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US Citizen

Education

BS. Physics, University of Dayton, Dayton OH (1972)

M.A. Physics and Astronomy, Boston University, Boston MA (1974)

Ph.D. Physics and Astronomy, Boston University, Boston, MA (1978)

Professional experience (full time)

10/1995- present Space Telescope Science Institute – home of Hubble Space Telescope (HST) and James Webb Telescope

- HST Outreach Project Scientist (2012 – current)

a) Ensure the scientific integrity of material produced by the Office of Public Outreach (OPO) by fostering a partnership between OPO and the STScI scientific staff. Participate in scientific review of outreach materials, and support the refinement of processed used for scientific review of news articles and public press releases. Define and coordinate cross-mission E/PO initiatives within the STScI mission offices. b) Support the Institute's planning of Citizen Engagement initiatives. Support the efforts to find new approaches for using archival HST data for Citizen engagement. C) Lead and extend the reach of the Institute's Citizen Science program beyond STScI and foster collaboration with noted citizen science groups (e.g., Zooniverse and CosmoQuest). D) Serve as the HST Mission Office point of contact for Institute Education and Public Outreach activities. Identify and recommend new E/PO initiatives, social media opportunities, synergies with other disciplines (art, music, dance, poetry, etc.), and other means for extending Hubble's scientific and cultural impact and effectiveness.

- Community Missions Office (2005 – 2012: Deputy 2002-2003, 2006-2012)

Responsible for: a) Oversight of the existing portfolio of technical personnel that support the general astronomical community (especially NASA missions and other astronomical facilities). Manage budgets, timelines, deliverables and reporting on STScI products and applied expertise, b) Participation in the pursuit, fostering, planning and executing new business opportunities, c) Preparation of materials, presentations, exhibits, and web resources to inform the scientific and technical communities regarding STScI capabilities, products and services. d) Creating opportunities for citizen science projects using HST and STScI Archive data. Relevant expertise: scientific instrumentation, data analysis, user support, archives, user interfaces, education and outreach. Salary \$185K/yr. Supervisor Dr. Tom Brown (tbrown@stsci.edu, 410-338-4700),

- Education Director, National Virtual Observatory (NVO) (2004- 2008)

Define user needs, oversee creation of education resources and promote use of materials related to the national and international network of astronomical archive holdings.

- Head, Development, Technology and Innovation (2000-2002)

Examine processes and procedures within STScI and create mechanisms for improving productivity, reducing cost, finding innovative solutions and improving service to users

- Head, Office of Public Outreach, NASA Origins Forum Director (1995-2000)

Establish and manage formal, and informal education programs, teacher training, public understanding of science, online outreach support, Hubble Space Telescope news management, management of grant programs

2003-2006: Department of State: Science and Technology Policy Advisor

Manage new technical projects including deployment of Geographic Information systems and satellite imaging support to embassies and consulates, review and revise federal technology and security policies especially for remote access to department information and resources, serve as consultant on science and technology as pertaining to foreign policy

9/1989-10/1995: Associate Research Astronomer, NASA Extreme Ultraviolet Explorer, UC Berkeley

EUVE Guest Observer, Archive Manager and Mission Operations Scientist (100% 1989-1992, 60% 1992-1994, 100% 1995)

Manage: a) the Guest Observer Program, and the archive for NASA's EUVE at the University of California, Berkeley, b) in-orbit calibration of the EUVE spectrograph, c) direct the applications software group in developing portable science software systems, using standard interfaces for ease of researcher. Supervisor: Dr. Roger Malina (rmalina@alum.mit.edu)

9/1992-9/1994: Project Manager, Earth Data Systems, industry funded national distributed information system demonstration system (40%) time

Direct the Earth Science Data (EDS) experiment for the industry-funded *National Information Infrastructure Testbed* in 1993 and 1994. The testbed integrated networks of varying speed, heterogeneous computing systems (such as on-demand supercomputers and workstations) and precious and rare resources in universities and federal laboratories.

8/1981-9/1989: *Resident Astronomer, Canada France Hawaii Telescope*

Responsible for commissioning all solid state and photon-counting detectors (CCD, Reticon, ISIT) for spectroscopic, imaging, and high resolution active optics observations. Develop the specifications for the observatory observational and data reduction systems. Co-founder of the Canada-France Hawaii Telescope archive system, one of the first archives at a ground-based observatory.

