



**ENGINEERING  
RESEARCH**

*Speed Research 2019 Annual Report  
Kevin Walsh, Jacqui Smith and Travis Ross*

# FY19/CY19 BY THE NUMBERS

- ***FY19 Research Expenditures Data***
  - *\$12.99M in FY19 (based on % collaboration), up from \$10.99M in FY18, \$10.35M in FY17, \$9.62M in FY16, and \$7.82M in FY15*
- ***FY19 New Proposals and Awards Data***
  - *96 New Awards and 214 Submissions*
  - *Total of \$11.5M in New Awards (based upon Speed School PIs)*
  - *Largest number of NSF CAREER submissions resulting in our third CAREER award in the past four years (after 6 years with no NSF CAREER winners)*
- ***CY19 Publications and Patents Data***
  - *Journals – 254*
  - *Conference Proceedings – 105*
  - *Book Publications – 10*
  - *Chapter Publications – 35*
  - *Patents - 16*

# 2019 ADR OFFICE RESEARCH SUPPORT INITIATIVES

- **Research Opportunities**
  - **Grant Writing Workshop** - 2 Day On-Site program by ARFS
  - **Lunch and Learn Series** - to support early career faculty
  - **Professional Grant Writing Program** – available to all researchers
  - **NSF CAREER Workshop Initiative** – sent several faculty to DC
- **Reporting**
  - **Speed Research Annual Report** – expanded to include cleaner comparative metrics.
  - **Individual Research Productivity Reports** - Each faculty and staff were notified of awards and expenditures to ensure accuracy
  - **Awards Data** – Automated process and expanded reporting to capture awards previously missed
  - **Data Reporting** – Created queries and visualizations for awards to reduce manual entry and reporting errors
- **Marketing**
  - **Speed Research Website** – expanded and updated
  - **Monthly Awards Announcements** – launched

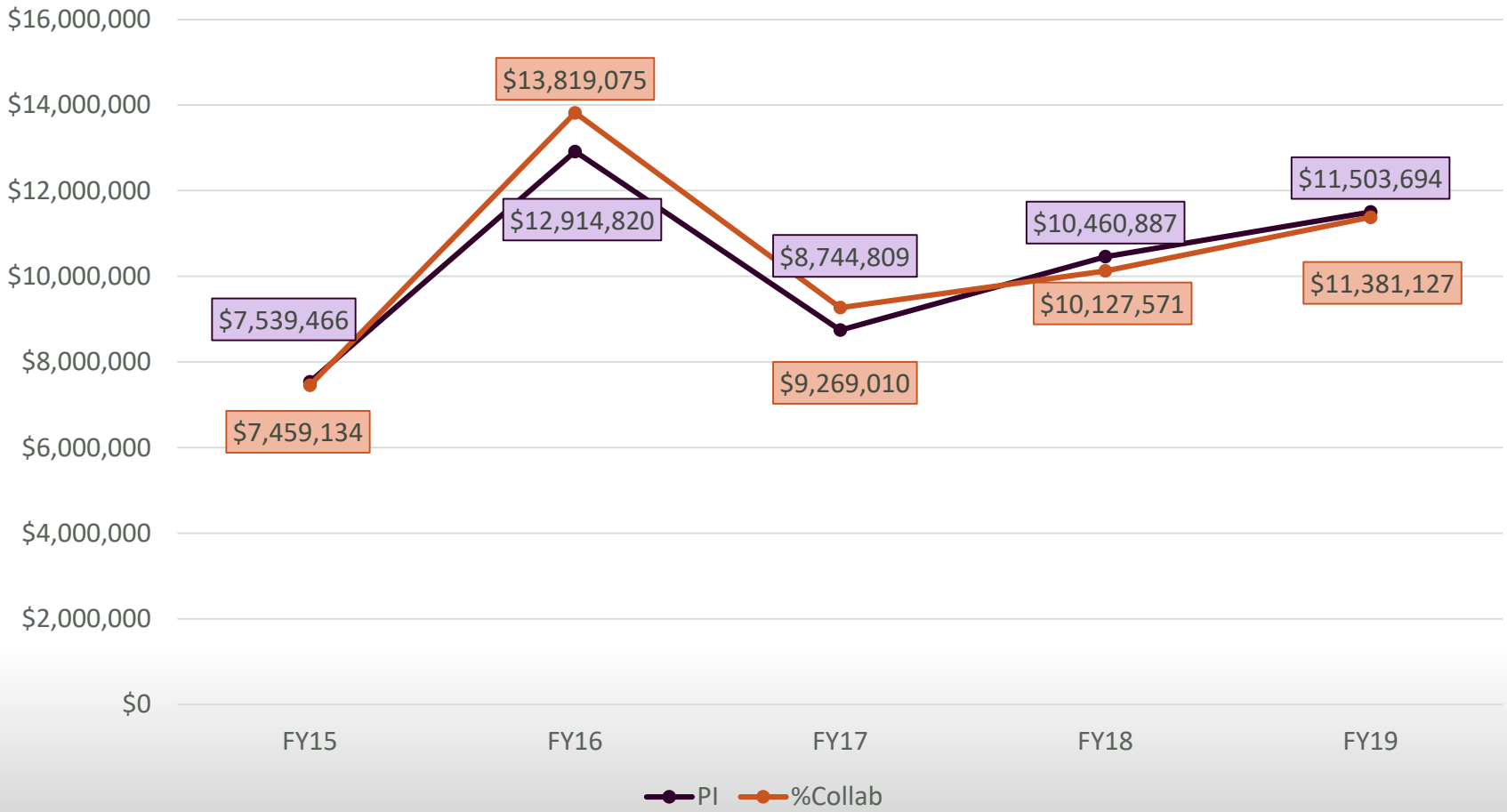
# **Speed School Research Trends FY15 – FY19**

# Research Expenditures Trend (based upon % Collab)



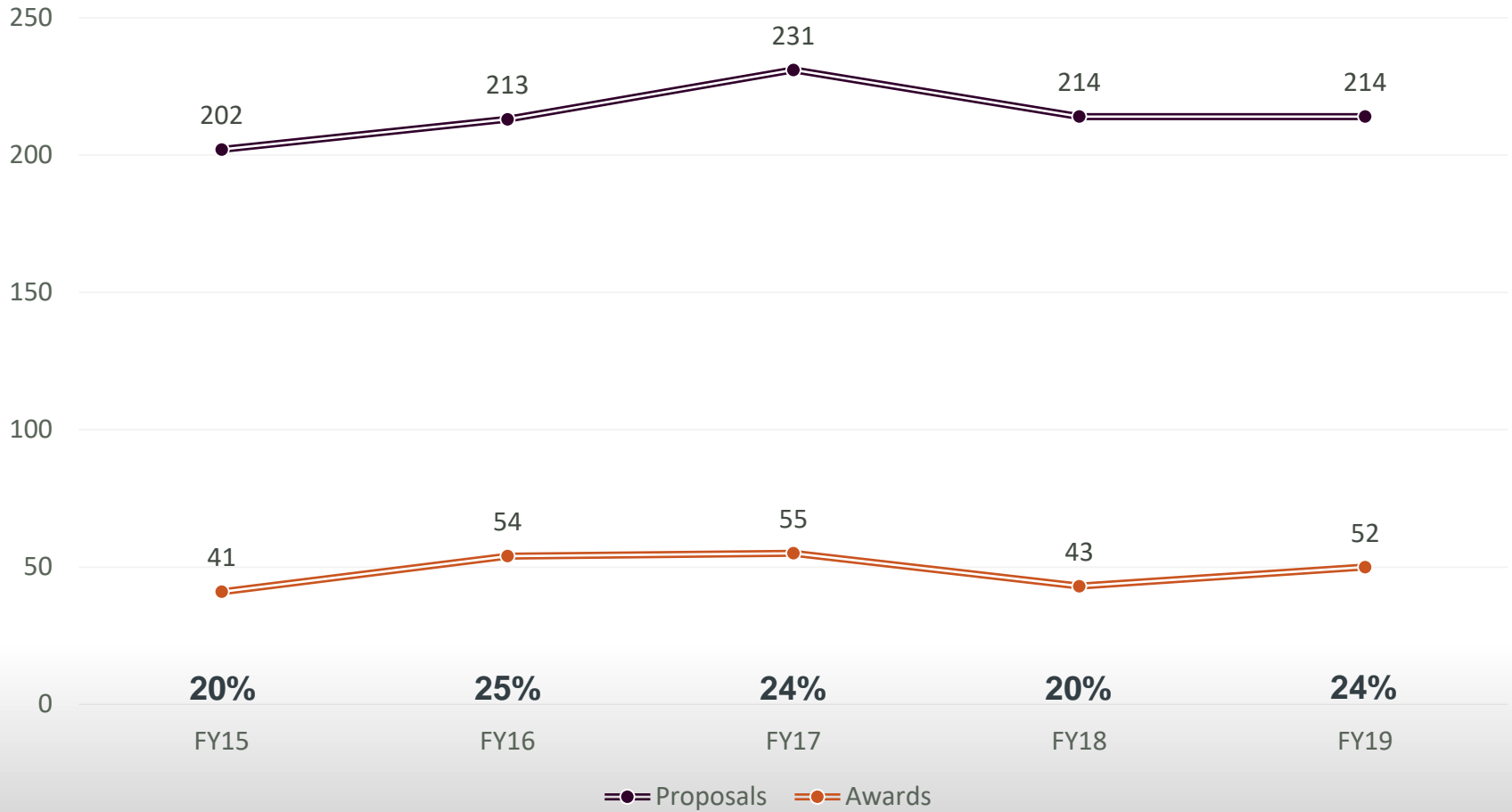
NOTE – These data are reported to USNWR and used to determine our Grad Eng Ranking (25% weight).

