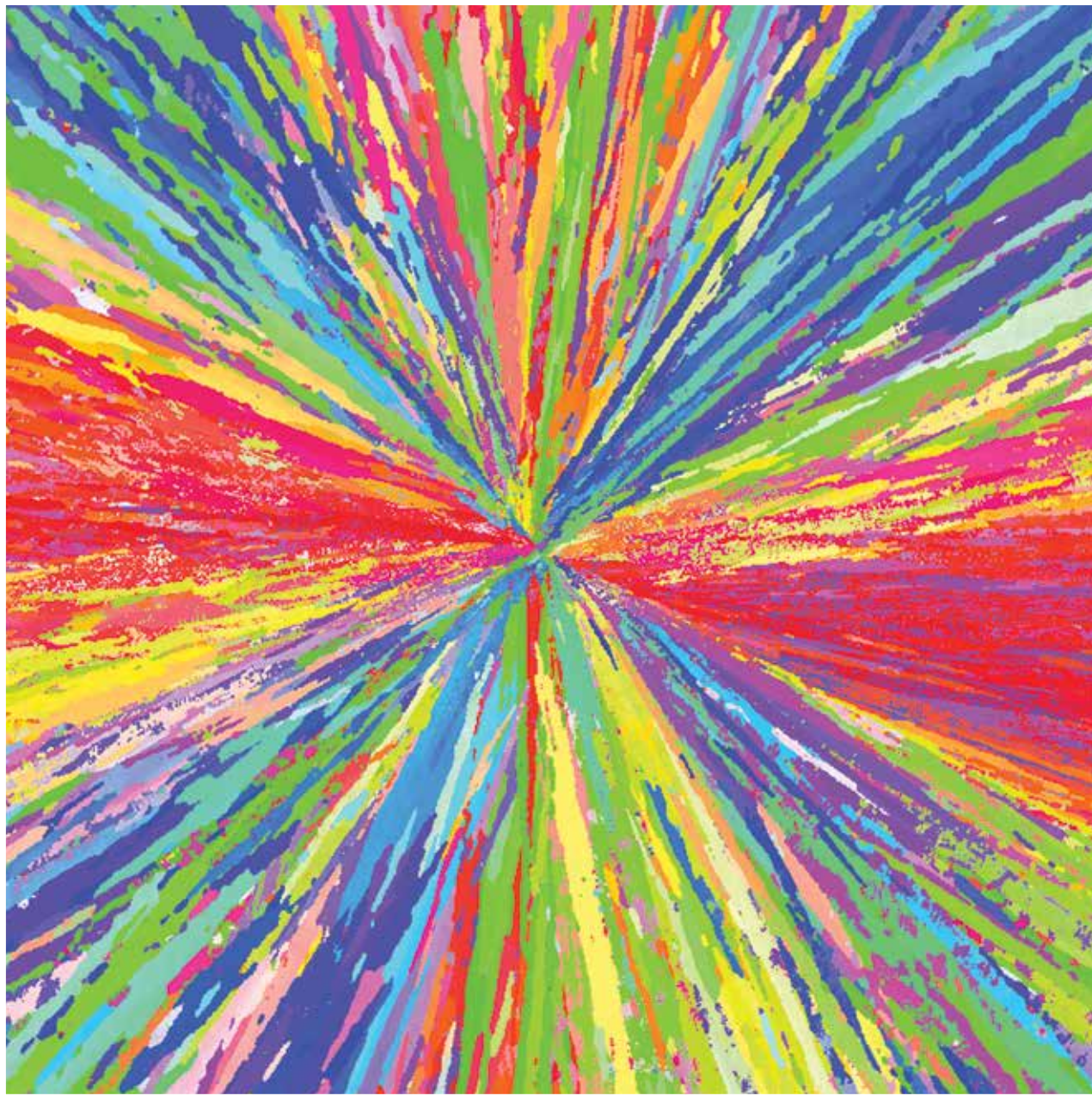


Electron backscatter diffraction (EBSD) map of a sheared rock made mostly of grains of the mineral plagioclase. The map is constructed from four million EBSD patterns on a 1 micrometre grid. The red to green colour of each pixel shows the orientation, red colours have the crystal $\langle b \rangle$ axis parallel to the long edge of the image, green colours have $\langle b \rangle$ axes 90 degrees to this. Yellow points are a different mineral (hornblende). Blue lines are twin boundaries, where the crystal $\langle c \rangle$ axes change by 180 degrees. Data were collected on the Zeiss Sigma FEGSEM using an Oxford Instruments Nordlys EBSD camera and AZTEC EBSD acquisition software. By: David Prior

2013

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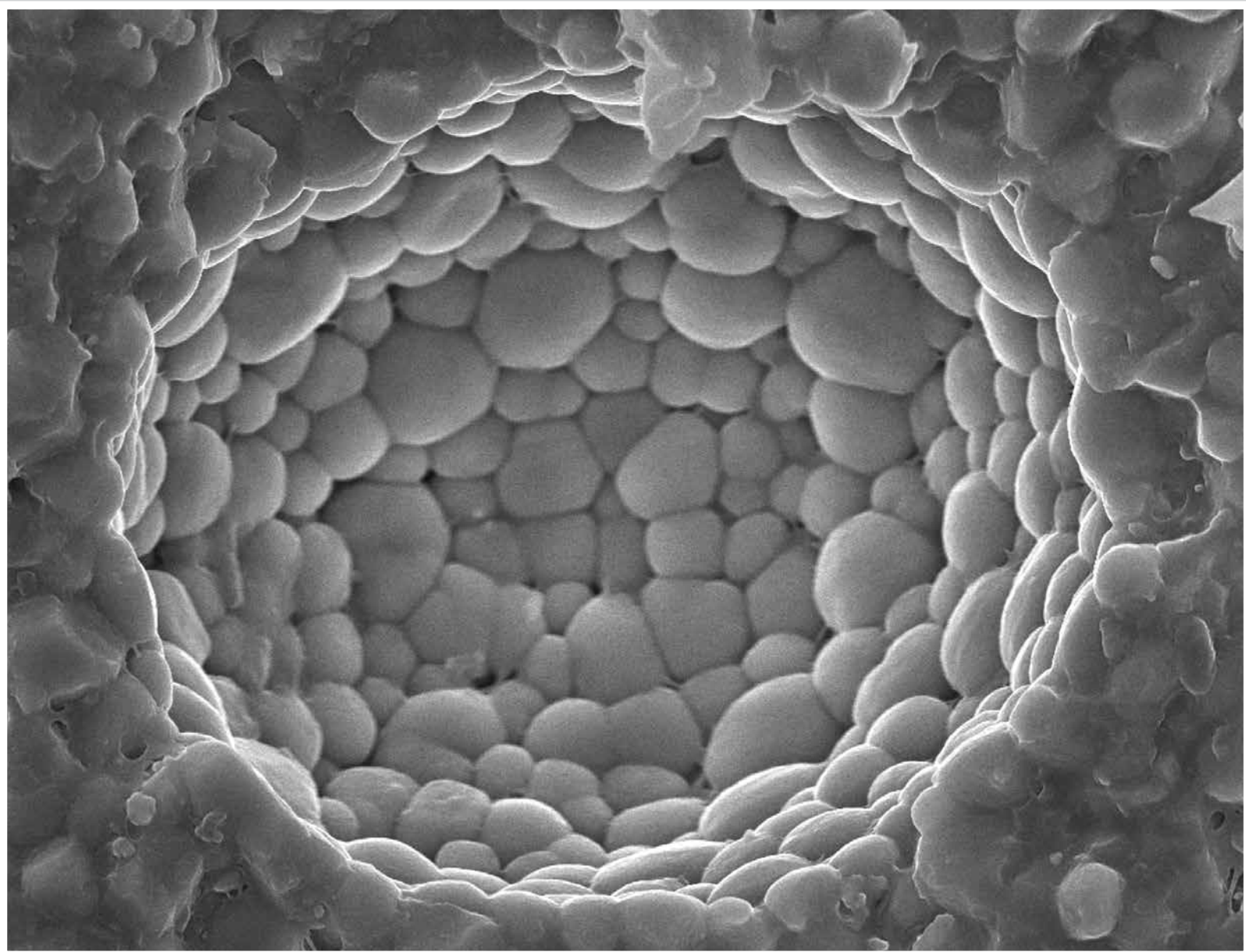


