



ACTUARIAL SOCIETY  
of  
H O N G K O N G  
香 港 精 算 學 會

*A Careers Seminar on*  
**The Actuarial Profession**

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***Council Member and Chairman of the Education Committee,  
Actuarial Society of Hong Kong***

6 February, 2010

# 自我介紹 --- 陳偉森

廣東省順德縣人，出生於香港  
在香港接受小、中及大學教育

## 經歷

- 香港中文大學工商管理學學士 (主修會計學)
- 香港中文大學哲學碩士(統計學)
- 美國費城天普大學應用統計學碩士
- 美國費城天普大學應用統計學博士
- 新加坡國立大學統計學系高級講師
- 香港大學統計及精算學系副教授
- 現任香港中文大學財務系教授

## 業餘的嗜好 --- 考試

- 北美精算師學會會員 (F.S.A.)
- 美國企業風險管理分析師 (C.E.R.A.)



## Topics to be covered

1. What is an actuary and the actuarial profession ?
2. Why is the actuarial profession attractive ?
3. Where do actuaries work and what they do ?
4. Career and education path
5. How much do actuaries earn ?
6. Who can be and how to become an actuary ?
7. The Actuarial Society of Hong Kong
8. Panel Q&A

## What is an actuary?

- ❖ Actuaries are amongst some of the brightest people in the business world by applying mathematical expertise, statistical knowledge, economic and financial analyses and problem solving skills to wide range of practical business problems.
- ❖ Actuaries assist organizations to evaluate long-term financial implications of their decisions and manage the risks faced by them.
- ❖ Actuaries help people to better plan for the future by findings solutions to control or reduce financial risks associated with retirement, health, investment, dying too soon, living too long...etc.

## The actuarial profession

Actuaries are professional because:

- ❖ To qualify as an Actuary, you must complete one of the recognized **actuarial education program**.
- ❖ A qualified Actuary (“fellow”) is required to comply with the **Professional Standards** and demonstrate integrity, honesty and due care when providing advices.
- ❖ Fellows are required to fulfill **Continuing Professional Development** (“CPD”) each year (e.g. participating in relevant professional seminars) to ensure their professional knowledge are up to date.

# The actuarial profession

**THE WALL STREET JOURNAL.**

WSJ.com

CAREERS | JANUARY 5, 2010

## The Best and Worst Jobs

By SARAH E. NEEDLEMAN

At least twice a month throughout the recession, headhunters have dangled job opportunities in front of Ryan McAllister, an actuary for Fireman's Fund Insurance Co. in Novato, Calif. "If I were ever unhappy with my employer, I could pick up the phone and find something else very quickly," says the 28-year-old Mr. McAllister. He joined the high-net-worth property and casualty insurer after graduating in 2005 from the University of California at Davis, with a bachelor's degree in applied mathematics.

Being in high demand is just one reason **actuary landed at the top spot on a newly released study ranking of the 200 best and worst jobs in the U.S.** The findings were based on five criteria: environment, income, employment outlook, physical demands and stress. Les Krantz, author of "Jobs Rated Almanac," compiled the rankings from the Bureau of Labor Statistics and the Census Bureau, as well as studies from trade associations and his own expertise.

# The actuarial profession

JANUARY 5, 2010

## Best and Worst Jobs 2010

The 200 best and worst jobs in the U.S. in 2009 based on five criteria -- environment, income, employment outlook, physical demands and stress -- according to a newly released study from job site CareerCast.com. Read about the methodology.