# Speed New Awards by Fiscal Year\*



\*Based on amount currently guaranteed to UofL

# Speed Proposal Success Rate FY15-FY19



# FY15-FY19 Proposals and Contracts By the Numbers

## 5 Year Summary (Proposals with Speed School as Lead PI)

SSoE Proposals Submitted	1074
SSoE Proposals Awarded	244
Average Submitted per Year	215
Average Awarded per Year	49
Average Success Rate	<b>23%</b>

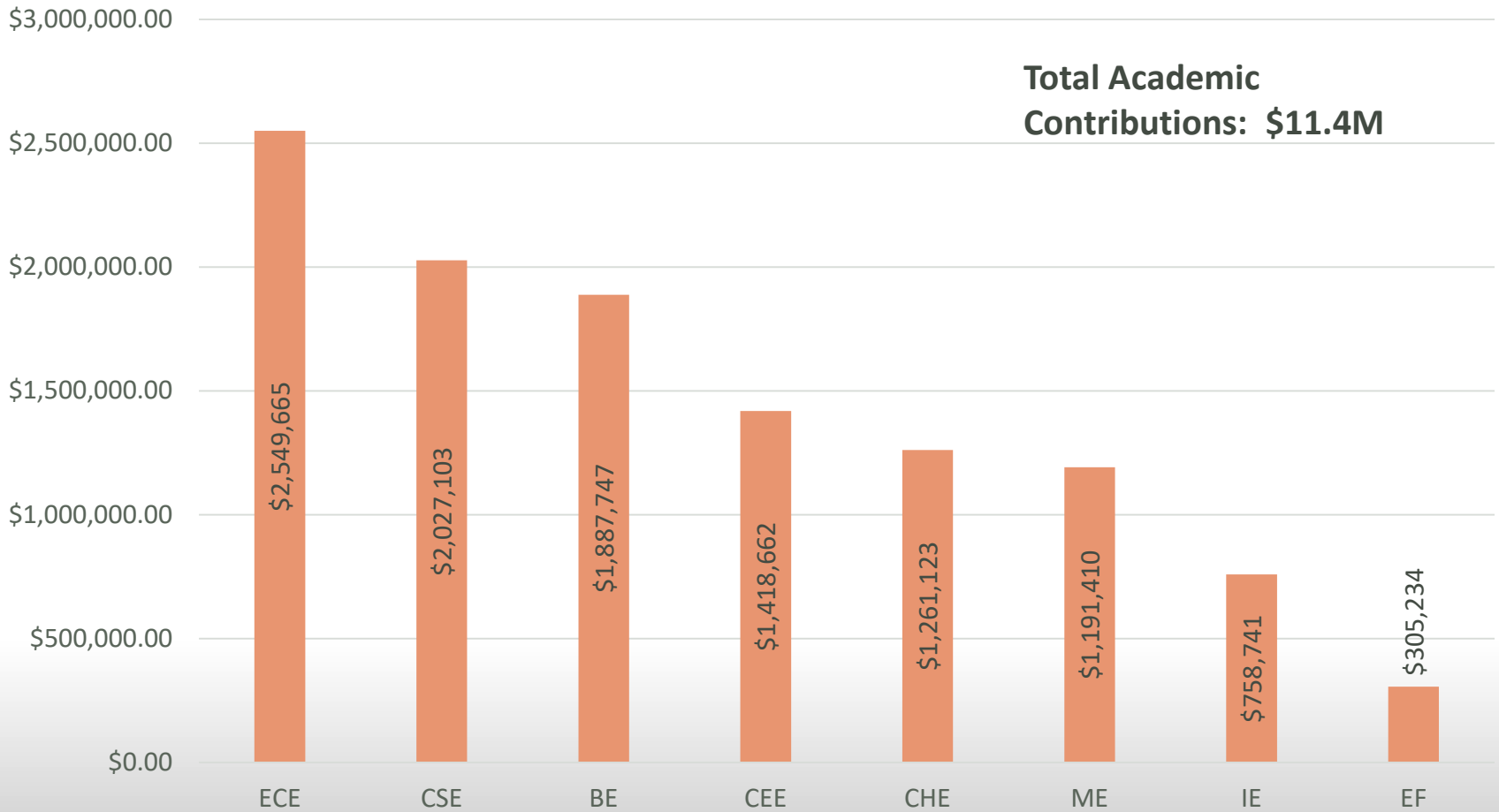


# **Research Expenditures FY19**

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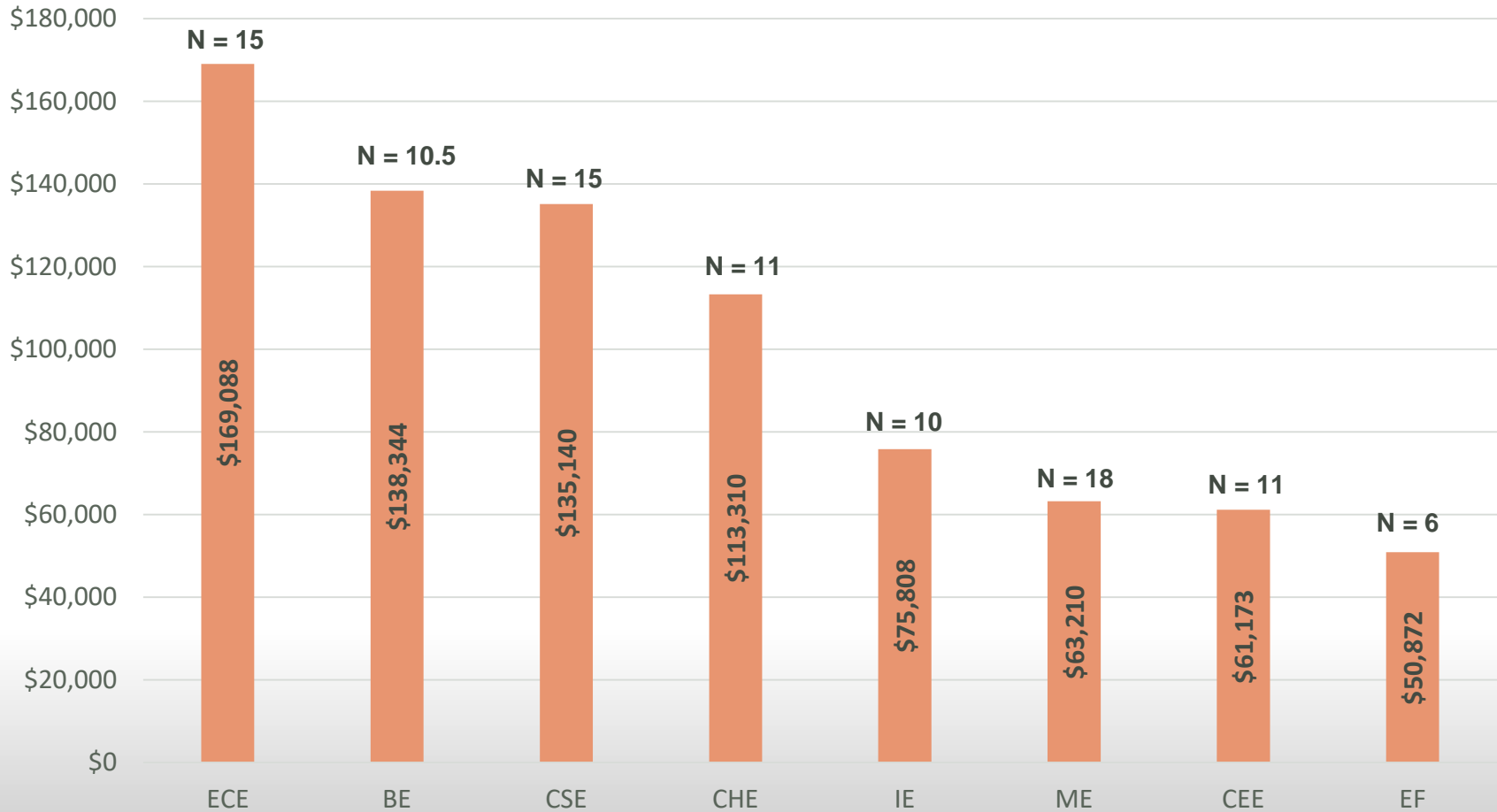
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# Research Expenditures by Dept (based on % Collab)