An electron backscatter diffraction orientation map of a Co-Cr-Mo alloy used for manufacturing dental restorations. By: Allan Mitchell

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This calendar is dedicated to the memory of Chris (Li Hong) He, a dedicated member of the OCEM Users Group, a talented scientist and an esteemed colleague. This is an image of zirconia crystals generated by Chris He.

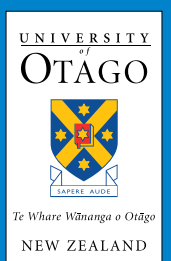
January 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

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Holidays and Observances:

- 1** New Year's Day
- 2** New Year Holiday
- 3** New Year's Day observed
- 7** Summer School begins
- 14** Southland Anniversary Day
- 21** Wellington Anniversary Day
- 28** Auckland/Northland Anniversary Day





TiO₂ Love Heart: Formation of a love heart from titanium dioxide nanoparticles. By: Geoffrey Weal

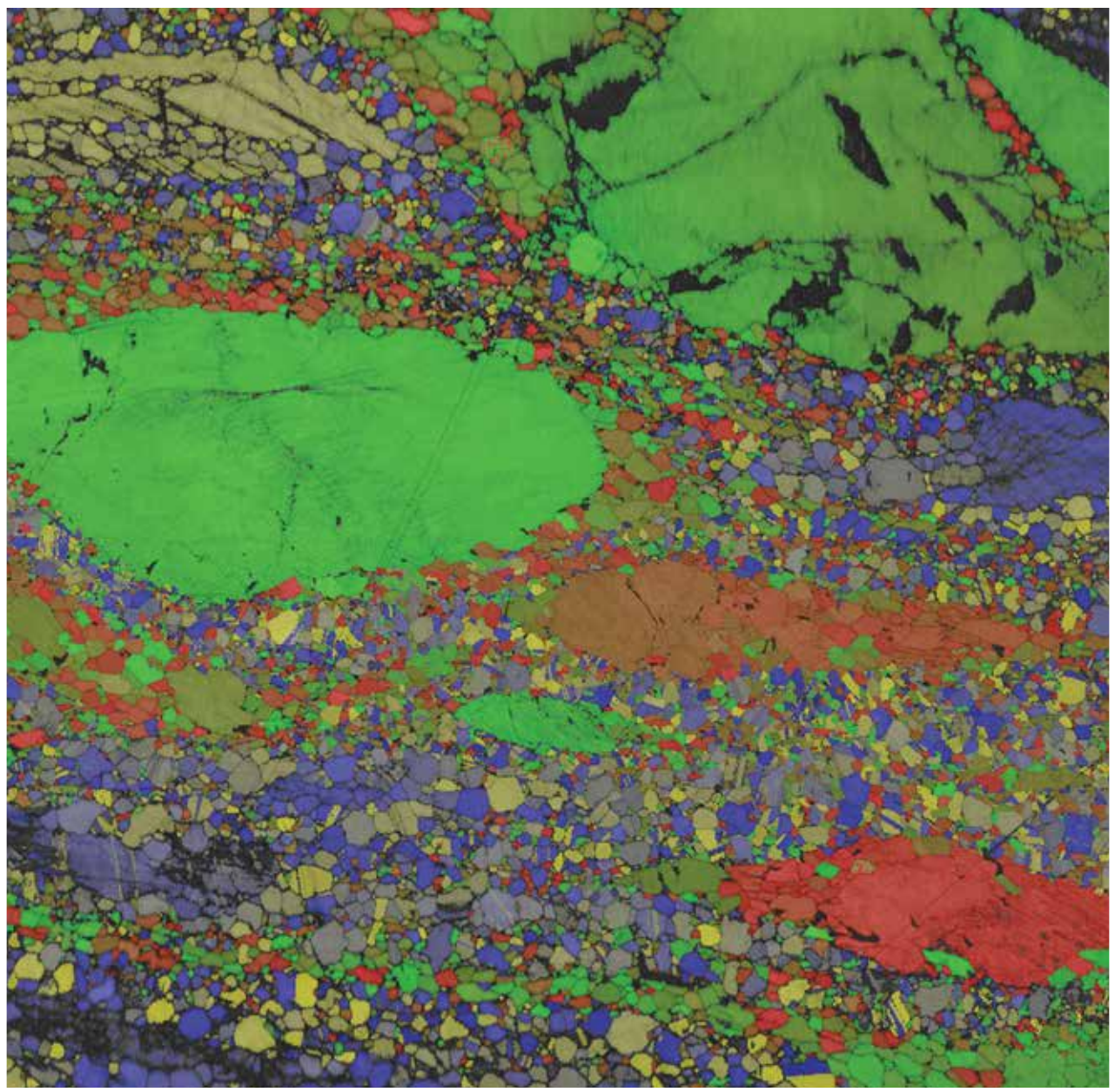
December 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