<< first < prev 1 2 3 4 next > last >>

Rank	Job	Starting salary	Midlevel salary	Top level salary
1	ACTUARY	\$49,000	\$85,000	\$161,000
2	SOFTWARE ENGINEER	\$54,000	\$85,000	\$129,000
3	COMPUTER SYSTEMS ANALYST	\$45,000	\$76,000	\$118,000
4	BIOLOGIST	\$39,000	\$71,000	\$148,000
5	HISTORIAN	\$34,000	\$62,000	\$111,000
6	MATHEMATICIAN	\$54,000	\$95,000	\$141,000
7	PARALEGAL ASSISTANT	\$29,000	\$46,000	\$73,000
8	STATISTICIAN	\$40,000	\$73,000	\$117,000
9	ACCOUNTANT	\$37,000	\$59,000	\$102,000
10	DENTAL HYGIENIST	\$44,000	\$67,000	\$91,000

## Why is this profession attractive ?

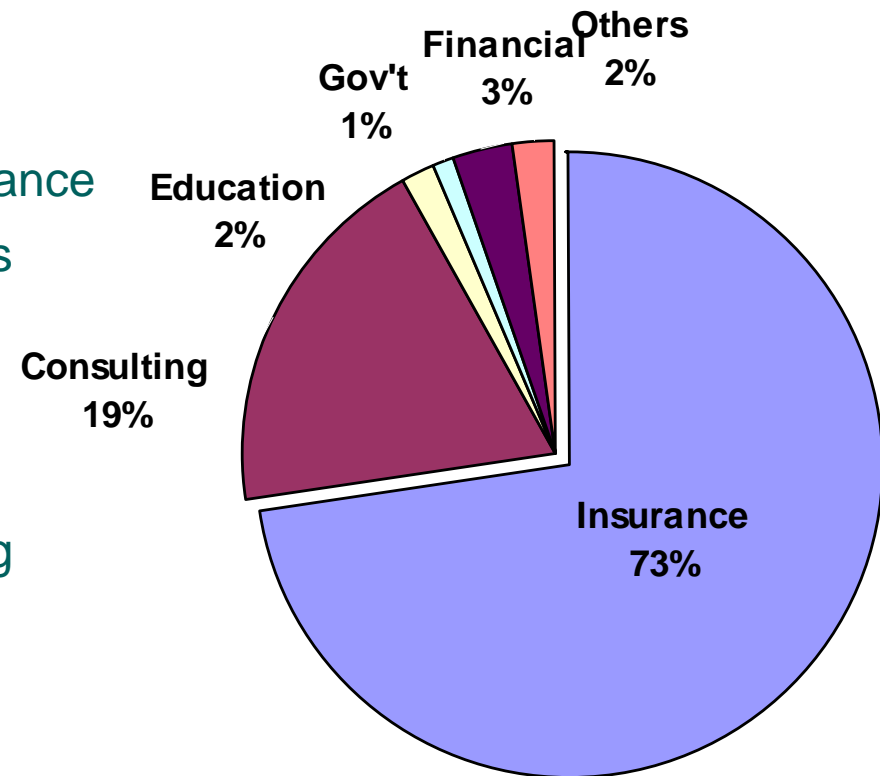
The actuarial profession has every of the attractions below:

- International recognized professional qualification
- Ethical profession with high standards
- Excellent career path development
- Intellectual challenge and job satisfaction
- Above average income
- Opportunities to work anywhere in the world
- Thriving professional life – conferences, workshops, traveling

✂ **It is a well-respected profession and a high potential development of career in the financial world.**

## Where do actuaries work in Hong Kong ?

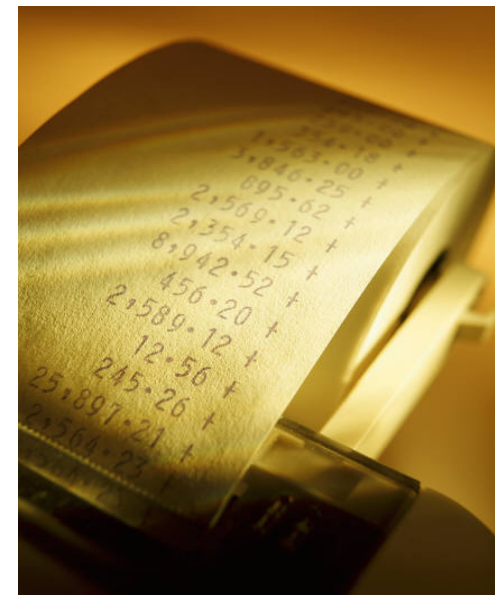
- Insurance companies
  - Life insurance
  - Non-life / General insurance
  - Reinsurance companies
- Consulting firms
  - Insurance / Retirement
- Financial institutions
  - Investment and Banking
- Government service
- Education establishment