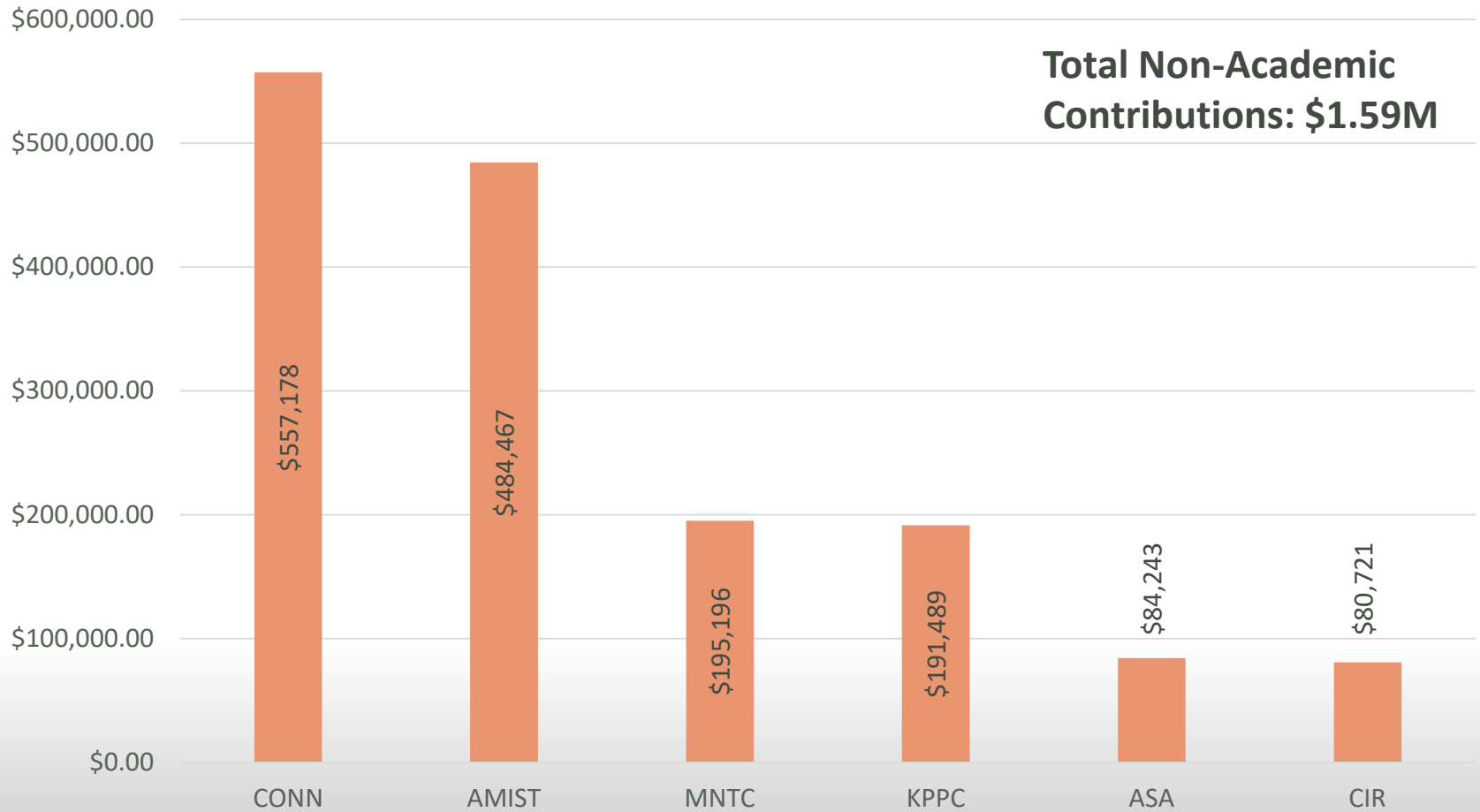
Includes TTT faculty, term faculty, and staff in each academic unit

# TTT Faculty Average by Dept (based on % Collab)



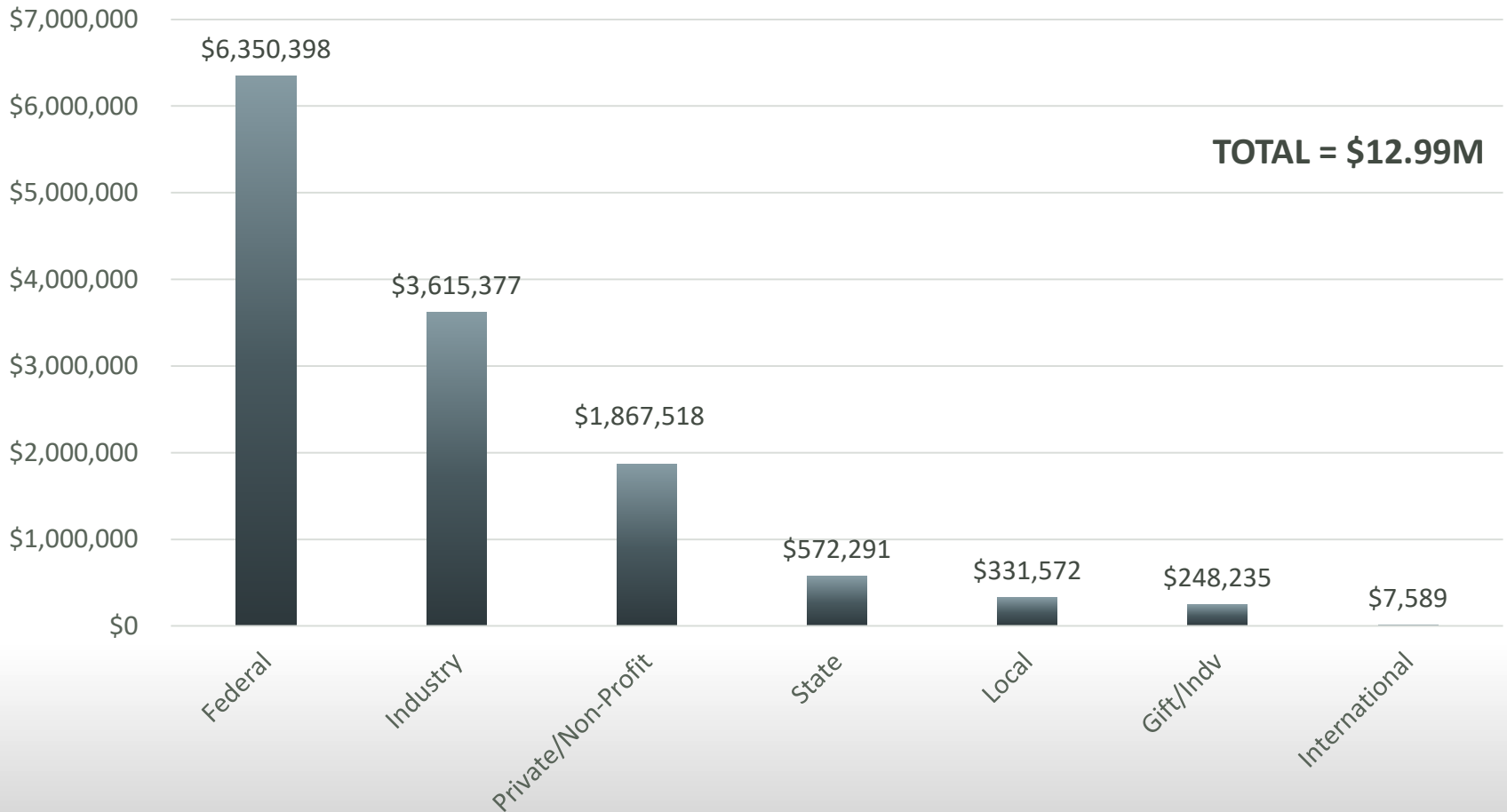
TTT = Tenured and Tenure Track  
Term faculty and staff are not included

# Research Expenditures by Centers and Non-Academic Departments (based on % Collab)



Includes contributions from associated research staff only. Associated faculty expenditures are reported in their home academic department.

# FY19 Research Expenditures by Funding Source (based on % Collab)



# Research Expenditure Trend by Funding Source (FY16 – FY19)

Funding Source	2016	2017	2018	2019	% Growth
Federal	\$3,492,181	\$4,335,632	\$5,448,989	\$6,350,397	45%
Industry	\$2,286,602	\$2,093,121	\$2,461,589	\$3,615,376	37%
Gifts	\$261,850	\$501,409	\$521,384	\$248,235	-73%
International	\$64,753	\$122,139	\$30,747	\$7,589	-856%
Local	\$318,477	\$333,929	\$362,466	\$331,572	-2%
Private Non-Profit	\$2,996,313	\$2,402,782	\$1,768,568	\$1,867,518	-60%
State	\$399,331	\$565,764	\$419,896	\$572,291	19%
<b>Total</b>	<b>\$9,819,510</b>	<b>\$10,354,779</b>	<b>\$11,013,643</b>	<b>\$12,992,981</b>	<b>24%</b>

# Research Expenditure Trend by Academic Department (FY16 – FY19)

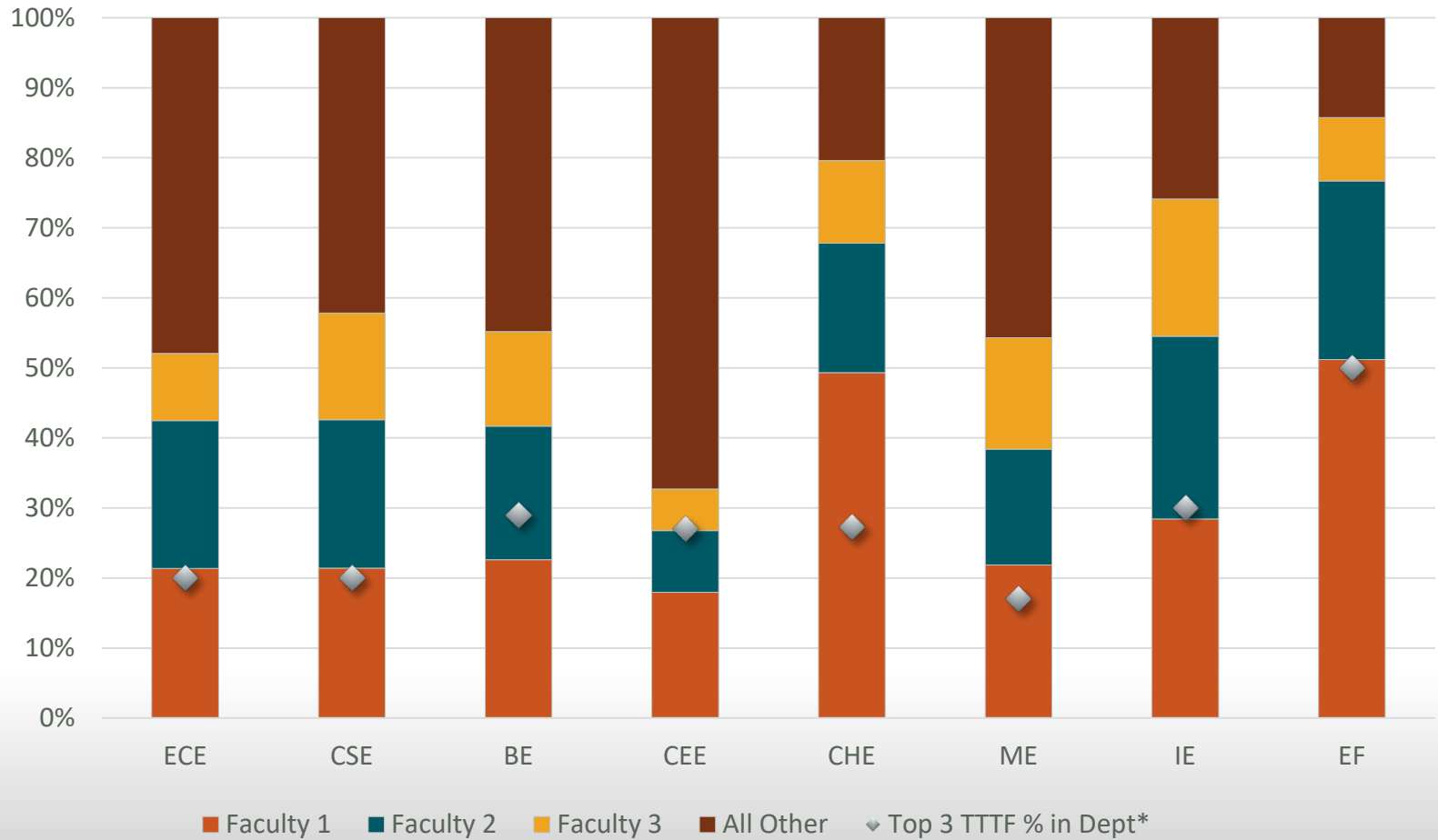
Department	2016	2017	2018	2019
BE	\$2,321,385	\$1,529,655	\$1,220,573	\$1,887,747
CEE	\$1,192,346	\$1,093,857	\$1,034,264	\$1,418,662
CHE	\$1,326,708	\$1,324,133	\$937,828	\$1,261,123
CSE	\$898,180	\$1,145,750	\$1,649,501	\$2,027,103
ECE	\$1,378,232	\$1,907,240	\$2,516,088	\$2,549,665
EF	\$113,274	\$307,758	\$284,181	\$305,234
IE	\$492,168	\$556,969	\$635,012	\$758,741
ME	\$682,885	\$769,901	\$1,018,599	\$1,191,410
<b>Total</b>	<b>\$8,405,178</b>	<b>\$8,635,263</b>	<b>\$9,296,046</b>	<b>\$11,399,685</b>

