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An analysis of the Patents Granted to the University of Arkansas, Fayetteville, 2010-2019

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An Analysis of the Patents Granted to the University of Arkansas, Fayetteville, 2010-2019

Background

The Chemistry and Biochemistry Library compiled a database of patents granted to the University of Arkansas that has an assignee with at least one of its inventors from the Fayetteville campus. This database is continuously updated to incorporate the new patents as they are granted.

To access this database please follow this link: <https://scholarworks.uark.edu/pat/>

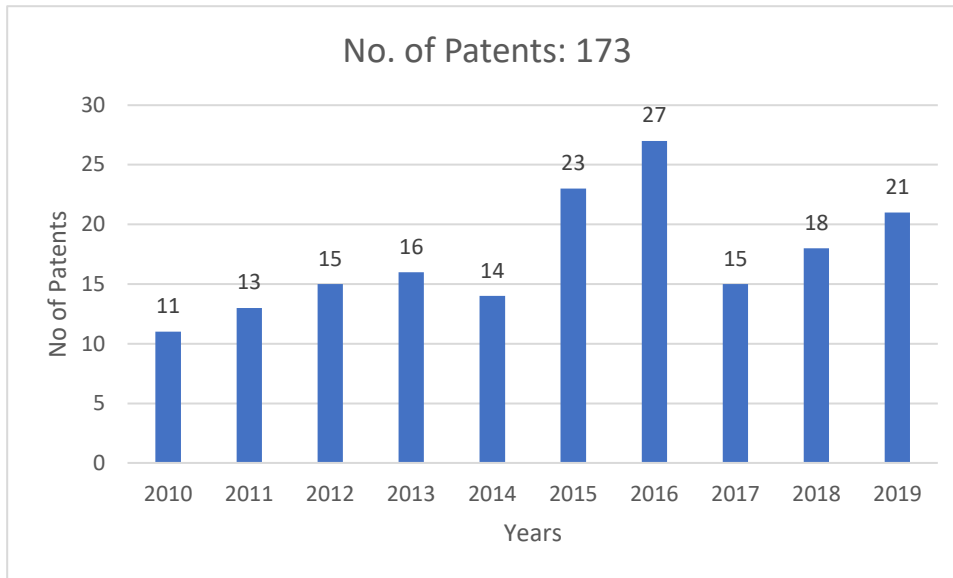
Objective

This report provides an analysis of the patents in this database that were granted for ten years (2010-2019) where at least one of the inventors was affiliated with a department or college from the University of Arkansas in Fayetteville. It identifies (a) the number of patents with inventors from the various departments; (b) the number of unique inventors in each department; and (3) the college affiliations of the inventors; their inter- and extra-collegiate collaborators from campus and their off-campus campus collaborators.

Results of the Analyses

(a) Patents Granted by Year

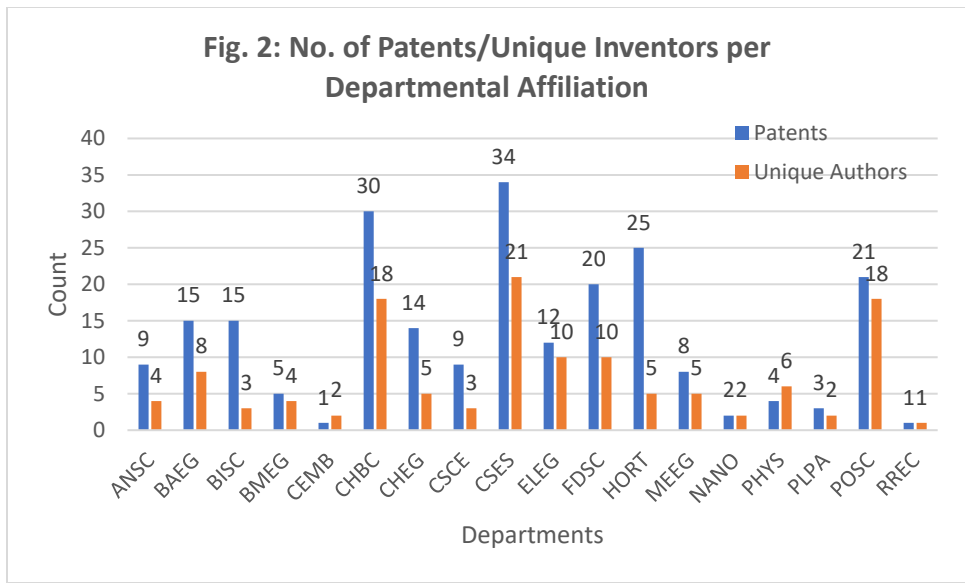
An average of 17.3 patents/year were granted for the last 10 years. Fig. 1 shows this information.



