JEFF TALMAN STUDIO – NEW YORK

You sit or stand or walk in an ambience that is alive… The New York Times

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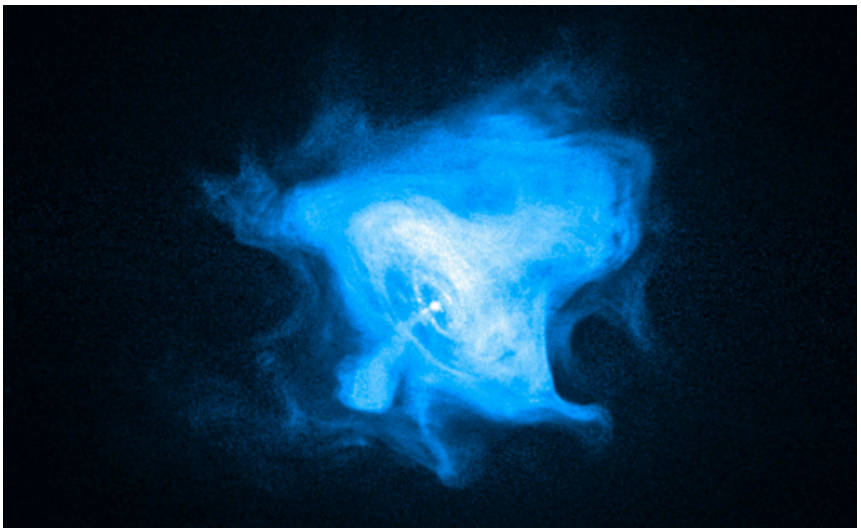
ST PAUL'S CHAPEL, COLUMBIA UNIVERSITY, NYC PRESENTS



Crab Pulsar, x-ray image by Chandra telescope, Smithsonian Astrophysical Observatory

RHYTHMS OF STARS

sound installation

Opens April 8, 2014, 6-8 PM with artist presentation

International artist Jeff Talman brings the rhythms and harmonies of thirty-one neutron stars (pulsars) to Columbia University's St. Paul's Chapel in this new sound installation. Expressive singing stellar voices and the complex polyrhythms created by layered pulsar signals offer a unique sonic perspective to this adventurous survey of the cosmos. Initially received as radio signals, the pulses were transduced to raw audio by numerous astrophysicists including Dr. Patrick Weltevrede (University of Manchester), Dr. Julia Deneva (Cornell University) and Drs. Michael Kramer and Paulo Friere (Planck Institute for Radio Astronomy, Bonn, Germany).

Importantly, Dr. James Traer, Department of Brain and Cognitive Sciences at MIT, provided state-of-the-art acoustic analysis of St. Paul's Chapel by way of his ongoing research. The analysis was critical in determining a detailed map of the chapel's harmonic resonance so that Talman could match pulsar rotational frequencies and harmonics to infuse the installation with a sense of the stars that excites the acoustic spectrum of the space itself.

Going deeply into the pulsar sounds Talman determined that specific audio frequencies defined specific pulsars -- they yielded individual 'harmonies.' Consultation with Nobel laureate Dr. Joseph Taylor, a Princeton University astrophysicist, explained that each pulsar has a "pulse profile" that can be observed in the frequency domain or the time domain. Different pulsars exhibit different profiles so that different frequencies are available for extraction and use in the installation.

Observed up to about 200,000 light years from Earth, the super dense, rapidly revolving collapsed stars emit radio frequencies that sweep past the Earth much as a revolving lighthouse's light sweeps past a viewer. With periodicity comparable to the accuracy of an atomic clock, the fastest pulsars can rotate more than 700 times a minute or about 24% the speed of light. The spin rates of these millisecond pulsars are so fast that when transduced into sound the pulses fuse into steady state frequencies, which contain rich harmonic spectra. These serve as a compositional counter-balance to the varied pulses of the slower spinning pulsars.

The event marks the 15th anniversary of Jeff Talman's first public installation, *Vanishing Point 1.1*, which St. Paul's Chapel presented in 1999. For that installation Paul Griffiths for *The New York Times* wrote, "There is a perfect fit. You sit or stand or walk in an ambience that is alive…"

Schedule: April 8, 6-8 PM, opening with artist presentation. Free event, open to the public.
April 8 - 21, presentations twice daily (duration is about 30 minutes):

- Monday-Wednesday, Friday, 7-8 PM, Saturday, 6-8 PM
- Sundays, 2-3 PM

Jeff Talman – A recognized 'pioneer of the use of resonance in artworks' (Intute, Oxford University), Jeff has created numerous sound installations including works for Cathedral Square-Cologne, Galleria Mazzini-Genoa, the MIT Media Lab, The Kitchen, Eyebeam and four installations in the Bavarian Forest, Germany. Recent works include *Moments From The Sun* (2014), the Rothko Chapel installation in collaboration with Dr. Daniel Huber an astrophysicist at NASA, and *Silicaphonics-14* (2013), a video-sound installation at Marc Straus Gallery in NYC. His major achievement is the 17-year exploration of reflexive resonance, in which ambient resonance becomes an installation's only sound source. Trained as a composer, he also studied visual arts as an undergraduate. Talman attended and then directed orchestras at Columbia University and City College of New York. Awards include Guggenheim Foundation and New York Foundation for the Arts Fellowships and artist residencies internationally.

St. Paul's Chapel – St. Paul's Chapel at Columbia University provides a venue for hundreds of religious and campus events each year, including worship services, concerts, university and private ceremonies. Visitors come from around the world to see the chapel one of the first buildings in New York City to be designated as an official historic landmark. The chapel is open daily for private meditation and prayer, Monday to Friday, 10am to 5pm.