# Research Expenditure Trend by Centers and Non-Academic Departments (FY16 – FY19)

Department	2016	2017	2018	2019
AMIST	\$345,234	\$465,776	\$310,905	\$484,467
ASA	\$3,302	\$4,011	\$3,084	\$84,243
CIR	\$84,911	\$173,820	\$228,083	\$80,721
CONN	\$587,118	\$683,387	\$619,761	\$557,178
KPPC	\$238,547	\$266,158	\$345,364	\$191,489
MNTC	\$151,369	\$124,373	\$209,952	\$195,196
<b>Total</b>	<b>\$1,410,481</b>	<b>\$1,717,525</b>	<b>\$1,717,149</b>	<b>\$1,593,294</b>

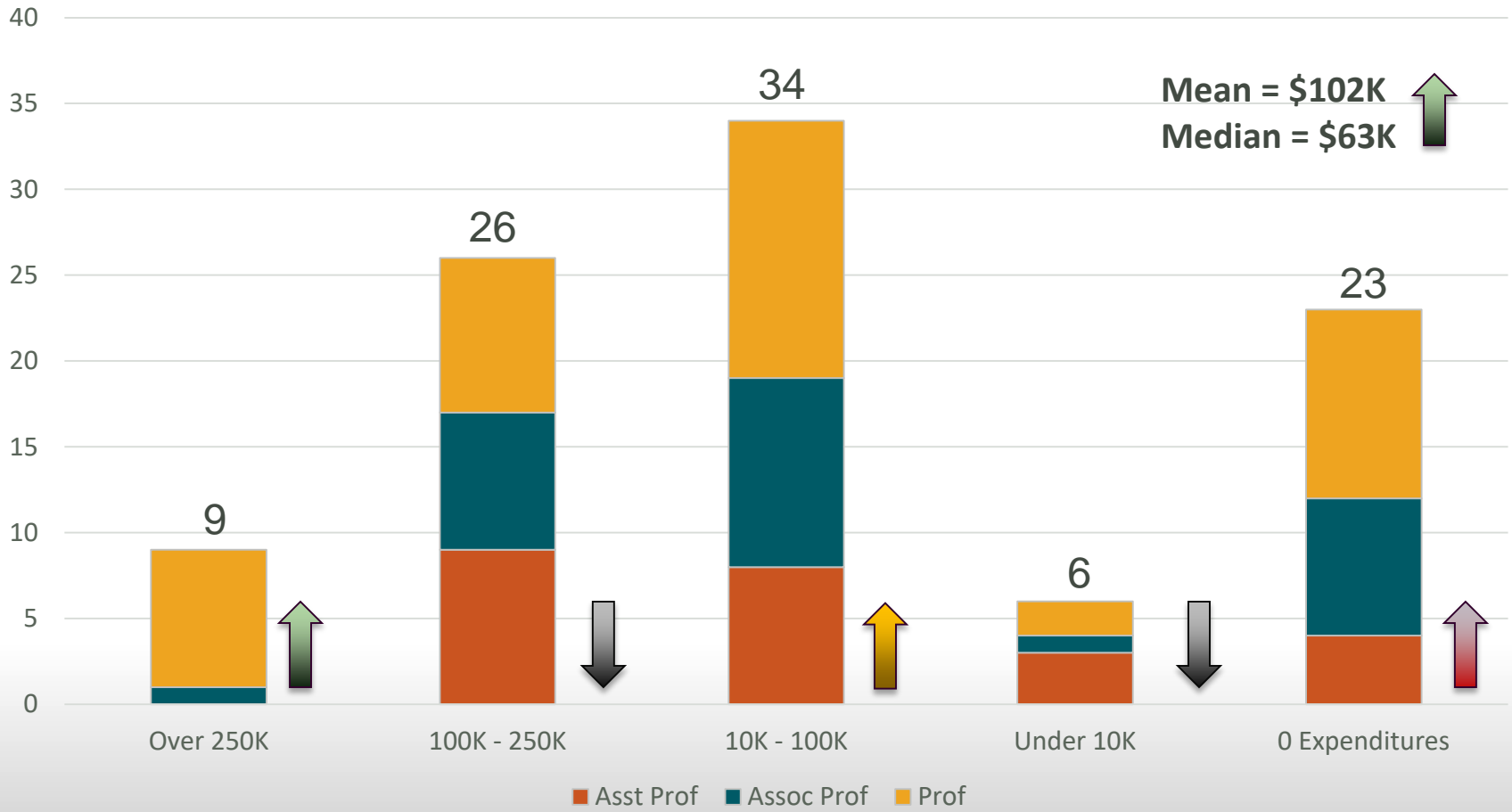


# Research Expenditures by Department with Top 3 TTTF Stacked (based on % Collab)



\* Represents the ratio of top 3 faculty to total number of TTTF per department. (i.e. The top 3 ECE faculty represent 20% of the dept. faculty and are responsible for 52% of faculty expenditures.)

# Distribution of TTT Faculty by Research Expenditures (based on % Collab)

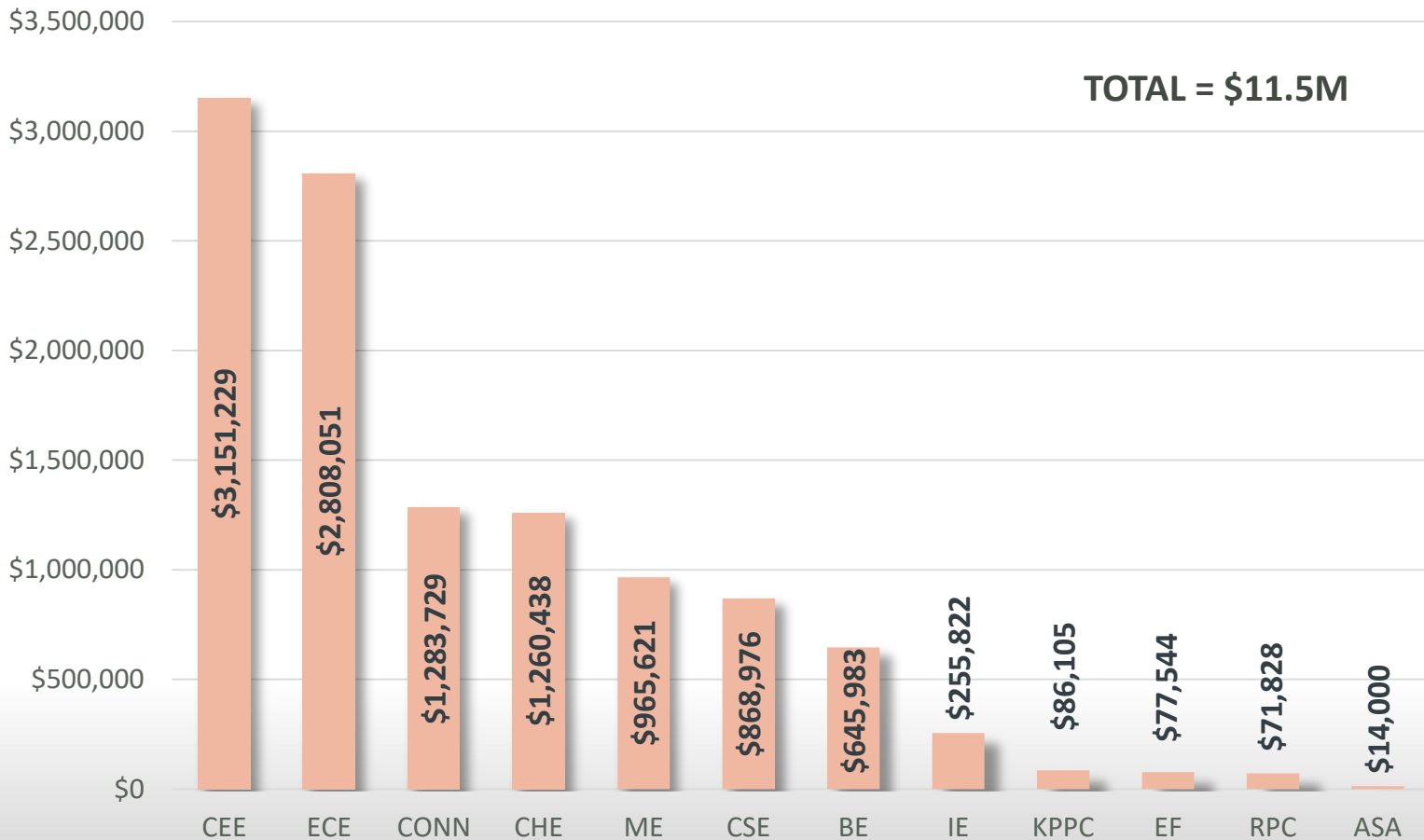


TTT = Tenured and Tenure Track  
Arrows represent the change in numbers from the previous year.

