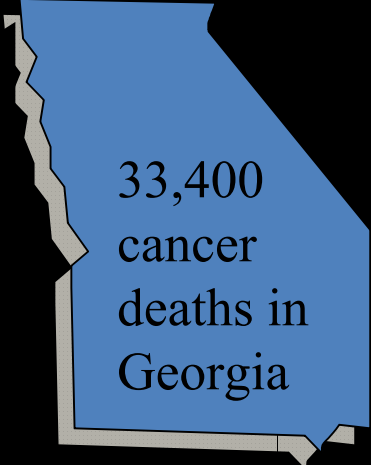


# Georgia Tech in the War on Cancer



Ravi V. Bellamkonda, Ph.D  
GCC Distinguished Scholar  
Professor of Biomedical Engineering  
Georgia Institute of Technology/Emory University



33,400  
cancer  
deaths in  
Georgia

GCC Symposium, May 2008

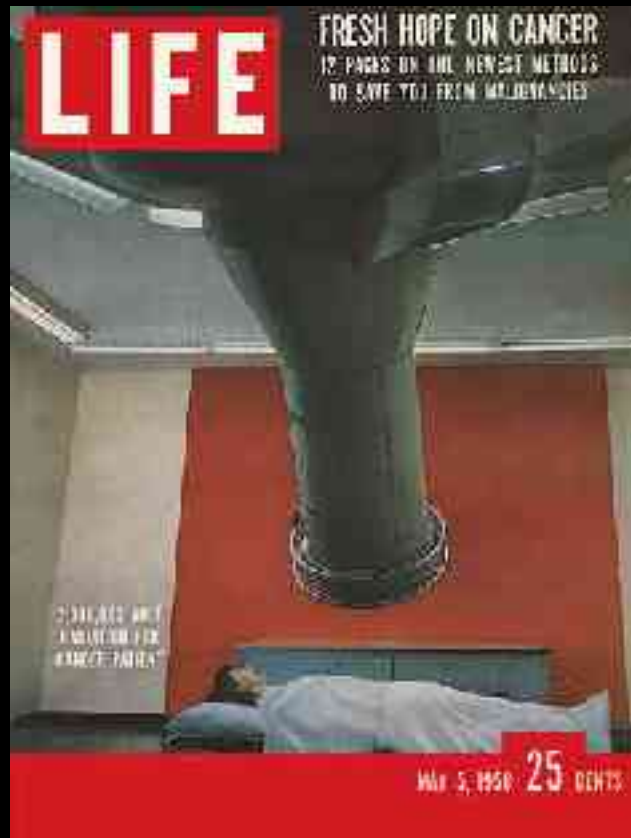
**Andrew von Eschenbach, Director  
National Cancer Institute:**

