# Fengqing Chao

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## Education

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| 2017 | PhD. | Saw Swee Hock School of Public Health, |
| | Dissertation: "Bayesian Methods for Estimating Global Health | National University of Singapore |
| | Indicators" | |
| | Advisors: A/P Leontine Alkema (UMass), A/P Alex Cook (NUS). | |
| 2012 | BSc (Hons) majoring in Statistics. | National University of Singapore |

## Research interests

Statistical demography;
Global health;
Bayesian modeling;
Time series analysis

## Professional activities

Associate Editor for: Foundation of Data Science (AIMS).

Reviewed for: The Lancet Global Health. Annals of Applied Statistics. BMJ Global Health. Journal of Development Effectiveness. Global Health Research and Policy. BMC Public Health.

## Peer-reviewed publications

1. **Chao, F.**, & Yadav, A. K. (2019). Levels and trends in the sex ratio at birth and missing female births for 29 states and union territories in India 1990–2016: A Bayesian modeling study. *Foundations of Data Science*, *1*(2), 177-196.
2. **Chao, F.**, Gerland, P., Cook, A. R., & Alkema, L. (2019). Systematic assessment of the sex ratio at birth for all countries and estimation of national imbalances and regional reference levels. *Proceedings of the National Academy of Sciences*, 201812593.
3. **Chao, F.**, You, D., Pedersen, J., Hug, L., & Alkema, L. (2018). National and regional under-5 mortality rate by economic status for low-income and middle-income countries: a systematic assessment. *The Lancet Global Health*, *6*(5), e535-e547.
4. Alkema, L., **Chao, F.**, You, D., Pedersen, J., & Sawyer, C. C. (2014). National, regional, and global sex ratios of infant, child, and under-5 mortality and identification of countries with outlying ratios: a systematic assessment. *The Lancet Global Health*, *2*(9), e521-e530.
5. **Chao, F.**, & Alkema, L. (2014). How informative are vital registration data for estimating maternal mortality? A Bayesian analysis of WHO adjustment data and parameters. *Statistics and Public Policy*, *1*(1), 6-18.

## Manuscripts in preparation

1. **F. Chao**, et al., "Scenario-based Bayesian probabilistic projections of the sex ratio at birth and missing female births for all countries and country-level imbalances".

## Collaborators

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| Alkema, Leontine | Department of Biostatistics and Epidemiology, University of Massachusetts, Amherst, USA |
| Cook, Alex | Saw Swee Hock School of Public Health, National University of Singapore, SG |
| Gerland, Patrick | United Nations (UN) Population Division, Department of Economic and Social Affairs, USA |
| Hug, Lucia | Division of Data, Research, and Policy, United Nations Children's Fund (UNICEF), New York, USA. |
| KC, Samir | Asian Demographic Research Institute, Shanghai University, Shanghai, China |
| Pedersen, Jon | FAFO Institute of Applied International Studies, NOR. |
| Sawyer, Cheryl | UN Population Division, Department of Economic and Social Affairs, USA |
| You, Danzhen | Division of Data, Research, and Policy, UNICEF, New York, USA. |

## Honors and Awards

1. Dean's List: AY 2010/2011 Semester 2.

Last updated: Jul 2019

2.  NUS Undergraduate Scholarship: 2008 to 2012.
3.  Best Poster Award: XXVII IUSSP International Population Conference

## Work Experience

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| Jul 2019 – | Postdoctoral Fellow | Computer, Electrical and Mathematical Sciences and Engineering (CEMSE) Division, King Abdullah University of Science and Technology |
| Jan 2019 – Jul 2019 | Research Fellow | Institute of Policy Studies, Lee Kuan Yew School of Public Policy, National University of Singapore |
| Dec 2017 – Dec 2018 | Postdoctoral Fellow | Institute of Policy Studies, Lee Kuan Yew School of Public Policy, National University of Singapore |
| Aug 2017 – Nov 2017 | Research Assistant | Institute of Policy Studies, Lee Kuan Yew School of Public Policy, National University of Singapore |
| Aug 2015 – Jul 2017 | Research Assistant | Saw Swee Hock School of Public Health, National University of Singapore |
| Apr 2016 | Visiting Scholar | Department of Biostatistics and Epidemiology, University of Massachusetts, Amherst, USA |
| May 2015 – Jul 2015 | Consultant | Data and Analytics Section, Division of Data, Research and Policy, UNICEF headquarters, New York, USA |
| May 2013 – Aug 2015 | Research Assistant | Department of Statistics & Applied Probability, National University of Singapore |
| Jul 2012 – Apr 2013 | Research Assistant | Saw Swee Hock School of Public Health, National University of Singapore |