(b) Patents by Departmental Affiliation and Unique Inventors

(1) Patents Issues by Departmental Affiliation

Fig. 2 shows the number of inventors from 18 departments, mostly in engineering, agricultural and the sciences, that contributed to the 173 patents for this period. The top five departments with inventors on patents are: 20 percent from the Department of Crops, Soils and Environmental Science; 17.3 percent from the Department of Chemistry and Biochemistry; 14.45 percent from the Department of Horticulture, 12.13 percent from the Department of Poultry Science and 12 percent from the Department of Food Science and Technology.



- Legend
- ANSC Animal Science
 - BAEG Biological and Agricultural Engineering
 - BISC Biological Sciences
 - BMEG Biomedical Engineering
 - CEMB Cell and Molecular Biology
 - CHBC Chemistry and Biochemistry
 - CHEG Chemical Engineering
 - CSES Crop, Soil, and Environmental Sciences
 - CSCE Computer Science and Computer Engr.
 - ELEG Electrical Engineering
 - FDSC Food Science
 - HORT Horticulture
 - MEEG Mechanical Engineering
 - NANO Nanotechnology
 - PHYS Physics
 - PLPA Plant Pathology
 - POSC Poultry Science
 - RREC Rice Research Extension Center

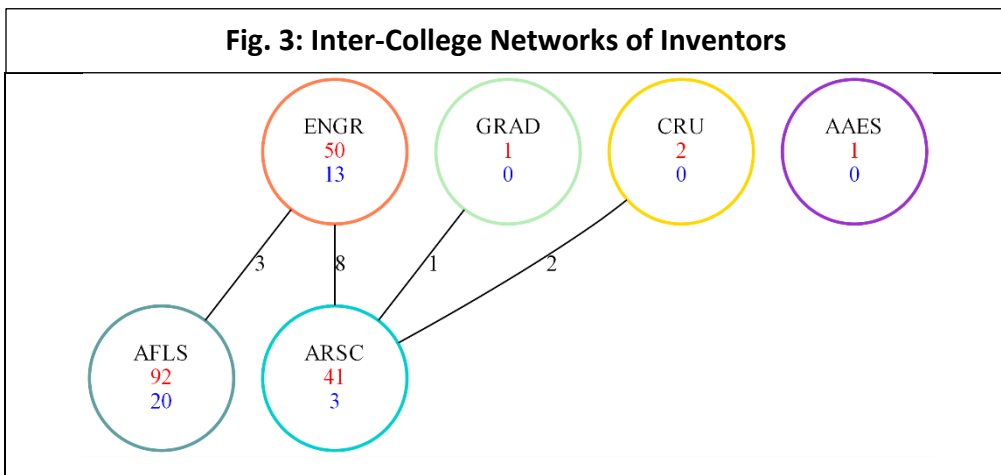
(2) Unique No. of Inventors by Departmental Affiliation

The top Departments with the largest number of unique inventors on the patents are: Crops, Soils and Environmental Science with 21 inventors, followed by Poultry Science and Chemistry and Biochemistry with 18 inventors each; then electrical engineering and food science with 10 inventors each (Fig. 2).

The contributions of the unique inventors are not uniform across the departments. In almost all the departments, a few inventors contributed to many of the patents. For example, the Horticultural Department has inventors on 25 patents with one inventor listed on 92 percent (n=23) of them and another one contributed to 44 percent (n=11) of them; Animal science has inventors on 9 patents with one inventor contributing 66.7 percent (n=6) ; Biological and Agricultural Engineering has 15 patents, one inventor contributing to 40 percent of them and other one to 33.3 percent; Biological Sciences has inventors on 15 patents with one inventor contributing to 80 percent (n=12) of them; The Department of Chemical Engineering has inventors on 14 patents, with one inventor contributing to 64.3 percent (n=9) of the patents; Poultry Science has 21 patents, with one inventor listed on 85.7 percent (n=18) of them and another inventor listed on 52.4 Percent (n=11) of them. etc.

