Is IR Research Shrinking or Expanding?

Yiqun LIU

Department of Computer Science and Technology

Tsinghua University, Beijing, China

From SIGIR EC Chair

Our main conference is in decline...

Charles Clarke, SIGIR EC Chair
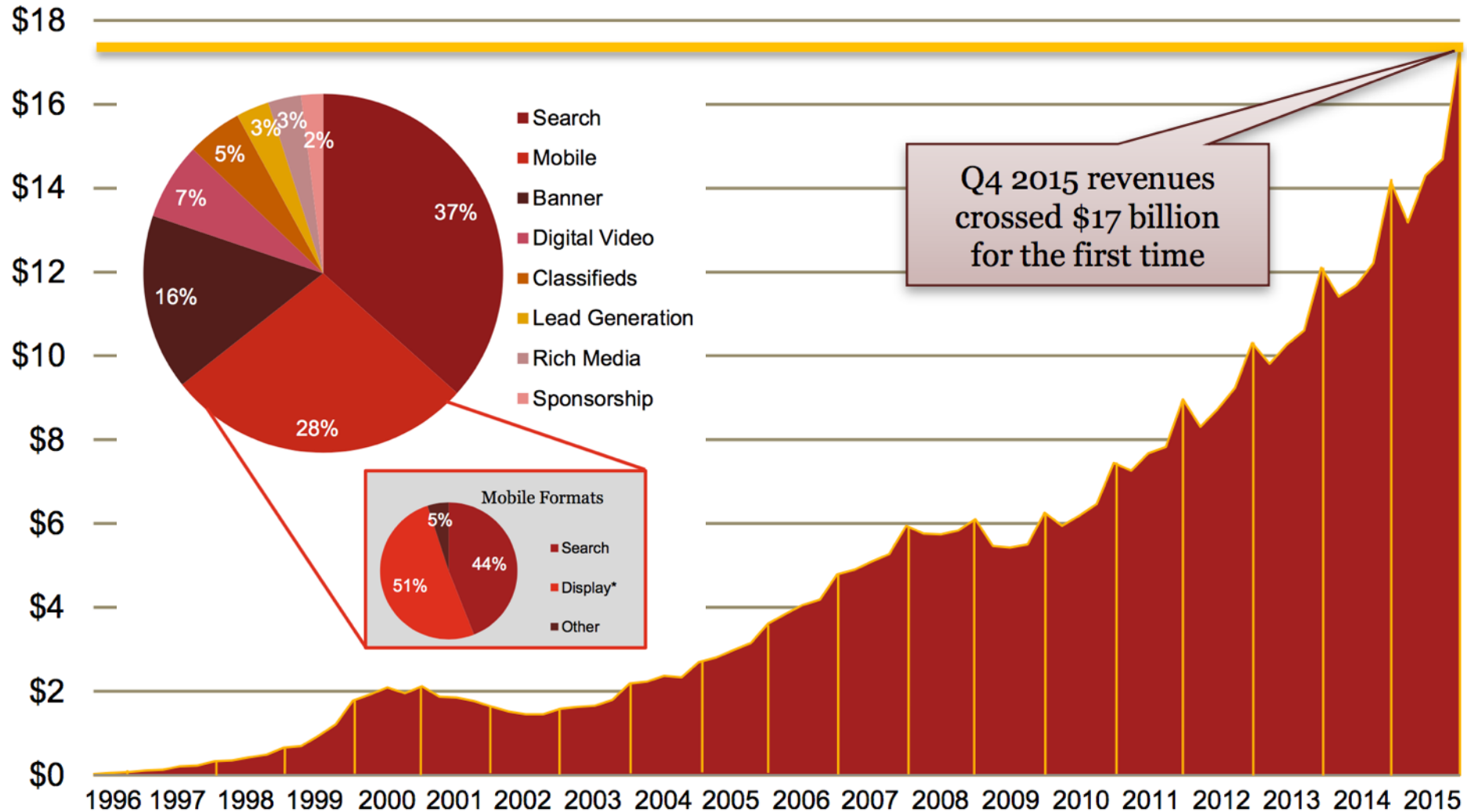SIGIR Forum, 2016.6

SIGIR 2011 in Beijing

From IAB/PWC Annual Report

Search revenues totaled $20.5 billion in 2015, up 8% from 2014

IR HOT Research Topics

- **Accepted v.s. Rejected**

  - **Common keywords: Search, Retrieval, Learning, Query, Ranking, Relevance, User**