## What do actuaries do?

Actuaries are experts in assessing the financial impact of tomorrow's uncertain events by:

- Analysing the **past**
- Modelling the **future**
- Assessing the **risks** involved
- Deciding with **professional judgement** the appropriate course of action to implement or recommend how to manage the risk and uncertainty, advise on financial problems
- **Communicating** what the results mean in financial terms...and human "understandable" term



## Why communication is important?

### **Actuaries must be able to communicate, we can't just be a mathematical person. Why?**

Deal with various company department representatives on projects (e.g. product development).

Attend Board Meetings to communicate key financial issues to the Board of directors (e.g. solvency issues / capital requirement).

Present recommendations to senior management of the company (e.g. policyholder dividend strategy).

Deal with institutional clients, reinsurance partners, regulatory bodies on business related matters.

## Examples of work areas of an actuary

### Life insurance

- Design, price, and value a variety of insurance products.
- Examples: life insurance, investment, savings, pensions, and other financial services or packages.
- Responsible for financial management of the company, strategy development, and customer fairness.
- Ensure the financial soundness and risk management of the company.

### General insurance

- Fire, accident, motor vehicle, worker's compensation – growing contribution made by actuaries.
- Assessment of the impact of changing conditions on financial viability of general insurance products.

## Examples of work areas of an actuary

### Actuarial consulting

- Advise insurance companies on all aspects of their business such as financial reporting, product development and pricing.
- Investigate market potentials and opportunities for market entry / further development.
- Perform evaluations on mergers and acquisitions for clients.

### Reinsurance

- Share and help to manage the risks with insurance companies.
- Provide added value services on product design, underwriting, claims management or other financial arrangement for insurance companies.

## How many qualified actuaries are there?

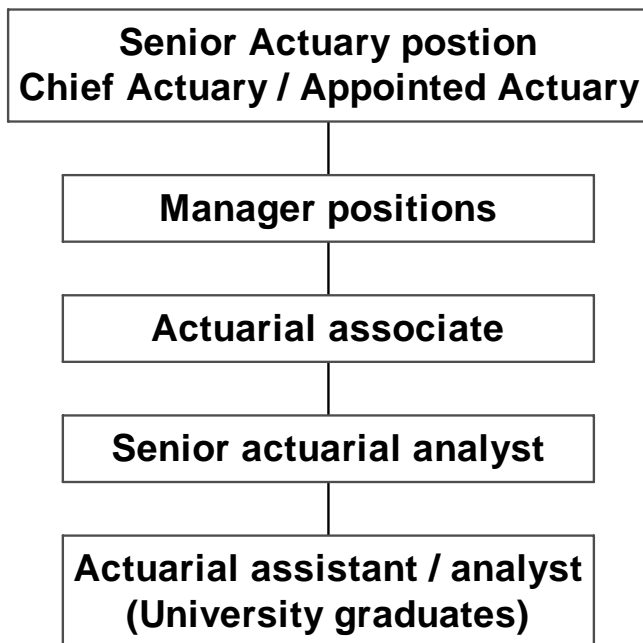
Associations/ Regions	No. of Fully Qualified Actuaries (Year 2009)
<b>Hong Kong</b>	<b>393</b>
<b>China</b>	<b>250</b>
<b>Asia*</b>	<b>2,716</b>
<b>Australia</b>	<b>1,561</b>
<b>UK Profession</b>	<b>9,792</b>
<b>US</b>	<b>16,620</b>
<b>South Africa</b>	<b>788</b>
<b>Worldwide</b>	<b>64,037</b>

*\* Asia includes China, Hong Kong, India, Indonesia, Japan, Malaysia, Pakistan, Philippines, Singapore, Taiwan, and Thailand.*

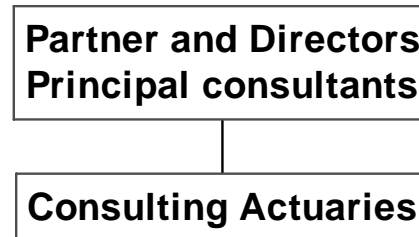
Source of figures, IAA.

