GW SIG Update

Alessandra Corsi (Texas Tech University)
Chiara Mingarelli (University of Connecticut & Flatiron Institute)

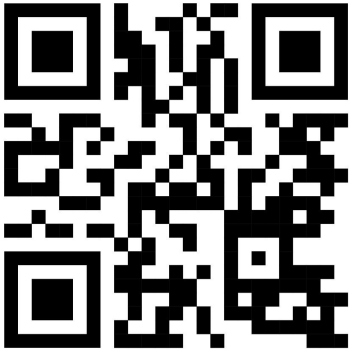
Many thanks to: Sean T McWilliams (West Virginia University)

American Physical Society Meeting - Minneapolis, Minnesota - 2023 April 15-18

Gravitational Wave Science Interest Group (GWSIG)

https://pcos.gsfc.nasa.gov/sigs/gwsig.php

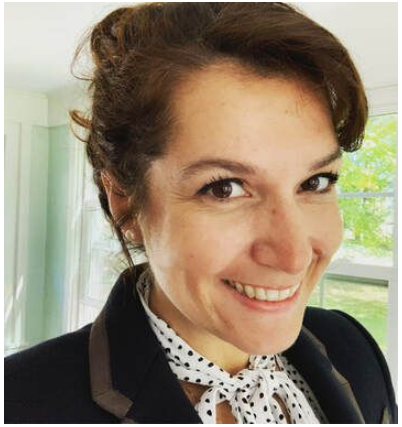
- **Track and analyze evolving science goals and requirements** for NASA GW missions.
- **Support mission studies and concept development** for space-based GW observatories, including when cost savings are sought, or new classes of sources are under consideration.
- **Aid efforts to analyze technology development and prioritization plans** as science goals and mission concepts evolve within the PhysPAG.
- **Advocate for the brand new field of GW astronomy**, build a vibrant community, and promote this new field to the public.



Newly-appointed GWSIG co-chairs (also members of PhysPAG EC)

My research focuses on multi-messenger time-domain astronomy, with emphasis on relativistic radio transients and GW physics. I am a member of the LIGO Scientific Collaboration, an associate member of the LISA consortium, and a member of the Cosmic Explorer management team.

Corsi



Mingarelli

I am a GW astrophysicist, looking to understand how supermassive BHs in the centers of massive galaxies merge. I do this by predicting their nanohertz GW signatures, which will soon be detected by pulsar timing array experiments. With pulsar timing data, I look for both individual supermassive black holes in binary systems, and for the gravitational-wave background which should be generated by their cosmic merger history.

Previous GW SIG Chairs

Name	Institution	SIG/SAG	Term
Jillian Bellovary	Queensborough Comm. Coll.	GW SIG / XR SIG	2019–2022
Sean McWilliams	West Virginia University	GW SIG	2019–2022
John Conklin	Univ. of Florida	GW SIG	2015–2020
Nicolas Yunes	Univ. of Illinois	GW SIG	2017–2020
Kelly Holley-Bockelmann	Vanderbilt Univ.	GW SIG	2016–2019
Neil Cornish	Montana State Univ.	GW SIG	2014–2016
Guido Mueller	Univ. of Florida	GW SIG	2011–2014

The GW SIG is open to all members of the community!

If you are interested in contributing to the work of the GW SIG, please subscribe:

- **SUBSCRIBE :)** Send an email to GWSAG-join@lists.nasa.gov with Subject="join"
- **UNSUBSCRIBE :(** Send an email to GWSAG-leave@lists.nasa.gov with Subject="leave"
- **CONTACT THE LIST OWNER:** Send email to GWSAG-owner@lists.nasa.gov
- **OTHER INQUIRIES**: e-mail co-Chairs chiara.mingarelli@uconn.edu & alessandra.corsi@ttu.edu

NOTE: To maintain uninterrupted communications, the GWSIG mailing list remains under the GWSAG name.

Please encourage potentially interested colleagues and students to sign up!

Newsletter and plan going forward

- We would like to provide some text for the upcoming HEAD newsletter. Previous newsletters can be found on the HEAD website. **Please send us suggestions for any text that you would like to see included in the newsletter no later than May 10, 2023**.

- We would like to plan on **quarterly zoom meetings**, with the goal of discussing developments and identifying topics that are most pressing and requiring attention. Please fill in the following poll for our first summer meeting (ideally, to be scheduled in May). We ask that you please **fill in the poll by April 24**.

https://www.when2meet.com/?19650426-2zfkc

Synergies with ground-based GW detectors

CALL for SUBMISSION of WHITE PAPERS to the NSF MPSAC SUBCOMMITTEE on NEXT-GENERATION GRAVITATIONAL-WAVE OBSERVATORY

Submissions must be made in PDF format to ngGW@nsf.gov by June 12th 2023, 5pm EST

The ngGW Subcommittee membership and charge can be found at: https://www.nsf.gov/mps/phy/nggw.jsp The overarching goal for this Subcommittee is to identify configurations that can operate by the mid-2030s at approximately an order of magnitude greater than the sensitivity of LIGO A+ and to recommend optimal ngGW concepts under different potential constraints. The Subcommittee's work will all be based on input from the scientific community. The expectation is that the ngGW Subcommittee findings will inform future NSF deliberations and that an optimal concept will mature into an MREFC-scale detection network.