  - **Usually Rejected: Social, Question, Topic, Hashing, Entity**

Courtesy of Alistair Moffat (SIGIR2015 PC Chair)

Recent Trends (I)

- **From single query to query session/task**

  - Belkin, Salton award speech: from relevance to usefulness (context-aware)

  - Zhai, SIGIR Keynote: session level modeling of user/search engine interactions

  - A large number of papers discussing about query reformulations, session modeling, etc. Some proposed frameworks: POMDP, multi-armed bandit

  - Public benchmarks and datasets available: **TREC Session Track / Contextual Suggestion Track**

Recent Trends (II)

- **From homogenous to heterogeneous**

  - **Traditional search (homogenous): ten blue links**

  - **Contemporary search (heterogeneous): vertical results, results in cards, knowledge graph, mobile search, shopping search, etc...**

  - **Many papers / workshops discussing about how to rank, how to combine, how to model user behavior,...**

  - **Public datasets and benchmarks available: TREC Federated Web Search Track, NTCIR IMine-2 task, NTCIR WWW task**
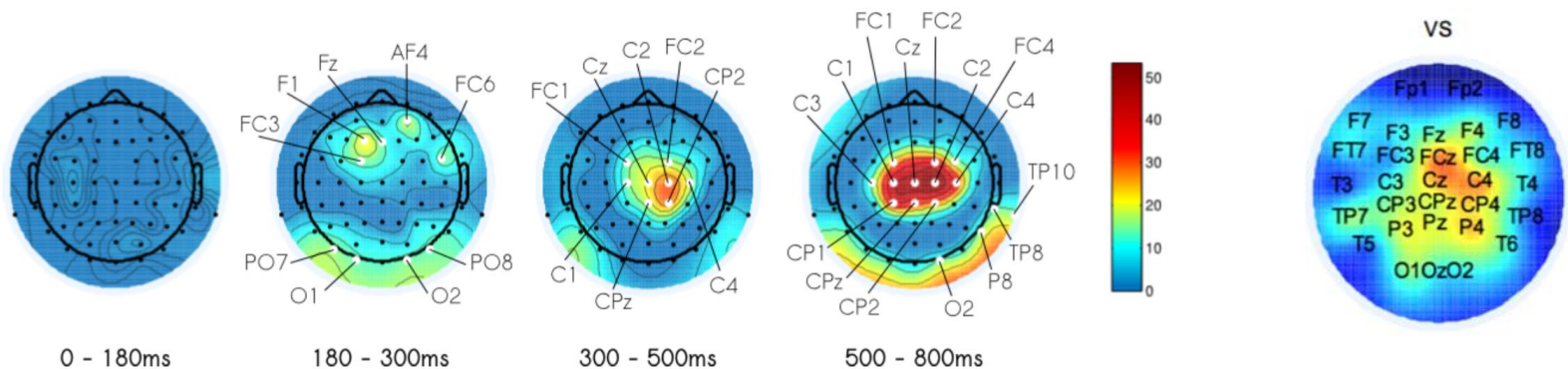
Recent Trends (III)

- **From Information Retrieval to Information Access**

  - "*Search box and ten blue links*" are not so interesting

  - Information access is about how to help people gather information to fulfill their information needs

  - So many interesting topics: Nature of information, knowledge and learning; how information needs are generated and solved, etc.

  - Public datasets and benchmarks available: TREC LiveQA/Temporal Summarization Track, NTCIR Lifelog task, SIGIR 2016 "Search as Learning" workshop

Recent Trends (IV)

- **Interdisciplinary researches**

  - **The use of psychophysical signals become more and more popular: Eye movement, EEG, fMRI (SIGIR'16 best paper), muscle movement, skin conductance…**

0 – 180ms   180 – 300ms   300 – 500ms   500 – 800ms

  - **More and more interdisciplinary researches with CHI and cognitive psychology (the creation of CHIIR conference), Connections with MM, ICMR, CHI, etc.**

About SIGIR

- **Association for Computing Machinery's Special Interest Group on Information Retrieval (1963-)**

