Zhejiang Univ **Management** Assistant Prof
- 2022- Zhejiang Univ **Sustainability** Full Professor

**Multidisciplinary → Interdisciplinary → Transdisciplinary**

# Research experiences

2024	Nature climate change	2021	The Innovation	2018	Global Environmental Change	2013	Environmental Science & Technology
2024	Nature Communications	2021	Research	2018	Atmospheric Chemistry and Physics	2013	Science China Earth Sciences
2024	Nature food	<b>2021 One Earth</b>		2018	Journal of Cleaner Production	2013	Atmospheric Environment
2024	Nature food	2021	Research	2018	中国工程科学	2013	Scientific Reports
2024	Nature Food	<b>2021 Environmental Pollution</b>		2017	Environmental Science & Technology	2013	生态学杂志
<b>2024 Nature sustainability</b>		2021	Nature Food	2017	Environmental Research Letters	2013	中国科学:地球科学
2023	Nature	2021	农业资源与环境学报	2017	Ambio	2012	Environmental Science & Technology
2023	Nature	<b>2021 中国生态农业学报</b>		2017	Regional Environmental Change	2012	Nature Climate Change
<b>2023 Environmental Pollution</b>		2020	Scientific Data	2017	Environmental Pollution	2012	Atmospheric Environment
2023	Earth's Future	<b>2020 International Journal of Biometeorology</b>		2017	Environmental Research Letters	2012	Environmental Pollution
<b>2022 Nature Food</b>		2020	Philosophical Transactions of the Royal Society ...	2017	Ecological Indicators	<b>2012 生态学杂志</b>	
2022	Frontiers of Agricultural Science and Engineering	<b>2020 Environmental Science and Pollution Research</b>		2017	土壤学报	2012	生态学杂志
2022	Environmental Science & Technology	<b>2020 Journal of Environmental Management</b>		<b>2017 科技导报</b>		2012	生态学杂志
<b>2022 Carbon Research</b>		2020	Global Change Biology	2016	Scientific Reports	2011	Ecological Economics
<b>2022 Resources, Conservation and Recycling</b>		2020	Nature Communications	2016	Chemosphere	2011	Environmental Modelling & Software
<b>2022 Nature Food</b>		<b>2019 Earth's Future</b>		2016	Environmental Pollution	2011	Environmental Pollution
2022	Nature Food	2019	Environment International	2016	Global Environmental Change	2011	Agriculture, Ecosystems & Environment
<b>2022 Journal of Cleaner Production</b>		2019	Environmental Science and Pollution Research	2016	Scientific Reports	2011	Environmental Research Letters
2022	Science	2019	Nature	2016	Environmental Science and Pollution Research	2011	Renewable and Sustainable Energy Reviews
<b>2022 Journal of Cleaner Production</b>		2019	Atmospheric Reactive Nitrogen in China	2015	Journal of Cleaner Production	2011	Ecological Modelling
2022	Nature Food	2019	Resources, Conservation and Recycling	2015	Proceedings of the National Academy of Scienc...	2010	IEEE International Conference on Intelligent Syst..
2022	Environmental Science and Pollution Research	2019	Journal of Cleaner Production	2015	Ecological engineering	2010	Ecological Engineering
<b>2022 Agriculture, Ecosystems &amp; Environment</b>		2019	Environmental Science & Technology	2015	Environmental Pollution	2010	Communications in Soil Science and Plant Analy...
2022	农业资源与环境学报	2018	Environmental Pollution	2014	Frontiers in Ecology and the Environment	2010	环境科学学报
2021	The Innovation	2018	Global Change Biology	2014	Ecological Engineering	2009	Ecological Applications
2021	Science	2018	Global Environmental Change	2014	植物营养与肥料学报	2009	Journal of Zhejiang University SCIENCE B
<b>2021 Environmental Pollution</b>		2018	Environmental Pollution	2013	Environmental Monitoring and Assessment	2007	心智与计算
2021	Nature Food	2018	Agriculture, Ecosystems & Environment	2013	Frontiers in Ecology and the Environment	2006	茶叶科学
2021	Nature Sustainability	2018	Proceedings of the National Academy of Scienc...	2013	Global Environmental Change	<b>2005 茶叶科学</b>	

