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This year, 2019, marks *Chandra's* 20th year of operations. Multiple anniversaries start with the launch on the shuttle Columbia on 23rd July 1999. We are planning many forms of celebration, opening with an updated, large conference exhibit launched in Seattle at 233rd meeting of the American Astronomical Society (AAS). The meeting also featured a spectacular Plenary talk highlighting 20 years of ground-breaking *Chandra* science given by Ryan Hickcox (Dartmouth College) and a special HEAD session delving into more detail on selected sub-topics. The AAS events and exhibition booth were a great success, particularly the "*Chandra* photo booth" where visitors could pose in front of a new large artist's impression of *Chandra* and have a button of their photo created at the booth. Multiple talks (scientific and public) and exhibits are being organized throughout the year. These include special sessions at both the High Energy Astrophysics Division (HEAD) of the AAS and American Physical Society's (APS) Division of Astrophysics (DAP) meetings, and colloquia and public lectures in departments, planetariums and museums all over the US. We are generating new products, including pins, stickers, handouts, posters, 3-D images, and are preparing two books: for the community, an e-book reviewing 20 years of *Chandra* science results; and for a broader audience, a picture book of *Chandra* images. The year will close-out with a major international conference, 20 years of *Chandra* Science, in Boston in early December. For more information on our various activities and events, and/or to get involved, visit our 20 year events website http://cxc.cfa.harvard.edu/cdo/chandra20/. Please join us wherever and whenever you are able!

I have been working for *Chandra* since 1995, starting as Deputy Leader of the User Support Group (USG). Prior to that, I had been involved in preparing the successful SAO proposal to host the *Chandra* X-ray Center a number of years earlier. Working on *Chandra* has been, and continues to be an amazing experience. *Chandra* is a ground-breaking mission in the fullest sense of the word. It provides spatial resolution of ~0.5 arcsecs in the X-rays, comparable to ground-based telescopes for the first time, and is unique among all operating or planned X-ray missions. *Chandra*'s X-ray vision reveals the hottest and most violent places in the universe where much of the action is invisible to other wavebands. *Chandra* peers through dense gas and dust to find the youngest stars, and into the distance to find the oldest supermassive black holes in their youth. This new window on the Universe has resulted in exciting new discoveries and advanced our understanding of celestial sources across the full range of astrophysics, from exoplanet atmospheres to cosmology, through the birth, life and death of stars, to the unexpectedly tumultuous lives of clusters of galaxies, and the profound effects a relatively tiny, but massive, central black hole has on its host galaxy, and beyond. *Chandra*'s Legacy continues to grow, so stay tuned!

Like all ground-breaking new technology, *Chandra* was a long time in the planning. The first sketch of an imaging X-ray telescope, presented in a 1963 white paper on X-ray astronomy led by Riccardo Giacconi, looked amazingly similar to the final accepted design for what was then called the Advanced X-ray Astrophysics Facility (AXAF). This first seed grew into a mission unanimously approved by the 1980 Decadal Survey Panel as its highest priority for a major new program. Then followed years of designing and building the instruments, the spacecraft, and the greatest technological challenge: building and polishing the mirrors to the incredibly smooth and accurate surfaces required to focus at grazing incidence to <1 arcsec. For overcoming this last challenge we are forever grateful to Telescope Scientist, Leon Van Speybroeck, who sadly died in Dec 2002. We carried out 6 months of detailed ground calibration of the mirror and telescope system at the Marshall Space Flight Center (MSFC) X-ray Calibration Facility. Following this, the satellite was integrated, and successfully launched on 23rd July 1999.