Professional activities

Large Synoptic Survey Telescope EPO Advisory Committee

Zooniverse Citizen Science Advisory Committee, Chair

Cosmo Quest Citizen Science Advisory Group

AAAS (2010 – 2014) Kavli Journalism Awards Panel

American Institute of Physics, Diplomacy Fellow Selection Committee (2009-2015; Chair 2013-2015)

Astronomical Society of the Pacific Board (2006 - 2010)

Awards Committee, Audit Committee, Strategic Planning Committee

American Astronomical Society Council (2003-2005)

Astronomy Education Board (1997 - 2000, 2010 - present)

Langley DAAC User Group (1999-2011)

SIRTF Community Working Group (member) & Chair, Archive Working Group (1998-2001)

	NASA OSS Education Council (member) & Chair of Education Resource Archive/Catalog Group (1997-2000) Selecting Official – NASA IDEAS & HST GO Cycle E/PO Grants (1995-2000) Bishop Museum Exploration Exhibit Advisory Group (1998-1999) NASA OSS Education Implementation Task Force (1994-1996) Architectural Team – NASA OSS Origins Strategic Plan Team (1995-1996)
Astronomical professional memberships	American Astronomical Society International Astronomical Union Astronomical Society of the Pacific American Association for the Advancement of Science International Aeronautical Society: IAF Technical Activities Committee for the Cultural Utilisation of Space (ITACCUS), Space Education and Outreach Committee (SEOC), Space Astronomy Committee
Current other	National Public Radio, WYPR 88.1FM, Baltimore, MD Co-Host: <i>SkyWatch</i> Radio Vignette on astronomy for the public Podcast, RSS feed and website at http://hubblesite.org/fun_and_games/skywatch/ Guest Host: <i>Marc Steiner Show</i> WYPR Hubble Heritage Team Pirelli Prize (w. A. Conti) for Google Sky
Expertise	<u>Astrophysics</u> : Research on stellar populations, open, populous and globular clusters <u>Earth Science</u> : Use of Earth observing imagery and photometry, application of Geographic Information Systems <u>Education</u> : Expertise in K-12 curricula, standards, evaluation and systemic reform; informal science education methodologies, standards and evaluation, public engagement in science, Citizen Science <u>Information Systems</u> : Experience in development and management of information technology architectures, distributed data systems & active archives, applications of instructional technology, data meta-tagging and keywording <u>Scientific Programming</u> : Experience in development and maintenance of pipeline processing, data reduction software, imaging and graphical interfaces, user needs assessment <u>Instrumentation</u> : Expertise in optical and IR instrumentation; solid state detectors; active and adaptive optics <u>Management</u> : Leading diverse teams, team building, familiarity with Federal acquisition standards, budgetary procedures, 20 years management experience in hiring, personnel performance, core competencies
Reports since 2000 (on personal website under “Reports”)	“Large Synoptic Survey Telescope: General Scientific Community and Public Access – enabling <i>The Peoples Telescope</i> ”, 2011 “iPhone Testing for STScI”, 2009 w A. Conti “Enabling Outreach With NVO: II -A White Paper On Technical Support For NVO Education And Outreach”, w J. Raddick

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- "The National Virtual Observatory: Science Usability - A Report from the Science Advisory Resource #13" 2006
- "Google Earth Business Case Support: Compiled User Responses" September 2006
- "OpenNet Everywhere Useability Survey Results One Year Later", August 2006
- "Geographic Information Systems Survey Results" July 2006
- "Department of State User Imaging Requests for Diplomacy and Foreign Policy", August 2005
- "Geographic Information Systems (GIS): Department of State Needs Assessment", August 2005
- "Proposal Plan for Geographic Information System (GIS) Capability for the Department of State Human Resources Knowledge Center", w. R. Harford and B. vanPay, July 2005
- "Business Case for Expanded Mobile Electronic Access to Unclassified/SBU Information", June 2005
- "OpenNet Everywhere Useability Survey Results", April 2005
- "OpenNet Everywhere Technical Survey Results", March 2005
- "Needs Assessment for Geographic Information Systems (GIS) at the Department of State: Diplomatic Security Case Study", January 2005
- "Telecommuting Report: A Year of Experiences at DoS", November 2004
- "Update on OSIS Commercial Services Accesses from the Department of State OpenNet", September 2004 (see report noted from 2003)
- "Technologies for the Mobile User", with R. Denniston and G. Galloway, June 2004
- "Report on an Experiment Using a Telework Center", March 2004
- Department of State Web Access to the Open Source Information System, October 2003
- "Linux and MAC OS X Deployment at STScI: Scientist User Feedback" 2002, Input and Recommendations from the Scientific Staff.
- "Customer Needs and Values: A Method Developed as a Springboard for Innovation" 2002, Techniques used in Innovation and Process Improvement.
- "Review of Website Designs" 2002, A review of industry and other organizational websites with an eye to showcasing STScI capabilities for Community Missions.
- "Report on DIT's Live Streaming Internet Broadcast Experiments", 2002, Report of Webcast Experiments 2000-2002.
- "Documentation on the Fly" 2002, Report and Recommendations from SharkCage2.
- "Implementation Table for Reporting HST Data Flow to Observers" 2001, Recommendations from SharkCage1.
- "Innovation Methods" 2001, The Innovation methods used by Development, Technology & Innovation 2000-2002.
- "The Travel Project at STScI: a Case Study Focused on User Values" 2000, Recommendations for improvement to the Travel Procedures used at STScI.
- "Lean Thinking: Application to STScI" 2000, A description of the Lean Thinking innovation methodology as applicable to STScI.

