

Think Locally, Act Globally: Successfully taking Australian intellectual capital to the world stage

A Bionanotechnology
Hypothetical

Karen Sinclair

22 October 2010



The Scenario

- A **research institute** professor comes up with a new invention which involves injecting nanoparticles into the body to indicate the presence of breast, lung or ovarian cancer
- The **research institute** looks for a **commercial partner**
- A **commercial partner** assesses the invention



Patent Classes

. Human necessities	A
. . Medical or veterinary science	A61
. . . Preparations for medical, dental, or toilet purposes	A61K
. . . . Preparations for testing <i>in vivo</i>	A61K/49
. Characterised by a special physical form	A61K49/18
. Particles	A61K49/18P
. Nanoparticles	A61K49/18P8



Search Strategy

- Class “preparations for testing *in vivo*” (A61K/49)

AND

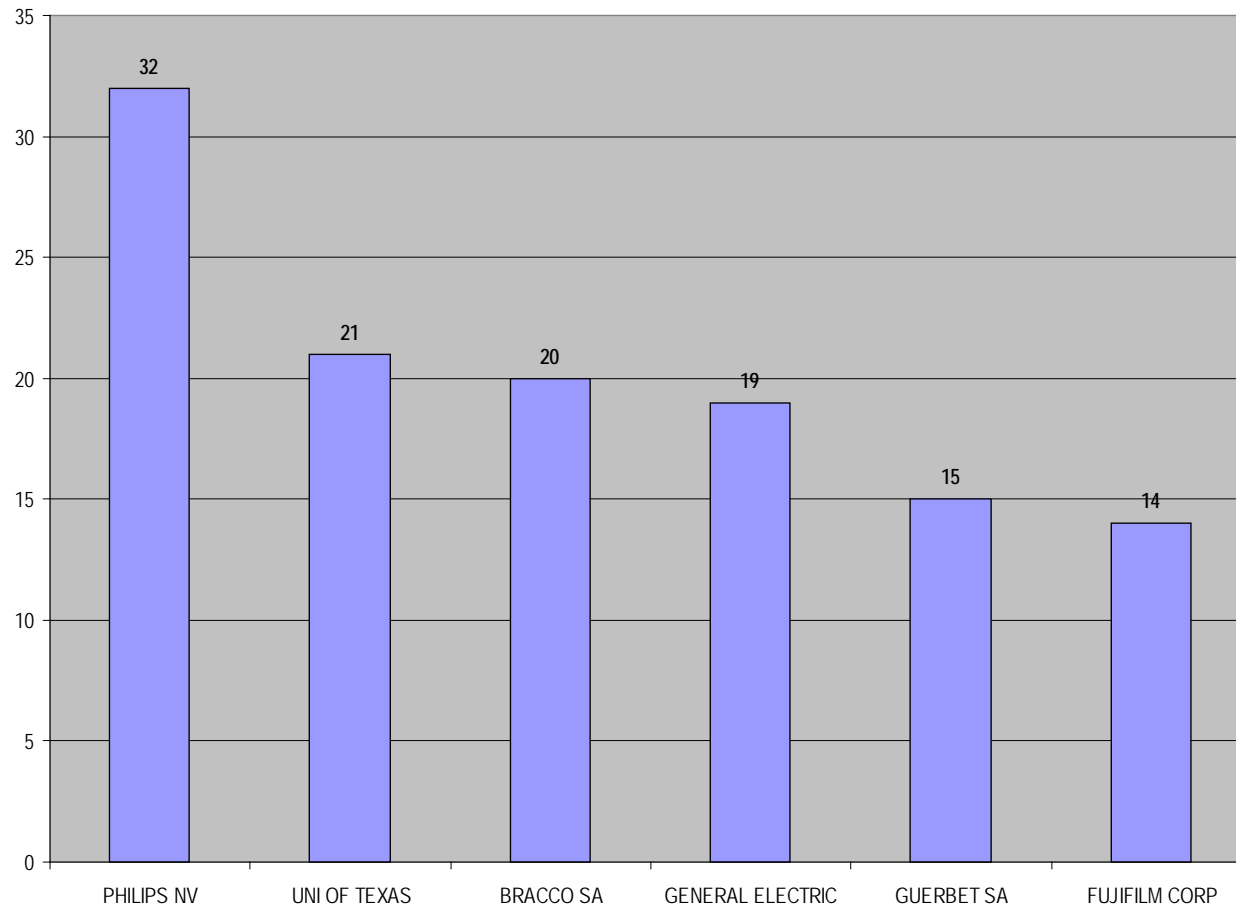
- “Nano*” keyword in title or abstract OR a nanoparticle subclass

