

Supplementary Information for

Node Analysis of Academic Networks

A, B and C

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Upon collecting comprehensive data from each organization, cite ratios for each scholar are calculated and h indexes are recorded as well. The data acquired are then used for kernel density estimation plots and distribution plots by Python package *seaborn*.

Organizations are categorized with respect to continental location, in other words, North America, Europe and Asia. Institutes under each group are arranged in order according to [QS World University Rankings 2018](#). In addition, average cite ratio and h index for each university are visualized on separate maps. There seems to be no patterns concerning the h index graphs, but it can be clearly observed that a strong relation exists between an organization's influence and its average cite ratio: the larger its average cite ratio is, the more influential this institute might be.

North America.

Investigated organizations include:

1. Massachusetts Institute of Technology
2. Stanford University
3. Harvard University
4. California Institute of Technology
5. Princeton University
6. Cornell University
7. Yale University
8. Johns Hopkins University
9. Columbia University
10. University of Pennsylvania
11. Duke University
12. University of California Berkeley
13. Northwestern University
14. University of Toronto
15. McGill University
16. University of California Los Angeles
17. University of California San Diego
18. Carnegie Mellon University
19. University of British Columbia
20. New York University
21. Brown University
22. University of Washington
23. University of Texas at Austin
24. University of Illinois at Urbana Champaign
25. Georgia Institute of Technology
26. University of North Carolina at Chapel Hill
27. Ohio State University
28. Rice University
29. University of Alberta

30. Purdue University
31. University of Montreal
32. University of California Santa Barbara
33. McMaster University
34. University of Waterloo
35. University of Illinois at Chicago
36. University of Western Ontario
37. University of Calgary
38. Simon Fraser University
39. University of Ottawa
40. State University of New York at Stony Brook
41. University of Saskatchewan

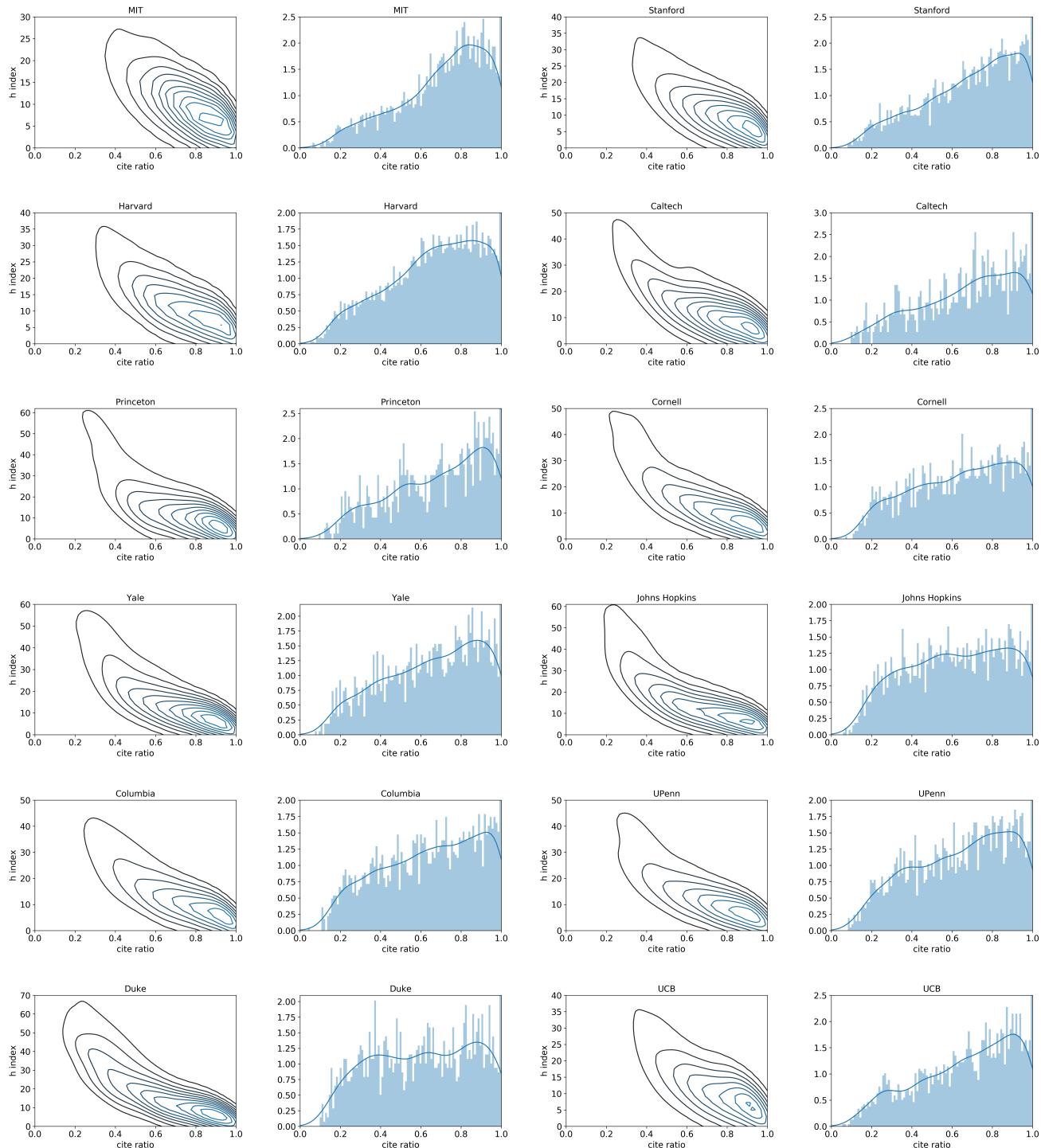


Fig. S1. Kernel density estimation plots followed by cite ratio distribution plots for Massachusetts Institute of Technology, Stanford University, Harvard University, California Institute of Technology, Princeton University, Cornell University, Yale University, John Hopkins University, Columbia University, University of Pennsylvania, Duke University, University of California Berkeley

