FACULTY OF HEALTH SCIENCES

UNIVERSITY OF CAPE TOWN

Collaboration for medical device innovation in South Africa: Focus areas and keyword networks

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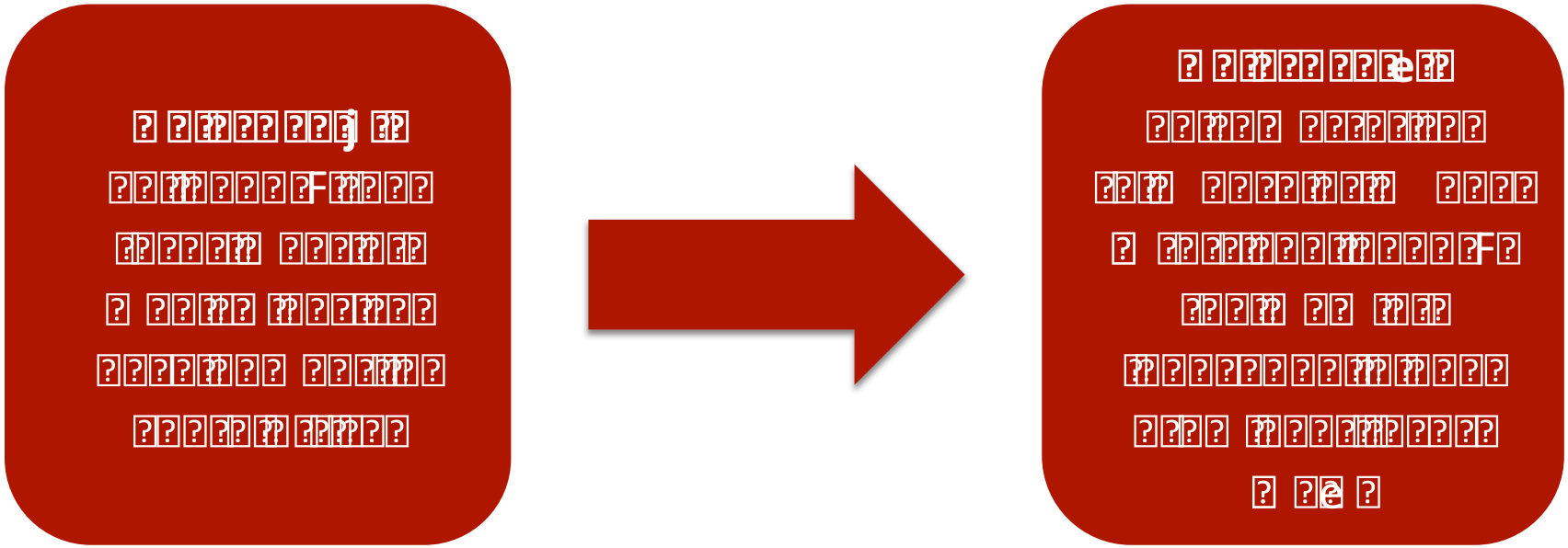
DIVISION OF BIOMEDICAL ENGINEERING

Context

- Medical device innovation is collaborative in nature.
- Role of actors and sectors (healthcare, university, research institutions, industry)
- Importing of medical devices (90%) VS local activity (?)
  - Who is involved?
  - What are they working on?
  - Are they collaborating?

Objectives



Focus areas: Methodology

- Exploratory bibliometric search (*Google Scholar* and *PubMed*)
- South African organisations – universities, healthcare facilities, registered companies.
- Medical device classification system – 11 physiology systems, 1 non-specific
- What are the focus areas of the South African organisations?