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Holidays and Observances:
2 Westland Anniversary Day
 Chatham Islands Anniversary Day
25 Christmas Day
26 Boxing Day

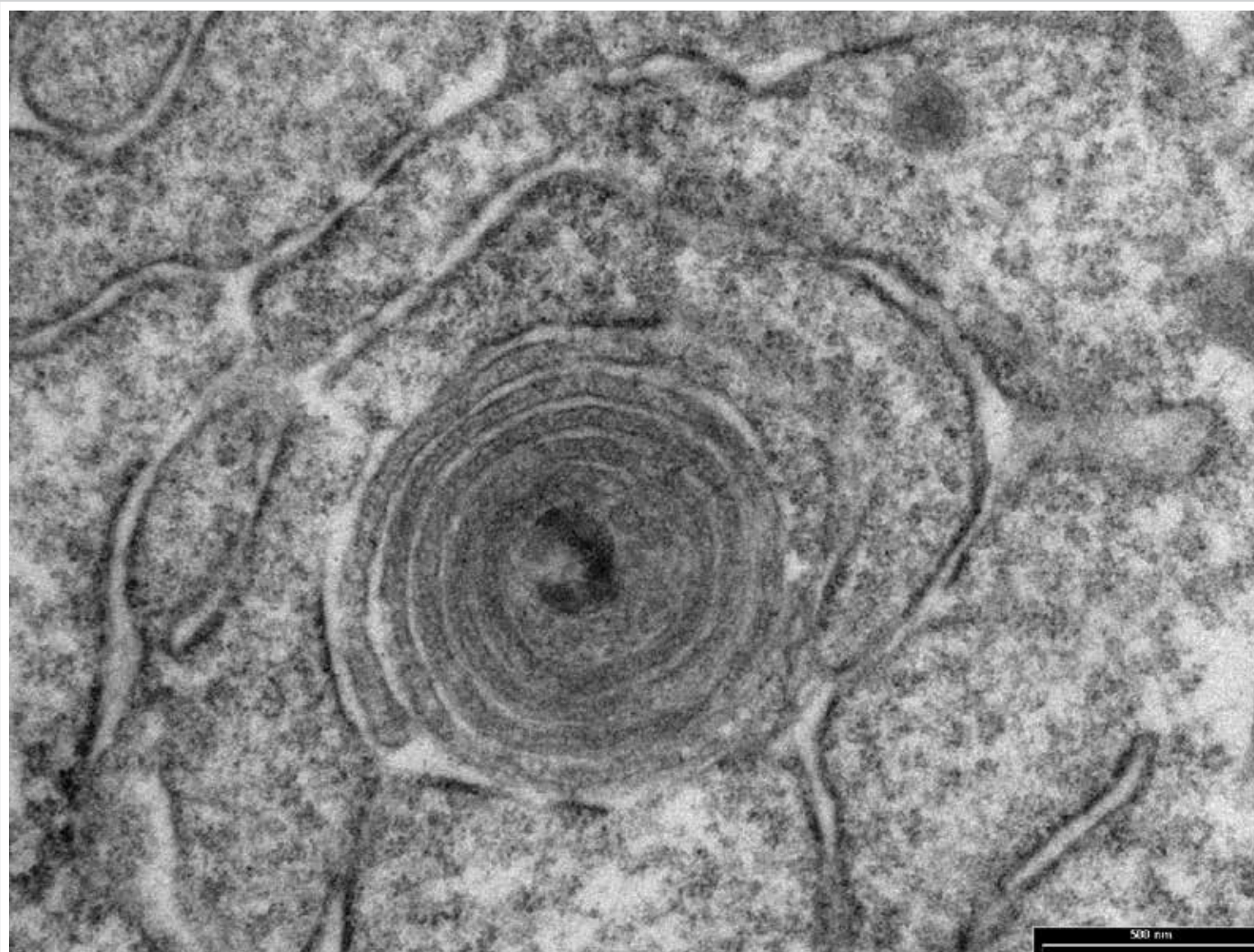




Electron backscatter diffraction (EBSD) map of a sheared rock made of grains of two different minerals: plagioclase and hornblende. The map is constructed from eight million EBSD patterns on a 1.25 micrometre grid. Pixels coloured on a gradient from red to green are plagioclase and pixels coloured on a gradient from yellow to blue are hornblende. In both cases the precise shade on the colour gradient relates to the crystal orientation. Data were collected on the Zeiss Sigma FEGSEM using an Oxford Instruments Nordlys EBSD camera and AZTEC EBSD acquisition software. By: David Prior

February 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		



Electron micrograph of a concentric membranous body associated with an endoplasmic reticulum-like structure observed in the somato-dendritic region of dopaminergic neuron in the Ventral Tegmental Area of a rat brain. It is hypothesized that the structure is involved in the storage of dopamine and in the formation of multivesicular bodies that are also thought to store dopamine. By: Rachel Sizemore