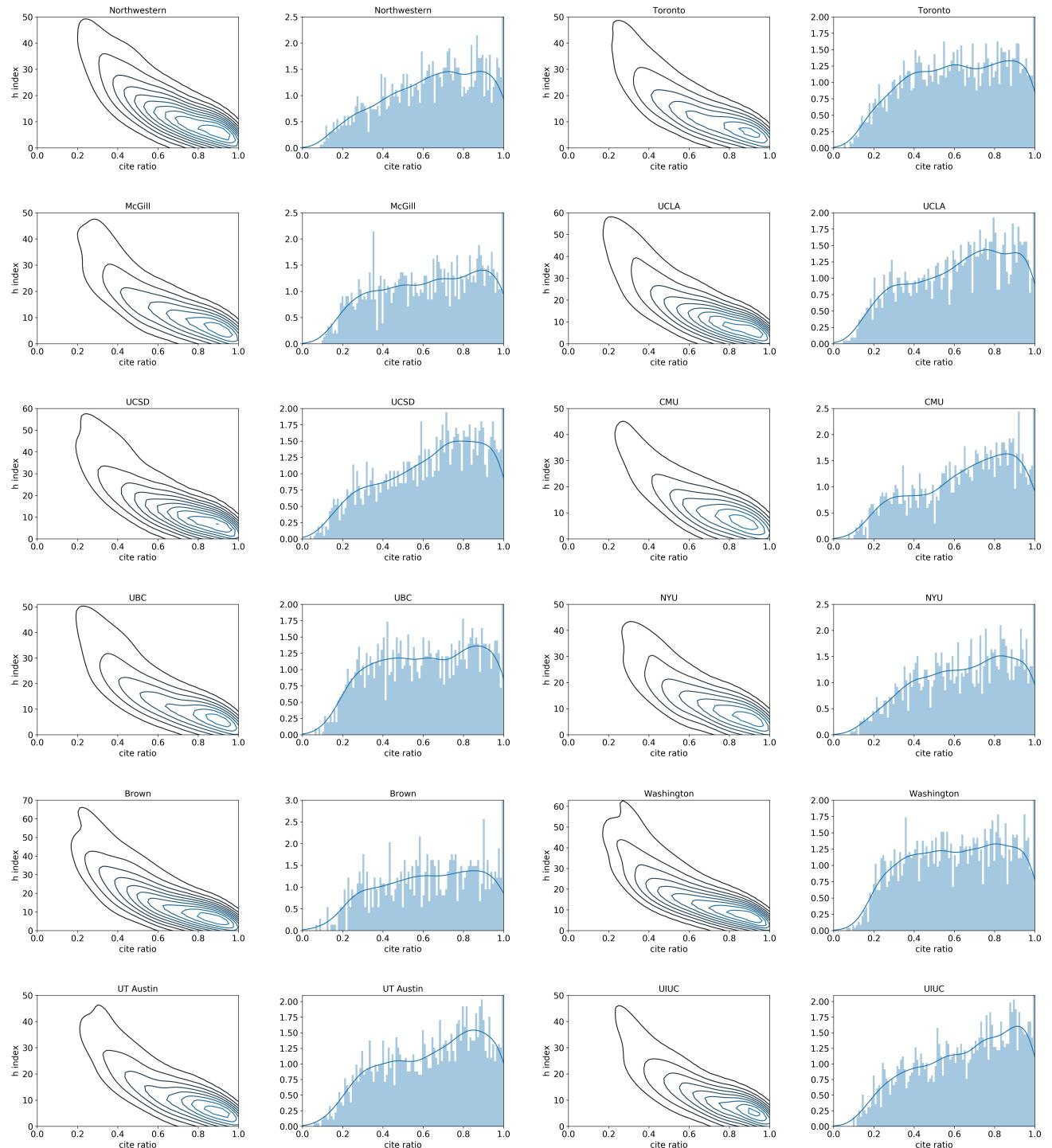


Fig. S2. Kernel density estimation plots followed by cite ratio distribution plots for Northwestern University, University of Toronto, McGill University, University of California Los Angeles, University of California San Diego, Carnegie Mellon University, University of British Columbia, New York University, Brown University, University of Washington, University of Texas at Austin, University of Illinois at Urbana Champaign