Focus areas: Results

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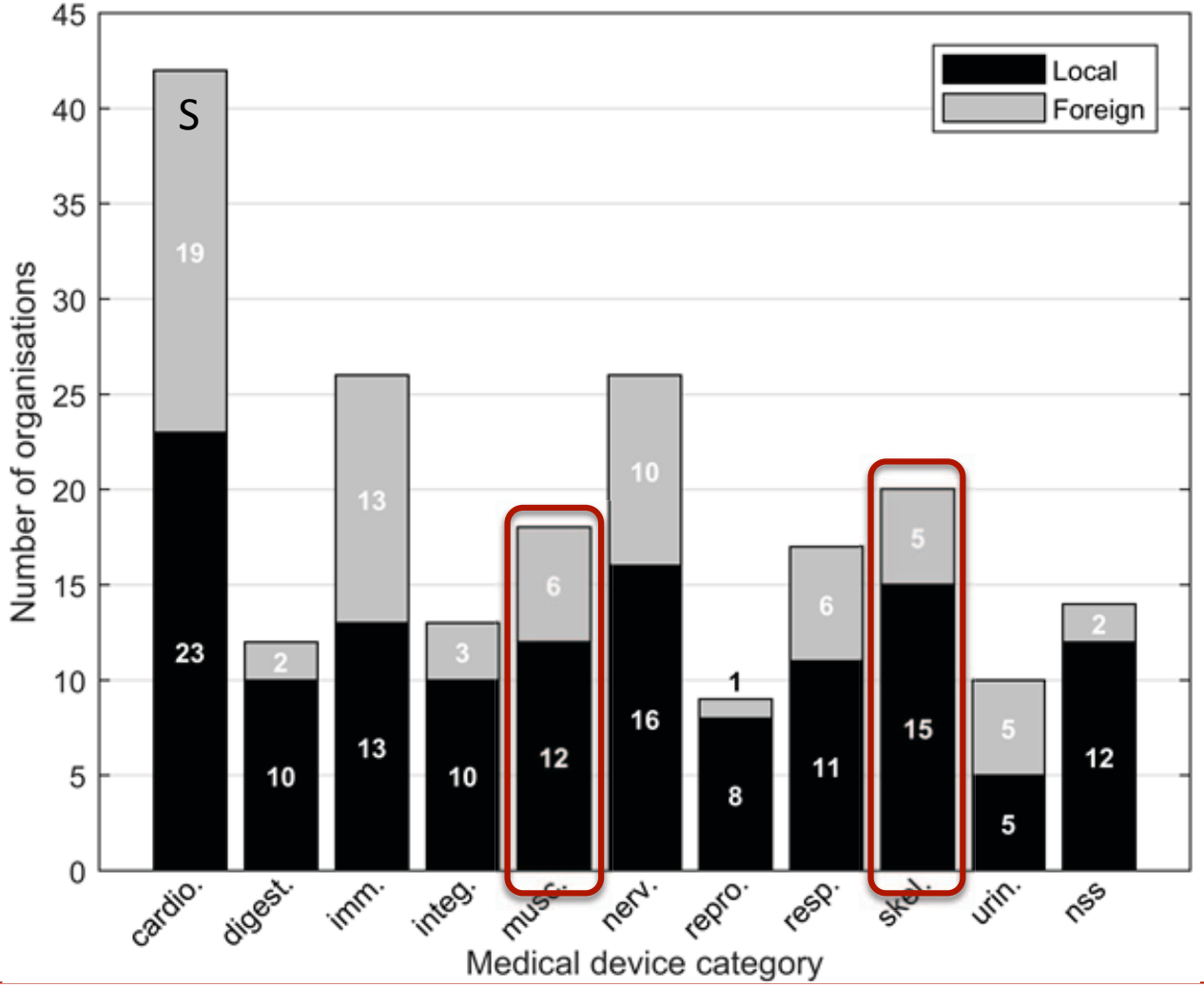
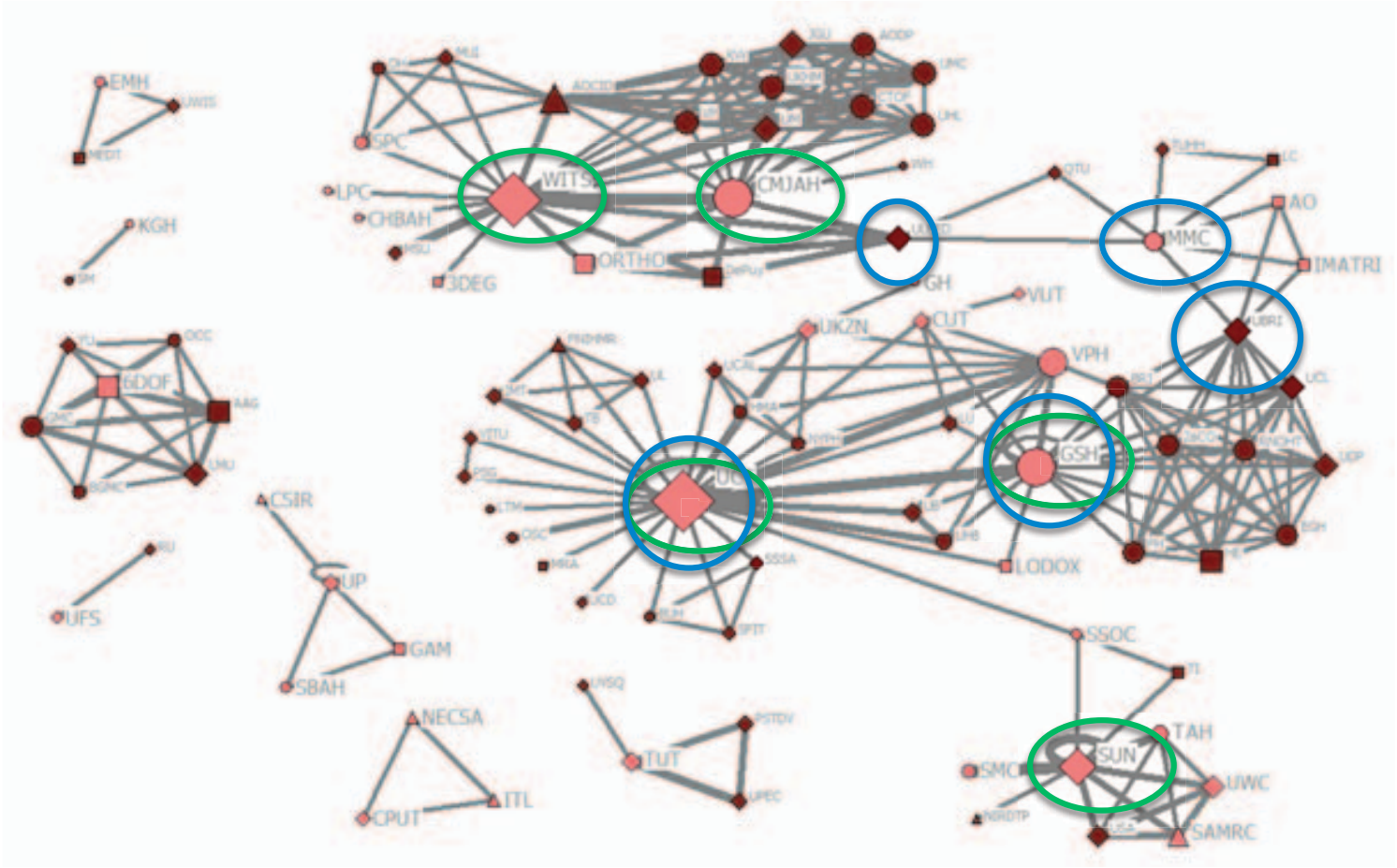