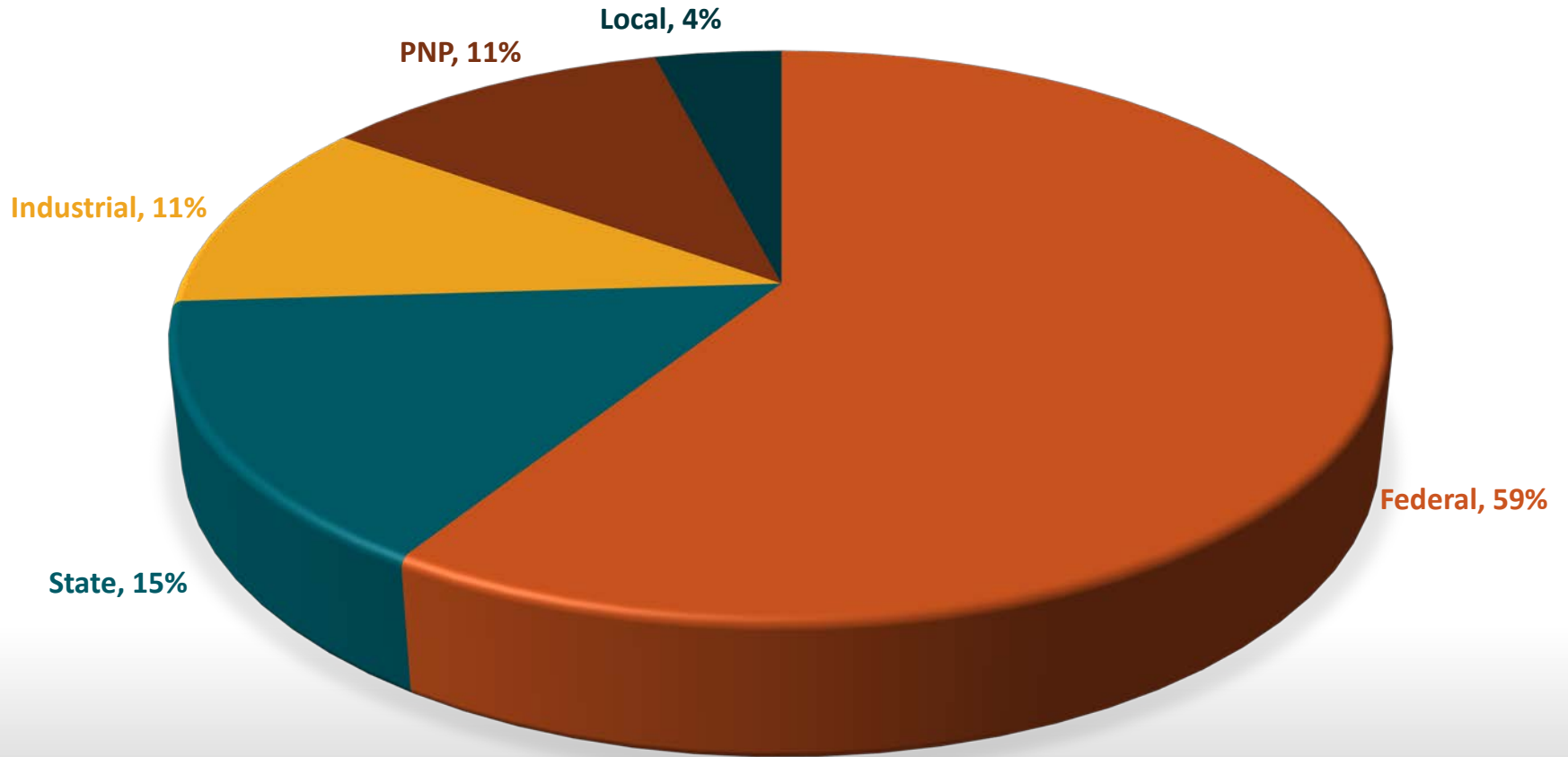
# **Awarded Grants FY19**

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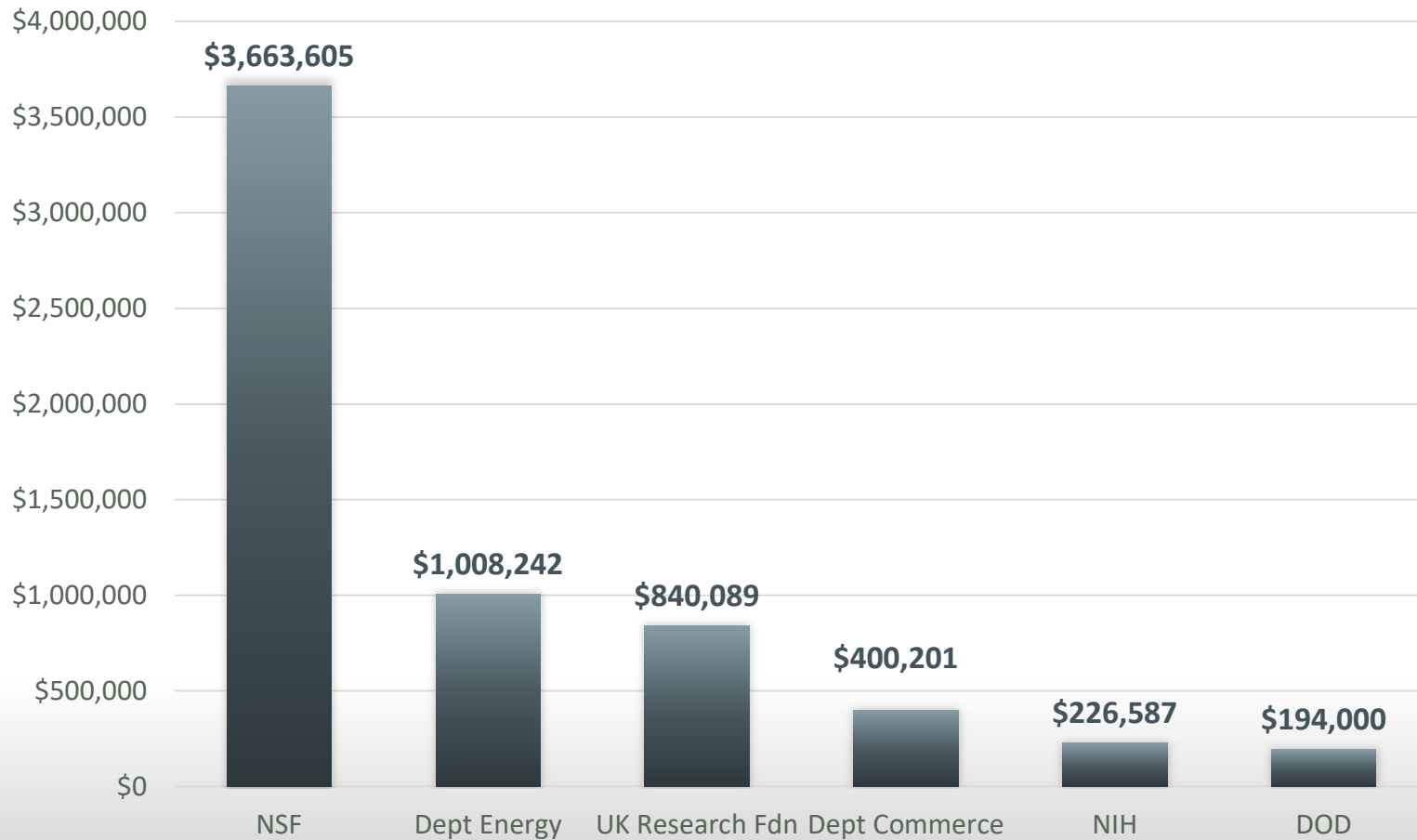
# AWARDS BY DEPARTMENT (BASED ON PI)



