Career Development Workshop for Women in Physics
Sept. 16-19, 2013 (ICTP, Trieste, Italy)

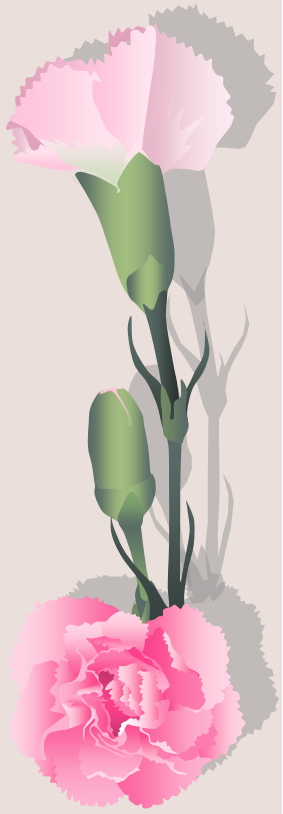
Can we design our career ?

---- How to survive in an unexpected life

Setsuko Tajima

Dept. Physics, Osaka University

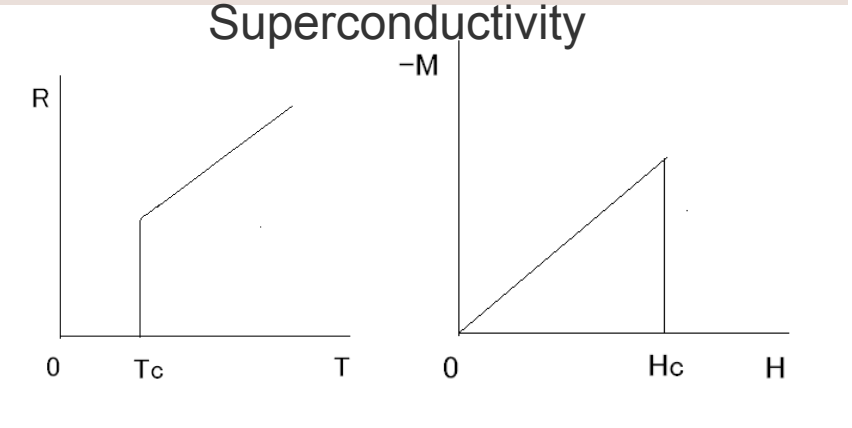
Japan



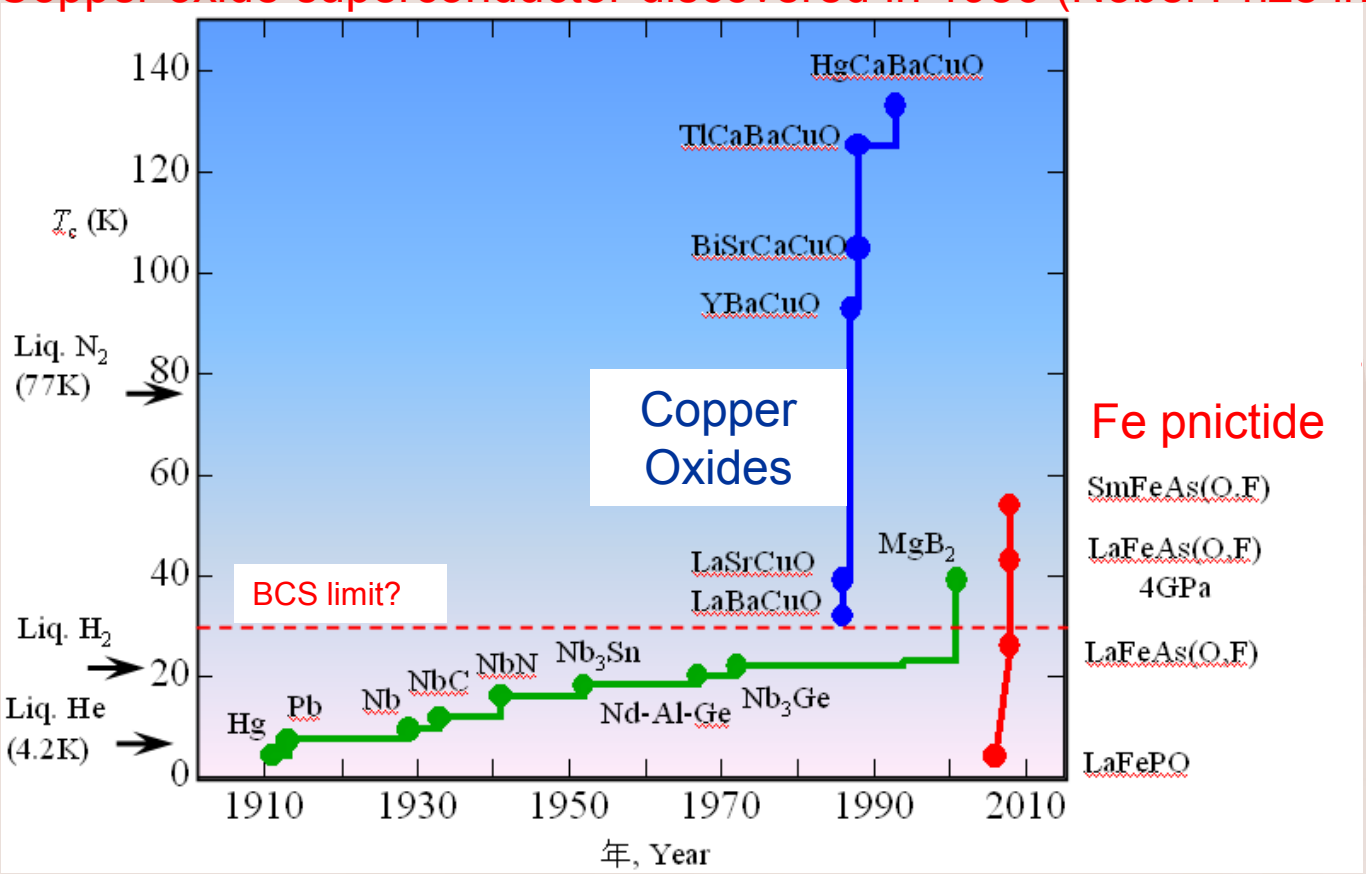
Self-introduction

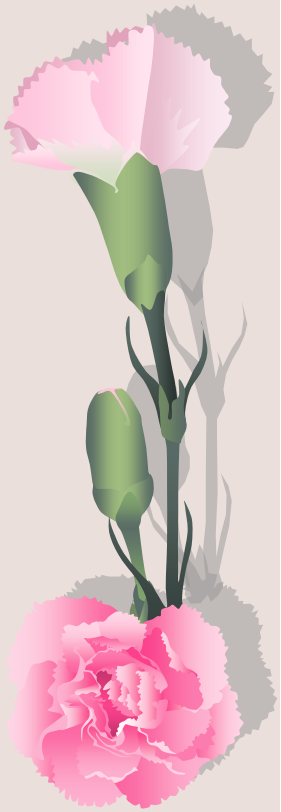
Research Field

- High Temperature Superconductivity
- Tool: Optical Spectroscopy



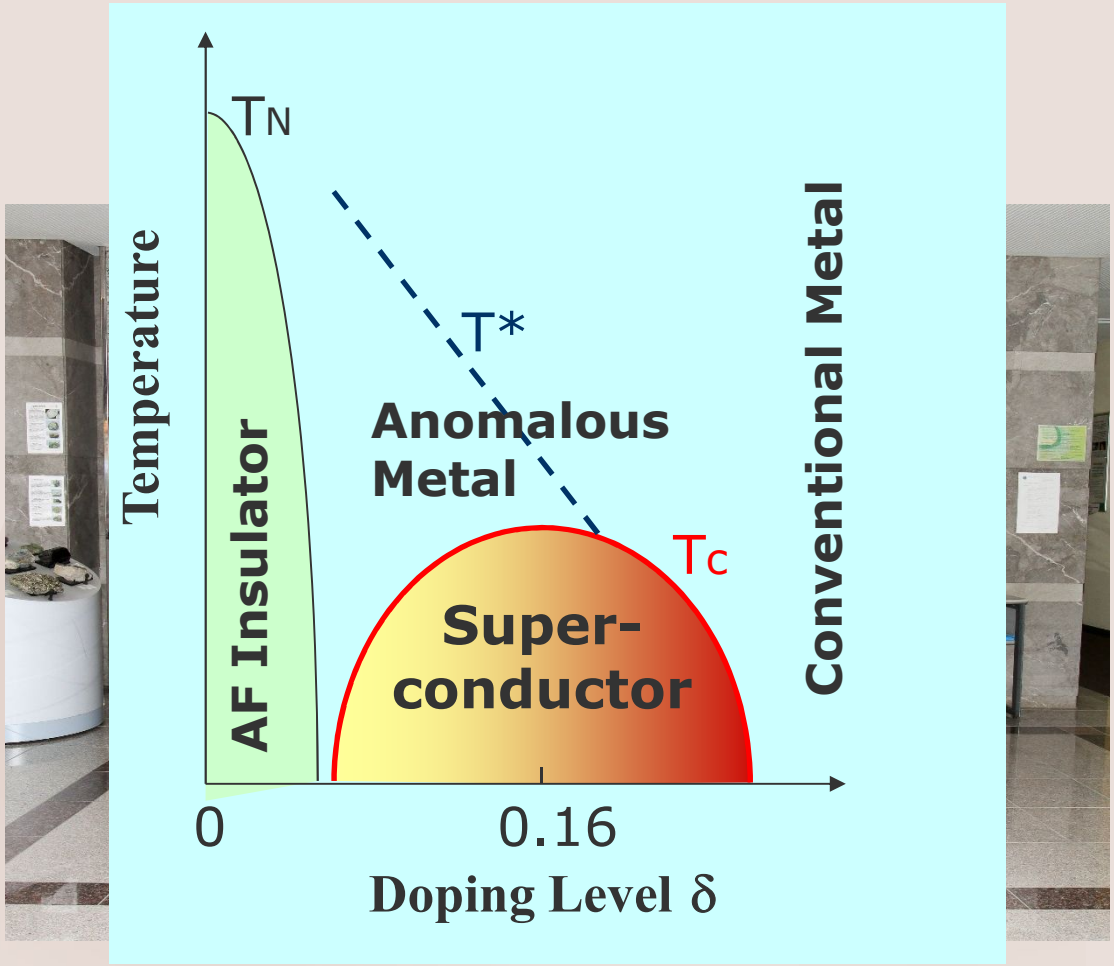
Copper oxide superconductor discovered in 1986 (Nobel Prize in 1987!)

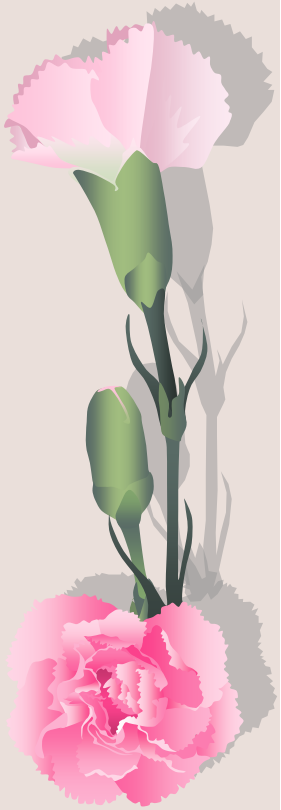




- Superconductivity in strongly correlated electronic systems
- The strong correlation limit → Mott insulator
- Various anomalous properties

  → Elucidation of the superconductivity mechanism





My career: 37 years history