## Teaching Experience

- Quantitative Epidemiologic Methods (CO5103), Fall 2012: teaching assistant, Saw Swee Hock School of Public Health, National University of Singapore

## Invited presentations at scholarly meetings/workshops

1.  6 Nov 2018, "A Systematic Assessment of National, Regional and Global Levels and Trends in the Sex Ratio at Birth and Identification of Countries with Outlying Levels", ISI Young Statisticians Regional Workshop – Session 1, 2018 Statistics Week Taiwan, Taipei, Taiwan
2.  31 Oct 2018, "Research sharing – SRB estimation and Projection & Estimating Under-5 Mortality Rate by Household Economic Status", ADRI department seminar, Shanghai University, Shanghai, China
3.  17 Sep 2018, "Estimate Under-5 Mortality Rate by Residence", Inter-Agency Group on Mortality Estimation Technical Advisory Group Meeting, New York City, USA
4.  26 Jul 2018, "Decomposing the impact of increased educational attainment on demographic dividend in Singapore, 1970-2010", 12th Global Meeting of the NTA Network, Mexico City, Mexico.
5.  24 Jul 2018, "Contribution of in-migration to the first demographic dividend in Singapore, 1970-2010", 12th Global Meeting of the NTA Network, Mexico City, Mexico.
6.  17 May 2018, "Estimating Under-5 Mortality Rate by Household Economic Status", Professional Update, Saw Swee Hock School of Public Health, National University of Singapore.
7.  10 May 2018, "Singapore perspective 2018 survey: an in-depth analysis", department research seminar, Institute of Policy Studies, LKY School of Public Policy, National University of Singapore.
8.  26-28 Apr 2018, "A Systematic Assessment of National, Regional and Global Levels and Trends in the Sex Ratio at Birth and Identification of Countries with Outlying Levels", Annual Meeting, Population Association of America, Denver, CO, USA.
9.  1-2 May 2017, "Estimate Under-5 Mortality Rate by Household Economic Status", Inter-Agency Group on Mortality Estimation Technical Advisory Group Meeting, New York City, USA.
10. 24 Apr 2017, "Estimate Under-5 Mortality Rate by Household Economic Status", Biomedical Science, Engineering and Computing Group joint seminar, Oak Ridge National Lab, Knoxville, USA.
11. 13 Apr 2017, "Estimate Under-5 Mortality Rate by Household Economic Status", Statistics department seminar, University of Massachusetts, Amherst, USA.
12. 17-18 Oct 2016, "A systematic assessment of national, and regional under-five mortality by wealth quintiles and identification of countries with outlying levels using a Bayesian hierarchical time series model", Inter-Agency Group on Mortality Estimation Technical Advisory Group Meeting, New York City, USA.
13. 29-30 Sep 2016, "A Systematic Assessment of National, Regional and Global Levels and Trends in the Sex Ratio at Birth and Identification of Countries with Outlying Levels", 2nd Singapore International Public Health Conference and 11th Singapore Public Health & Occupational Medicine Conference, Singapore.

14. 22 Apr 2016, "A Systematic Assessment of National, Regional and Global Levels and Trends in the Sex Ratio at Birth and Identification of Countries with Outlying Levels", Statistics Working Group, University of Massachusetts Amherst, USA.
15. 31 Mar–2 Apr 2016, "A Systematic Assessment of National, Regional and Global Levels and Trends in the Sex Ratio at Birth and Identification of Countries with Outlying Levels", Annual Meeting, Population Association of America, Washington, DC, USA.
16. 27-30 Jul 2015, "A Systematic Assessment of National, Regional and Global Levels and Trends in the Sex Ratio at Birth and Identification of Countries with Outlying Levels", Third International Conference of Asian Population Association, Kuala Lumpur, Malaysia.
17. 18-19 Dec 2014, "Sex Ratio at Birth", Inter-Agency Group on Mortality Estimation Technical Advisory Group Meeting, New York City, USA.
18. 26-31 Aug 2013, "Sex Differences in U5MR: Estimation and identification of countries with outlying levels or trends", XXVII IUSSP International Population Conference, Busan, Korea.

**Posters**
1. 27-29 Apr 2017, "A Systematic Assessment of National, and Regional Under-Five Mortality Rate By Wealth Quintiles and Identification of Countries with Outlying Levels Using a Bayesian Hierarchical Time Series Model", Annual Meeting, Population Association of America, Chicago, USA.
2. 13-17 Jun 2016, "Sex Rate at Birth: Estimation and Projection using Bayesian Hierarchical Time Series Model", World Meeting of International Society for Bayesian Analysis, Sardinia, Italy.
3. 26-31 Aug 2013, "How informative are vital registration data for estimating maternal mortality? A Bayesian analysis of WHO adjustment data and parameters", XXVII IUSSP International Population Conference, Busan, Korea.