# AWARDS BY FUNDING SOURCE (BASED ON PI)



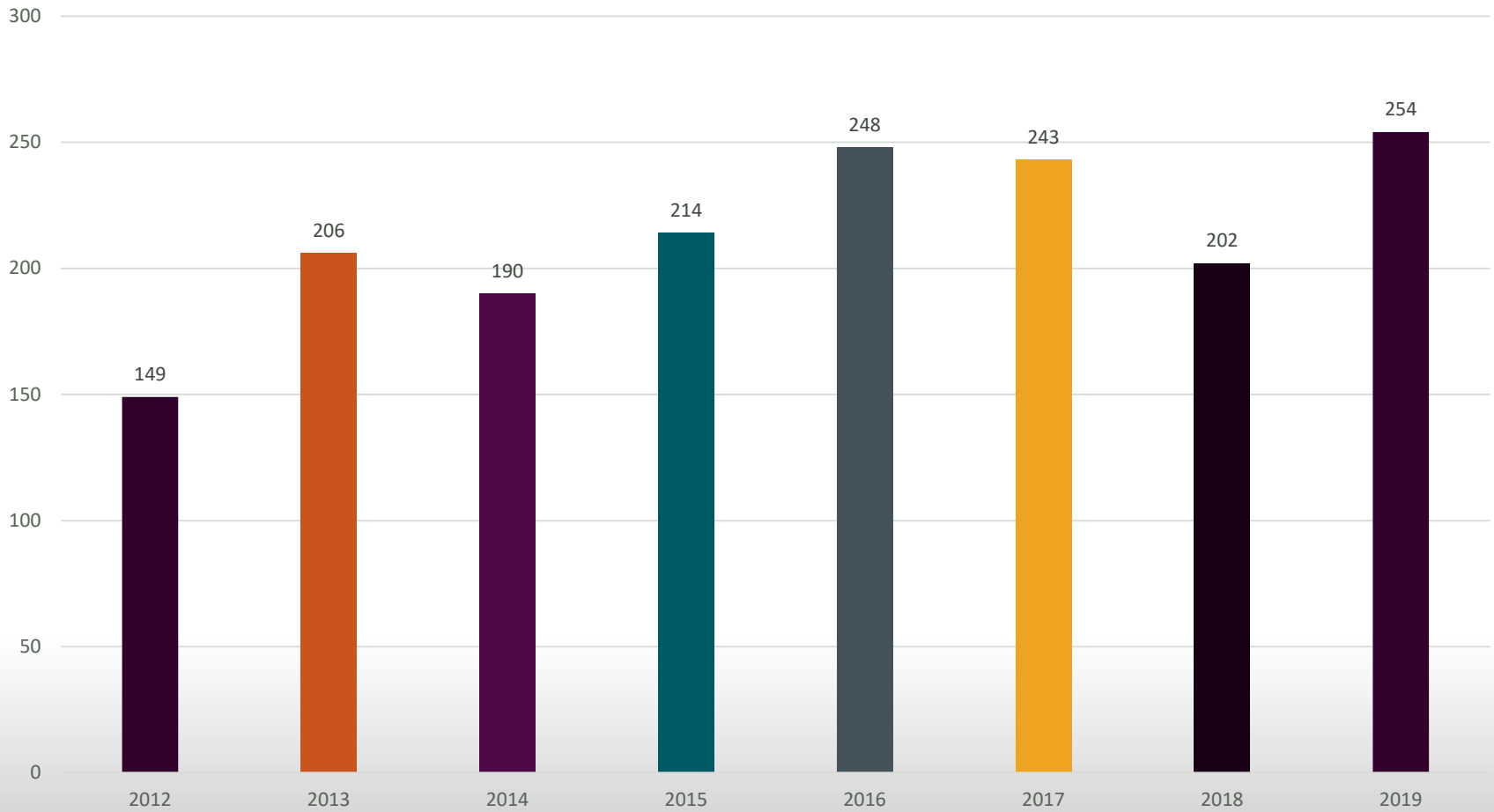
# TOP FEDERAL FUNDING SOURCES (BASED ON PI)



# **CY19 Publications Information**

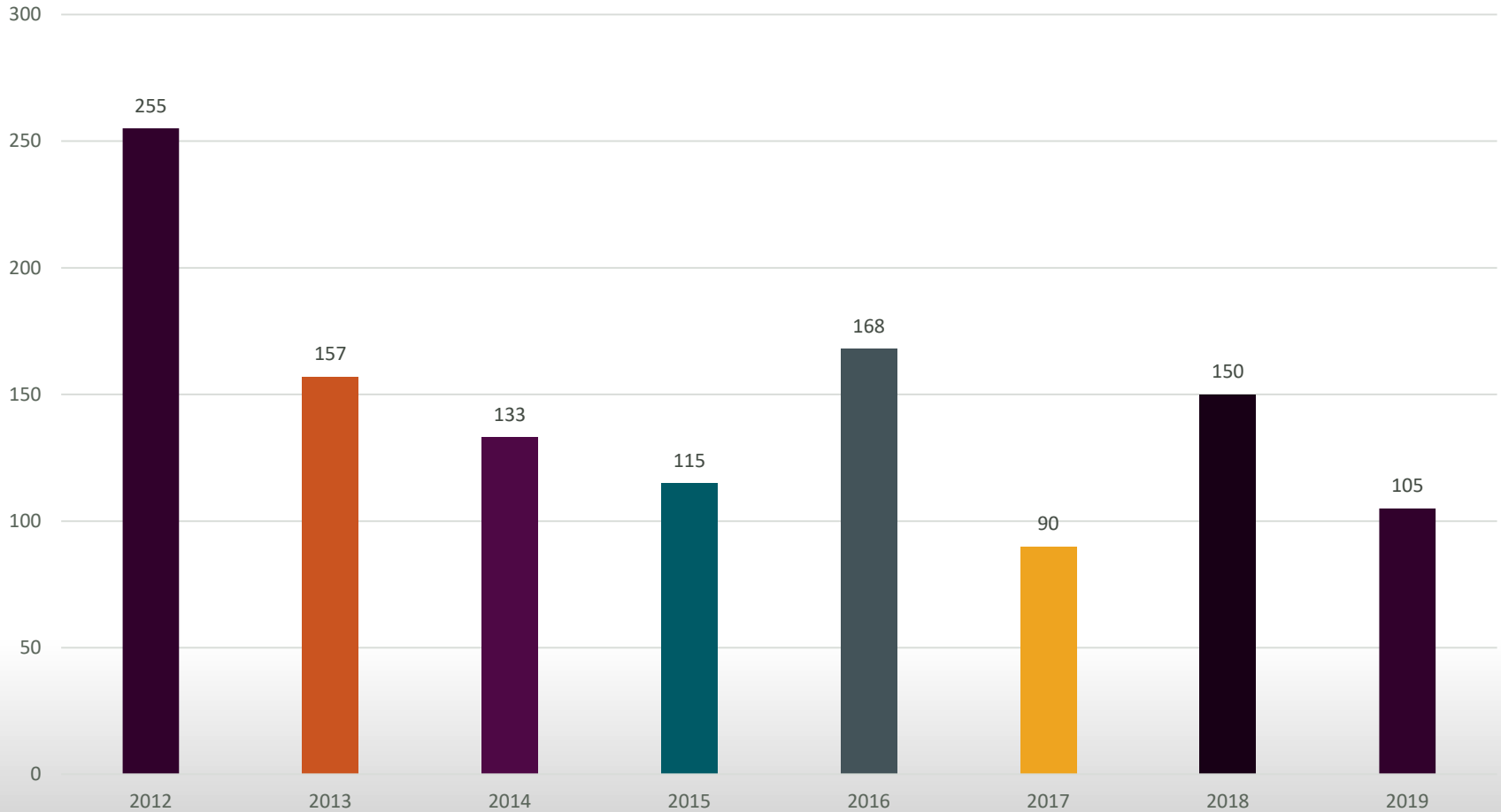
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# Speed School Journal Publications