November 2013

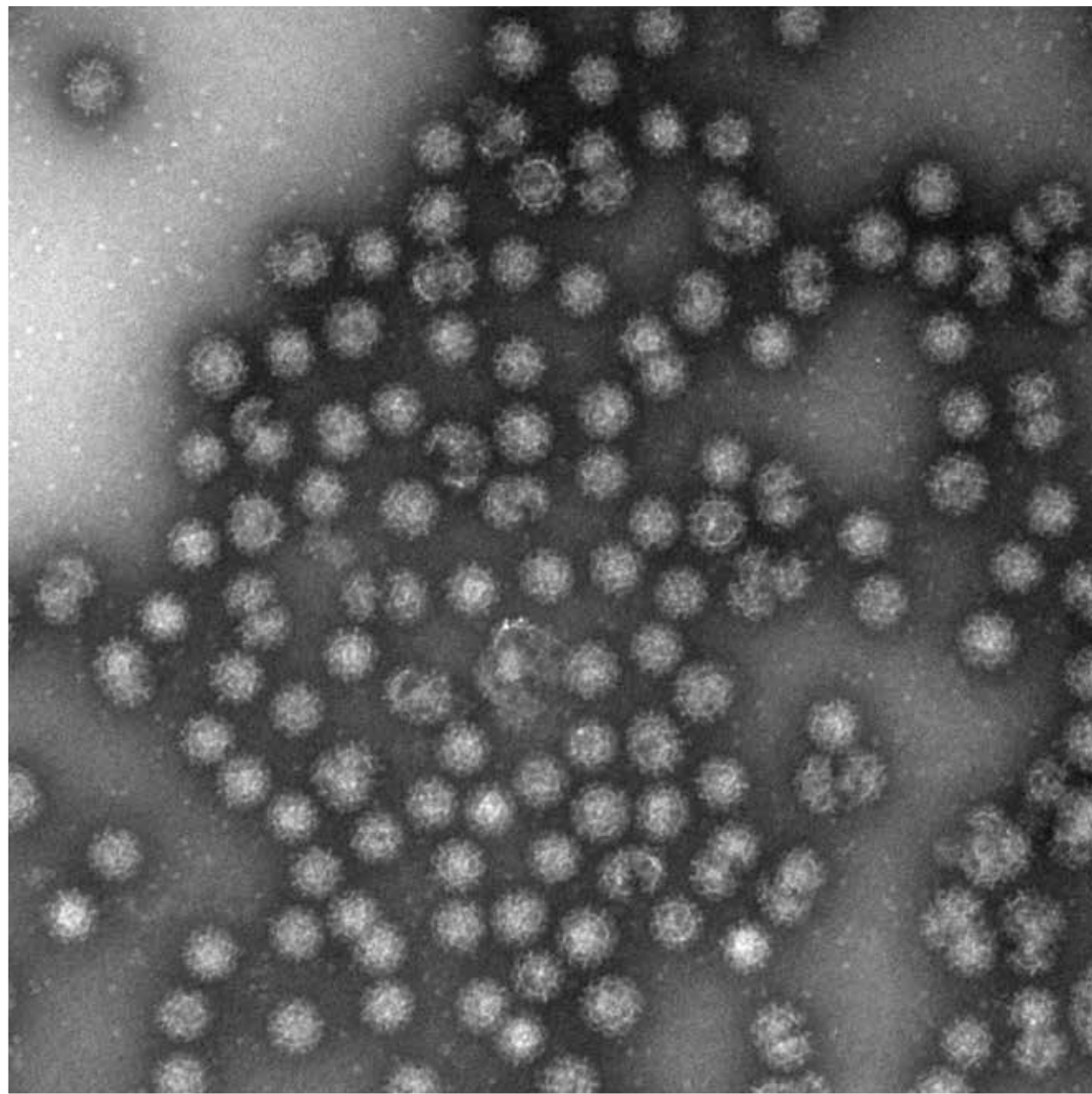
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

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Holidays and Observances:

- 4 Marlborough Anniversary Day
- 15 Canterbury Anniversary Day

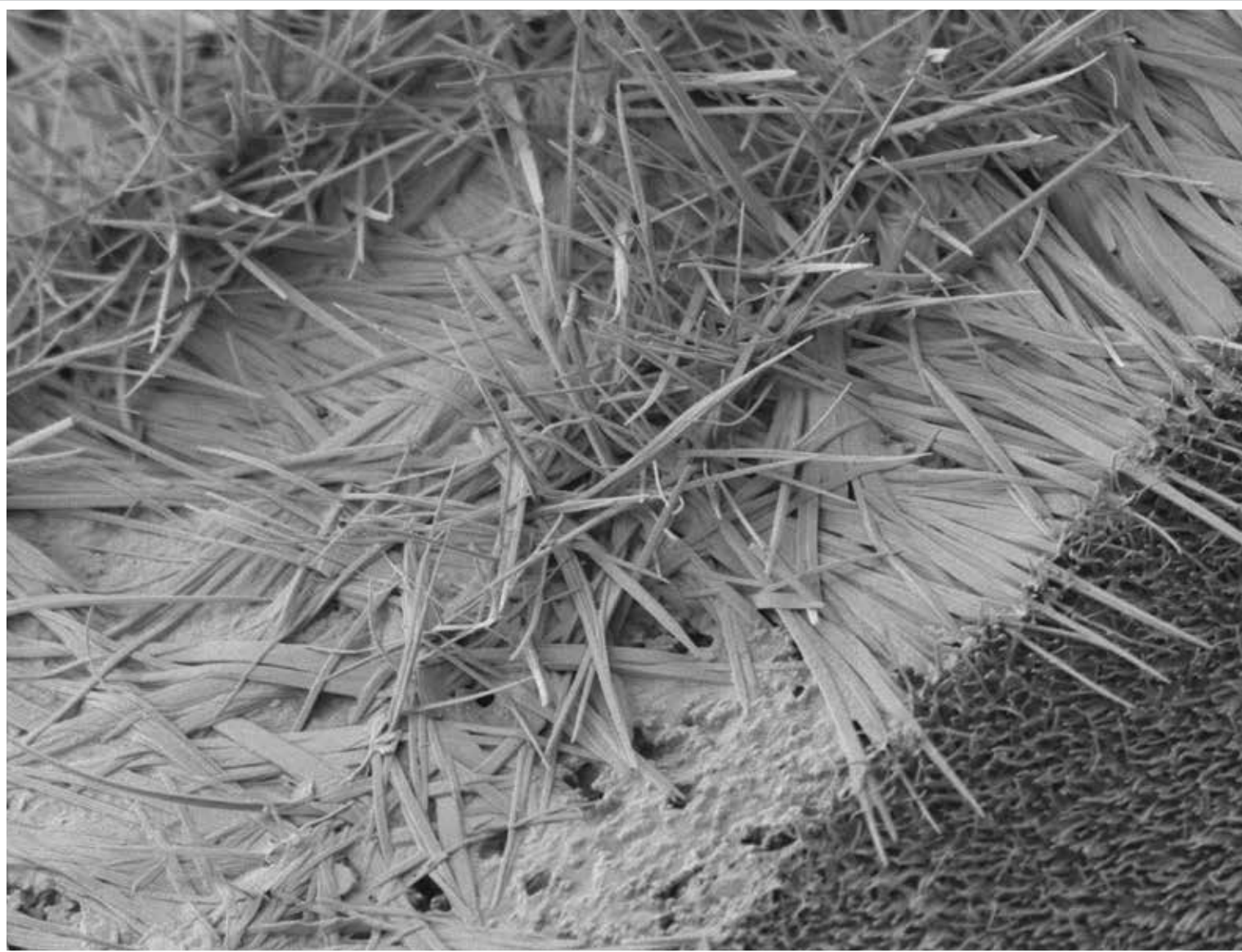




The image is of virus-like particles (VLP) derived from the Rabbit haemorrhagic disease virus (RHDV). We express only the capsid protein of the virus which self assembles into these particles. They look like the original virus but don't infect or replicate and it is for this reason they are brilliant at stimulating the immune system. By incorporating antigens into the VLP that normally don't generate an immune response, for example tumour antigens, we hope to generate a potent vaccine against cancer. By: Vivienne Young