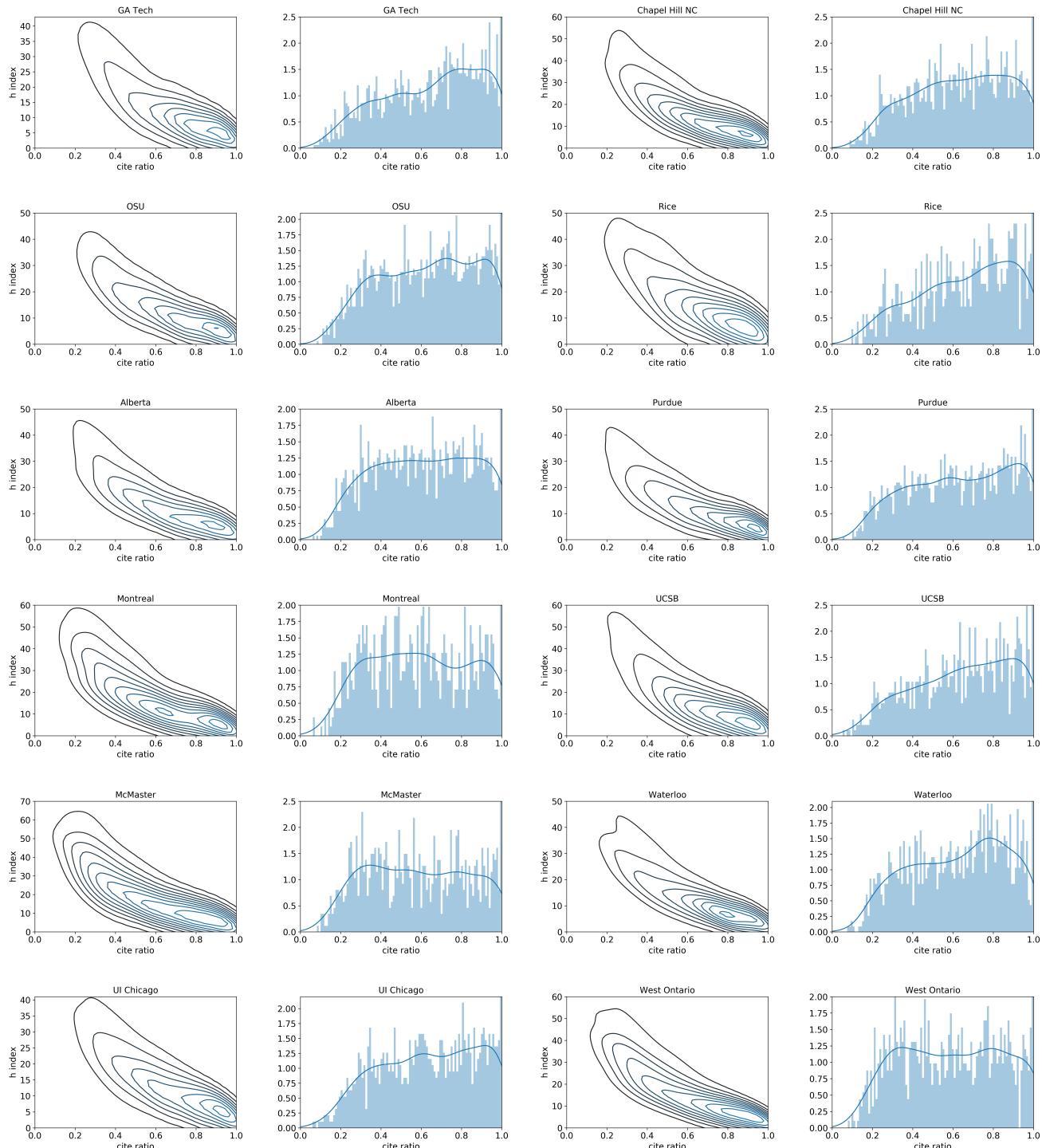


Fig. S3. Kernel density estimation plots followed by cite ratio distribution plots for Georgia Institute of Technology, University of North Carolina at Chapel Hill, Ohio State University, Rice University, University of Alberta, Purdue University, University of Montreal, University of California Santa Barbara, McMaster University, University of Waterloo, University of Illinois at Chicago, University of Western Ontario

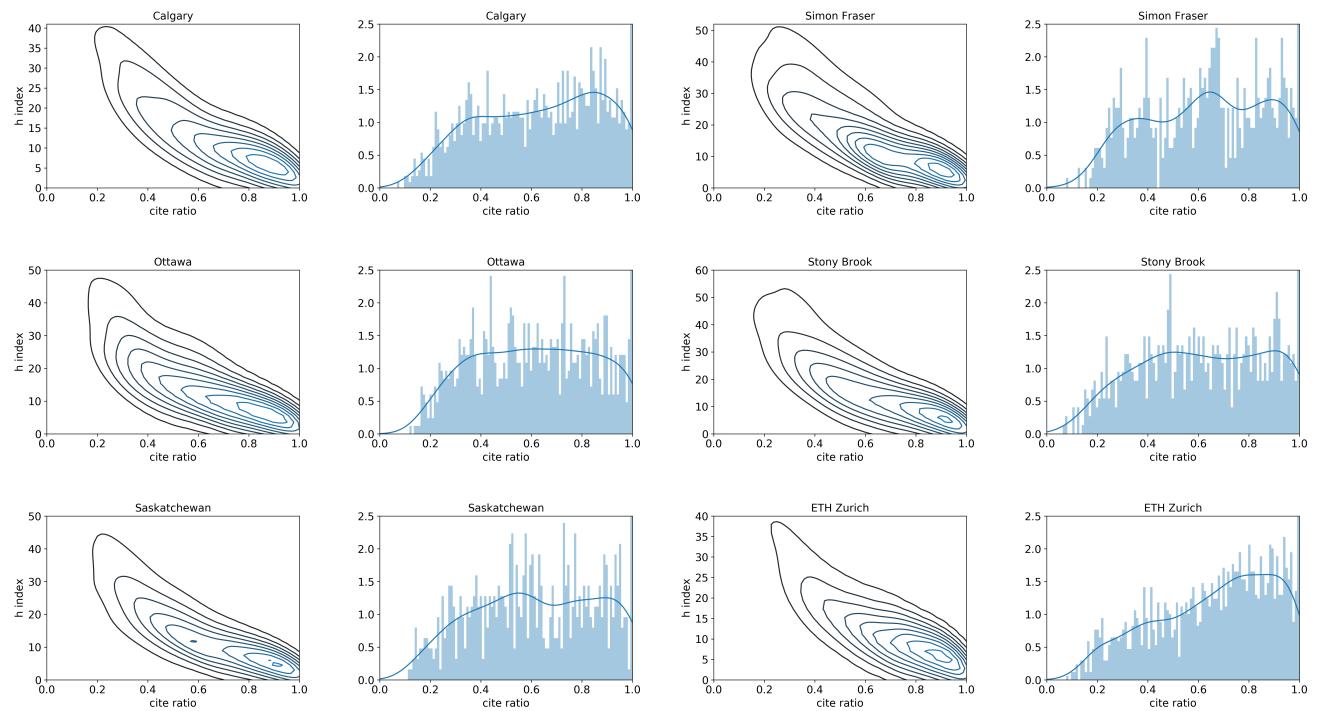


Fig. S4. Kernel density estimation plots followed by cite ratio distribution plots for University of Calgary, Simon Fraser University, University of Ottawa, State University of New York at Stony Brook, University of Saskatchewan, ETH Zurich