1973: entered the Univ. of Tokyo with a strong wish to study Physics

1977: graduated from the Dept. of Applied Physics at the Univ. of Tokyo, entered the NEC Co. as a researcher of semiconductor technology

(not go to the graduate school because of my father's strong opposition.)

→1st interruption

1979: married, and quitted the NEC to go to Germany with my husband.

→2nd interruption

~1980: I could do research of semiconductor physics at the Karlsruhe Univ. in Germany for one year. (Returning to Physics)

1980: After coming back to Japan, I could not find a job because I was pregnant. I was perfectly a housewife. **→3rd interruption**

1981: My former supervisor recommended me to attend the seminar in his lab. (Research student for a half year) The 1st baby was born.

My mother took care of my baby once a week when I went to the university.

Keeping only a very fine thread-like connection to academic community

1982: The professor recommended me to do experiment in his lab.

(Employed as a part-time research assistant at the Univ. of Tokyo)

→ **Partially coming back to Physics community**

My mother took care of my baby in the daytime of two days in a week.

I did only experiments at the university and did all other works (data analysis, reading and writing papers, etc.) at home.

1983: The 2nd baby was born.

No plan for future but enjoying Physics

1986: The professor recommended me to write a doctor thesis.

He also recommended me to become an assistant professor.

→ **Completely re-entering a career in Physics**

1987: promoted to a lecturer.

1989: moved to the Superconductivity Research Laboratory (SRL).

I worked there as a researcher and a division director for 15.5 years.

With the help of two mothers, a nursery, and many supporters, I could continue the research.

