## WHERE TO EARN A PHD FOR RESEARCH IN FORMAL METHODS

Formal Methods as a research area in Computer Science is small compared to many others. Quite few universities have professors that are studying Formal Methods. At least intuitively, attending a university where there are professors studying Formal Methods is preferable and advantageous. The following three tables contain information about what universities have professors that are active in Formal Methods. The information was gathered by browsing university websites and by doing searches using university search engines.

The following table lists the top 35 graduate programs<sup>1</sup> and their respective number of faculty researching Formal Methods.

| Number of Faculty For                     | Top Ranked Universities   |          |          |
|---|---------------------------|----------|----------|
| Name:                                     | URL:                      | Faculty: | Ranking: |
| Stanford University                       | www.stanford.edu          | 4        | 2        |
| Carnegie Mellon University                | www.cmu.edu               | 4        | 3        |
| University of Texas, Austin               | www.utexas.edu            | 4        | 7        |
| University of Pennsylvania                | www.upenn.edu             | 3        | 24       |
| University of California, Irvine          | <u>www.uci.edu</u>        | 3        | 34       |
| Massachusetts Institute of Technology     | <u>www.mit.edu</u>        | 2        | 1        |
| University of North Carolina, Chapel Hill | www.unc.edu               | 2        | 30       |
| State University of New York, Stony Brook | <u>www.sunysb.edu</u>     | 2        | 31       |
| University of California, Berkeley        | www.berkeley.edu          | 1        | 4        |
| Cornell University                        | www.cornell.edu           | 1        | 5        |
| New York University                       | <u>www.nyu.edu</u>        | 1        | 18       |
| Rice University                           | www.rice.edu              | 1        | 19       |
| University of Michigan, Ann Arbor         | www.umich.edu             | 1        | 20       |
| University of Arizona                     | <u>www.arizona.edu</u>    | 1        | 32       |
| University of Virginia                    | <u>www.virginia.edu</u>   | 1        | 35       |
| Princeton University                      | www.princeton.edu         | 0        | 6        |
| University of Illinois, Urbana-Champaign  | www.uiuc.edu              | 0        | 8        |
| University of Washington                  | <u>www.washington.edu</u> | 0        | 9        |
| Harvard University                        | www.harvard.edu           | 0        | 10       |
| University of Wisconsin, Madison          | www.wisc.edu              | 0        | 11       |
| California Institute of Technology        | www.caltech.edu           | 0        | 12       |
| Brown University                          | www.brown.edu             | 0        | 13       |
| University of California, Los Angeles     | www.ucla.edu              | 0        | 14       |
| Yale University                           | www.yale.edu              | 0        | 15       |
| University of Maryland, College Park      | www.umd.edu               | 0        | 16       |
| University of Massachusetts, Amherst      | www.umass.edu             | 0        | 17       |
| University of Southern California         | www.usc.edu               | 0        | 21       |
| Columbia University                       | www.columbia.edu          | 0        | 22       |
| University of Chicago                     | www.uchicago.edu          | 0        | 23       |
| University of California, San Diego       | www.ucsd.edu              | 0        | 25       |
| Purdue University, West Lafayette         | www.purdue.edu            | 0        | 26       |
| Rutgers University                        | <u>www.rutgers.edu</u>    | 0        | 27       |

<sup>1</sup> All rankings are from a table in the 8<sup>th</sup> edition of the Gourman Report located on Pp. 24 and entitled, Computer Science: Leading Institutions – Rating of Graduate Programs. Bibliography Information: Gourman, Jack. 1997. <u>The Gourman Report : A Rating of Graduate and Professional Programs in</u> <u>American and International Universities</u>. New York: Random House.

| Duke University                 | www.duke.edu      | 0 | 28 |
|---------------------------------|-------------------|---|----|
| University of Rochester         | www.rochester.edu | 0 | 29 |
| Georgia Institute of Technology | www.gatech.edu    | 0 | 33 |

The following table lists seven Computer Science PhD granting Universities of California (i.e. UC's), their respective, and their respective number of faculty researching Formal Methods.