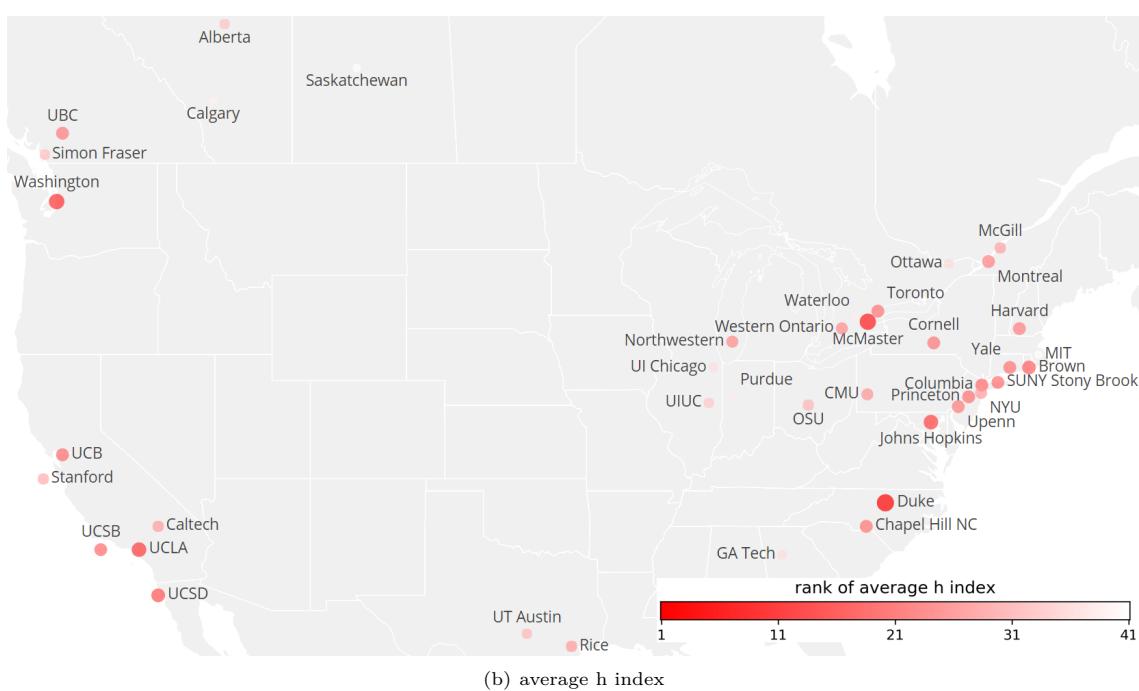
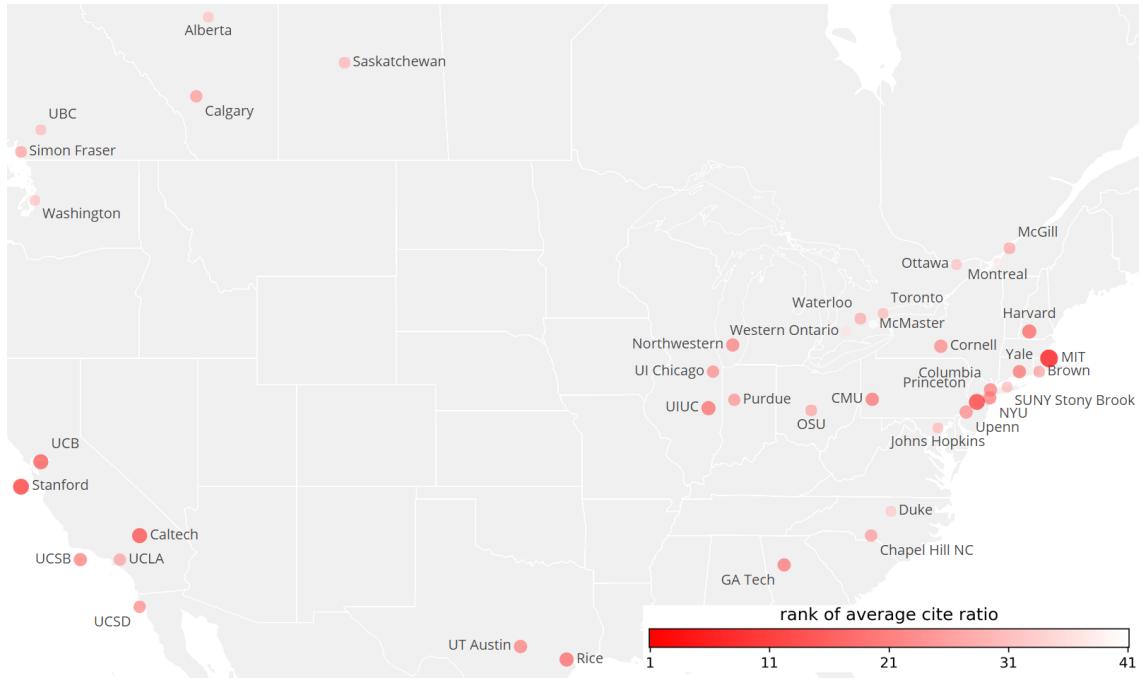


Fig. S5. Average cite ratio and h index visualized on the map of North America. Institutes with larger cite ratios/h indexes illustrate bigger/redder markers.

Europe.