March 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
31					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30



These crystals were an accidental find. They were found growing on a sample and were too pretty not to image. Often you can find the most amazing things hidden away on a samples surface - you never quite know what you are going to find! This image was taken on the JEOL FESEM. By: Liz Girvan

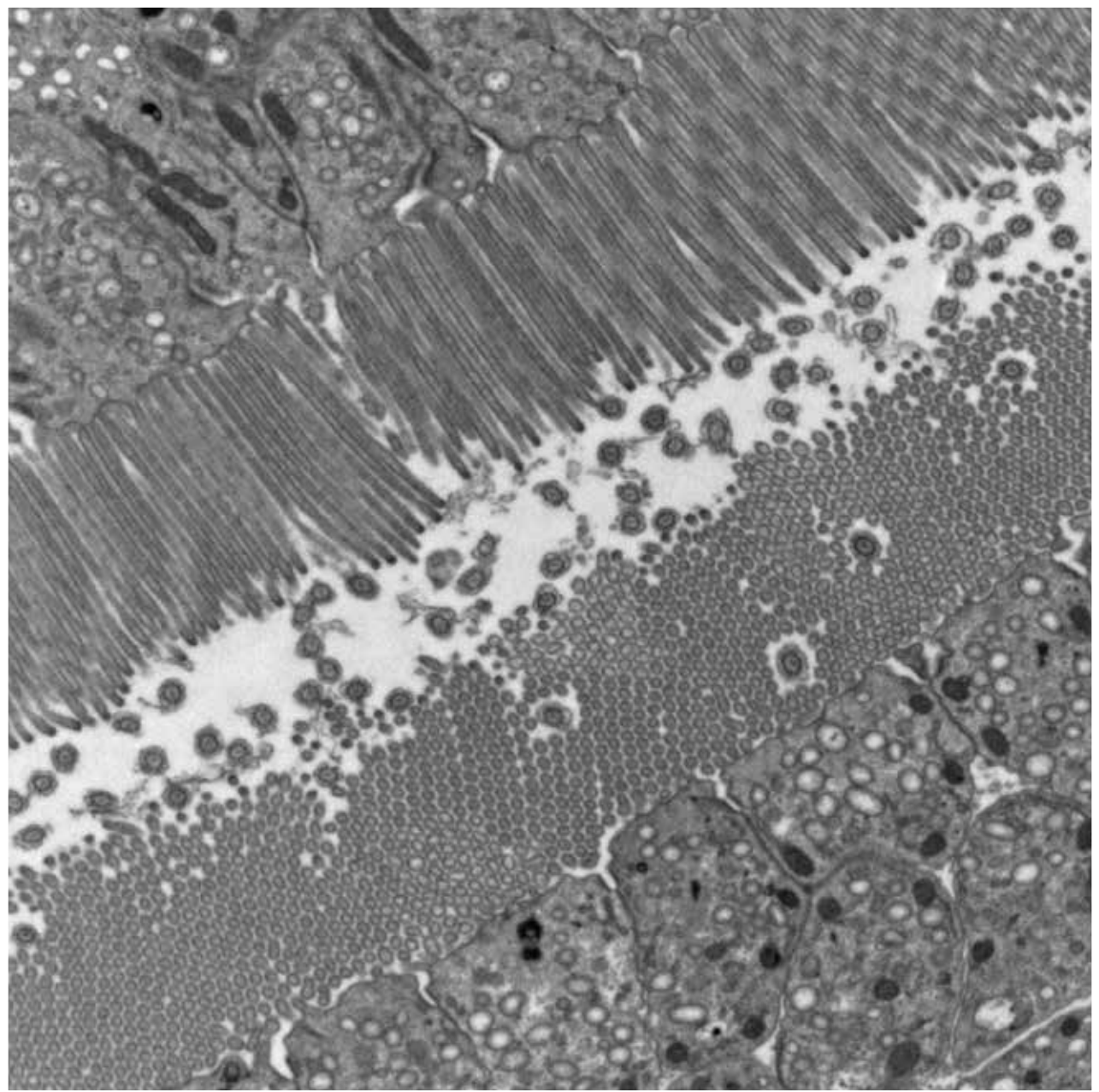
October 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

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Holidays and Observances:
11 University of Otago Semester Two lectures end 28 Labour Day
14 Term Four begins (schools)
25 Hawkes' Bay Anniversary Day