(d) Inventors According to College Association and Collaboration

Figure 3 shows the inter-college associations and extra-college collaborations of the patents that were granted during this period. For explanation of the bubbles: The College of Engineering has inventors on 50 patents. These inventors collaborated on 8 patents with inventors from the College of Arts and Sciences and on 3 patents with inventors from the Dale Bumpers College of Agriculture, Food and Life Sciences. They also have 13 inter-departmental collaborators on patents within the college. The College of Engineering has the most inter-collegiate collaborations on 11 patents.



Explanation:

Circles represent Colleges/Schools/Units

Numbers in **Red** represent the number of patents with at least one inventor associated with the college.

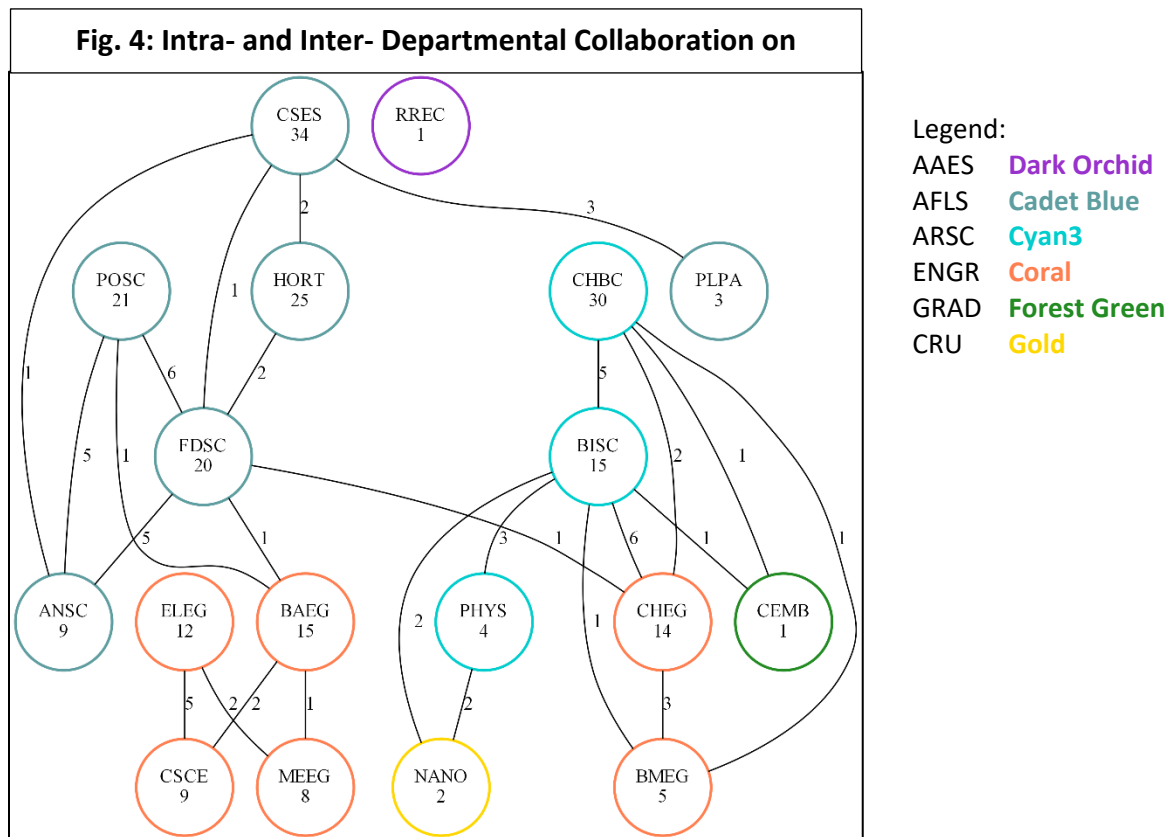
Numbers in **Blue** represent the number of Inter-departmental collaborations within the college.

Lines represent collaboration between Colleges.

Numbers in **Black** represent the number of patents with at least one inventor associated with each college.

(e) Inter-departmental Cooperation of Patents Granted

The intra- and inter- departmental collaborations are visualized below in Fig 4. The top five departments with the highest collaborations are: FDSC and BISC with 6 networks each, followed by CHBC, CSES and BAEG with 4 each, POSC, ANSC, BMEG with 3 each and HORT and PHYS with 2 each.