2003: My younger son became a university student and my husband moved to Nagoya. Then, I decided to look for a university position.
2004: got a full professor position at Osaka university

Since then, I have been living alone in Osaka, but go back to Tokyo in every weekend to take care of my mother of law.

It is hard to say what is unfortunate and what is fortunate.

- I could not go to Dept. of Physics but to Dept. of Applied Physics
- I had to quit a job of the NEC
- I had to move to the SRL, leaving the Univ. of Tokyo

Can we design our career?

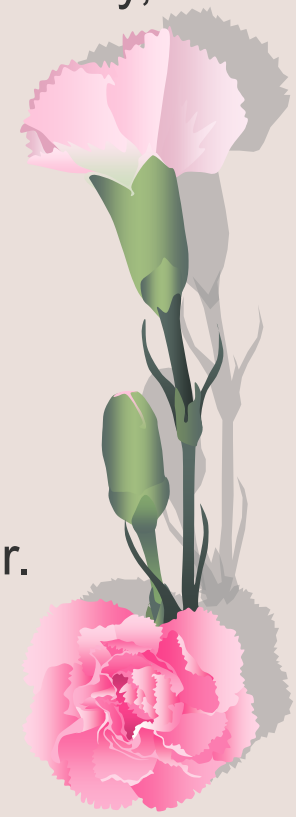
I could not.

The life does not go as you want.
prejudice, marriage, child birth, parents care, movement of family, sickness, war… etc.

Then, what should we do?

My style was to accept everything as “destiny”,
and to do my best within a given boundary condition.

Consider what is the most important thing in your life
In some cases, you may have to interrupt your research career.



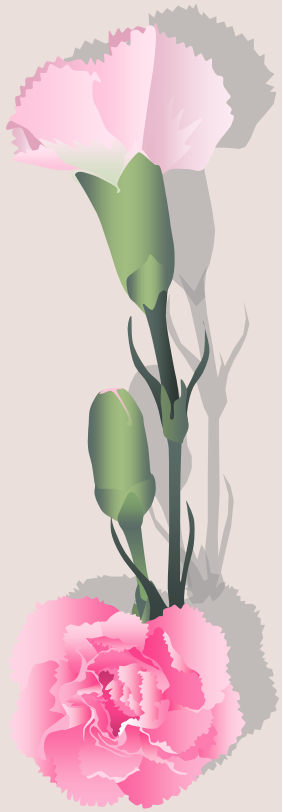
What is the effects of interruption of a physics career?

Of course, it depends how long it is.

You may be afraid of

- being unable to return to Physics
- losing a chance to get a permanent position
- losing chances to study many things, or to attend international conferences, to go abroad, etc.
- falling behind your competitors
- losing ability as a researcher
- …..

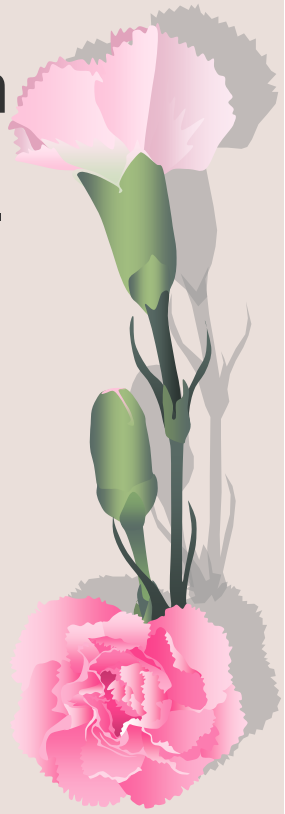
No, you need not to worry about them.
You should not compete with other researchers but face to the Nature.



Key Points to Return

- Have a strong intention to do research.
- Keep a good relationship to your supervisors and friends in Physics community.
- Never give up and believe that you can return as far as you continue to study with your best.

- Be cheerful !
  (A cheerful person can get more chances.)



What I learned from my experience

- We can go back to Physics whenever we want.
- Hot research subject is always changing.
  Even if you miss one subject because of your break, another interesting subject will appear.
- Three years are enough to become an expert in any field.
  (Not be afraid of a break, or changing subject.)

Positive effects of break

- Break strengthens your passion to Physics.
- Doing other things (child care etc.) gives you a fruitful life.
  --- *Refreshing effect*

After a break,

- Concentrating on research in a limited time is very effective. (from 9 a.m. to 5 p.m.)

Thank you for your attention!