# Career path

## *Insurance company path*



## *Consulting Firm path*



## Career options for senior positions

Attractive career options for senior positions for actuaries:

1. Chief Financial Officer
2. Chief Actuary / Appointed Actuary
3. Product Actuary
4. Risk Management Actuary
5. Partner / Principal Actuarial Consultants
6. Managing Director / Chief Executive Officer



## How much do actuaries earn?

- Graduate entry salaries between HK\$12,000 -16,000 per month, varying across sectors, companies, and location of the position.
- Employer support for continuous exam seating at work.
- Student actuaries get salary increases as they pass the exams, also depend on job performance.
- A newly/recently qualified actuary (with few years of experience) earns around HK\$40,000 - 60,000 per month.
- More experienced / senior actuaries can earn over HK\$70,000 - 100,000+ per month depending on the job they do.
- Other benefits may include annual leave, discretionary bonus payment, retirement benefit, medical and life insurance.



## Who can be an actuary?

- ❖ We are one of the professionals that have been attracting the best students with.....
  - Excellent academic records, not limited to only actuarial science or mathematics graduates
  - Solid language, communication / presentation skills
  - Very focussed and detail-oriented mind and understand the key issues
  - Analytical and problem solving skills and be able to think and explain matters clearly and logically
  - Self-motivated, determination and willing to commit
  - Interest in the business world with enthusiasm
  - Business and Common sense

## How to become an actuary?

- In Hong Kong, we don't have a local actuarial system.
- Fellowship are obtained from the following common international recognized actuarial bodies:

### **U.S.A.**

**The Society of Actuaries (FSA)** [www.soa.org](http://www.soa.org)

**The Casualty Actuarial Society (FCAS)** [www.casact.org](http://www.casact.org)

### **U.K.**

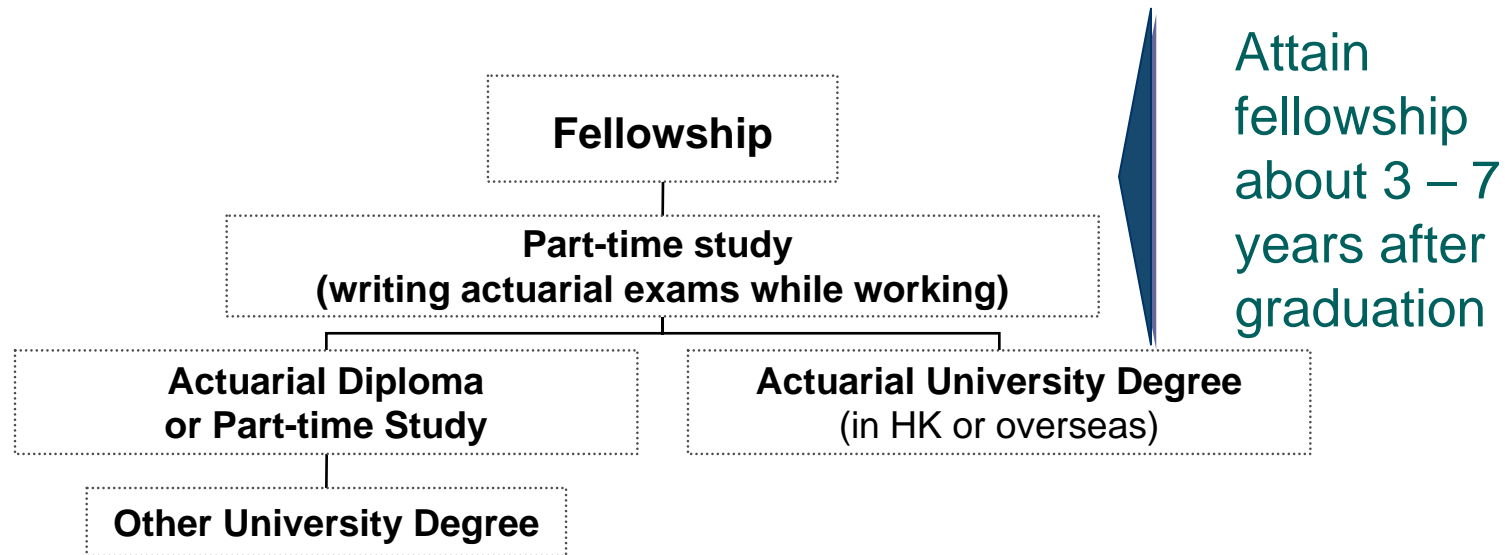
**The Faculty & Institute of Actuaries (FFA and FIA)** [www.actuaries.org.uk](http://www.actuaries.org.uk)