# Confusing in early career

2011	Gu, Baojing; Liu, D...	Utilization of waste nitrogen for biofuel prod...	Renewable and Sustainable Energy R...
2011	Gu, Baojing; Zhu, Y...	The role of technology and policy in mitigati...	Environmental Research Letters
2011	Chang, Jie; Wu, Xu;...	Assessment of net ecosystem services of pla...	Ecological Economics
2011	Li, Shiyu; Wu, Xu; X...	Quantifying carbon storage for tea plantatio...	Agriculture, Ecosystems & Environm...
2011	Min, Yong; Gong, ...	NCNA: Integrated platform for constructing,...	Environmental Modelling & Software
2011	Min, Yong; Jin, Xia...	Weak indirect effects inherent to nitrogen bi...	Ecological Modelling
2011	Wang, Yan; Xu, Ha...	Quantification of net carbon flux from plasti...	Environmental Pollution
2010	谷保静; 葛滢; 朱根海...	人类活动对杭州城乡复合系统陆源氮排海的驱动...	环境科学学报
2010	Chang, Jie; Wang, ...	Responses of a Widespread Weed and an En...	Communications in Soil Science and...
2010	Xu, Jie; Gu, Baojing;...	A cellular automata model for population dy...	IEEE International Conference on Int...
2010	Zhu, Si-Xi; Ge, Han...	Effects of plant diversity on biomass product...	Ecological Engineering
2009	Gu, Baojing; Chang...	Anthropogenic modification of the nitrogen ...	Ecological Applications
2009	Wang, Meng; Gu, ...	Different responses of two Mosla species to ...	Journal of Zhejiang University SCIEN...
2007	常杰; 许杰; 葛滢; 谷...	基于元胞自动机的濒危植物明党参种群数量动态...	心智与计算
2006	谷保静; 常杰; 曾建明...	设施繁育茶苗适宜光照强度研究	茶叶科学
2005	曾建明; 谷保静; 常杰...	茶树工厂化育苗适宜基质水分条件研究	茶叶科学

**DNA, tea, endanger species, experiment, simulation,**

# Start to think

TABLE 4. Comparison of N budgets between the GHA (this study) and CAP systems (Baker et al. 2001).

Item	GHA	CAP
N input per capita (kg/person)	42	25
N input per hectare (kg/ha)	165	82
Overall N input (Gg/yr)	274.66	98.4
Population (million)	6.51	2.69
Area (km <sup>2</sup> )	16 596	12 384
Dry N deposition (kg/ha)	4.7	18.5
Wet N deposition (kg/ha)	17.9	2.4
Percentage of N accumulation	17	21 <sup>†</sup>
N increment of ground water (kg/ha)	4	7
N increment of cropland soil (kg/ha)	36	...
N flux to river/total N input (%)	36	1
Riverine N export/total N input (%)	18	3
N flux to atmosphere/total N input (%)	27	49

<sup>†</sup> N flux into landfills is considered as accumulation.

**Nitrogen study, stopped due to study abroad**

# Confusion before graduation

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2011	Gu, Baojing; Z...	The role of technology and policy in mitigating r...	Environmental Research Letters
2011	Gu, Baojing; Li...	Utilization of waste nitrogen for biofuel producti...	Renewable and Sustainable Energy Reviews
2010	谷保静; 葛滢; ...	人类活动对杭州城乡复合系统陆源氮排海的驱动分析	环境科学学报
2009	Gu, Baojing; C...	Anthropogenic modification of the nitrogen cycli...	Ecological Applications