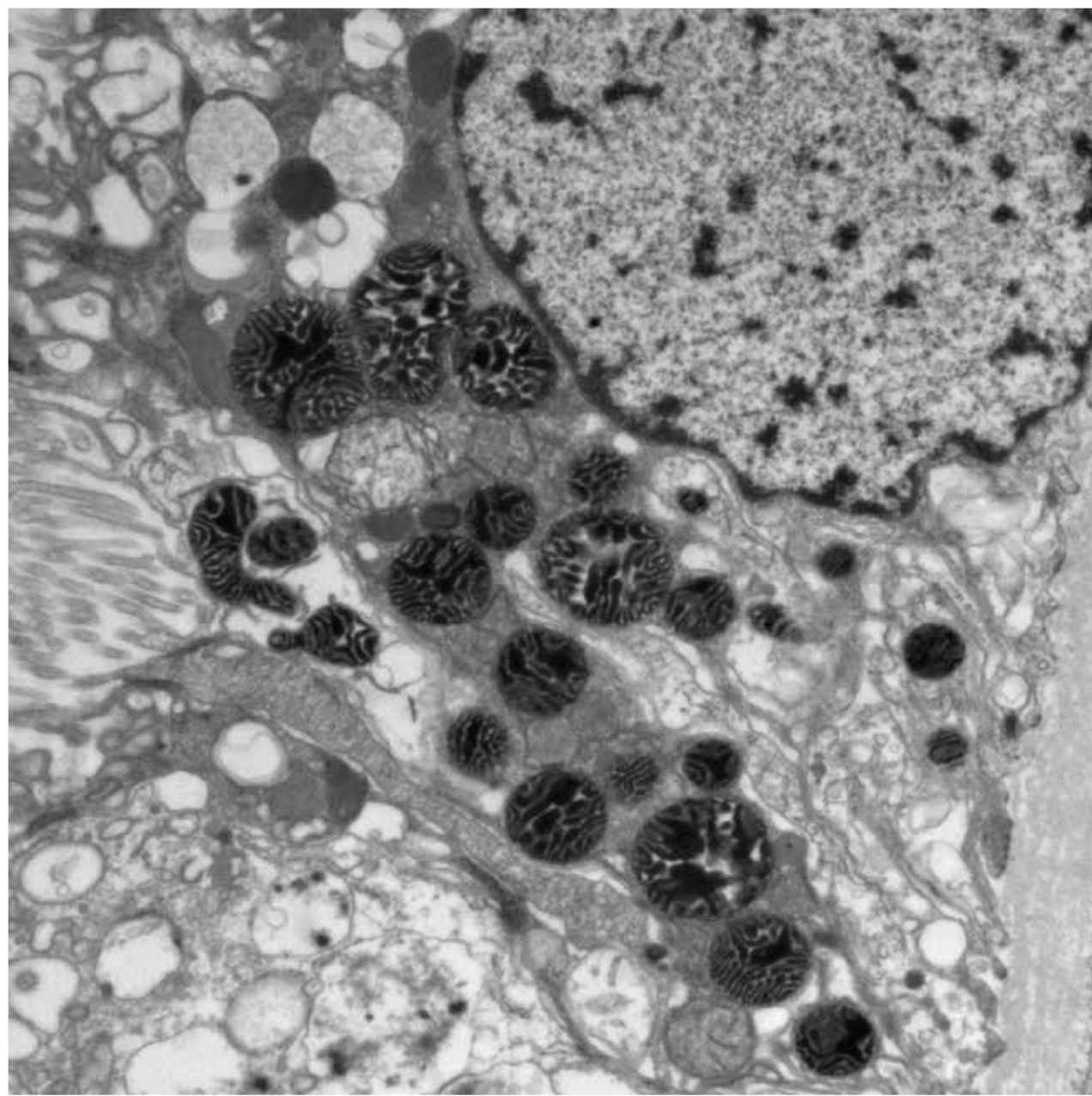




Brush Border Patrol... Secretory cells lining the lumen of the pyloric caeca found in New Zealand's most common sea star *Patiriella regularis*.
By: Khalid Alqaisi

April 2013

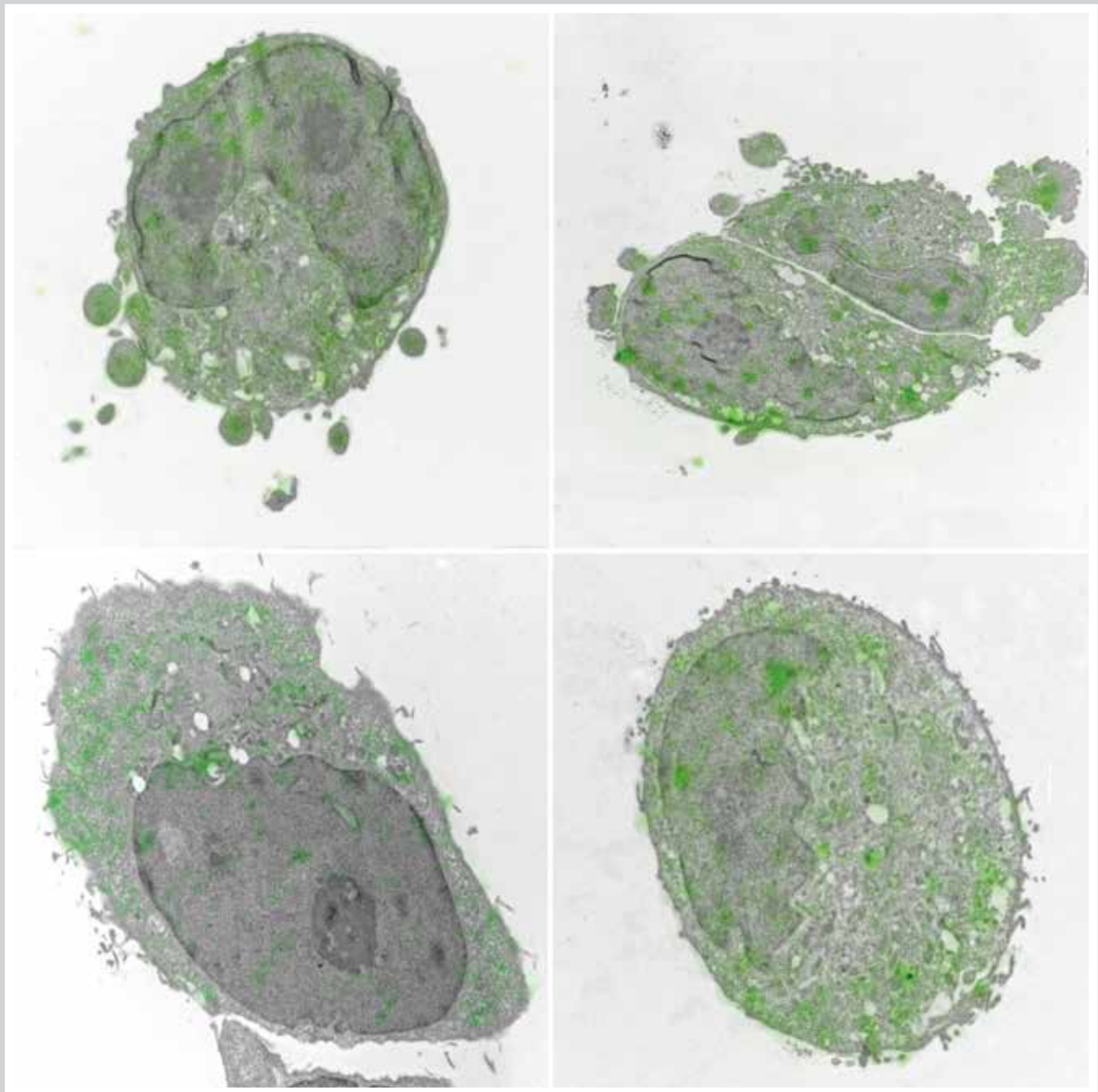
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				



Mitochondrial pyknosis in human kidney proximal tubule cell. The electron dense matrix is characteristic of the irreversible condensation that often occurs in cells undergoing necrosis. By: Gillian Grayston

September 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					



One hundred nanometer sections of resin-embedded breast cancer cells were labelled with an antibody for YB1 protein. The antibody is conjugated with a 5nm gold label and a fluorescent dye. The sections were imaged with a confocal microscope to reveal the distribution of the fluorescent dye, and then the same sections were imaged in using a TEM. The cells can be viewed in the TEM at much higher magnification than these images in order to reveal the distribution of gold label to a very high resolution and therefore the precise location of YB1 protein in relation to cellular structures. By Sharon Lequeux