Websites

CMO Website (designer and curator): <http://cmo.stsci.edu/>

NVO EPO Website: <http://virtualobservatory.org>

Department of State (previous internal unclassified) *Image of the Week*

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DoS (previous internal, unclassified) *Mobile Connections* – Community of Practice

DoS (previous internal, unclassified) Telework Website

Personal Website: <http://www.stsci.edu/~carolc>

PUBLICATIONS SINCE 1991

“The Resolved Stellar Populations in the LEGUS Galaxies”, Sabbi, E., *etal* (LEGUS team), 2018, *Ap. J., Suppl.* **235**, 23.

“Extinction Maps and Dust-to-gas Ratios in Nearby Galaxies with LEGUS”, Kahre, L. *etal* (LEGUS team), 2018, *Ap. J.*, **855**, 133.

“Legacy ExtraGalactic UV Survey with The Hubble Space Telescope: Stellar Cluster Catalogs and First Insights Into Cluster Formation and Evolution in NGC 628”, Adamo, A. *etal* (LEGUS team), 2017, *Ap. J.*, **841**, 131.

“A Question and Answer Guide to Astronomy”, **Christian, C.** and Roy, Jean-Rene, 2017, *Cambridge University Press*.

“Touchable Astronomy: Exploring STEM Careers For The Visually Impaired”, **C. Christian**, T. Madura , D. Hurd , W. Diaz-Merced , and K. Silberman, 2017, 68th International Astronautical Congress (IAC), Adelaide Australia. <https://tinyurl.com/3DAstro-CEL>

“Is the Massive Star Cluster Westerlund 2 Double?” Zeidler, P. *etal* (Westerlund 2 team including **C. Christian**), 2017, *Proc. Int. Astr. Union*, **12**, S316.

“A High-resolution Multiband Survey of Westerlund 2 with the Hubble Space Telescope. III. The Present-day Stellar Mass Function”. Zeidler, P. *etal* (Westerlund 2 team including **C. Christian**), 2017, *Astron. J.*, **153**, 122J.

“A High-Resolution Multiband Survey Of Westerlund 2 With The Hubble Space Telescope. Ii. Mass Accretion In The Pre-Main-Sequence Population” Peter Zeidler. P. *etal* (Westerlund 2 team including **C.Christian**), 2016, *Astron. J.* **152**. Retrieved from <http://dx.doi.org/10.3847/0004-6256/152/4/84>.

“A High-Resolution Multiband Survey Of Westerlund 2 With The Hubble Space Telescope . I. The Pre-Main-Sequence Population”, Zeidler, P. *etal* (Westerlund 2 team including **C. Christian**), 2016, *Astrop. J.* submitted.

“Is the Massive Star Cluster Westerlund 2 Double? - A High Resolution Multi-band Survey with the Hubble Space Telescope” 2015, Zeidler, P. *etal* (Westerlund 2 team including C. Christian) *Astron. J.*, **150**, 78

“The Spatial Distribution of the Young Stellar Clusters in the Star-forming Galaxy NGC 628”, Grasha, K. *et. al* including C. Christian, 2015, *ApJ*, **815**, 93G.

“Bright Young Star Clusters in NGC5253 with LEGUS”, Calzetti, D. *et.al* (LEGUS Team including **C. Christian**), 2015, *ApJ*, **811**, 75C.

“Legacy Extragalactic UV Survey (LEGUS) With the Hubble Space Telescope. I. Survey Description” 2015, Calzetti, D. *et.al* (LEGUS Team including C. Christian), *Astron. J.*, **149**, 51C.

