Welcome to the inaugural publication of the Cosmic Origins (COR) newsletter. I hope you will find it informative and engaging, and that it will motivate you to join us in our quest to define the future for COR science. The Program Office (PO) is committed to building a robust COR program, while also being mindful of the current budget realities. I urge you to join us in this critical endeavor by actively participating through our Analysis Groups, and responding to Requests For Information (RFIs).

The first step toward this goal is to establish a strong PO that can work closely with NASA Headquarters (HQ) and the science community. We have achieved this objective already. On August 3, 2011, the Agency gave the PO approval to enter into the implementation phase. This decision followed a thorough review by a Standing Review Board (SRB), chaired by Dr. Michael Bicay, Head of Science at NASA Ames Research Center.

In achieving the COR scientific objectives, our efforts will be closely coordinated with the scientific communities. Mission concept studies can serve as anchors for specific enabling technologies to be funded this decade. The PO is preparing to initiate such concept studies. We will invite the larger community to suggest new ideas for concept studies and technology development that will enable COR science.

One important goal for the COR PO is to improve the transparency of the Program's technology management process and provide the community a voice in that process. In drafting and publishing the first COR Program Annual Technology Report (PATR) in November 2011, we successfully took the first steps down that path.

The work of the PATR began when the Cosmic Origins Program Analysis Group (COPAG) performed a detailed analysis of the technology needed to enable future COR missions. Their work was vetted through the COPAG and made publicly available on the COPAG website (http://cor.gsfc.nasa.gov/copag/copag.php).

This analysis was the foundation of the Program’s prioritization of technology needs. The PATR was referenced in the FY12 SAT call for proposals and is planned to be used in future calls and in investment decision making. I would like to thank the COPAG for helping us complete this work and for helping us demonstrate how important and constructive it is to have the community actively participate.

The FY12 PATR development process has been initiated. Information on the call for inputs can be found on the COR website (http://cor.gsfc.nasa.gov/technology/). The COR PATR development and use in future calls will continue, and I highly encourage technology developers proposing to future SAT calls to review the COR PATR as part of their process.

Each year technology needs from the community are collected in late June. Throughout the year, we are interested in feedback about needs, priorities, the prioritization criteria, and the overall process. I encourage you to join this conversation through participation in the COPAG and by visiting the COR website at http://cor.gsfc.nasa.gov/.

We in the PO look forward to continuing our discussions with the community to plan the future of COR science.

The PO will have a presence at the AAS Anchorage meeting in June. Also, look for details soon about the upcoming COPAG workshop, UV/visible RFI call for inputs and associated telecons, and the UV/visible RFI workshop. Please take advantage of these opportunities for face-to-face discussions, even as you engage in other ways.

http://www.nasa.gov
The Cosmic Origins Program continues to conduct exciting and important science advances. We continue to see that COR science is active and vibrant. Hubble, going for more than two decades, passed 10 kilometers of referred discoveries last December, its angular resolution continues to bring unprecedented views of the universe. Spitzer’s ongoing warm mission retains its productive role, building on and extending its previous work.

WISE has recently released its all-sky infrared images and catalog, providing the basis for a lasting legacy for decades to come. Herschel has passed the third anniversary of its launch and continues its wide range of astronomical investigations. GALEX is continuing to operate, now transferred to Caltech for operations via a Space Act agreement.

In more current news, our long-awaited Request For Information (RFI) on science investigations for a future UV/Visible space telescope has been released! I refer the interested reader to the RFI here or the NSPIRES Web site: http://tinyurl.com/7ksdfnt and recommend visiting our Web page detailing the RFI and its place in our strategic vision for future COR science: http://cor.gsfc.nasa.gov/RFI2012/.

For those unfamiliar with this strategic vision, I’ll elucidate this here and expound further on the upcoming Q&A telecons (June 7 and July 17). Our overall goal is set by the opportunity presented to start a new astrophysics mission in the latter years of this decade, presumed to be scoped for a sub-billion-dollar-class project. Guidance from the mid-decadal survey of astrophysics is likely to provide the de facto selection of this mission, derived from a suite of lucidly defined, prudently designed, and unimpeachably costed mission concepts. Our near-term goal is thus to develop a mission concept to provide the necessary catalyzing impact that can drive impactful scientific discoveries in the post-HST era at UV and visible wavelengths. Other mission concepts will be developed in parallel under the auspices of this Program Office and others to meet similar goals at different wavelengths.

