



RAYMOND CHIU (1972-2003)

It is with profound sadness that we report the passing of Raymond Chiu, an M.D./Ph.D. student in the Department of Developmental and Molecular Biology, who carried out his thesis research in my laboratory. Raymond had been critically ill with acute lymphoblastic leukemia and passed away on Saturday August 16th, less than five weeks after the initial diagnosis. Raymond Chiu was an outstandingly intelligent and creative student who graduated from New York University magna cum laude in 1994 with a degree in Biology. After working as a research technician at Rockefeller University, he joined the Albert Einstein College of Medicine Medical Scientist Training Program in 1996. Raymond received honors in several medical and graduate school courses and also passed his Ph.D. qualifying examination with honors.

Raymond's thesis research was to determine the molecular mechanism whereby the Golgi apparatus fragments irreversibly during programmed cell death or apoptosis. This was a bold and courageous undertaking because when he began the project virtually nothing was known about this process. His project turned out to be extremely difficult, technically challenging, and often particularly frustrating. Nevertheless, because of his exceptional experimental ability, keen intellect, and tenacity Raymond was very successful indeed. He showed that a key protein involved in delivering vesicles to the Golgi apparatus, designated p115, is cleaved into two fragments early during apoptosis and this leads to Golgi fragmentation. His work culminated in a remarkable observation that the C-terminal fragment of p115 translocates to the nucleus and itself can activate the cell death pathway in otherwise healthy cells. This was a totally unexpected mechanism in the apoptotic pathway, and Raymond opened-up a novel area of research in the field. His work was published in the *Journal of Cell*

Biology in November 2002, where it was "starred" as one of the most important papers of that issue; not surprisingly, it made an immediate impact on the field. The work has been the subject of several review articles including a feature in *Trends in Cell Biology*.

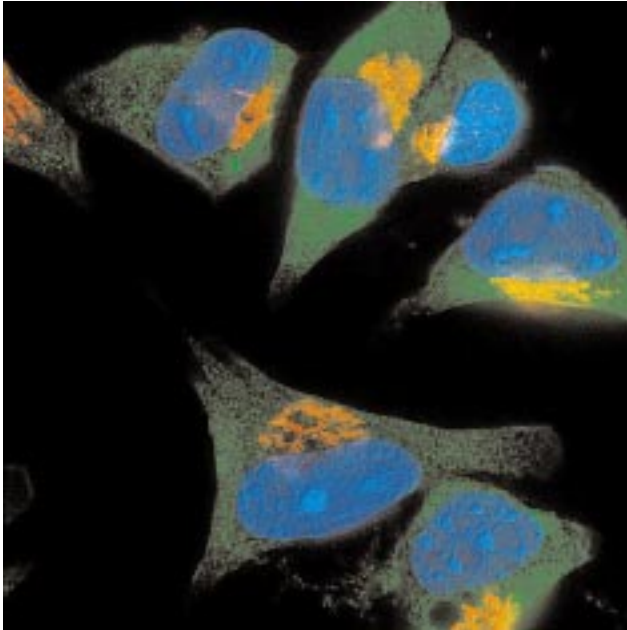
Raymond had a great appreciation for the elegance of science; he was a superb microscopist and photographer. The quality of his micrographs were exceptional and are works of art in their own right (see Figures 1-6 and the cover of this issue); several are on display in the departmental library. Like everything he did, Raymond's research seminars and Journal Clubs were meticulously prepared and presented; they were models of clarity to be emulated by students and faculty alike. Finally, Raymond was a wonderful human being; he was kind, considerate, helpful and had a warm, dry sense of humor. Anyone who had the good fortune to know Raymond was enriched by the experience.

Raymond will be greatly missed by his wife (Kyung Hee), his parents, brother (Simon), sister (Pamela), and their families as well as by all his colleagues and friends. Raymond's scientific career was far too short and there is no doubt he would have been a leader in his chosen field. In honor of Raymond's memory and scientific contributions, the department has established annual memorial seminar in his name. He leaves a wonderful legacy in his work, which is being pursued not only by members of my own laboratory, but also by investigators around the world.