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<http://scitation.aip.org/content/aip/journal/cise/17/4/10.1109/MCSE.2015.42>

"You Can Touch These! Creating 3d Tactile Representations Of Hubble Space Telescope Images", Christian, C.A, Nota, A., Greenfield-P., Grice, N., Shaheen, N. 2015, *Journal and Review of Astronomy Education and Outreach*, **3**, retrieved from <http://www.toteachthestars.net/JRAEO/issue-3/>.

"3D Printing Technology: A Unique Way of Making Hubble Space Telescope Images Accessible to Non-Visual Learners", Grice, N.A., Christian, C.A., Nota, A., Greenfield, P. 2015, *Journ. Blindness Innov. Research*, **v 15**, no 1. Retrieved from <https://nfb.org/images/nfb/publications/jbir/jbir15/jbir050101abs.html>

"Touch This! Bringing HST Images to Life as 3D Models", Christian, C., Nota, A., Greenfield, P., Grice, N., Shaheen, N. 2014, *65th Int. Astronaut. Congress 2014*, E1.7.9. retrieved from <https://iafastro.directory/iac/archive/browse/IAC-14/E1/7/26432/>

"Early Results from Star Date: M83 - A Citizen Science Project to Age Date Star Clusters in the Southern Pinwheel Galaxy", Heartley, Jeremy; Whitmore, B. C.; Blair, W. P.; Christian, C. A.; Donaldson, T.; Hammer, D.; Smith, S.; Viana, A. 2014, *AAS Meeting #223*, #442.33.

"Legacy ExtraGalactic UV Survey (LEGUS): The HST View of Star Formation in Nearby Galaxies", Calzetti, D. *et al.* including C. Christian, 2014, *AAS Meeting #223*, #254.08.

"The HST Frontier Fields", Lotz, J. *et al.* including C. Christian, 2014, *AAS Meeting #223*, #254.01.

"You Can Touch This! Bringing HST images to life as 3-D models", Christian, C., Nota, A., Grice, N.A. *et al.* 2014, *AAS Meeting #223*, #244.16.

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"The Space Shuttle and Great Observatories", Christian, C., 2011, in *Wings in Orbit*, W. Hale, H. Lane, G. Chapline, K Lulla (eds.), U.S. Government Printing Office, Washington D.C., 320, ISBN: 978-0-16-0868-46-7.

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"A Questions and Answers Guide to Astronomy", 2010 , Carol Christian, Jean-Rene Roy, Cambridge University Press.

"Globular Clusters - Guides to Galaxies", Christian, C., 2009. *ESO Astrophysics Symposia*, ISBN 978-3-540-76960-6. Springer Berlin Heidelberg, p. 27, *Globular Cluster Research with Astronomical Archives*

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"Low-Metallicity Star Formation: From the First Stars to Dwarf Galaxies", M. Tosi; *etal* including C. Christian, 2008 *Proceedings of the International Astronomical Union, LAU Symposium*, **v. 255**, p. 381-386

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Building a Data Education Community Online

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“Visualizing Large Astronomical Data Holdings”, Christian, C., Conti, A., And Gaffney, N., 2007, **Proc. Of IAU Special Session 2**, *Innovation in Teaching and Learning*, 245.

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2005

“The Science News Metrics”, Christian, C.A., Davidson, G., *Organizations and Strategies in Astronomy* **6**, A. Heck (ed.), (Kluwer Academic Publishers, Dordrecht), p141. (refereed)

“USA Cartographic Response to the Indian Ocean Tsunami of December 26, 2004: Preliminary Report”, Kelmelis, J.A, Schwartz, L, Christian, C., Crawford, M. King, D., *United Nations Regional Cartographic Conference Proceedings*. <http://unstats.un.org/unsd/geoinfo/8unrccaCRP17.pdf>. (refereed)

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“Connecting Your Project to the NVO's Data Riches: a Five-Minute Tutorial”, Raddick, M.J., Christian, C. A., *BAAS* **207**, 5703R.

“The National Virtual Observatory: Background for Educators”, Christian, C.A., *BAAS*, **207**, 5701C.

“LSST EPO: Bringing the Changing Universe to the Public”, Jacoby, S. H.; Borne, K. D.; Christian, C.; De Marco, O.; Larson, A.; Pennypacker, C. R.; Pompea, S. M.; Raddick, M. J.; Rosing, W.; Sparks, R. T.; Thakkar, U., *BAAS*, **207**, 2602J.