Many dedicated, brilliant people worked together to bring *Chandra* to fruition, and many more continue this legacy in operating, supporting and carrying out science with *Chandra* over 20 years and counting. I joined the project in 1995 in time to take part in the ground calibration at MSFC, and to assist Fred Seward (my immediate boss) and the rest of the USG in preparing for and running the first *Chandra* proposal cycle and peer review in advance of launch. I also attended the launch. Having made a trip of it, with my husband and two small children, we were still in Florida for the third, and successful attempt on 23rd July. This is the only space shuttle launch I have witnessed, what an amazing experience! I cannot even begin to acknowledge all those who have worked on *Chandra* and contributed to its huge success. Most obvious are Riccardo Giacconi (Nobel Prize winner) and Harvey Tananbaum who spearheaded the original proposal. The incredible team of CXC Director, Harvey Tananbaum, Project Scientist, Martin Weisskopf (MSFC), and CXC Manager, Dr. Roger Brissenden, led the project from well before I joined the CXC, and together built the Project team and culture that make it the success it is today. It was my great honor and privilege to be selected to succeed Harvey as Director of the CXC when he retired in 2014. I thoroughly enjoy working with Martin, Roger, and Helen Cole, the MSFC Project Manager, and the amaz-

ingly talented and dedicated *Chandra* team, to continue our exciting journey to expand *Chandra*'s scientific legacy.

Coincidentally, 2019 also marks a major milestone in the opening of a new operations control center (OCC) in Burlington, MA. As described in the Manager's report (page 12), this move was required when the lease for our Cambridge, MA facility was not renewed. We completed our transition to the new location in the second quarter of this year. NASA's support of this move along with their recent extension of the SAO contract to potentially operate through 2027 with a subsequent 3-year closeout demonstrates their strong commitment to the *Chandra* mission.

While operations become more challenging due to the need to continually monitor and control the temperature of multiple subsystems as a result of degradation of the thermal insulation, the innovation and diligence of the operations and planning teams has resulted in *Chandra* continuing to maintain its high observing efficiency (70%; also see the Program Manager's Report on page 12). To maintain high efficiency as sub-system temperatures continue to increase, we recently initiated a new observing program aimed at increasing the number of *Chandra* cool targets (CCTs, formerly known as Cool Attitude Targets [CATs]) in the *Chandra* observation catalog (see page 42). The call for white papers of well-defined and large lists of targets at cool spacecraft attitudes that could yield scientifically interesting results generated a large and enthusiastic response from the community and was timely. The need for CCTs has increased since our return to normal operations following the gyro-based safemode which occurred in October and resulted in unplanned additional heating due to the newly implemented mixed gyro mode in which we are now operating (see Project Manager's Report on page 12). Approved CCT targets have been included in our schedules since early in the year. Our website provides links to details of the approved CCT programs (*http://cxc.cfa.harvard.edu/target_lists/CCTS.html*) and a list of observed CCT targets, which are non-proprietary (*http://cxc.cfa.harvard.edu/cda/CCT.html*).

The 2018 summer workshop, entitled "Accretion in Stellar Systems" held 8-10 Aug in Cambridge, MA, was a great success. Seventy-five attendees from all over the world discussed various aspects of stellar accretion. The program also included a special session dedicated to the late Jeff McClintock's (see article on page 44) legacy to the field, along with an evening of reminiscences and tributes to his impact on both our field and ourselves. Other activities during the year included *Chandra* exhibits at the AAS in Denver, CO, and the International Astronomical Union (IAU) in Vienna, Austria, both featuring demonstrations of the *Chandra* Source Catalog version 2.0, for which data is publicly available. The IAU *Chandra* exhibit saw a lot of traffic from an international community, which we rarely meet, and also won an award for being one of the "greenest" booths at the meeting based on IAU instructions to minimize handouts and emphasize online content!

The Cycle 21 Call for Proposals, released in Dec 2018, ushered in new proposal submission software, the *Chandra* Proposal Software (CPS), replacing our long-time, ancient workhorse "RPS" (Remote Proposal Submission). CPS requires a username and password account from which one can prepare, manage, review, update, and submit proposals, as well as providing access to co-Is. It is well-designed and generally easy to use, but as always we would love to hear your feedback as we work to improve and expand it (see page 56).

The saddest news of the past year was the death, in Dec 2018, of Dr. Riccardo Giacconi (page 15). Many of our team and our community worked closely with Riccardo from the earliest days of *Chandra*, and many more knew him well and/or interacted with him over the years, even as he expanded beyond X-rays to be a driving force in multiple other areas of astronomy. A slew of paper and web-based articles honoring his legacy were published, many by past or current members of the CXC staff. A fitting farewell to the father of X-ray astronomy and "our" Nobel Prize winner!