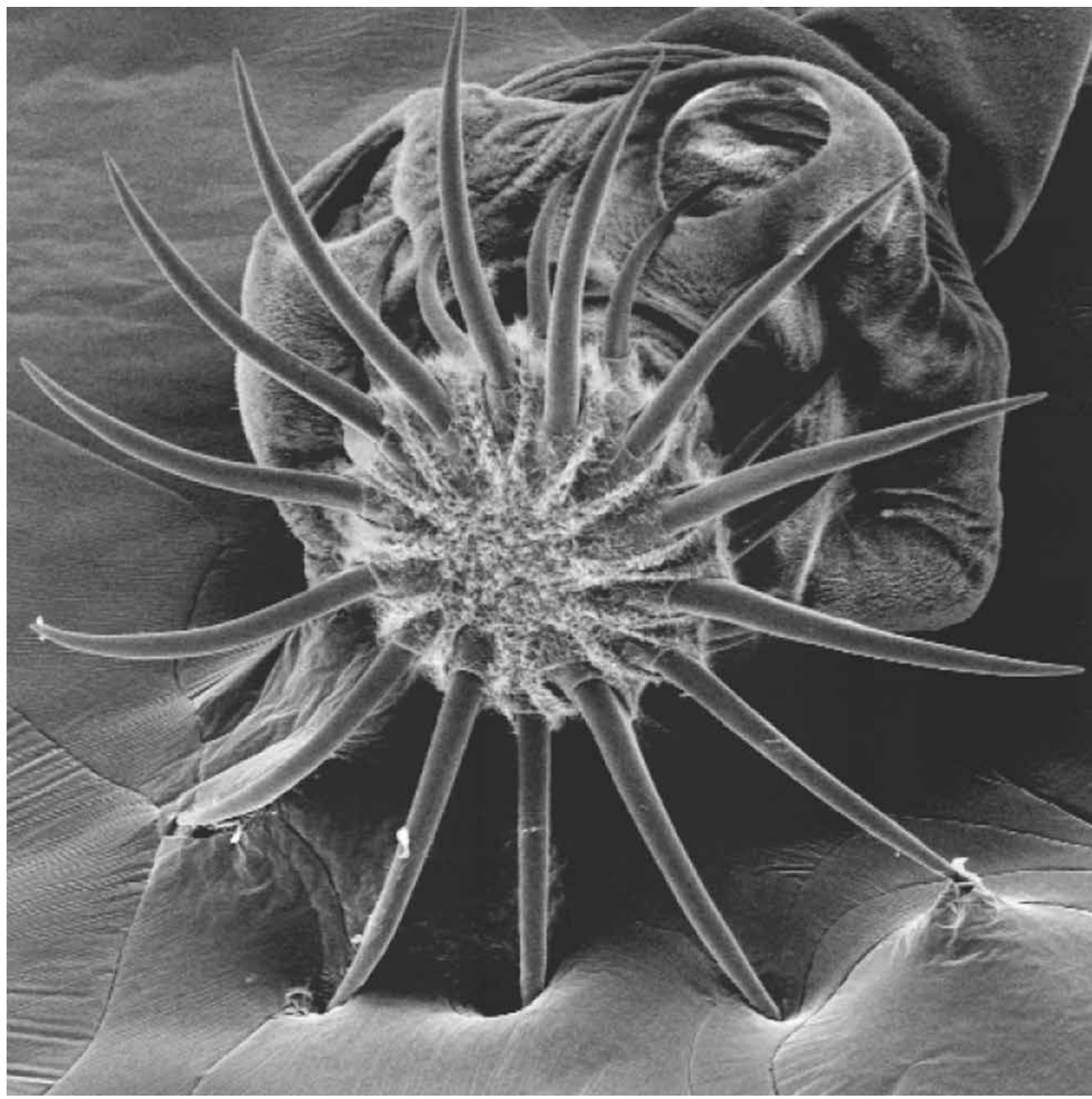
May 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

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Holidays and Observances:
 4, 11, 25 University of Otago
 Graduation Ceremonies
 31 University of Otago Semester One
 lectures end.





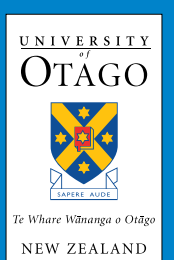
Anterior end of *Paradilepis cf. minima*, a new species of tapeworm from Otago. The hooks attach the worm to the intestine of the host.
By: Bronwyn Preswell

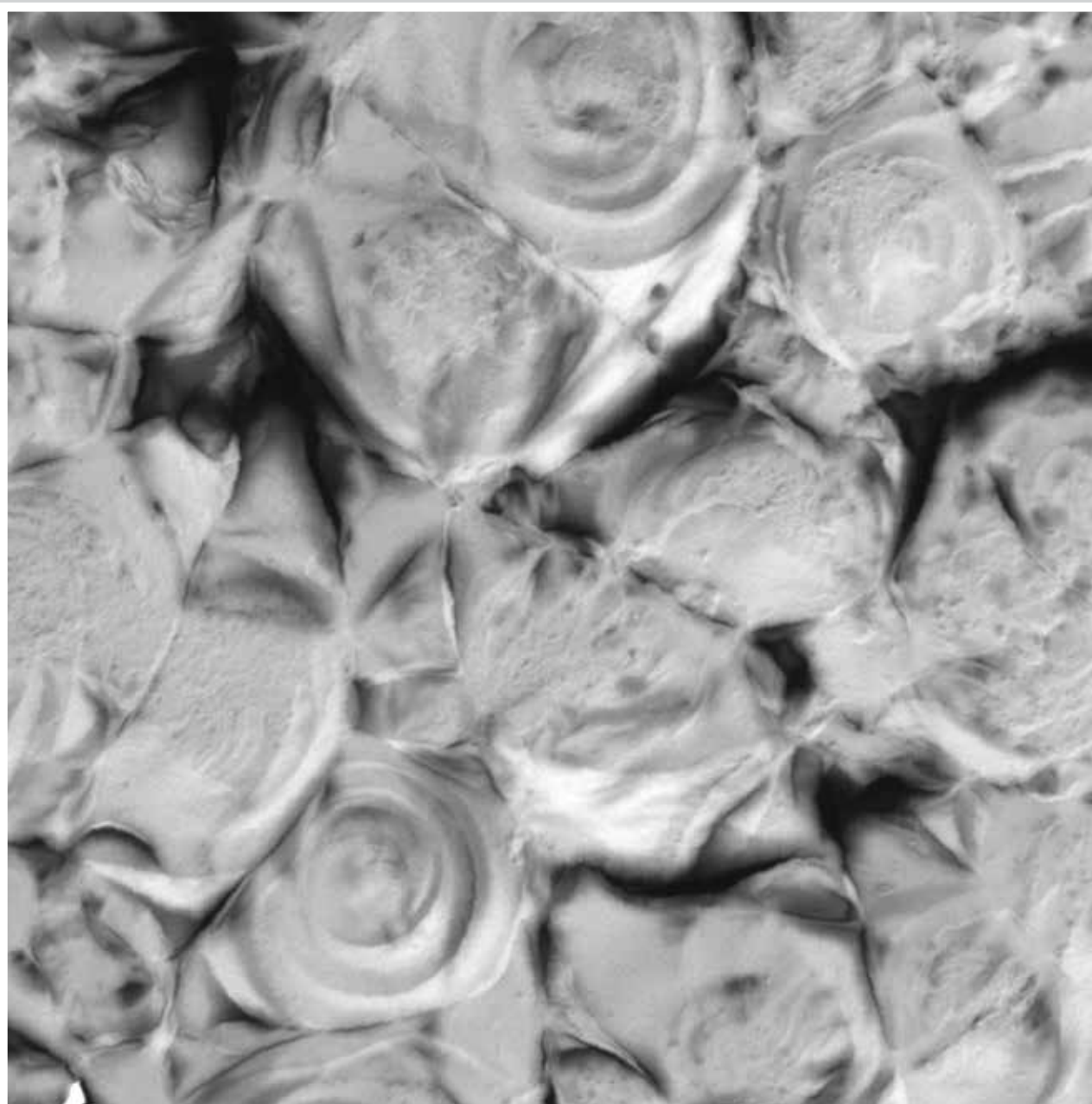
August 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