**Postdoc, no fund, few publications**

# New way during postdoc

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2013	Gu, Baojing; G...	Nitrate in groundwater of China: Sources and dri...	Global Environmental Change
2013	Gu, Baojing; L...	Nitrogen Footprint in China: Food, Energy, and ...	Environmental Science & Technology
2013	Gu, Baojing; Y...	Rapid growth of industrial nitrogen fluxes in Chi...	Science China Earth Sciences
2013	Gu, Baojing; C...	The role of industrial nitrogen in the global nitro...	Scientific Reports
2013	谷保静; 杨国福;...	中国工业氮通量快速增长的驱动力及其影响	中国科学:地球科学
2012	Gu, Baojing; G...	Atmospheric Reactive Nitrogen in China: Source...	Environmental Science & Technology
2012	Gu, Baojing; D...	The long-term impact of urbanization on nitroge...	Environmental Pollution

**Bad economics, insistent on nitrogen study**

# Pain on changing

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2015	Gu, Baojing; Ju...	Integrated reactive nitrogen budgets and future ...	Proceedings of the National Academy of Scienc...
2015	Zhang, Xiaoho...	Urban rivers as hotspots of regional nitrogen pol...	Environmental Pollution
2014	Gu, Baojing; S...	Agricultural ammonia emissions contribute to Ch...	Frontiers in Ecology and the Environment



**Peter Vitousek**



**Xiaotang Ju**

**Bed and sofa**



# Temporal job and papers

2018	Wang, Hongy...	Ammonia emissions from paddy fields are under...	Environmental Pollution
2018	Gu, Baojing; Ju...	Cleaning up nitrogen pollution may reduce futur...	Global Environmental Change
2018	Wu, Yiyun; Xi, ...	Policy distortions, farm size, and the overuse of a...	Proceedings of the National Academy of Scienc...
2017	Zhang, Xiumin...	Ammonia Emissions May Be Substantially Under...	Environmental Science & Technology
2017	Chen, Binhui; ...	Land use mediates riverine nitrogen export unde...	Environmental Research Letters
2017	Gu, Baojing; Ju...	Nitrogen use efficiencies in Chinese agricultural ...	Regional Environmental Change
2017	Shen, Ying; W...	Non-linear increase of respiratory diseases and t...	Environmental Pollution
2016	Zhang, Xiumin...	Characterization of haze episodes and factors co...	Chemosphere
2016	Wu, Yiyun; Gu,...	PM2.5 pollution is substantially affected by amm...	Environmental Pollution
2016	Ju, Xiaotang; ...	Reducing China' s fertilizer use by increasing far...	Global Environmental Change
2016	Zhou, Junyu; ...	Significant accumulation of nitrate in Chinese se...	Scientific Reports
2016	Gu, Baojing; F...	Socioeconomic constraints on the technological ...	Environmental Science and Pollution Research

**From office to cafetiere, thinking independently, team work**

# Breaking through in interdisciplinary

2020	Wang, Sitong; ...	A high-resolution map of reactive nitrogen input...	Scientific Data
<b>2020</b>	<b>Gu, Baojing; S..</b>	<b>Overcoming socioeconomic barriers to reduce</b>	<b>Environmental Science and Pollution Research</b>
2020	Zhang, Dan; N...	Plastic pollution in croplands threatens long-ter...	Global Change Biology
2020	Zhang, Xiumin...	Societal benefits of halving agricultural ammonia...	Nature Communications
2019	Fan, Liangcon...	Decreasing farm number benefits the mitigation ...	Environmental Science and Pollution Research
2019	Gu, Baojing; Z...	Four steps to food security for swelling cities	Nature
2019	Zhang, Chuan...	Rebuilding the linkage between livestock and cro...	Resources, Conservation and Recycling
2019	Ren, Chenche...	The impact of farm size on agricultural sustainab...	Journal of Cleaner Production
2019	Gu, Baojing; L...	Toward a Generic Analytical Framework for Sust...	Environmental Science & Technology

