



## SCIENCE EDUCATION

# A science giant moves house

Lucy Odling-Smee scopes out the new waterfront abode of Frank Oppenheimer's San Francisco museum.

As you approach Pier 15 on San Francisco's waterfront, it's easy to imagine that the giant stone facade conceals another of the area's many car parks. Yet inside this former bus-repair station, hundreds of contractors in yellow hats and scurrying curators are shaping a scientific wonderland of gadgetry and natural phenomena.

San Francisco's Exploratorium museum is moving home. Next week, following a US\$220-million construction and relocation project, it will re-open, nearly half a century after physicist Frank Oppenheimer — brother of J. Robert Oppenheimer — founded it.

Now hovering above the Bay, the museum has three times the space it had previously, at the cavernous Palace of Fine Arts four kilometres down the road. And whereas the Palace could be gloomy, here the Californian sun streams in through 5-metre-high windows.

After being invited to tinker with the museum's surprisingly addictive classic exhibits — about motion, magnetism and light — visitors will enter six new life- and environmental-sciences galleries. Here they can encounter anything from developing

zebrafish eggs to dancing plankton.

The aim of many of the new exhibits is to reveal the extraordinary in the ordinary. "When it's out of context, you see it," says

Kristina Yu, director of the Living Systems Department and co-curator of the East Gallery. Take trees, for example. It's easy to pass them by. Yet the enormity of a nine-tonne section of a Douglas fir, lying prostrate in one corner of the East Gallery, demands your gaze. Close up, visitors can learn about the history of the tree's life, recorded in its rings.

The tidal drama of the Bay — little noticed outside — is revealed in what looks like a giant Peruvian flute: an arc of 24 clear plastic columns, more than 3 metres high and part-filled with water. The water level in the tubes, each of which represents one hour on the clock, is controlled by air pressure to move in synchrony with the seawater below the pier. When a tube's given hour ends, the level is frozen, producing a record of daily ebbs and flows.

## Exploratorium

PIER 15, SAN FRANCISCO, CALIFORNIA  
Grand Opening of the new site, 9 am to 10 pm on 17 April 2013

That "the space itself has led the ideas", as Yu explains, is also obvious in the Fisher Bay Observatory: a two-storey glass building with spectacular views, one side facing the water, the other the glitter of downtown San Francisco. Outside, sailing boats dart between bulkier vessels. On a nearby screen, meaning emerges from six months of data on boat routes. Slow-moving blue, green or pink arrows indicating the passage of an individual ferry, tanker or tugboat become rivers of colour as you turn a dial to track all the journeys that took place during the past hours, weeks or months.

Other data visualizations are projected onto a topographic three-dimensional map of the Bay Area. More button pressing, and impressively realistic fog gathers and crumbles. A rash of circles rippling outwards shows where earthquakes have struck. Scientists from the US National Oceanic and Atmospheric Administration are helping the curators to gather real-time data on air quality, the weather, tides and water pollution. The hope is that the data will spawn other displays — and, as part of an observational network, the Exploratorium will aid researchers in return.

I was sceptical of what I might find at the relocated Exploratorium. The wealth of moving parts, buttons and levers in many science museums often makes me feel like I am in a playground after the school day finishes, with no sky above my head and no way out. But, so far, everything at Oppenheimer's new-old museum indicates that the curators have mastered not just the art of engagement, but how to show people the most interesting stuff of all — what is right under their noses. ■

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