Investigated organizations include:

1. ETH Zurich
2. Swiss Federal Institute of Technology in Lausanne
3. Delft University of Technology
4. University of Amsterdam
5. University of Leuven
6. University of Zurich
7. University of Geneva
8. Eindhoven University of Technology
9. Leiden University
10. Ghent University
11. University of Vienna
12. University of Porto
13. University of Warsaw

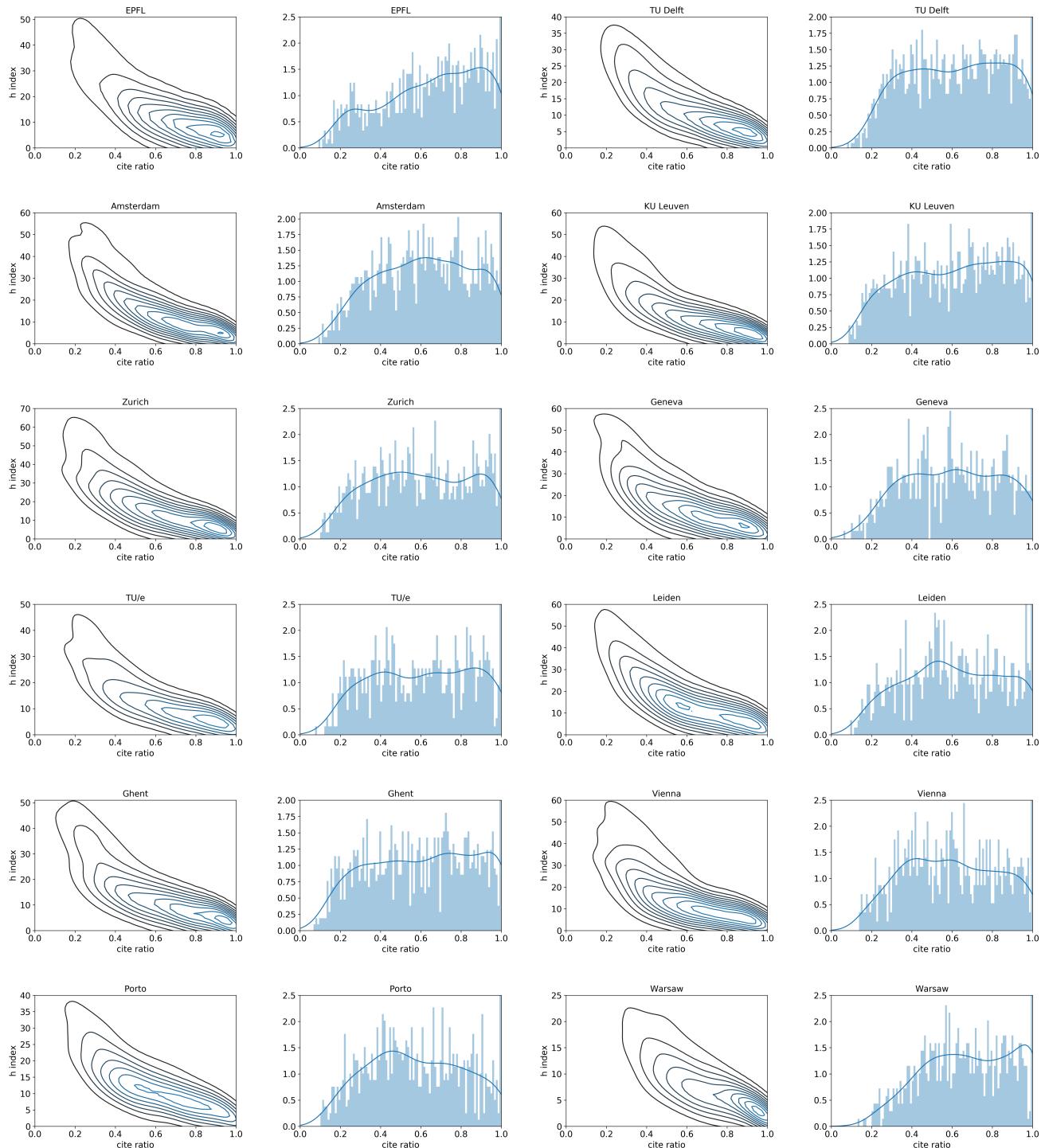
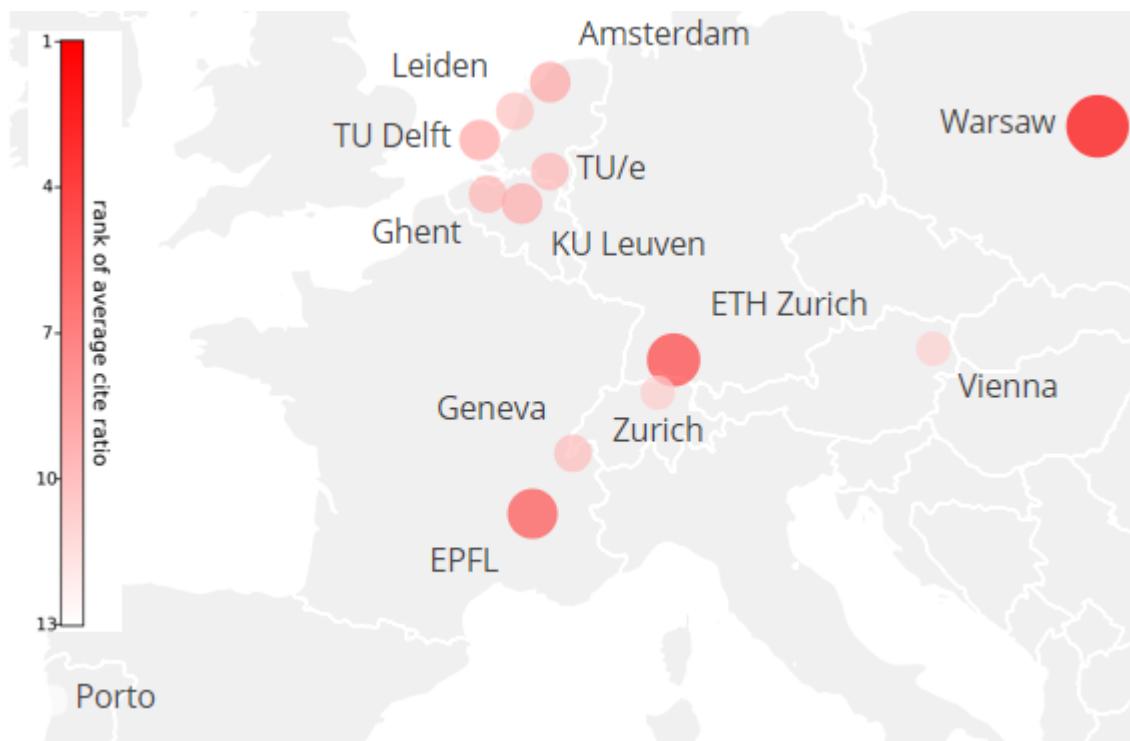
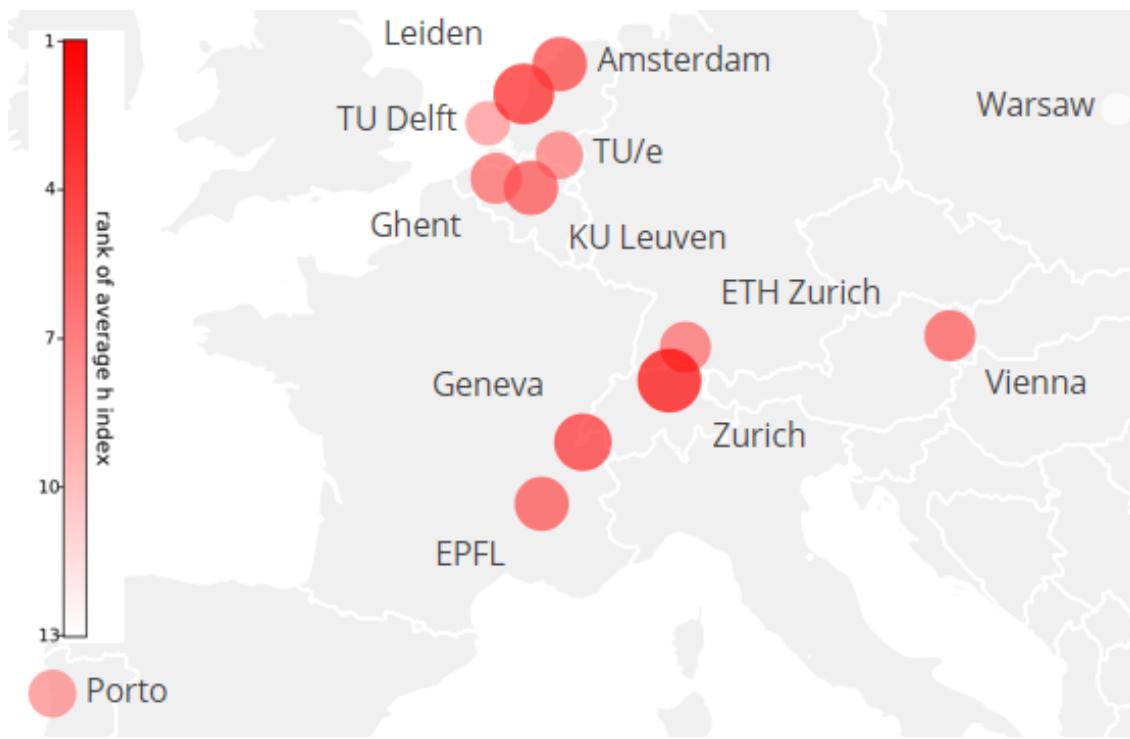


