



# Need for Clinical Cancer Biologists: Medical Oncology Training Programs

A Journey  
of Discovery  
A Destination  
of Achievement



Division of Cancer Medicine  
Hematology/Oncology Fellowship Program

THE UNIVERSITY OF TEXAS  
**MD Anderson  
Cancer Center**

Making Cancer History®

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# Who do you want to be?

- **Personal Vision**
- **Personal Mission**
- **Personal Goals**

# Some Thoughts

- Clinical Practice
  - General vs Specialized
  - Academic vs non-academic
  - Yes or no
- Research
  - Yes or no
- Community Outreach
  - Yes or no

# Career Development

- Private practice
- Academic
  - Clinical practitioner
  - Clinical investigator
  - Physician scientist
  - Basic scientist
- Industry
  - Pharma
  - Diagnostic companies
- Government: NCI, FDA, etc.

# Hematology/Oncology Curriculum

## 1-18 M:

- Mandated clinical rotations for 12-18 M
- Continuity clinic 1 ½ per week

## 19-36 M:

### Individualized (tailored) training tracks:

- **Physician Scientist:**
  - ▶ Predominantly laboratory-based research
- **Clinician Investigator:**
  - ▶ Drug development and clinical trial design
  - ▶ Epidemiology, genetics, outcomes research, prevention
  - ▶ Masters of Science in patient-based biological research
- **Community-Based Practice:**
  - ▶ Electives in neuro-oncology, radiation oncology, community oncology (satellite clinics)

# American Society of Clinical Oncology and Fellowship Training

- ASCO has no OFFICIAL role in fellowship training
  - ASCO supports educational initiatives
    - In-training examination for 2<sup>nd</sup> and 3<sup>rd</sup>-year fellows, 2007
    - Career planning workshops
    - Fellows lounge
    - Communications/breaking bad news
  - ASCO supports research
    - Young investigator awards: \$50,000 for 1 year
    - Grant-writing workshops
    - Travel awards to present original research
- } Annual Meeting

# Oncology is Changing!

## 1960s-1970s

- Cell cycle kinetics
- Alkylator therapy

## 1980s-1990s

- Expansion of cytotoxic agents
- Colony-stimulating factors
- High-dose chemotherapy
- Begin multidisciplinary care

## 2000-Present

- Molecular therapy
- Immunotherapy
- Routine multidisciplinary care
- Personalized cancer therapy

**Training Must Change!**

# Clinical Cancer Biologist Team Medicine & Team Science

- **Administrator/Leader**
- **Clinician**
- **Clinical Investigator**
- **Epidemiologist**
- **Translational Researcher**
- **Basic Researcher**



# Role of Academic Oncologists

- **Provide high-quality of patient care**
  - **Establishment of standard of care**
  - **Innovative research opportunities**
  - **Implementation of multidisciplinary care**
- **Produce high-quality evidence or ideas**
  - **Innovative research**
  - **Innovative clinical trials**

# **Building a system for the future**

- **Platform oriented approaches**  
**(Pharmacogenomics, biomarkers, etc.)**
- **Seamless delivery of care and treatment**
- **Patient-oriented and patient-centered research and treatment**
- **Survivorship Medicine**

# **The Oncologist of the 21<sup>st</sup> Century**

- **Multidisciplinary team member or team leader**
- **Maximize efficacy, minimize toxicity, and respect organ preservation (personalized medicine)**
- **Develop robust communication skills & leadership**
- **Biology- and patient oriented clinician**

# Tips for Studying Abroad

- What is your vision?
- Is your vision aligned with your host/mentor?
- Pick the right mentors.
- Well defined goals based on mission and vision
- Communication and leadership skills
- The real challenge after your return to Japan.

# Acknowledgment

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