**Learn to walk your own path**

# Keep your faith

2021	Gu, Baojing; v...	A credit system to solve agricultural nitrogen pol...	The Innovation
2021	Gu, Baojing; Z...	Abating ammonia is more cost-effective than nit...	Science
<b>2021</b>	<b>Wang, Chen; ...</b>	<b>An empirical model to estimate ammonia emi:</b>	<b>Environmental Pollution</b>
2021	Duan, Jiakun; ...	Consolidation of agricultural land can contribute...	Nature Food
2021	Jin, Shuqin; Zh...	Decoupling livestock and crop production at the...	Nature Sustainability
2021	Sun, Yi; Zhang...	Dry Climate Aggravates Riverine Nitrogen Polluti...	Environmental Science & Technology
2021	Ren, Chenche...	Fertilizer overuse in Chinese smallholders due to l...	Journal of Environmental Management
2021	Wang, Mei; H...	Human-caused increases in reactive nitrogen bu...	The Innovation
2021	Gu, Baojing; C...	Soil-Food-Environment-Health Nexus for Sustai...	Research
2021	Sun, Yi; Gu, Ba...	The Warming Climate Aggravates Atmospheric ...	Research
<b>2021</b>	<b>Zhang, Xiumin.</b>	<b>Uncertainty of nitrogen budget in China</b>	<b>Environmental Pollution</b>
2021	Wang, Sitong; ...	Urbanization can benefit agricultural production ...	Nature Food
2021	谷保静; 段佳堃;...	规模化经营推动中国农业绿色发展	农业资源与环境学报
2021	王琛; 张秀明; ...	中国农畜牧业高分辨率氨排放清单	中国生态农业学报

**Accumulation, leadership**

# Great truths are always simple

2022	Cheng, Luxi; Z...	A 12% switch from monogastric to ruminant liv	Nature Food
2022	Wang, Chen; ...	Ammonia Emissions from Croplands Decrease wi...	Environmental Science & Technology
2022	Zhang, Xiumin.	Costs and benefits of ammonia abatement in A	Resources, Conservation and Recycling
2022	Zhu, Zhiping; ...	Integrated livestock sector nitrogen pollution ab...	Nature Food
2022	Ren, Keyu; Xu,	Optimizing nitrogen fertilizer use for more gra	Journal of Cleaner Production
2022	Gu, Baojing; Z...	Particle toxicity's role in air pollution—Response	Science
2022	Wu, Mingqian;	Pollution controls in Lake Tai with the reductio	Journal of Cleaner Production
2022	Gu, Baojing	Recoupling livestock and crops	Nature Food
2022	Yu, Yingliang; ...	Reforming smallholder farms to mitigate agricult...	Environmental Science and Pollution Research
2022	Ren, Chenche...	Socioeconomic barriers of nitrogen managemen	Agriculture, Ecosystems & Environment
2022	程露曦; 任琛琛;...	气候和社会经济因素对全球畜禽氮排放的驱动研究	农业资源与环境学报

Leading the way

# Believe yourself

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2024	Zhang, Chuanzhen;	<b>The role of nitrogen management in achiev</b>	<b>Resources, Conservation and Recyc</b>
2023	Cui, Jinglan; Liu, H...	Rice-Animal Co-Culture Systems Benefit Glo...	Earth's Future
2023	<b>Chen, Binhui; Ren, .</b>	<b>Driving forces of nitrogen use efficiency in</b>	<b>Environmental Pollution</b>
2023	Gu, Baojing; Zhang...	Cost-effective mitigation of nitrogen pollutio...	Nature
2023	Ren, Chenchen; Zh...	Ageing threatens sustainability of smallholde...	Nature
2023	<b>Ren, Chenchen; Zh..</b>	<b>Climate change unequally affects nitrogen</b>	<b>Nature Food</b>
2023	Cui, Jinglan; Zhang,...	Nitrogen cycles in global croplands altered b...	Nature Sustainability
2023	<b>Zhou, Zhenchao; S..</b>	<b>Association between particulate matter (PM</b>	<b>The Lancet. Planetary health</b>