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Holidays and Observances:
24 University of Otago Graduation
25 University of Otago mid-semester break begins





Freeze fracture TEM image of "Incomplete Freund's adjuvant" (IFA) in a 50:50 mixture with water. IFA helps to stimulate immune responses to antigens and can be used for various types of vaccines. By: Silke Neumann

June 2013

Sunday

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

30						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

2013

Otago Centre for Electron Microscopy

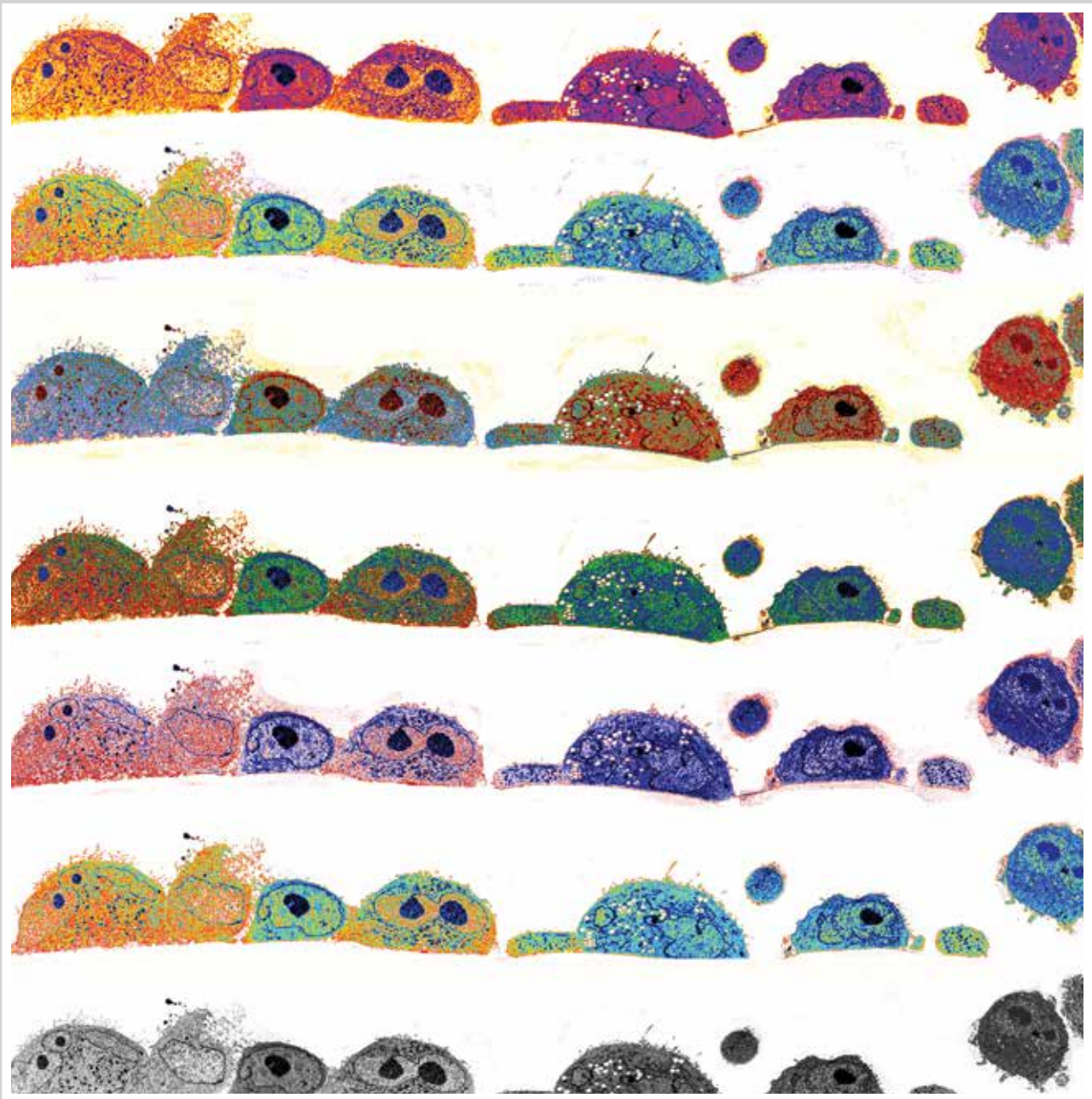
<http://ocem.otago.ac.nz>

Holidays and Observances:

4 Queen's Birthday

29 Term Two ends (schools)





Prostate Cancer Cells under the influence of Andy Warhol: Caveolae (or little caves) are present in the cell membrane of human prostate and are known to function in cell signaling. Recent results have shown that as prostate cancer develops, there is a loss of the caveolae structures. Research in Professor Nicholson's lab focuses on benign and malignant prostate disease. By: Marie Gould

July 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			