  - **Focused on the area of search and other information access technologies.**

- **Conferences held by SIGIR**

  - **ACM/SIGIR, JCDL, CIKM, WSDM**

  - **New conferences: ICTIR (IR theories), CHIIR (CHI & IR)**

- **Major awards: Gerard Salton Award; Best paper award, Test of Time Award**

Differences between SIGIR and her sisters

- **SIGIR Compared with NLP conferences**
  - **Focus on how to propose and solve newly appeared problems**
  - **Large-scale on-line testing is usually necessary**
- **SIGIR Compared with database conferences**
  - **User study is more important**
  - **Evaluation itself is an important research topic**
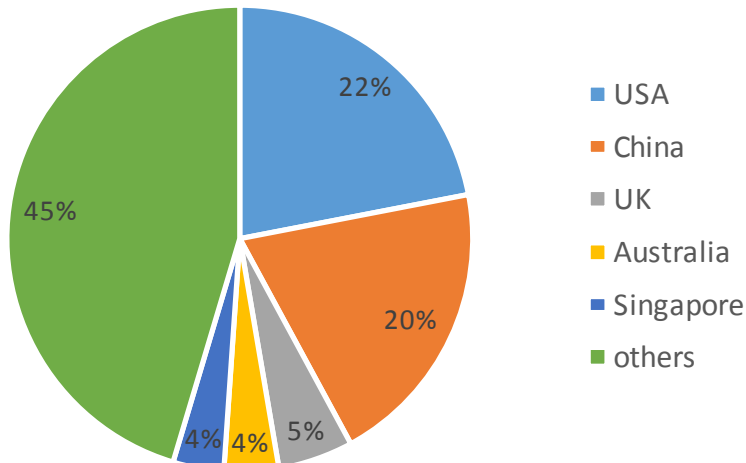 - **Efficiency should be concerned, but not so important**
- **SIGIR is 10-page double-column ACM format...**
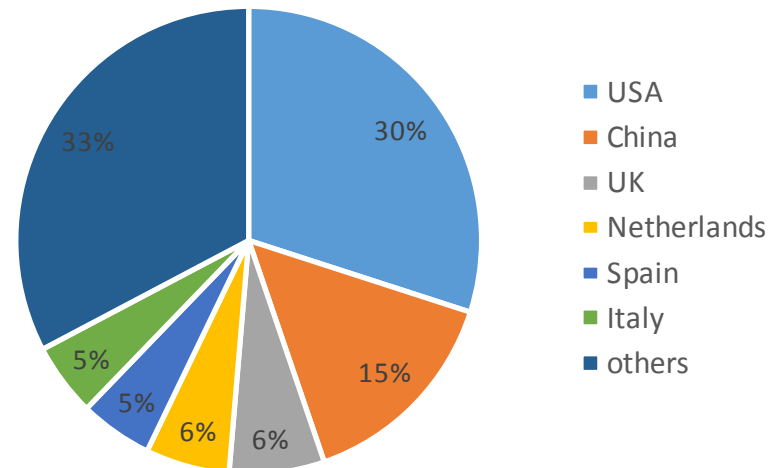
SIGIR and China

- **Paper acceptance**
  - **SIGIR 2016 (62, 18%): 34% from U.S.; 23% from China**
  - **SIGIR 2015 (70, 20%): 30% from U.S.; 15% from China**
  - **SIGIR 2014 (82, 21%): 36% from U.S.; 18% from China**

Submitted Papers

- USA 22%
- China 20%
- UK 5%
- Australia 4%
- Singapore 4%
- others 45%

Accepted Papers

- USA 30%
- China 15%
- UK 6%
- Netherlands 6%
- Spain 5%
- Italy 5%
- others 33%

SIGIR and China

- **Authors of Accepted Papers**

Courtesy of Alistair Moffat (SIGIR2015 PC Chair)

SIGIR and China

- **Chinese researchers as Chairs**
  - Hang Li: 2015 Industry Chair, 2017 Program Chair
  - Tie-Yan Liu: 2016 Tutorial Chair
  - Hui Yang: 2017 Workshop Chair
  - Hui Fang: 2017 Short paper Chair
  - Yiqun Liu: 2017 Short paper Chair, 2018 Program Chair
- **SPCs from China**
  - 2015: 2 of 61, Wei-Ying Ma, Dawei Song
  - 2016: 3 of 66, Xian-sheng Hua, Hang Li, Wai Lam

THANK YOU FOR YOUR ATTENTION

- **We are trying to bring SIGIR back to China**

  - **SIGIR2020 in Hangzhou or Xi'an ?**