### **Australia**

**The Institute of Actuaries of Australia (FIAA)** [www.actuaries.asn.au](http://www.actuaries.asn.au)

## Education path to Fellowship

### Qualification Route



Basic foundation is excellent school results especially in Mathematics.

University Degree, if not Actuarial, preferably in a science subject (Mathematics, Economics, Statistics, Engineering etc)

## Highlights of actuarial examinations

- ❖ **Technical examinations** (similar for all actuarial associations globally)
  - Mathematics and statistics
  - Economics
  - Corporate finance
  - Interest and risks theory
- ❖ **Practical examinations** (different for each country), e.g.
  - Fundamentals of actuarial practice
  - Actuarial control cycle
  - Insurance & Investment practice
- ❖ **Specialist examinations**, choice among
  - Life insurance, general insurance, retirement/pension, group, health, investment, asset liability management etc.
- ❖ **Professionalism course and practical experience requirements**

**Examination  
Syllabus**

## Actuarial studies and exam support

Study support from employers for you to write exams:

### Formal

- Study materials (books, study notes)
- Study leave entitlement
- Reimbursement of exam fees
- Salary increment incentives

### Informal

- Work experience related to course content
- Actuarial society presentations / seminars
- Colleagues & study groups

# The Actuarial Society in Hong Kong

## Actuarial Society of Hong Kong (“ASHK”)

[www.actuaries.org.hk](http://www.actuaries.org.hk)



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- The ASHK was established mainly to increase value to the community of the actuarial profession, uphold standards of professional conduct, encourage and assist the study of actuarial science and discuss actuarial aspects.
- Through the activities organized by the ASHK, members can discuss actuarial issues with other actuaries in the industry, participate in seminars/luncheons on relevant topics or even find a job via circulation of job advertisements!

# The Actuarial Society of Hong Kong

## Membership (2010)

Fellow members	406
Associate & students members	298
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Total	704



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Members of the ASHK are usually a member of one of the followings:

- U.S.A. The Society of Actuaries (SOA) and the Casualty Actuarial Society (CAS)
- U.K. The Faculty and Institute of Actuaries (UK Profession)
- Australia The Institute of Actuaries of Australia (Institute)

## For more information....

- ❖ Your career advisors
- ❖ Actuarial Society of Hong Kong [www.actuaries.org.hk](http://www.actuaries.org.hk)
- ❖ International Actuarial Association [www.actuaries.org](http://www.actuaries.org)
- ❖ American Academy of Actuaries [www.actuary.org](http://www.actuary.org)
- ❖ Canadian Institute of Actuaries [www.actuaries.ca](http://www.actuaries.ca)
- ❖ Employers web-sites
- ❖ Internship experience
- ❖ Visit our booth at the Career expo !!



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*A Careers Seminar on*

The Actuarial Profession

Panel discussion session

Question & Answer