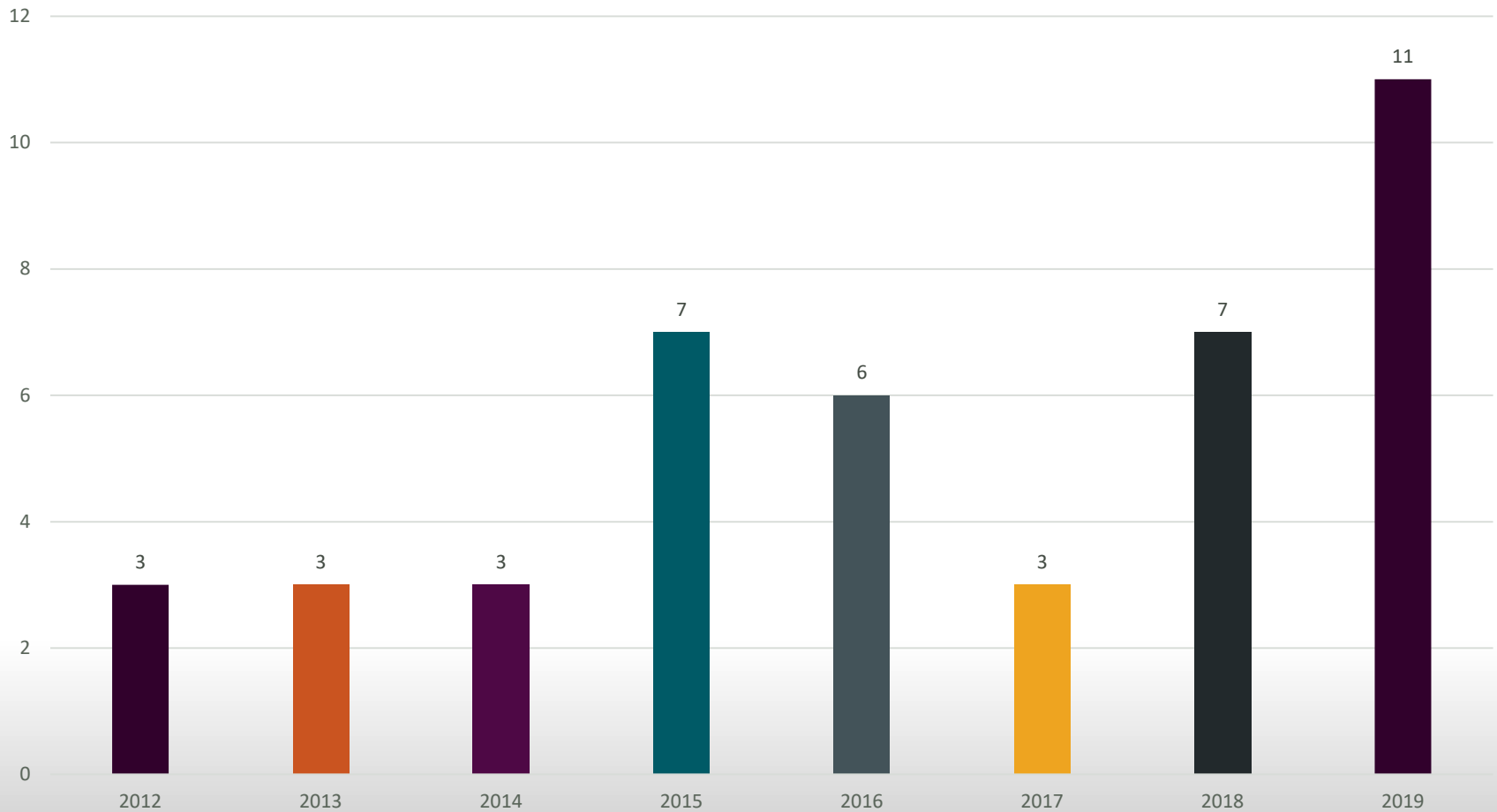




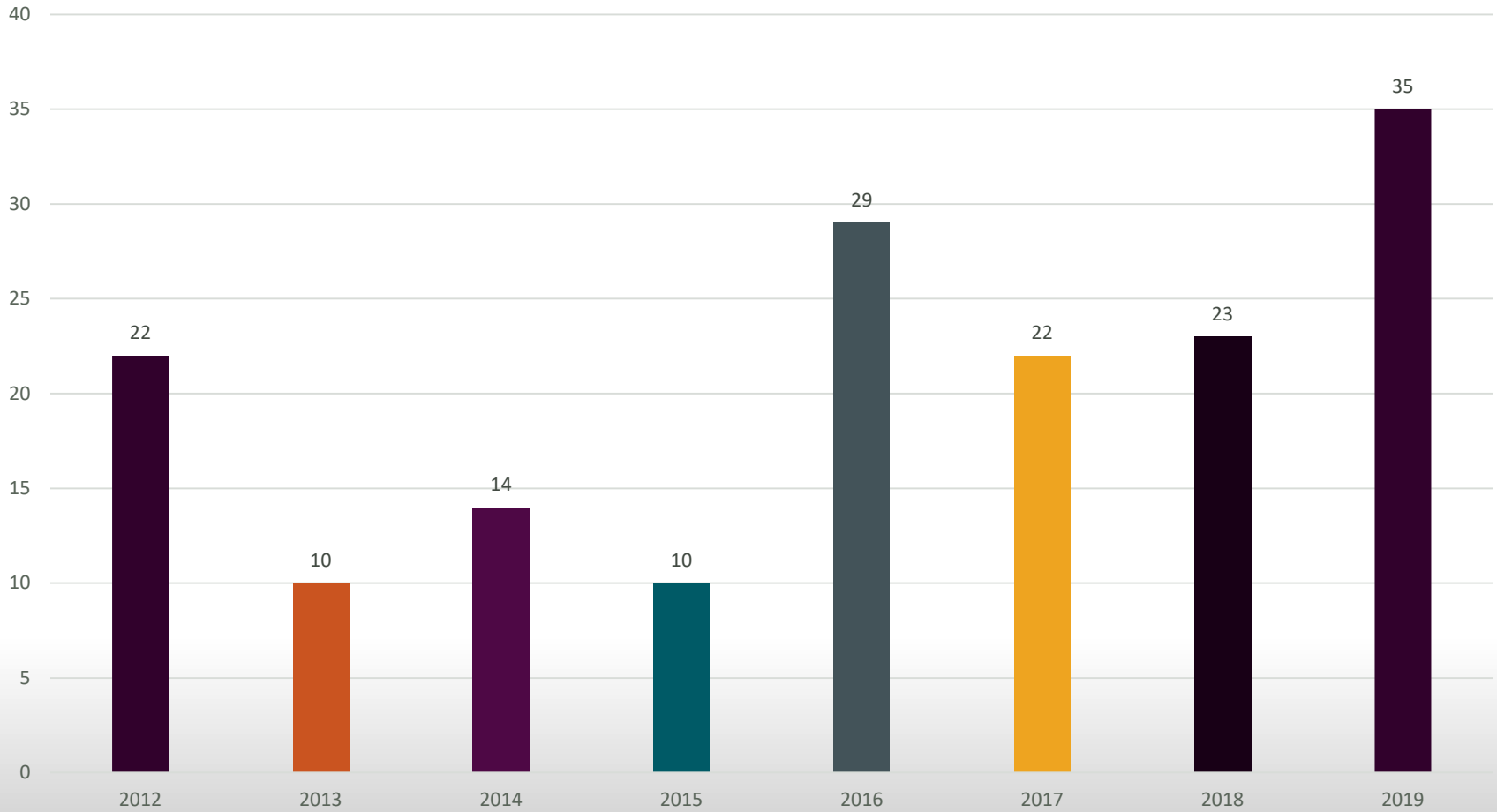
# Speed School Conference Proceedings



# Speed School Books Published



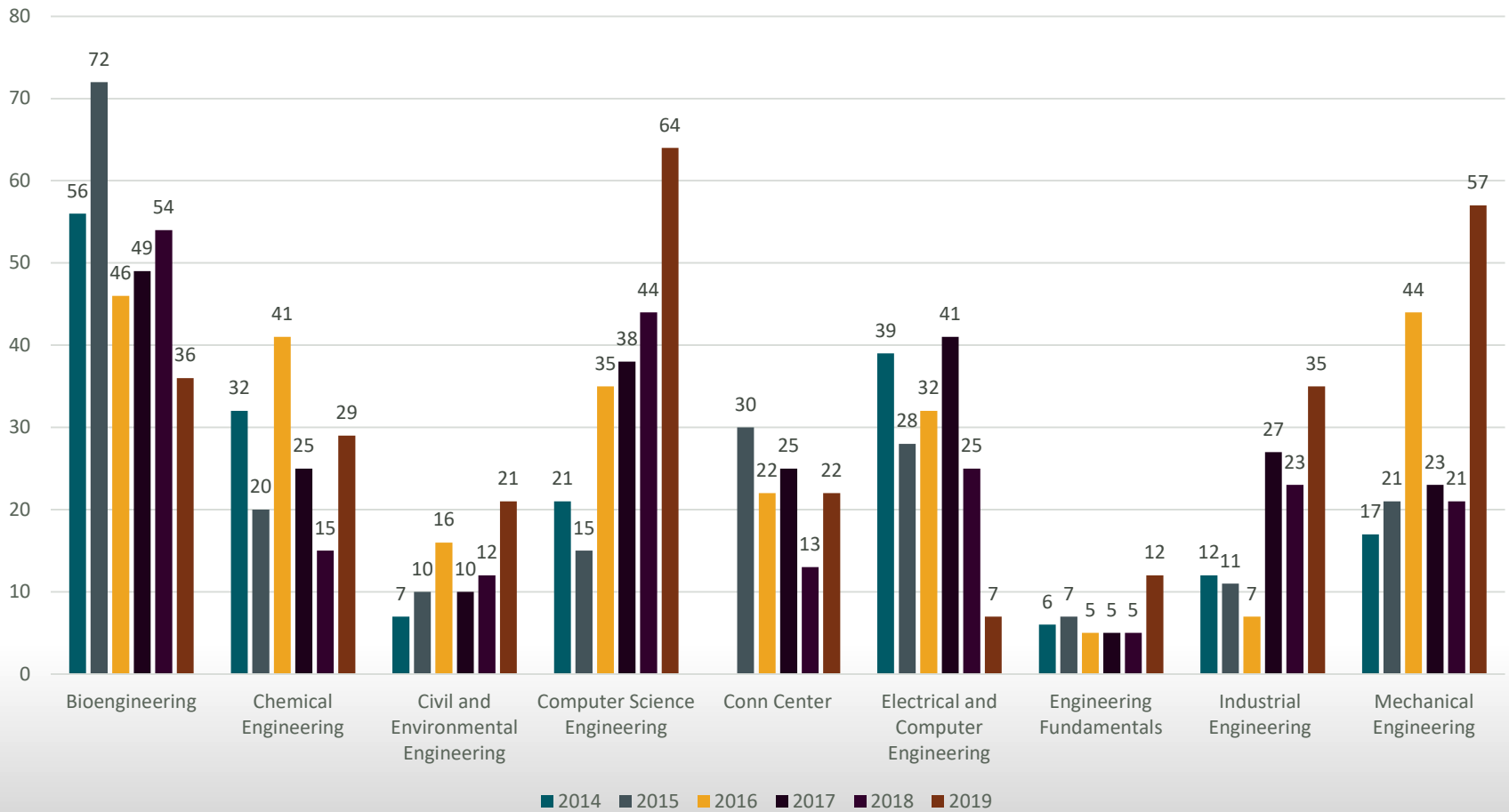
# Speed School Book Chapters



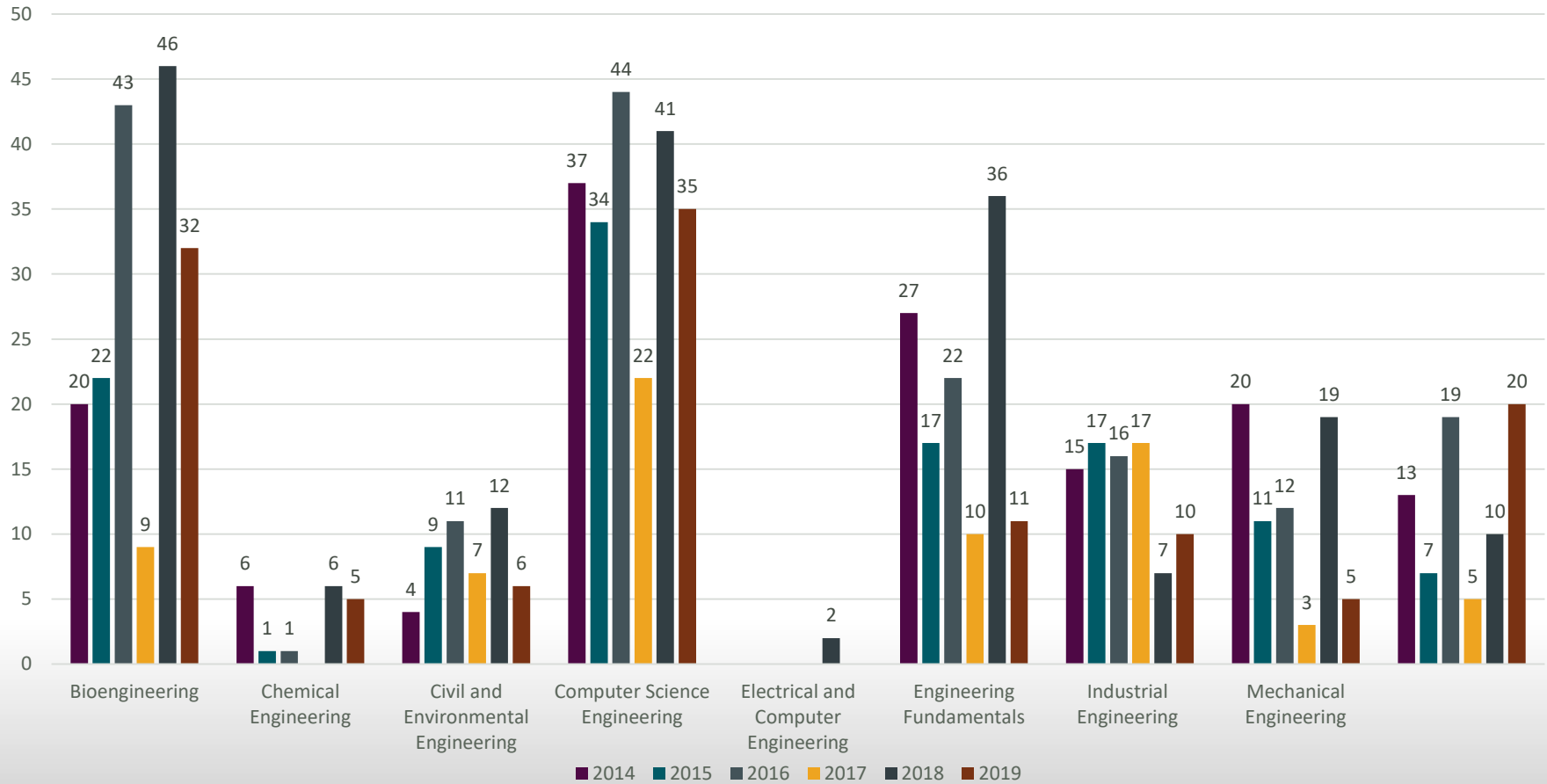