## Number of Faculty For UC Schools

| Name:                                   | URL:             | Faculty: | Ranking: |
|---|------------------|----------|----------|
| University of California, Irvine        | www.uci.edu      | 3        | 21       |
| University of California, Berkeley      | www.berkeley.edu | 1        | 4        |
| University of California, Santa Barbara | www.ucsb.edu     | 1        | NA*      |
| University of California, Davis         | www.ucdavis.edu  | 1        | NA*      |
| University of California, Los Angeles   | www.ucla.edu     | 0        | 14       |
| University of California, San Diego     | www.ucsd.edu     | 0        | 19       |
| University of California, Santa Cruz    | www.ucsc.edu     | 0        | NA*      |
| University of California, Riverside     | www.ucr.edu      | 0        | NA*      |

\*NA indicates that these schools are not ranked within the top 35.

The following table is a list of names and web addresses (i.e. URL's), grouped by university, for all the professors researching Formal Methods at schools ranked within the top 35.

|  | Faculty by Un        | iversity                                 |
|--|----------------------|--|
| University Name:                             | Faculty Name:        | URL                                      |
| Stanford University                          | John Č. Mitchell     | theory.stanford.edu/people/jcm/home.html |
| -  | David L. Dill        | sprout.stanford.edu/dill/                |
|  | Rob van Glabbeek     | boole.stanford.edu/~rvg/                 |
|  | Zohar Manna          | theory.stanford.edu/people/zm/home.html  |
| Carnegie Mellon                              | Jeannette M. Wing    | www.cs.cmu.edu/~wing/                    |
| eniversity                                   | David Garlan         | www.cs.cmu.edu/~garlan/                  |
|  | Edmund M. Clarke     | www.cs.cmu.edu/~emc/                     |
|  | Reid Simmons         | www.cs.cmu.edu/~reids/                   |
| I Iniversity of Texas Austin                 | Robert Stephen Bover | www.cs.utexas.edu/users/bover/           |
|  | E Allen Emerson      | www.cs.utexas.edu/users/emerson/         |
|  | Javadev Misra        | www.cs.utexas.edu/users/misra/           |
|  | I Strother Moore     | www.cs.utexas.edu/users/more/            |
| I Iniversity of Pennsylvania                 | Rajeev Alur          | www.cis.upenn.edu/~alur/                 |
|  | Carl A Gunter        | www.cis.upenn.edu/~qunter/               |
|  |                      | www.cis.upenn.edu/~lee/                  |
| University of California,<br>Irvine          | Daniel D. Gajski     | www.ics.uci.edu/~gajski/                 |
|  | Debra J. Richardson  | www.ics.uci.edu/~dir/                    |
|  | David S. Rosenblum   | www.ics.uci.edu/~dsr/                    |
| Massachusetts Institute of Technology        | Michael D. Ernst     | sdg.lcs.mit.edu/%7Emernst/               |
|  | Daniel Jackson       | sda.lcs.mit.edu/~dni/                    |
| University of North<br>Carolina, Chapel Hill | James H. Anderson    | www.cs.unc.edu/~anderson/                |
| · ·  | Jan F. Prins         | www.cs.unc.edu/~prins/                   |
| State University of New<br>York, Stony Brook | Rance Cleaveland     | www.cs.sunysb.edu/~rance/                |
| -  | Scott A. Smolka      | www.cs.sunysb.edu/~sas/                  |
| University of California,<br>Berkeley        | Thomas A. Henzinger  | www-cad.eecs.berkeley.edu/~tah/          |

| Cornell University      |
|-------------------------|
| New York University     |
| Rice University         |
| University of Michigan, |
| Ann Arbor               |
| University of Arizona   |
| University of Virginia  |

Robert L. Constable Amir Pnueli Moshe Y. Vardi Farnam Jahanian

Neelam Gupta John C. Knight www.cs.cornell.edu/Info/People/rc/index.html www.cs.nyu.edu/cs/faculty/pnueli/ www.cs.rice.edu/~vardi/ www.eecs.umich.edu/eecs/administration/ht ml\_files/farnam.html www.cs.arizona.edu/people/ngupta/ www.cs.virginia.edu/~jck/