SUB SEARCHES

- “Cancer” keyword
 - “Breast”, “lung” and “ovarian” keywords

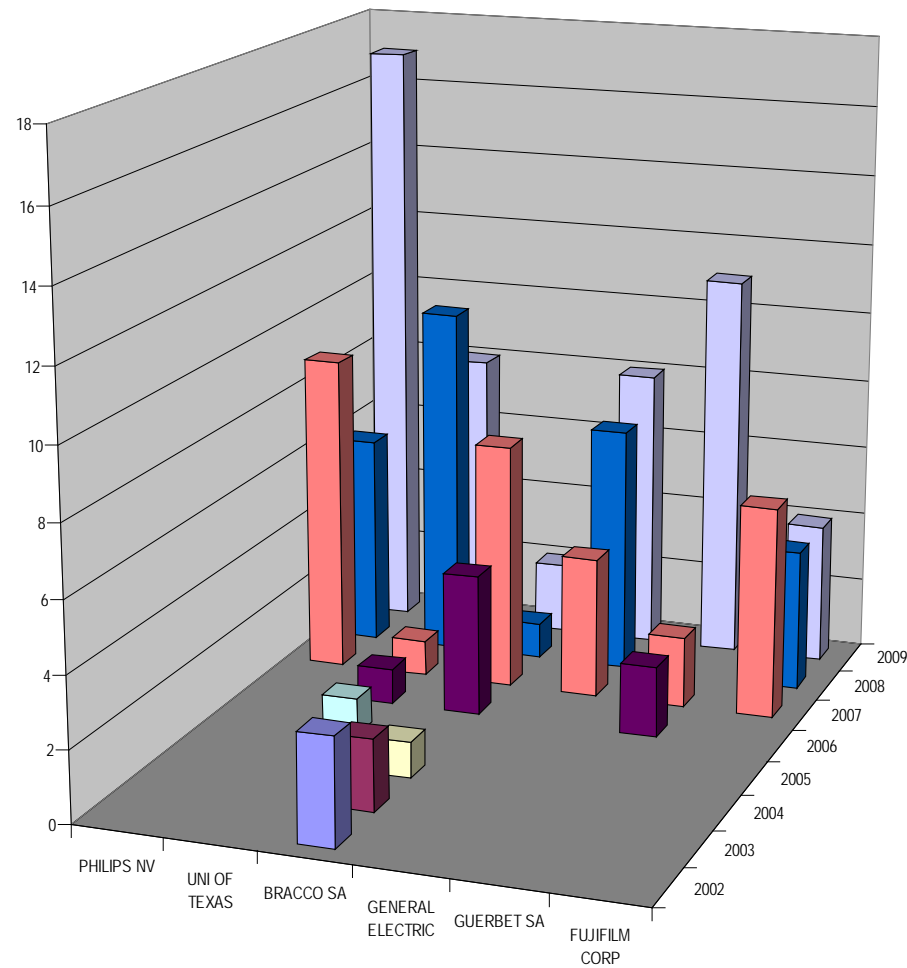


Commercial Partners for the Institute





Commercial Partner Experience





Key People and Organisations

Inventor	Families	Organisation(s)
SUH, Jin	15	KAIST; Yonsei
HUH, Yong	14	ATGen Co; Yonsei
PORT, Marc	12	Guerbet SA
KOJIMA, Masayoshi	11	FujiFilm
HIRAI, Hiroyuki	10	FujiFilm
YANG, Jae	9	ATGen Co; Yonsei
CHEON, Jin	9	KAIST; Yonsei; Samsung
LANZA, Gregory	9	Barnes-Jewish Hospital; Bristol-Myers Squibb