# **CY19 Publications By Department**

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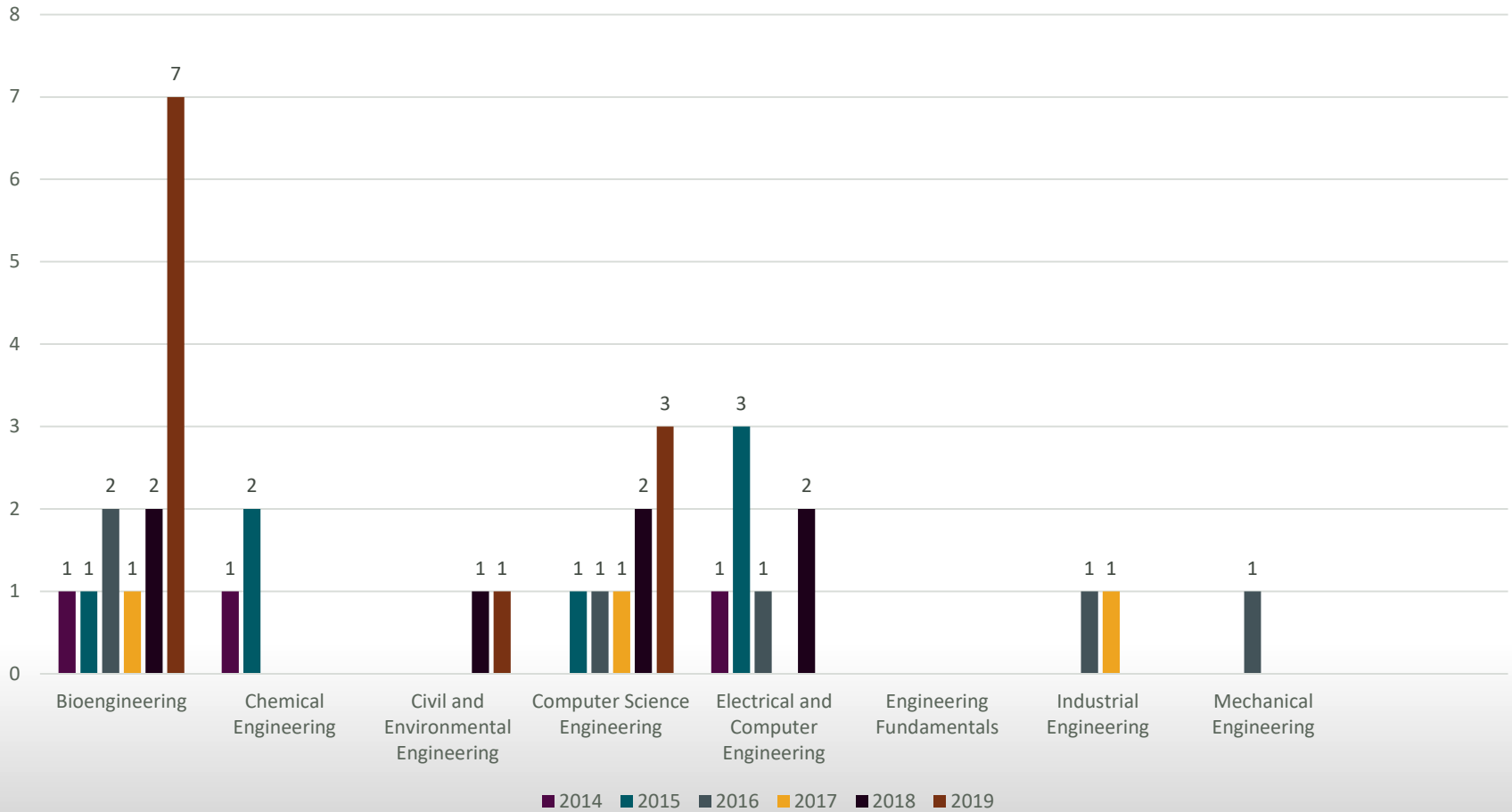
# Journal Publications



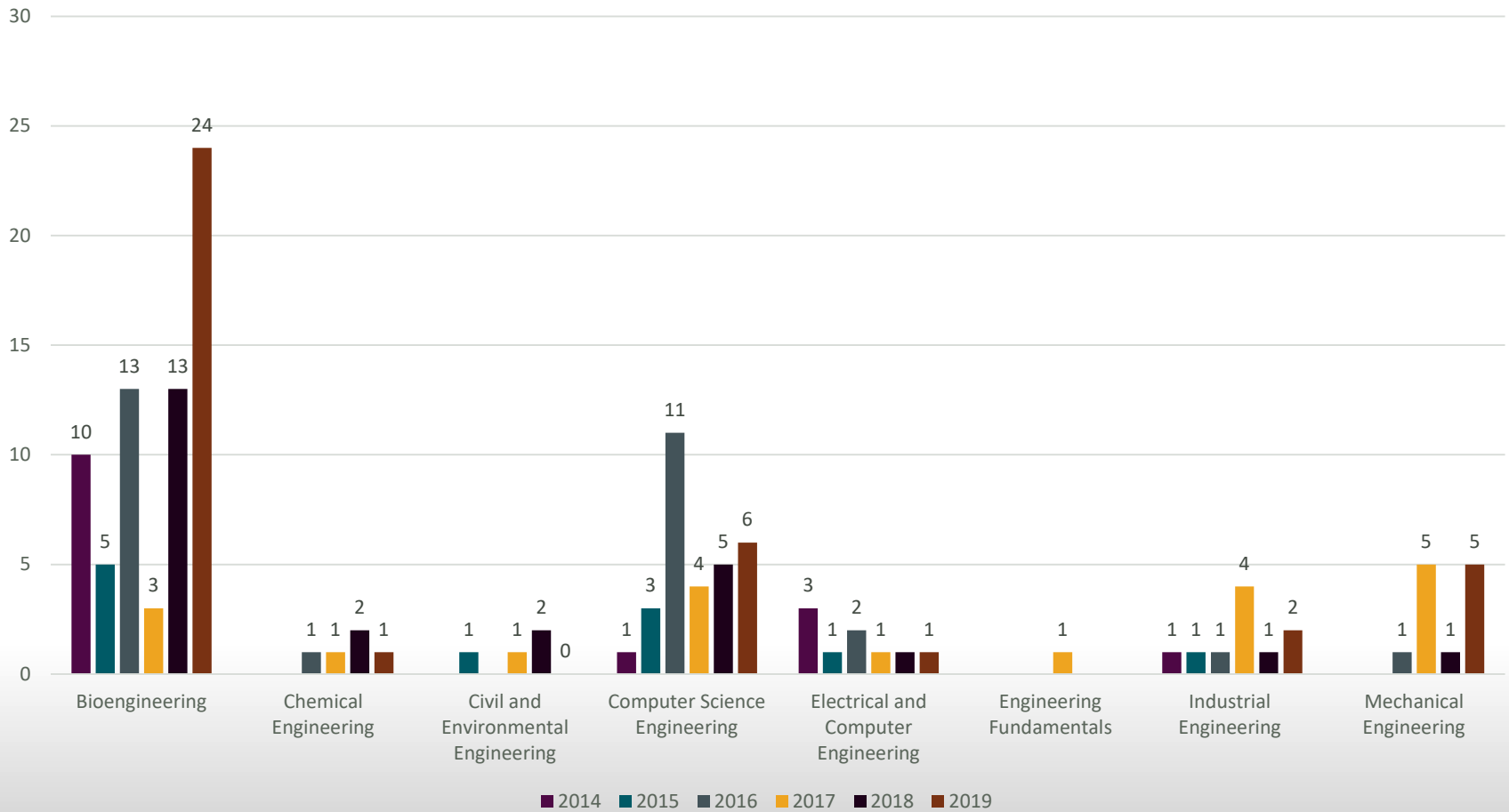
# Conference Proceedings



# Books Published



# Book Chapters





# Patents

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# Awarded Patents