“Cancer therapy is undergoing a major  
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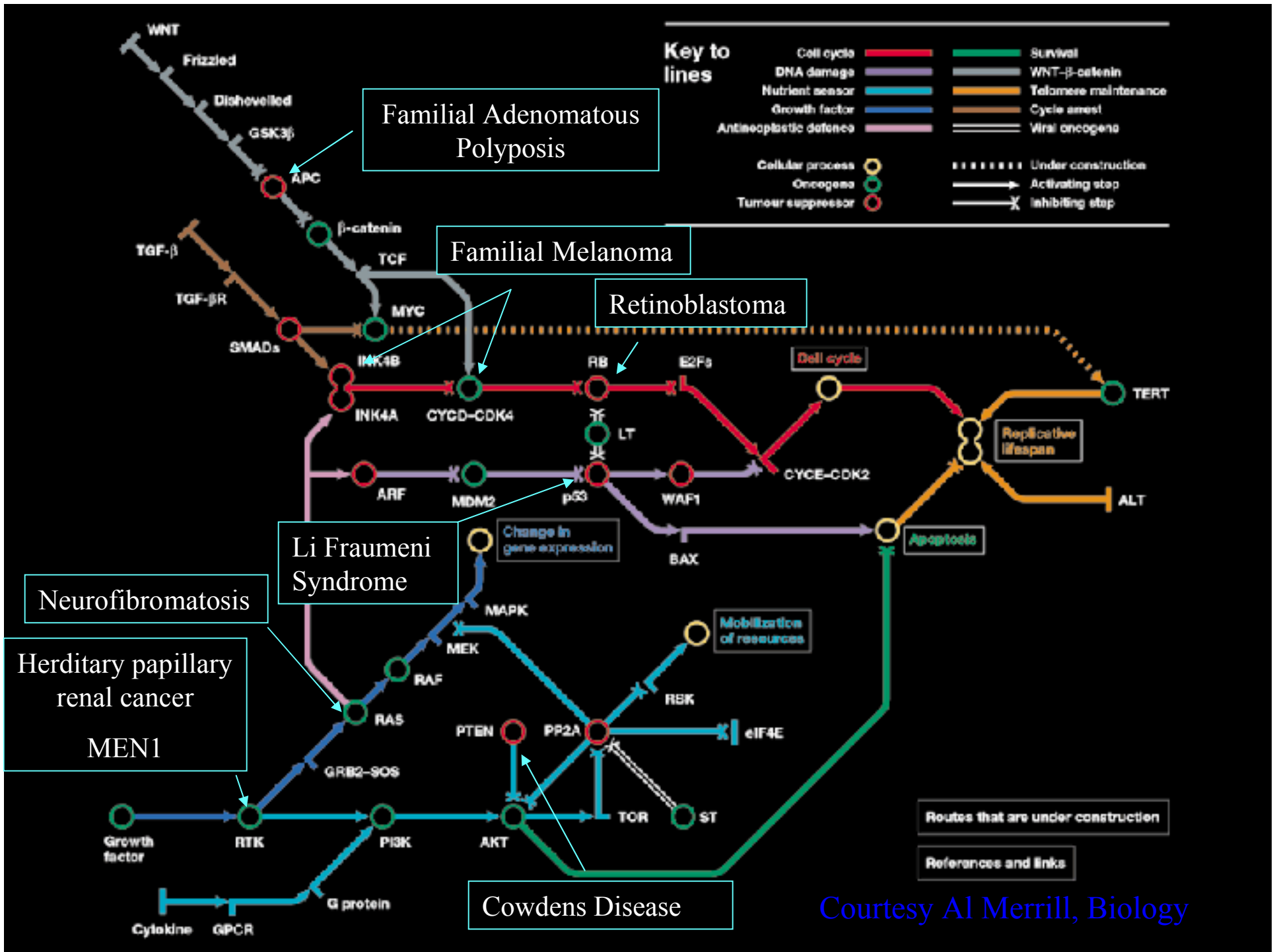
“from search & destroy...”

**Andrew von Eschenbach, Director  
National Cancer Institute:**

“Cancer therapy is undergoing a major  
transformation...”



“to target and control.”



Courtesy Al Merrill, Biology

# Georgia Technology and Cancer...

Bioinformatics  
and Systems  
Biology (making  
sense of  
pathways!)

Basic Biology:  
intracellular  
pathways, DNA  
repair

Sensor  
Technologies  
(Single  
Molecule  
Sensors: MEMS,  
Acoustic Wave)

Screening  
Technologies  
(Mass Spec,  
Arrays: OCI)



Drug discovery  
(from the Sea!),  
design and  
delivery

Tissue  
reconstruction  
technologies  
(bone, nerve, soft  
tissue etc)

Nanotechnology  
(non-invasive  
histology/pathology  
; contrast agents)

**THERE ARE ~45 INVESTIGATORS ACTIVELY ENGAGED IN  
BATTLING CANCER AT GT**

# Targeted Cancers...

- Ovarian Cancer
- Breast Cancer
- Lung Cancer
- Prostate Cancer
- Brain Cancer/GBM

# Cancer related activities cut across colleges, schools and institutes

- **College of Arts and Sciences** (chemistry, Biology, physics);
- **College of Engineering** (chemical/biomolecular, biomedical, materials science, and electrical and computer engineering)
- Ovarian Cancer Institute
- Institute for Bioscience and Bioengineering
- Georgia Tech/Emory Center for Engineering Living Tissues
- Center for Drug Discovery, Design and Delivery
- Center for Cancer Nanotechnology Excellence
- Institute for Nanomedicine

# GT continues investments in the area of cancer...



- Yuhong Fan (Epigenetics, OCI)
  - Melissa Kemp (Bioinformatics, BME/IBB)
  - Francesca Storici (DNA repair, Gene Therapy, Biology)
- Jean-Lou Chameau, former Georgia Tech Provost (now President of CalTech)**
- “...maybe to the surprise of many, there is a very significant amount of work done at Tech that is directly relevant to cancer research.
  - In addition, a large part of cancer treatment and progress toward cures are in fact driven by advances in science and technology disciplines, i.e. ones where we are strong.

# The Promise of Collaboration is alive and well!

- The Winship Cancer Center
- Predictive Health Institute (GT-Emory)
- Institute for Nanomedicine (GT-Emory)
- Children's Healthcare of Atlanta
- St. Josephs Hospital/St. Joseph's Translations Research Institute
- University of Georgia/Emory (Stem cell biology and relationship to cancer)

**GCC is an important ally, catalyst and force of convergence!**

# GT's faces of cancer research...