**Keep working, comprehensive power**

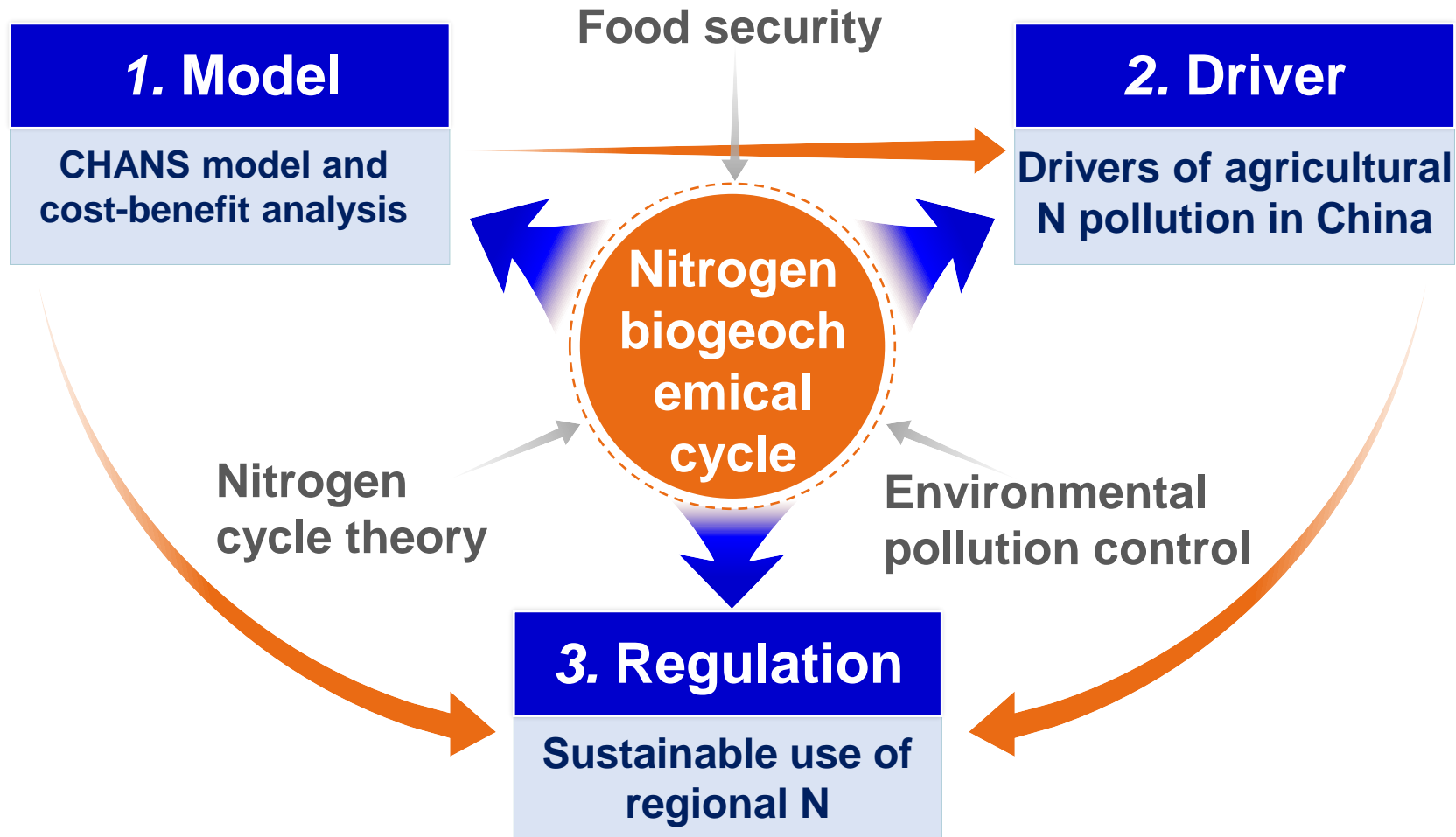
# International collaboration for research