II. White Paper Guidelines

The ngGW Subcommittee invites the submission of white papers that address the SC's specific charge, overarching goal, and as many of the deliverables identified in the charge as possible. It would be especially beneficial to the process if the white papers linked the science potential and opportunities with the technical capabilities of the next-generation observatories.

COSMIC EXPLORER

Home Overview Science News The CE Consortium For Researchers

Call for Science Letters

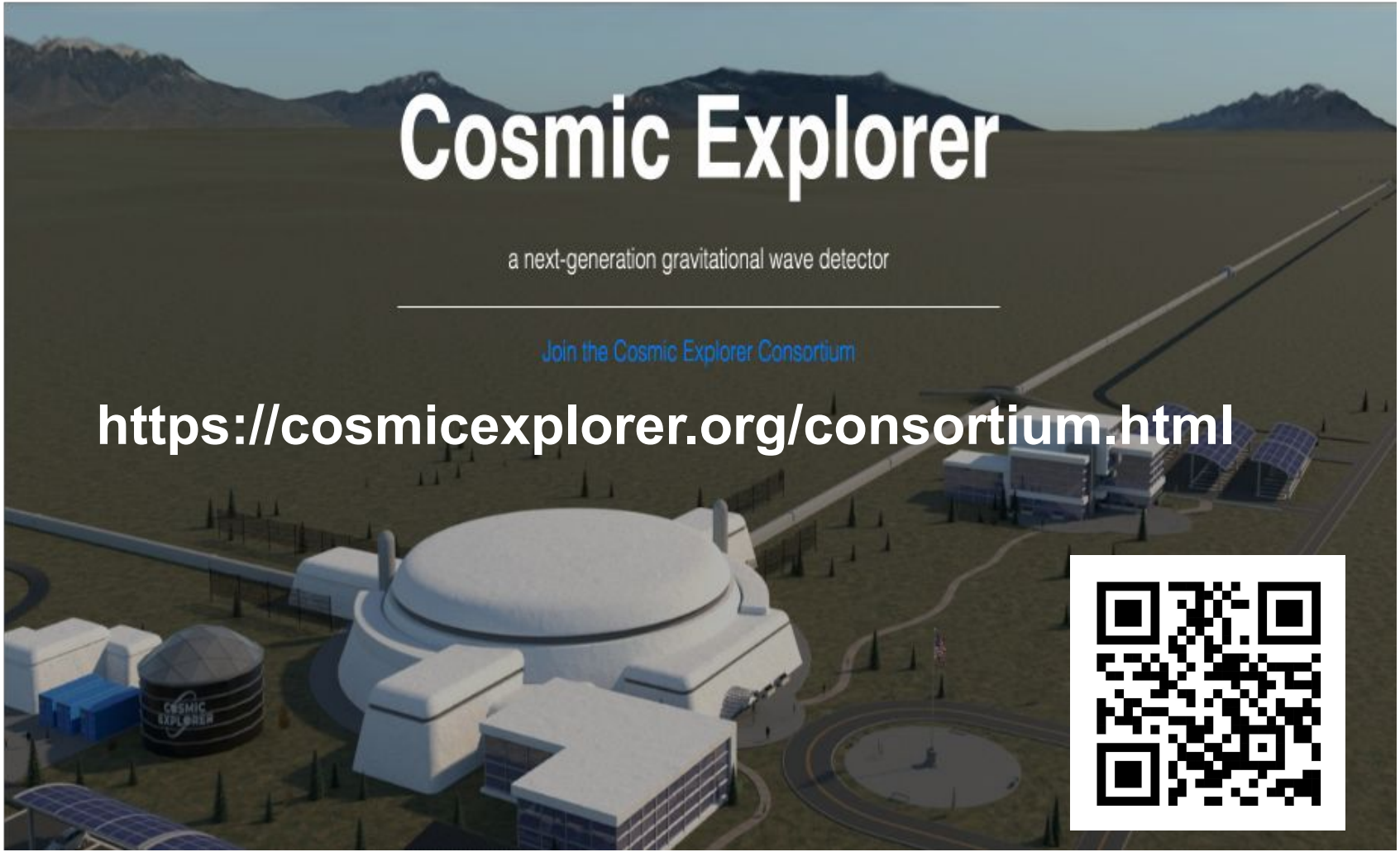
Science Letters are informal public documents that will explore the scientific potential of next-generation (XG) gravitational-wave observatory networks. Each Science Letter should outline the capabilities and timelines needed for an XG network to address a **specific science question**. Science Letters are encouraged to suggest benchmarks that will ensure that the XG network is capable of the breakthrough science that they describe.

We encourage all members of the Cosmic Explorer Consortium to collaborate on Science Letters and to engage early career researchers and graduate students in the process. Science Letters that include authors with diverse backgrounds, perspectives, and experiences are essential. Authors do not need to be Consortium members. You may list letters in progress and points of contact in this spreadsheet to encourage collaboration and coordination.

Science Letters should be uploaded to the Cosmic Explorer DCC or submitted using this CE Science Letter Form. **Letters are requested by May 8 to best enable their use in White Papers.**

Thank you in advance for your contributions! We look forward to reading your Science Letters, and to working together to advance our understanding of the Universe through gravitational-wave observations.

https://cosmicexplorer.org/science-letters-2023.html


Cosmic Explorer
a next-generation gravitational wave detector
Join the Cosmic Explorer Consortium
https://cosmicexplorer.org/consortium.html