Dennis Shields

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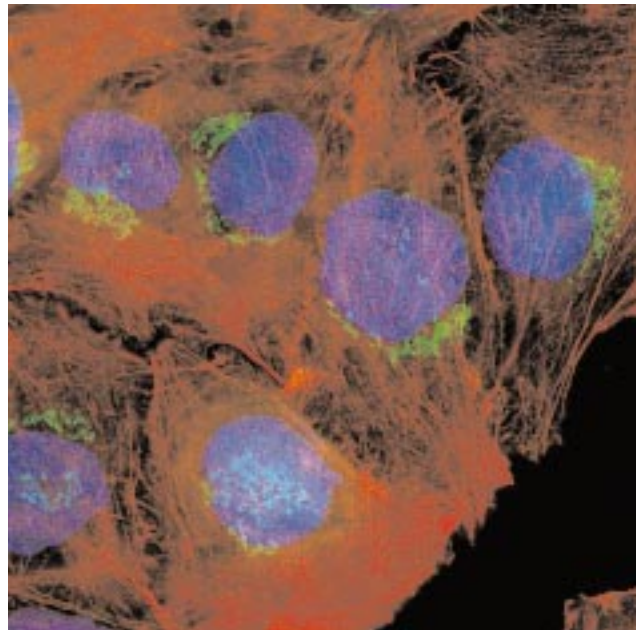


◀ FIGURE 1

Mouse pituitary AtT-20 cells were stained with antibodies to the ER resident protein BiP (green) and the Golgi matrix protein GM130 (red); nuclei are stained blue with Hoechst dye.

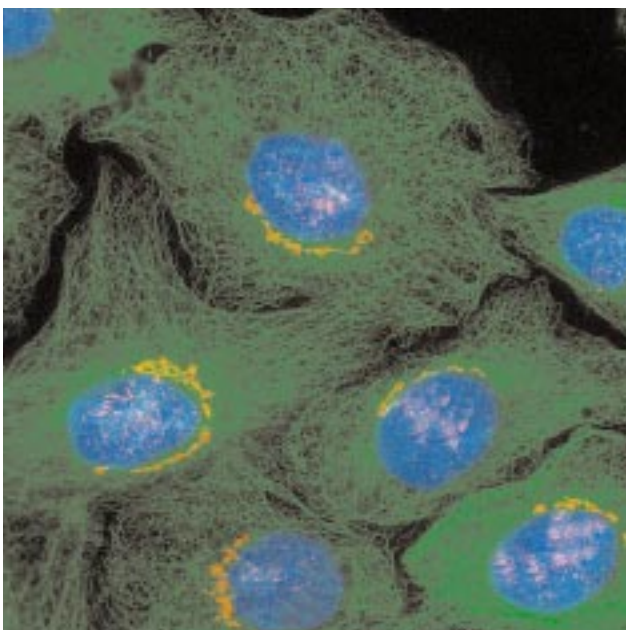
FIGURE 2 ►

Rat PC12 (pheochromocytoma cells) stained for actin fibres (red) and the medial-Golgi apparatus marker enzyme mannosidase II (green); nuclei are stained blue with Hoechst dye.

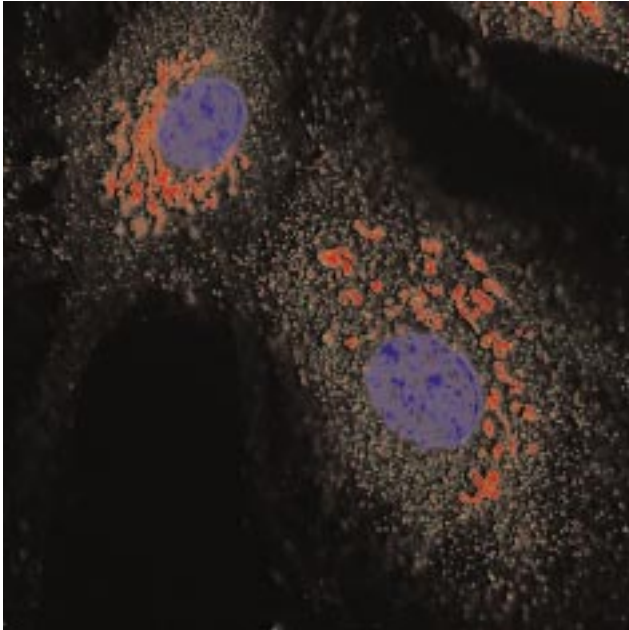


◀ FIGURE 3

PC12 cells were stained with a monoclonal antibody to α -tubulin (green) and a polyclonal antibody to the trans-Golgi network protein TGN38 (red); nuclei are stained blue with Hoechst dye.



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◀ Figure 4

NRK cells were treated with etoposide for 48 hours which causes cells to undergo programmed cell death (apoptosis). Following treatment the cells were stained with antibodies to the Golgi marker enzyme mannosidase II (red) and the endoplasmic reticulum (ER) resident protein BiP (green); nuclei are stained blue with Hoechst dye. The data demonstrate that during apoptosis, the the Golgi fragments remain distinct from the ER.