Fig. S6. Kernel density estimation plots followed by cite ratio distribution plots for Swiss Federal Institute of Technology in Lausanne, Delft University of Technology, University of Amsterdam, University of Leuven, University of Zurich, University of Geneva, Eindhoven University of Technology, Leiden University, Ghent University, University of Vienna, University of Porto University of Warsaw



(a) average cite ratio



(b) average h index

Fig. S7. Average cite ratio and h index visualized on the map of Europe. Institutes with larger cite ratios/h indexes illustrate bigger/redder markers.

Asia.

Investigated organizations include:

1. Nanyang Institute of Technology
2. National University of Singapore
3. Tsinghua University
4. University of Hong Kong
5. University of Tokyo
6. Hong Kong University of Science and Technology
7. Kyoto University
8. Seoul National University
9. Peking University
10. Fudan University
11. Chinese University of Hong Kong
12. City University of Hong Kong
13. Shanghai Jiao Tong University
14. Osaka University
15. National Taiwan University
16. Zhejiang University
17. Korea University
18. Hong Kong Polytech University
19. University of Science and Technology of China
20. Nanjing University
21. Sun Yat Sen University
22. Xi'an Jiaotong University
23. Huazhong University of Science and Technology

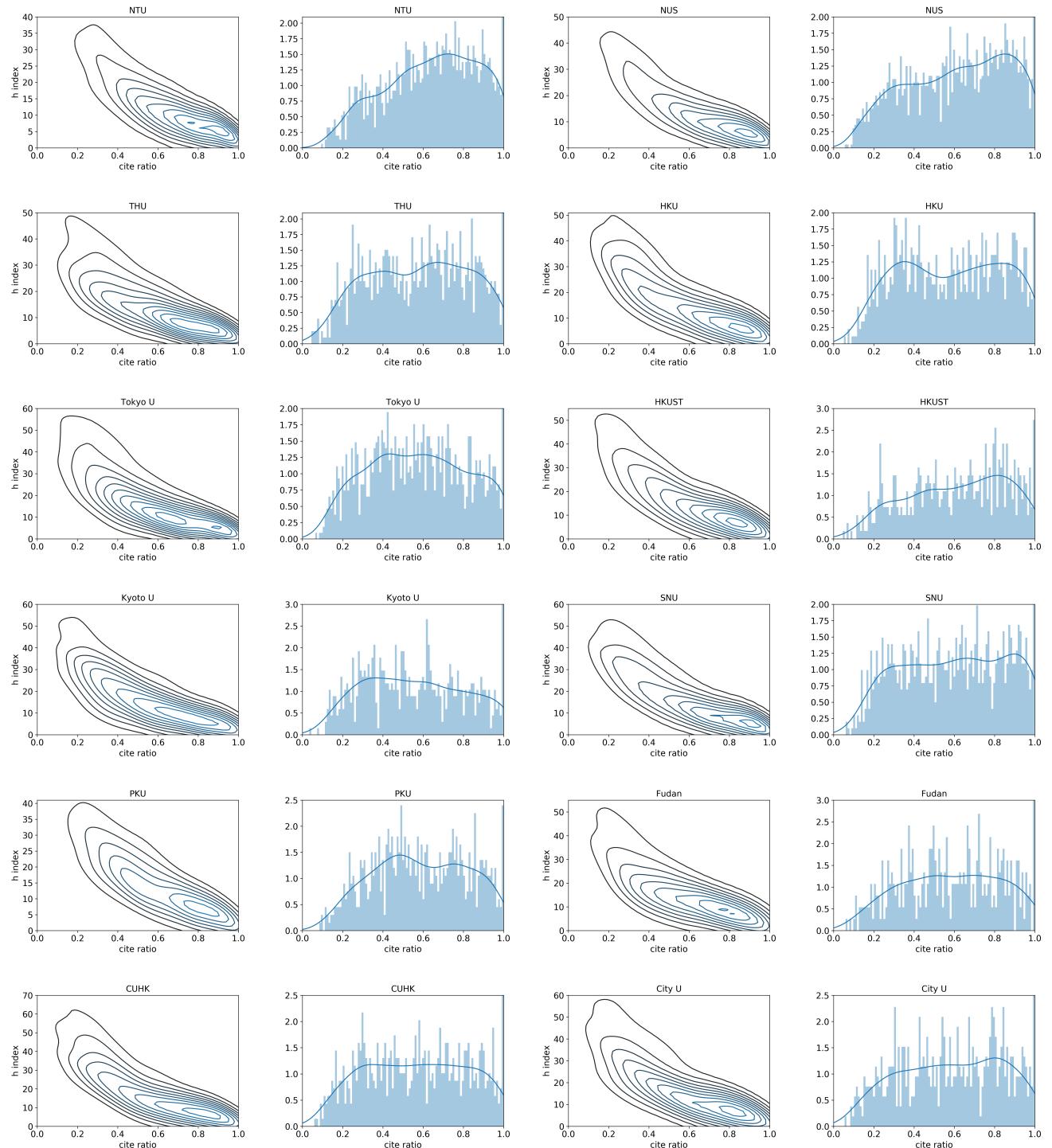


Fig. S8. Kernel density estimation plots followed by cite ratio distribution plots for Nanyang Institute of Technology, National University of Singapore, Tsinghua University, University of Hong Kong, University of Tokyo, Hong Kong University of Science and Technology, Kyoto University, Seoul National University, Peking University, Fudan University, Chinese University of Hong Kong, City University of Hong Kong