Explanation:

Circles represent Departments.

Numbers in within each circle represent the number of patents with at least one inventor associated with the department.

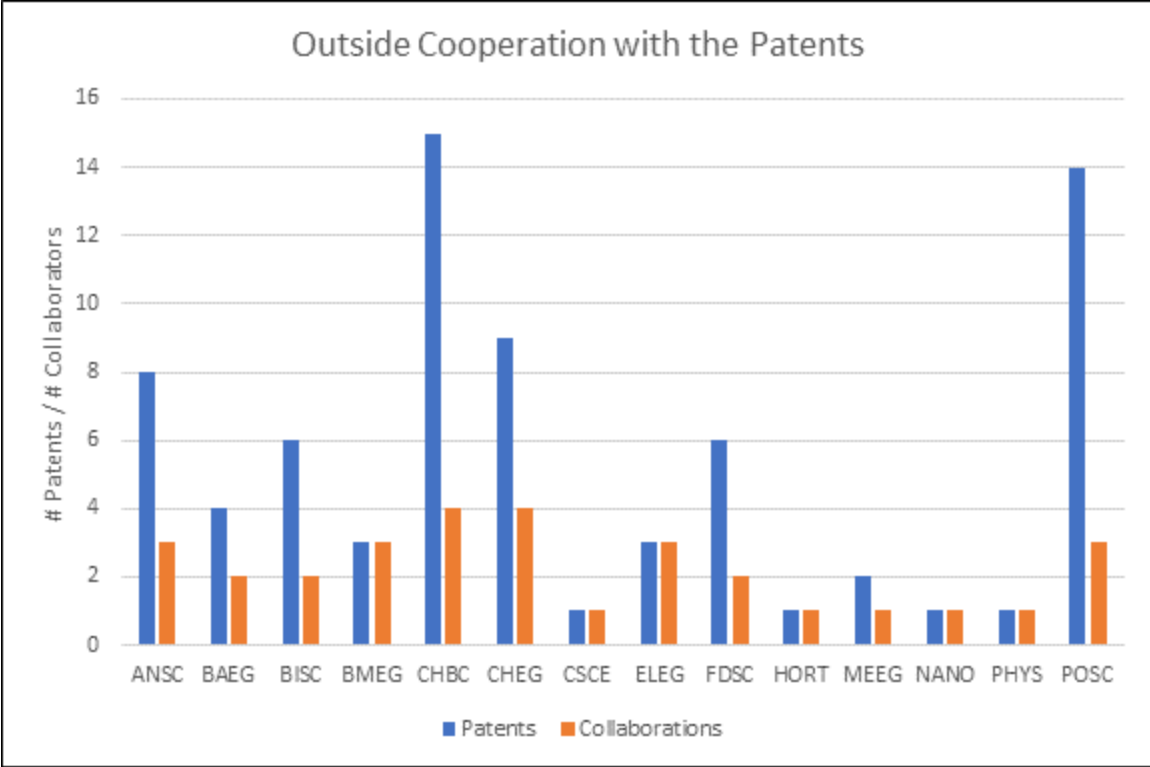
Lines represent collaboration between Departments.

Numbers in **Black** represent the number of patents with at least one inventor associated with each department.

Outside Collaborators by Departmental Affiliations

Of the 173 patents that have the University of Arkansas as an assignee, twenty five percent (n=43) of them have 20 unique co-assignees. These co-assignees were used to identify the extent that the university's patenting activities is collaborative outside the university. The co-assignees comprised of 7 educational institutions, 3 medically related institutions, 9 corporate institutions and 1 government institution.

Seventy two percent (n=31 patents) of the external co-assignees are from institutions within the United States; twenty one percent (n=9) of the patents have co-assignees within Arkansas with 8 of those from assignees within Northwest Arkansas where the university is located; seventy percent (n=30) of the patents have co-assignees also from 8 other states in the USA (CO, DC, LA, MA, NY, PA, SC, and TX); TX having the largest number of co-assignees on 11 of the patents. In addition, 7 of the patents have additional assignees from outside the United States including Japan (n=9); Denmark (n=2); Germany (n=1) and Canada (n=1). The extent of collaborators by departmental affiliation are shown below.



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