



Multimedia and Wireless Networking:
Unleashing Research Impacts through
Technology Transfer

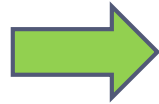
Gary Chan
Professor, CSE, HKUST

Academic History: Network Design and Analysis

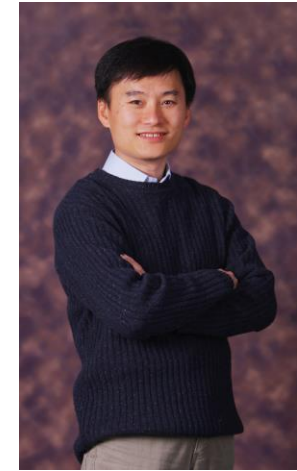
Hisashi Kobabyshi
(Princeton, 1967)



Leonard Kleinrock
(MIT, 1963)

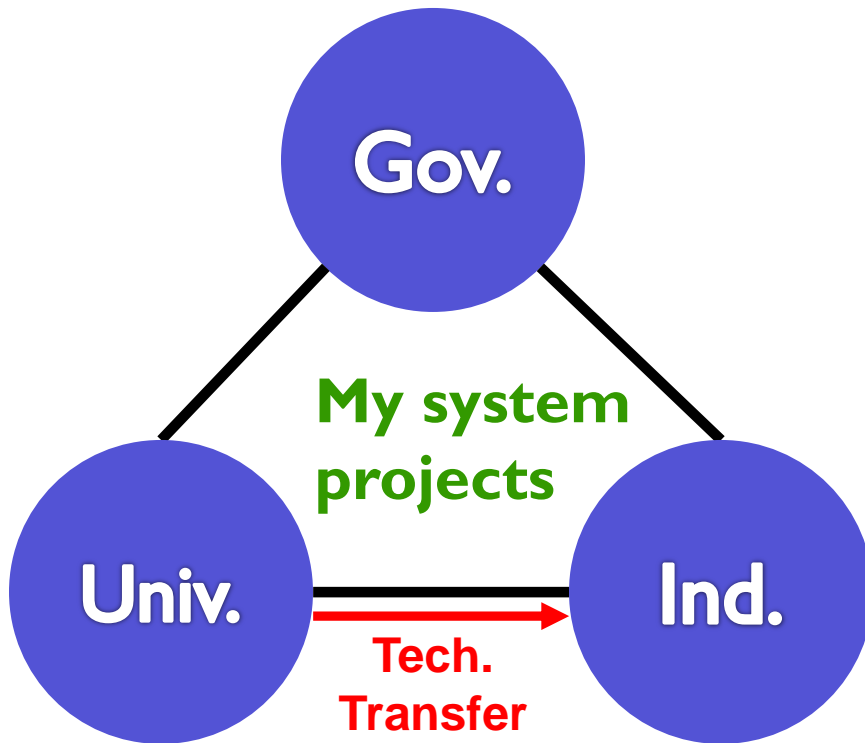


Fouad Tobagi
(UCLA, 1974)



Gary Chan
(Stanford, 1999)