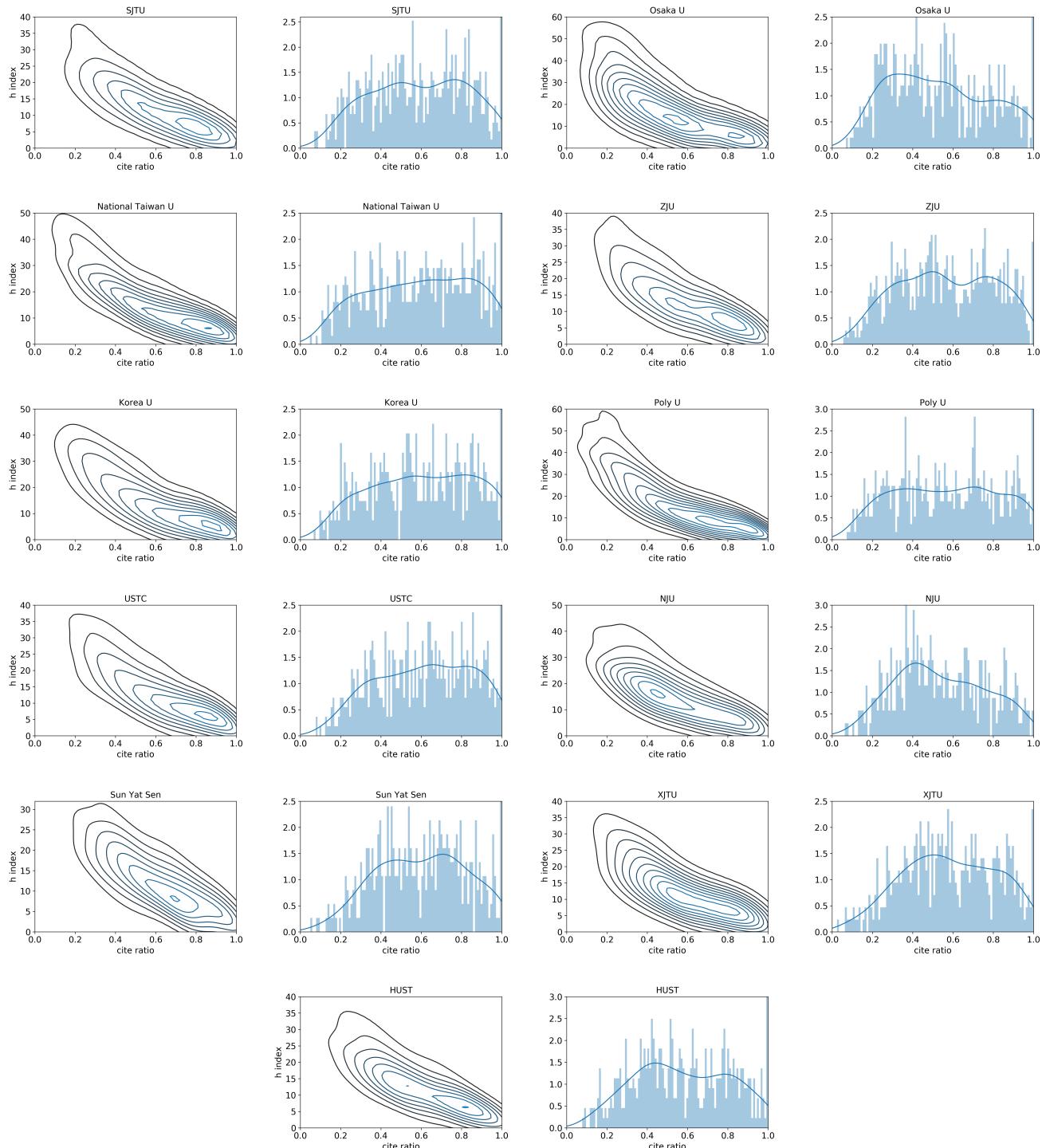


Fig. S9. Kernel density estimation plots followed by cite ratio distribution plots for Shanghai Jiao Tong University, Osaka University, National Taiwan University, Zhejiang University, Korea University, Hong Kong Polytech University, University of Science and Technology of China, Nanjing University, Sun Yat Sen University, Xi'an Jiaotong University, Huazhong University of Science and Technology

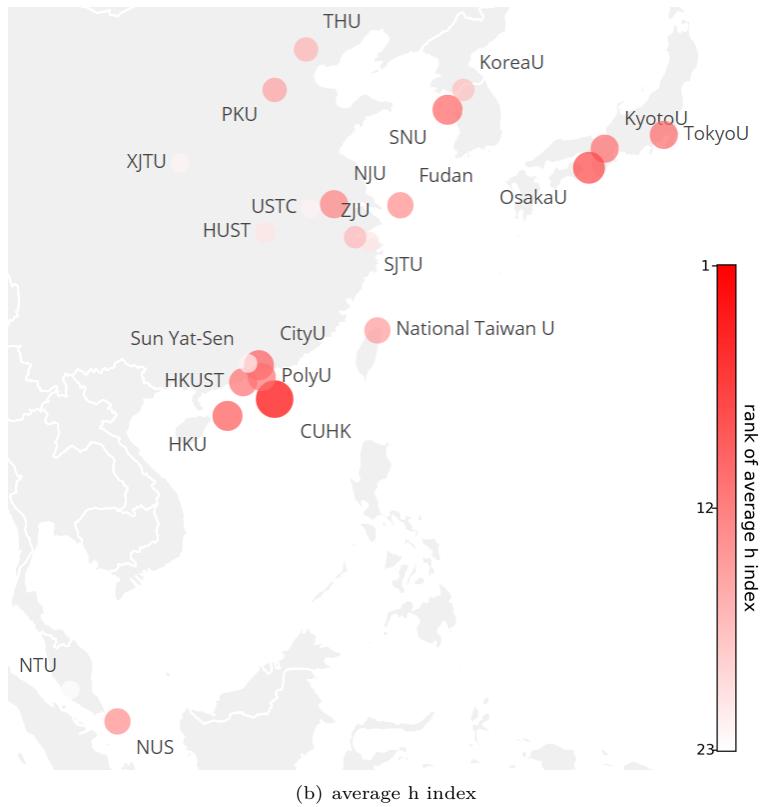
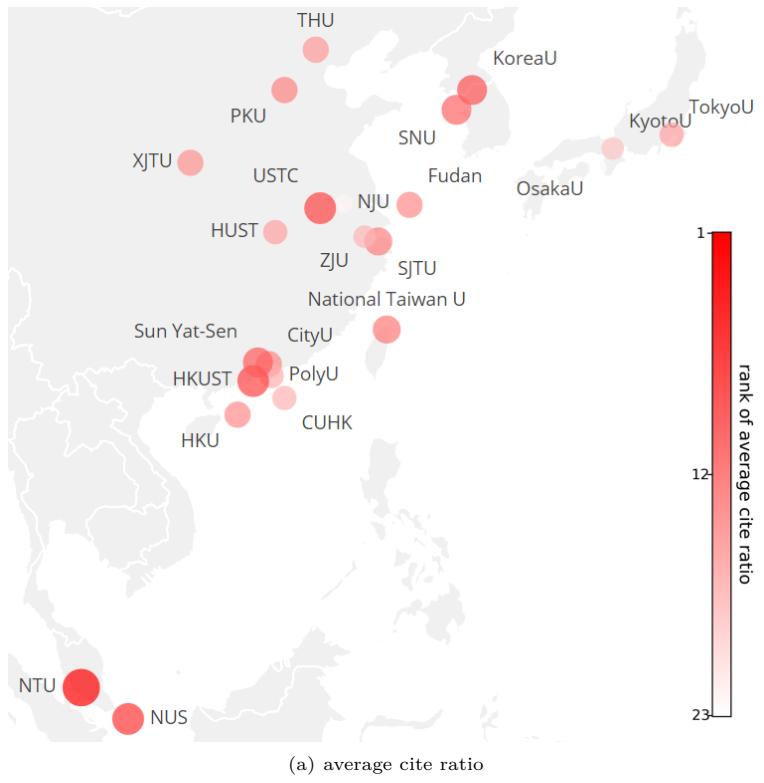


Fig. S10. Average cite ratio and h index visualized on the map of Asia. Institutes with larger cite ratios/h indexes illustrate bigger/redder markers.