Barriers & Technical Fields

Number	Title	Year	Cites / Year
US20030082237	Nanoparticle containing microsphere used for e.g. medical applications such as drug delivery, comprises inner layer having nanoparticle bound to part of structure directing agent, and outer layer coating inner layer	2003	4.1
US20030219384	Capsule for e.g. entrapment of active ingredients including enzymes, active pharmaceutical ingredients, comprises polyelectrolyte shell and small diameter	2003	2.4
US6869545	Colloidal nanocrystals composition useful e.g. in light-emitting diode, comprises colloidal nanocrystals having specified nanocrystals luminescence and photoluminescence quantum yield	2005	1.8
US20070243137	Forming loaded cells or cell-derived vesicles for imaging, targeting, or biological modification of tissue, by mechanically shaking cells or vesicles with an active substance intended for imaging, targeting, or biological modification	2007	1.7

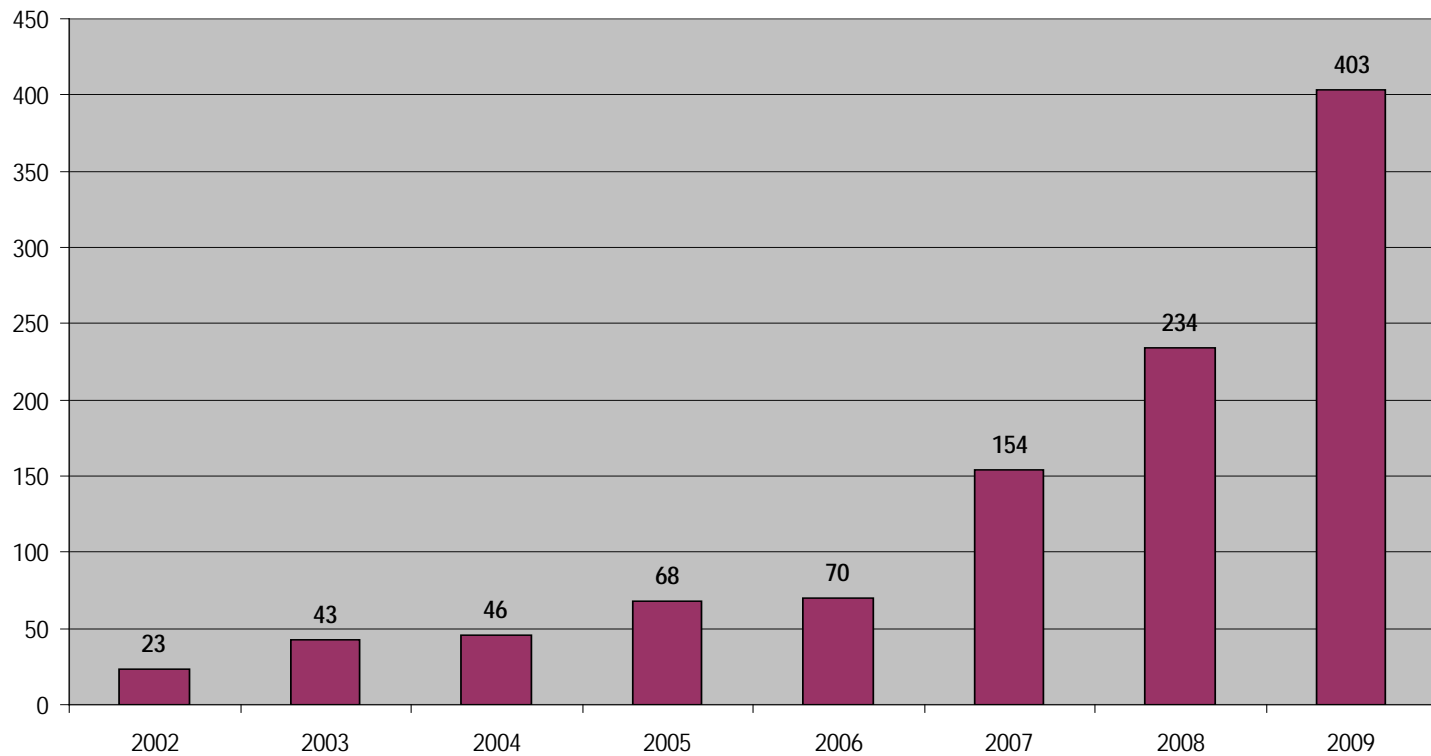


Applications for the Invention

Description	IPC	%
Therapeutic activity of medicinal compounds	A61P	8.5
Investigating or analysing materials by determining their chemical or physical properties	G01N	6.4
Diagnosis , surgery and identification (Human necessities)	A61B	6.1
Peptides	C07K	4.1
Micro-organisms or enzymes	C12N	2.7



Increasing Activity





Areas of Patenting Activity

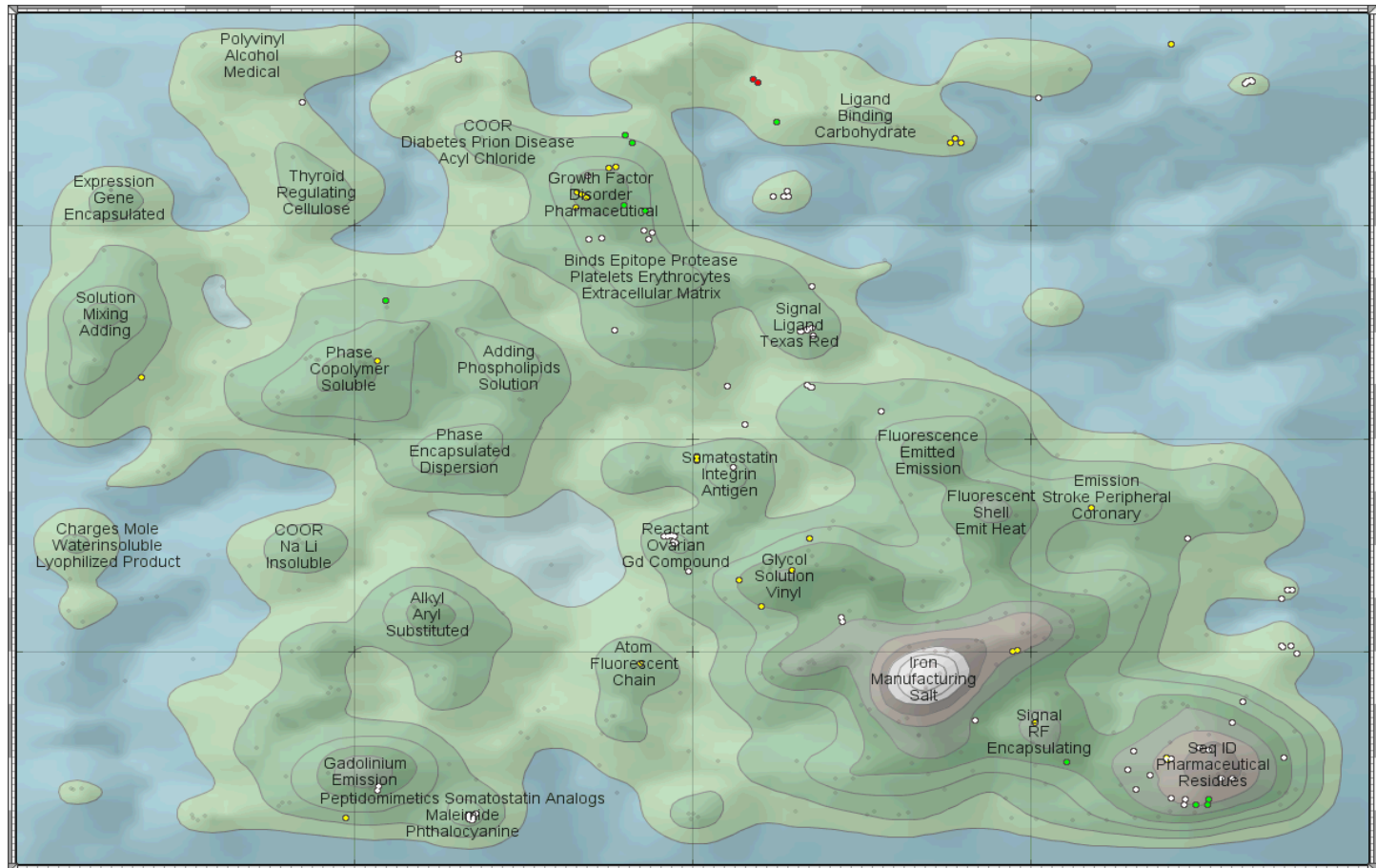
- Patents are placed on a map
- Similar art is placed together, creating mountains
- Dissimilar art is placed far apart
- Each dot represents a patent family