Turning Research to Commercialization: The Golden Triangle



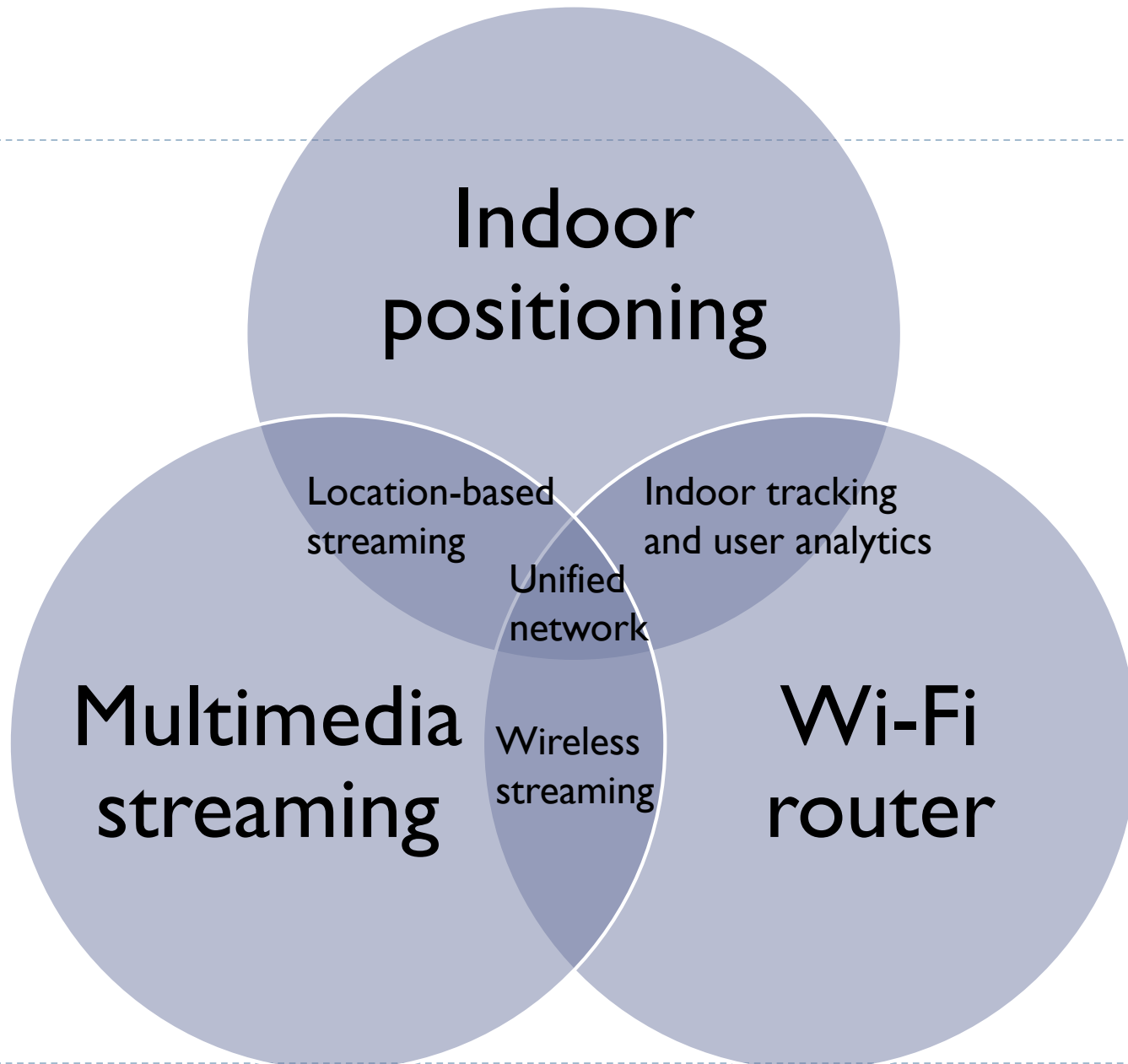
- ▶ Government
 - ▶ CRG/RGC
 - ▶ Innovation and Technology Funds (ITF)
- ▶ Technology Transfer Center, Department and School of Engineering at HKUST
 - ▶ Seed fundings
 - ▶ Advices and support on contractual agreements
 - ▶ R&D facilities and human resources
- ▶ Industry sponsors and collaborators
 - ▶ Funding, technical support, trial sites, equipment, etc

Research Goal and Streamphony

- ▶ Build advanced network systems driven by research innovations, designed by engineering excellence
 - ▶ Build innovative systems based on enabling technologies leading to hopefully disruptive or killer applications. Build profitable companies. Build our better tomorrow --- now.
 - ▶ Addressing the curse of “scale”
 - ▶ Treating the university as my “garage”
- ▶ Streamphony: Network software for Internet video streaming
 - ▶ State-of-the-art live and on-demand video services
 - ▶ Research since 1993; commercialization activities in the past 8 years
 - ▶ Project supported by Google, Tencent, Cisco, Huawei, etc.
 - ▶ Technology licensed to MeiAh Entertainment (Stock code: 391) and China Mobile (Stock code: 941) Hong Kong
 - ▶ Gold Award, Best SME, HK ICT Awards 2014
 - ▶ Co-founded Ananflow 2013; startup in 2014 at Science Park (Ananflow)

Wherami and Lavinet

- ▶ **Wherami: Indoor positioning and tracking**
 - ▶ Highly accurate cost-effective indoor positioning technology
 - ▶ Research since 2010; commercial trials in the past 2 years
 - ▶ Supported by Google, Hong Kong International Airport, Cyberport, etc.
 - ▶ Google play: wherami cyberport, wherami hkust
- ▶ **Lavinet: Embedded software for high-performance Wi-Fi access**
 - ▶ Blindspot-free and high-throughput access
 - ▶ Research since 2002; commercialization activities in the past 7 years
 - ▶ Supported by Boeing, HEACO, HP, Ruckus, etc.
 - ▶ Technology licensed to Openplatform and Modern Terminals Ltd.
 - ▶ Best Innovation & Research Award (Bronze Award), Hong Kong ICT Awards 2012
 - ▶ Co-founded yfisoft 2013; startup in 2014 in Science Park



Relentlessly Closing Theory-Practice Divide through Applied Research and Development

My research: bridge research with practice
→ close feedback loop
→ best performance in their applications



Research theories
(tractability concern,
simplifying assumptions,
limited parameters)
→ strong/optimal
performance

Industrial practice
(holistic, unpredictable,
uncontrollable,
complex, inter-dependent
parameters)
→ Research models not
easily applied

Divide (鴻溝)

Interested? Come talk to me