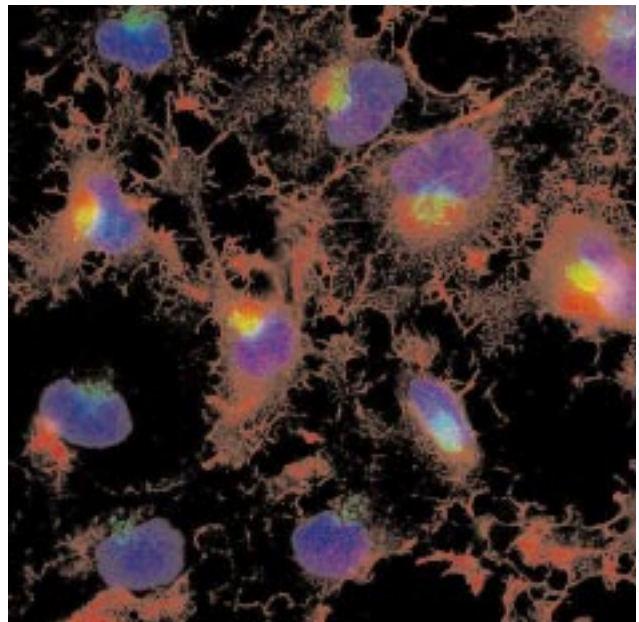
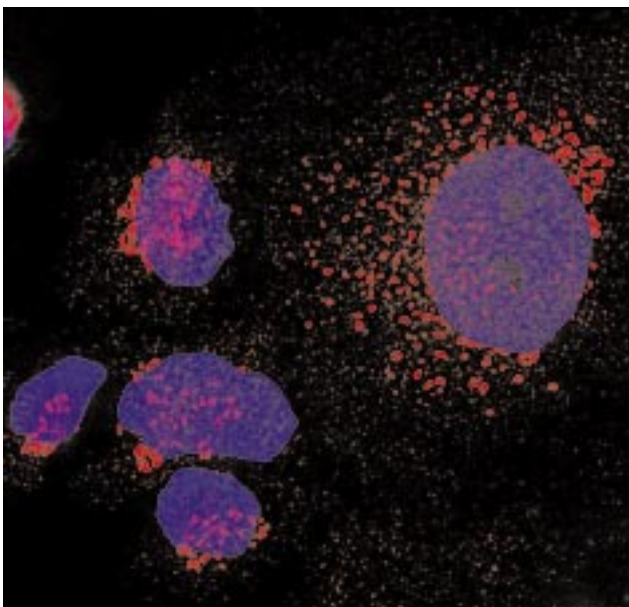


Figure 5 ▶

Rat PC12 cells were treated with staurosporine for 3 hours, a protein kinase inhibitor which causes apoptosis, and then stained with the actin binding protein phalloidin (red) and a monoclonal antibody to the Golgi matrix protein GM130 (green); nuclei are stained blue with Hoechst dye. At this early time point the Golgi apparatus remains intact although there is a major rearrangement of the actin cytoskeleton.



◀ Figure 6

Rat PC12 cells were treated with etoposide for 24 hours and stained with monoclonal antibodies to the Golgi protein GM130 (red) nuclei are stained blue with Hoechst dye. Although some of these cells are in the early stages of apoptosis at this time, the Golgi apparatus becomes fragmented.

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Untitled Poem

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The sky retains its
steel grey color
lending backdrop to the day's diminishing light,
illuminating everything and
nothing at all.

There were times
I've learned
when men judged
the passing of the day
with this fickle light's journey.
But now its embers filtered
through my window's panes
diminished
weakened
and I knew the sun today was
out of time
and thoughts wandered
meandered
amongst the darkened clouds
beyond the din of the city around and beneath me.

I thought of my friend.
Of the time standing beside him
of his words
of his face
of his hands stretched out as if
to push aside the dark for just a moment longer.

He was a man out of time – beyond time.
He stood in my mind beyond vicissitude.

I shudder now
inhaling and cursing twilight's cold breath.
Lost in thought,
lost in the essence of the words "he stood"
suspended in past tense.

Emboldened now with a new thought:
my friend is beyond time, above time and
a part of my thoughts for all time.
I close my eyes
and exhale in the cool dark of the new night.



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Today We Are Snowmen

By Daniel Cousin
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if tomorrow
died yesterday
no wonder the present
is in disarray
will my heart beat
decelerate
if the future
starts to stagnate

and you help me by stretching out your hand
and then you
help me through all I don't understand

today we are snowmen
today we are snowmen
today we're all snowmen
under the sun

in the mirror
i don't see the reflection
of all I might become
but the shadow of who I am
a new chapter
is in its inception
but it's already
after the last story's end

how can I live if I don't feel alive
I ask you
do I want to live or just survive

today we are snowmen
today we are snowmen
today we're all snowmen
under the sun