Number of local and foreign organisations in medical device development in South Africa

Orthopaedic devices: Methodology

- Bibliometric study (*Scopus* and *Thomson Reuters Web of Knowledge*)
- Co-authorship used as a proxy for collaboration
- Actors classified into four sectors – healthcare, universities, industry and science councils
- Collaboration networks

Orthopaedic devices: Actor network



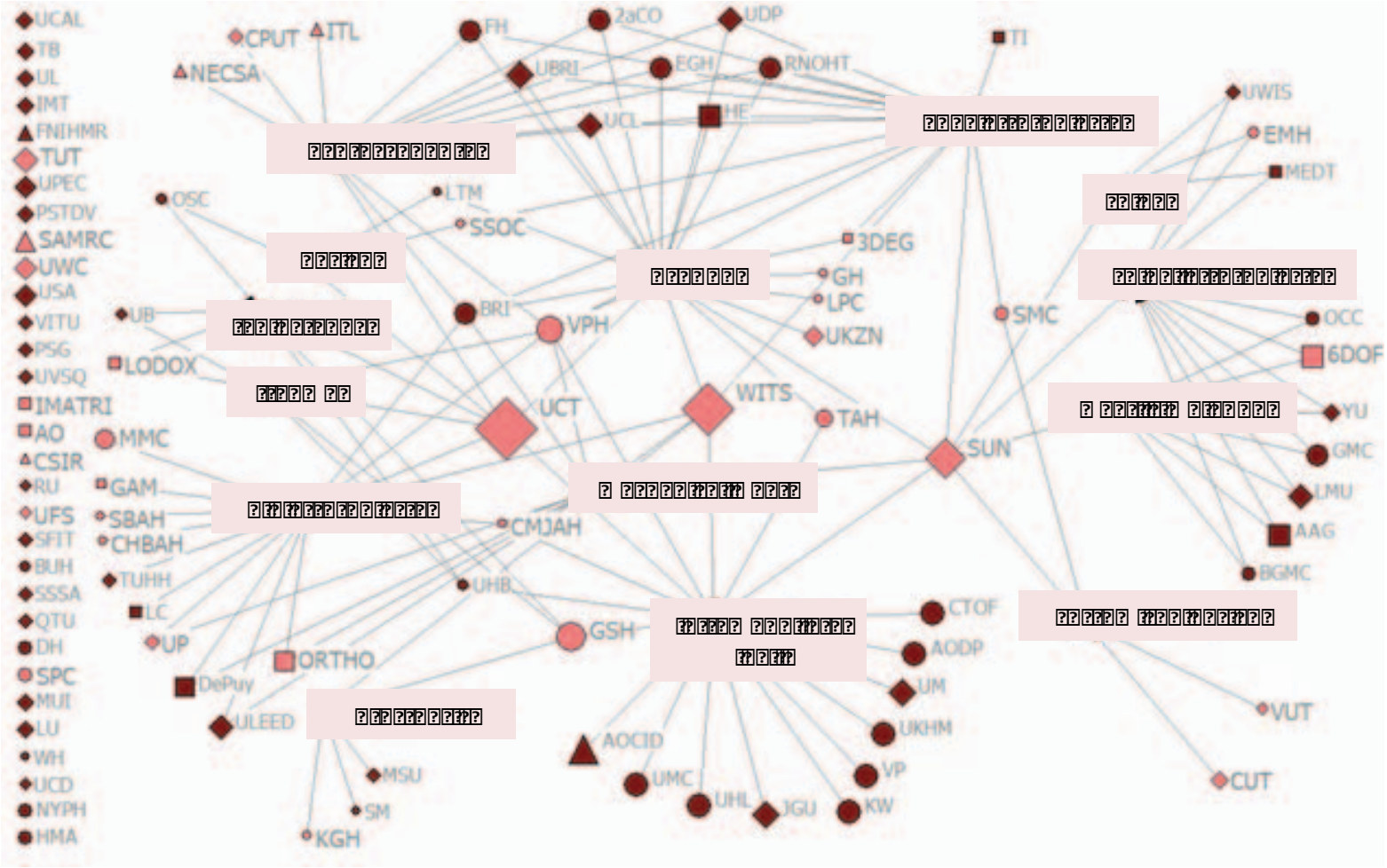
Node = Actor; Edge = Co-authorship

Healthcare | University | Science Councils | Industry | Local | Foreign

Orthopaedic devices: Methodology

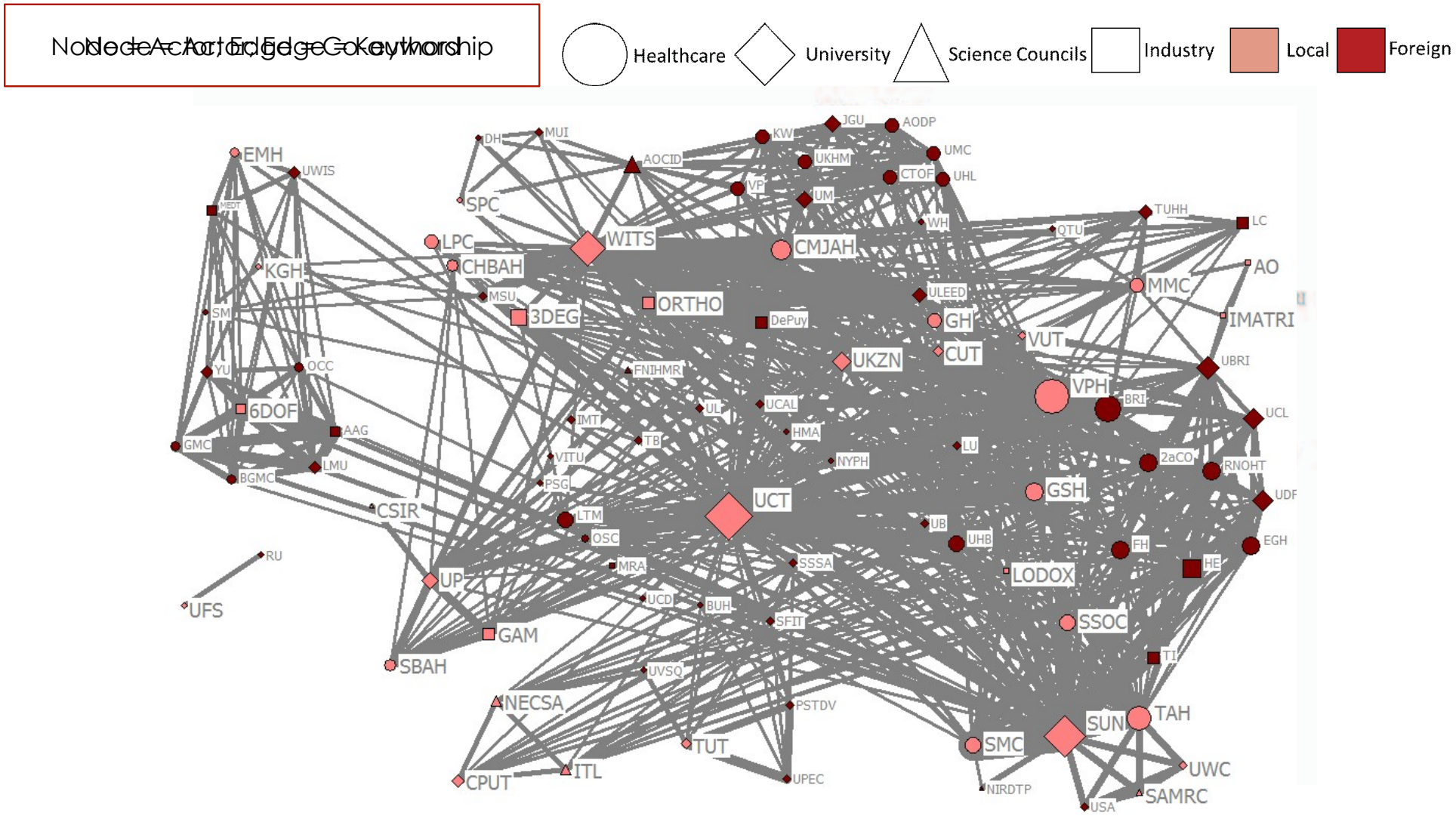
- Keywords of publications used to identify:
  - Medical device
  - Area of innovation
  - Cause/anatomy addressed
- Keywords streamlined
- Measures: Popularity and *Degree centrality*

Orthopaedic devices: Popular areas of interest



Healthcare University Science Councils Industry Local Foreign

Orthopaedic devices: Collaboration opportunities



Conclusions

- Prevalent focus areas: Cardiovascular, Nervous and Skeletal
- Actor network identifies local and foreign organisations
- Keyword network identifies areas of interest
- Presented a tool to explore collaboration opportunities

Thank You