Market Scope for Cancer Diagnostics

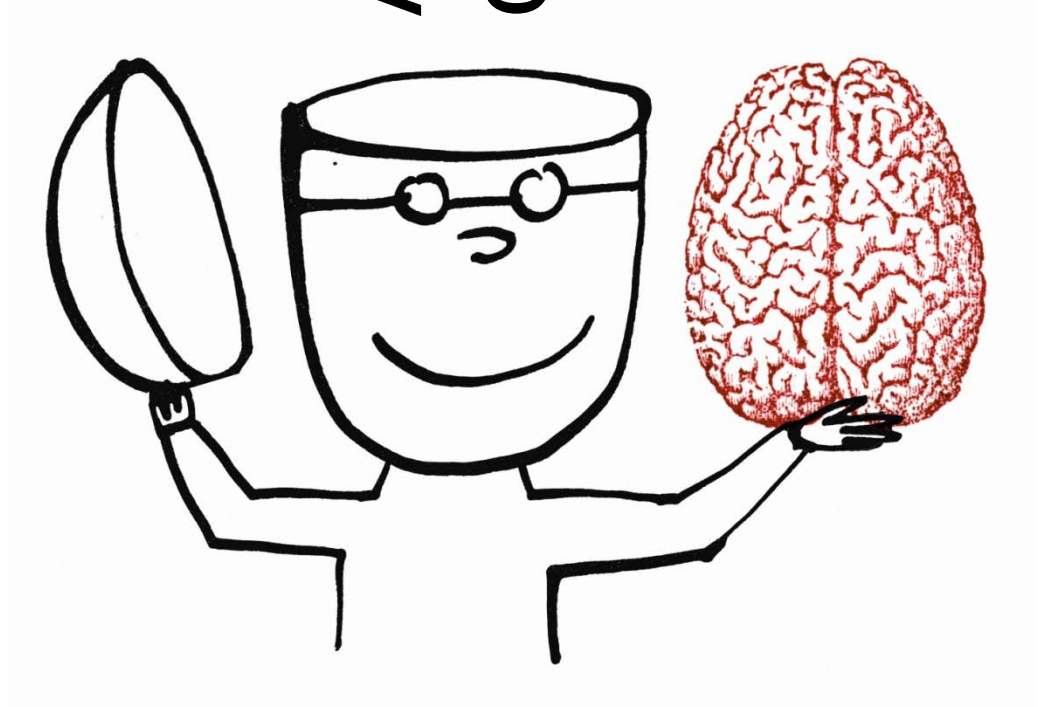
- Cancers
- Breast
- Lung
- Ovarian
- Multiple





Analysis

- Research institute
 - Philips or GE for patent dollars
 - Bracco for experience
 - Yonsei for additional personnel
- Commercial partner
 - Look into therapeutic treatment products based on the invention
 - Place invention on the IP landscape to get a focused assessment of patenting activity



Any
questions?

Thank you