To develop a plan for technology investments and mission concepts, we seek first to discern the future of UV/Visible astrophysics by posing the question: what observing proposal will you write in the next decade? The answers to this question can come from any person or group who have a clear idea of the detailed science investigation they hope to conduct. The answers should be unambiguously the bounds of any prior mission concepts—there are several—and unrestricted.

The answers serve to demonstrate that support this mission’s science by the community working together at a workshop on September 18 to synthesize the varied responses into a coherent whole that is the foundation of UV/Visible mission drivers.

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News from the Astrophysics Division at NASA Headquarters

John Gagosian, COR Program Executive (acting)
Mario Perez, COR Program Scientist

Since the beginning of 2012, both the Astrophysics Division (APD) and the Science Mission Directorate (SMD) have been under new leadership. Paul Hertz became the Acting Astrophysics Division Director on January 5, followed by his permanent assignment two months later. Paul replaced Geoff Yoder, who had been Acting Division Director since Jon Morse’s departure in September 2011. Also, John Grunsfeld became the new Associate Administrator for SMD in January, replacing Ed Weiler.

Michael Moore is currently serving as Acting Deputy Director of APD. On March 12, John Gagosian assumed, on an acting basis, Mike’s role as Program Executive for the Origins theme. Despite these leadership changes, we have experienced a smooth transition with minimal changes to the directions provided by the prior leadership.

The Cosmic Origins (COR) theme represents a broad and a full suite of science drivers. It studies the vast time period from the dawn of the universe up to the formation of our Earth. In another sense, it follows the flow of baryonic matter across time and space. The COR theme at NASA HQ was initiated about five years ago, and is the cornerstone of the COR Program Office that was formed at the Goddard Space Flight Center.

Also, in the last two years the Cosmic Origins Program Analysis Group (COPAG) was formed under the leadership of the NASA Administrator, Michael Moore, currently serving as Acting Deputy Director of APD. On March 12, John Gagosian assumed, on an acting basis, Mike’s role as Program Executive for the Origins theme. We would like to enhance the level of community involvement and communication with COPAG’s activities.

The COR Program Office is conducting three studies relevant to COR science and missions: the UV/Visible Technology and Mission Concept Study, the HST Disposal Study, and the SPICA U.S. Instrument Participation Study (see “COR Science”).

A few years ago, Gilbert and her collaborators found a stellar association in the Andromeda galaxy; the location, motion, and composition of the debris stream was exactly as predicted by a computer simulation of a dwarf galaxy merging into Andromeda about 700 million years ago. Gilbert’s team examined the dwarf galaxy using the Stratospheric Observatory for Infrared Astronomy (SOFIA) and the Hubble Space Telescope (HST). They discovered that the accreted objects would probably not contain enough already-evolved stars to form the observed distributions.

The current portfolio of COR missions in operations includes Heracles, Spitzer, and the Hubble Space Telescope. The Long Duration Astrophysical Observatory for Infrared Astronomy has begun limited science operations while still completing the latter stages of its development. The James Webb Space Telescope (JWST) remains as the only COR-related project under development, with a launch date of 2018. The JWST Program has been elevated to a Headquarters Division-level office while the observatory is under development, and organizationally will return under the Astrophysics umbrella during operations.

We are facing a new review and grants award season for ROSES-12 and finishing a few elements of ROSES-11. Under ROSES-11, the deadline for proposals to both the Astrophysics Research and Analysis (ARA) and the Strategic Astrophysics Technologies (SAT) calls was March 25, 2012. This is the second call for SAT proposals, which supports the maturation (at Technology Readiness Level 3 or higher) of key technologies to the point that they are feasible for implementation in space flight missions.

The COPAG is the main conduit for collecting technology needs identified by the community and submittal to the annual Technology Report (PATR). We are planning significant changes to the PATR for FY 2012. More details on the evolution of the PATR will be provided during the annual COPAG session. Finally, we would like to enhance the level of community involvement and communication with COPAG’s activities.

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Upcoming Events

June 18–21
Ultraviolet Astronomy: HST and Beyond, Kauai, HI.
http://uvastro2012.colorado.edu/

July 1–July 6
SPIE Astronomical Telescopes and Instrumentation, Amsterdam, NL.
http://spie.org/x13662.xml

July 17
RFI Forum for Questions #2
WebEx™ Meeting

September 4–7
GALEXFest: Exploring the UV Universe, Pasadena, CA.
http://www.galex.caltech.edu/galexfest

September 18
UV/Visible RFI Discussion Workshop, STScI, Baltimore, MD.

September 19
COPAG Workshop, STScI, Baltimore, MD.

Visit our
Cosmic Origins
Web site at
http://cor.gsfc.nasa.gov