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- ❑ International Soil Research Alliance (**ISRA**)
  - ❑ UN Environment Programme (**UNEP**) joint projects, China-Austria joint projects, China-US joint projects, International Nitrogen Management System (**INMS**)
  - ❑ Deputy Director of the International Nitrogen Initiative (**INI**) East Asia Center
  - ❑ Director of the Youth Committee of the International Science Council China (**ISC-CHINA**)
  - ❑ 27 international organizations and collaborating countries, including UNEP, the US, Japan, Germany, Australia, the Netherlands, the UK, Spain, and Kenya
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- ✓ Deng et al., [Nat Commun](#), 2024, 15, 401.
  - ✓ Deng et al., [Nat Food](#), 2024, 5, 230–240.
  - ✓ Cui et al., [Nat Clim Chang](#), 2024, 14, 511-517
  - ✓ Duan et al., [Nat Food](#), 2024, 5, 378-389
  - ✓ Niu et al., [Nat Sustain](#), 2024
  - ✓ Wang et al., [Nat Food](#), 2024
  - ✓ Cheng et al., [Nat Food](#), 2024

# Power of design

## The model, driver and regulation of regional nitrogen cycle



# Publications

NO.	Year	Journal	Content	NO.	Year	Journal	Content
1	2015	PNAS	<b>CHANS model</b>	11	2022	Nat Food	<b>Animal species</b>
2	2018	PNAS	<b>Farm size effect</b>	12	2022	Nat Food	<b>Recoupling</b>
3	2019	Nature	<b>Diet structure</b>	13	2023	Nature	<b>N credit system</b>
4	2020	Nat Commun	<b>MACC</b>	14	2023	Nature	<b>Ageing effect</b>
5	2021	Science	<b>Cost and benefit</b>	15	2023	Nat Sustain	<b>eCO<sub>2</sub> on cropland</b>
6	2021	Nat Sustain	<b>Decoupling</b>	16	2023	Nat Food	<b>Climate effect</b>
7	2021	Nat Food	<b>Urbanization, land</b>	17	2024	Nat Climate Change	<b>eCO<sub>2</sub> on forest</b>
8	2021	Nat Food	<b>Large-scale farm</b>	18	2024	Nat Food	<b>Farming practices</b>
9	2021	Innovation	<b>CHANS lake</b>	19	2024	Nat Food	<b>Sloppy croplands</b>
10	2022	Nat Food	<b>Livestock system</b>	20	2024	Nat Commun	<b>Urbanization, pollution</b>



# Publications

## Coauthors' institutes

Country/Region	Paper	Ratio
China	102	97.1
Australia	38	36.2
Scotland	34	32.4
England	32	30.5
Usa	30	28.6
Canada	25	23.8
Netherlands	21	20.0
Austria	4	3.8
Norway	4	3.8
Belgium	3	2.9
Japan	3	2.9
Brazil	2	1.9
Denmark	2	1.9
Germany	2	1.9
New Zealand	2	1.9
Argentina	1	1.0
Italy	1	1.0
Poland	1	1.0
South Africa	1	1.0
Spain	1	1.0
Uganda	1	1.0



Paper citations

# 9 roles

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1. A good paper requires **good research**.
2. Good research starts with **great ideas**.
3. Ideas come from **literatures, practices, and critical thinking**.
4. Once had an idea, you need a strong **execution power**.
5. The execution process requires **imagination**.
6. Once finished a paper, **aesthetic judgment** is needed.
7. After submission, you need a **strong heart**.
8. Occasionally, a bit of **luck** is also important.
9. Publishing good papers can further enhance your **research**.

# Thank you!

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**Research interests:** Carbon and nitrogen cycles, resource and environmental management, global change and sustainable development

**NSFC Excellent/Distinguished Youth Fund Project, National Key R&D Project**

**NSFC-UNEP International Cooperation Key Project, Australian Research Council Project**

**United Nations Environment Programme, Zhejiang University Rural Household Survey**