“Hubble Space Telescope multi-color ACS mosaic of M51, the Whirlpool Galaxy”, Mutchler, M.; Beckwith, S. V. W.; Bond, H.; Christian, C.; Frattare, L.; Hamilton, F.; Hamilton, M.; Levay, Z.; Noll, K.; Royle, T., *BAAS*, **206**, 1307M.

“*Improving Existing EPO Efforts with Data Access through the National Virtual Observatory*”, Raddick, M. J.; Christian, C. A.; O'mullane, W. J., *BAAS*, **206**, 0510R

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2004

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“Bringing Breakthroughs in Science to the Public Through Webcasting”, *Christian, C.A., Bio.Astronomy: Life Among the Stars, LAU Symposium, 213, 549. (refereed)*

“The Public Impact of HST: A Case Study”, *Christian, C.A., Organizations and Strategies in Astronomy 5, A. Heck (ed.), (Kluwer Academic Publishers, Dordrecht -- ISBN 1-4020-2570-X), 203. (refereed).*

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“Next Generation Space Telescope: An Update”, *Christian, C.A., ASP Conference Proceedings, 273, 369.*

2001

“NPR Radio & Web Simulcasts: The Tour the Cosmos Series”, *Christian, C.A., Eisenhamer, B., Kakadelis, S., Steiner, M., WebNet Journal (refereed), 3, 30.*

“Education &Public Outreach: A View from Research Institutions and Observatories”, *Christian, C.A., Virtual Observatories of the Future, ASP Conf. Proc., 225, 148.*

“Space Science Education Resource Directory”, *Christian, C.A., Scollick, K., ADASS X, A.S.P. Conference Series, 238, 107.*

“Amazing Space: Creating Educational Resources from Current Scientific Research Results”, *Christian, C.A.; Eisenhamer, B., Eisenhamer, J., And Teays, T., Journal of Science and Technology Education (refereed), 10, 38.*

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“Hubble Space Telescope Photometry of the Metal-rich Globular Clusters NGC 6624 and NGC 6637”, *Heasley, J.N., Janes, K.A., Zinn, R., Demarque, P., Da Costa, G.S., Christian, C.A., Astron. J. (refereed), 120, 879.*

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1999

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“First Web Simulcast with NPR Program”, Christian, C.A., Eisenhamer, B., Kakadelis, S., and Eisenhamer, J., *Science Information Systems Newsletter (refereed)*, **49**. [jpl discontinued support of this Journal], but also published as Christian, C.A. et al. 2001“NPR Radio & Web Simulcasts: The Tour the Cosmos Series” *WEBNETJ Volume 3*, Number 2, 2001 ISSN 1522-192X Publisher: Association for the Advancement of Computing in Education (AACE), Chesapeake, VA <http://learntechlib.org/p/8467>

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1992

“The Extreme Ultraviolet Explorer Mission: Software Development,” *Olson, E.C.; Christian, C.A.*, ADASS I, (New York:Plenum Press), 321.

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“Kinematics of Star Clusters in M33”, Schommer, R. A.; Christian, C. A.; Caldwell, Nelson; Bothun, G. D.; Huchra, J., *AJ (refereed)*, **101**, 873.

“IR Photometry of Terzan Clusters, Christian, C. A.; Friel, E. D., *A.S.P Symposium*, (Boston:Massachusetts).

“A Differential Comparison of 47 Tuc and M71”, Heasley, J. N.; Christian, C.A., *A.S.P Symposium*, (Boston:Massachusetts).

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- Cosmic signatures and origins of life: missions, measurements and understanding, NASA Cooperative Agreement for Astrobiology Institute
- National Science Foundation: “My Virtual Observatory for Informal Collaborative Education in Science - full proposal submitted but declined
- STScI: Hubble Heritage Proposal for Education/Outreach observations – awarded
- National Science Foundation: submitted “iSEE - An Informal Science Education Enhancement for GoogleSky”, LOI submitted, proposal in progress
- LSST EPO coalition proposal to Department of Education on “Forensic Astronomy – using astronomical data archives”

C. A. Christian- Vita

- O'Reilly/Nature SciFoo Camp by Invitation only GooglePlex August 2007
- Seminar "Google Sky" invited - Google Chicago September 2007
- Colloquium Amherst "Google Sky and NVO" September 2007
- Colloquium Albany "Visualization of the Cosmos: Hubble Space Telescope and Sky in Google Earth" September 2007
- Communication in Astronomy attendance and presentation of Sky, October 2007
- S&T seminar at Goddard Space Flight Center "Google Sky" November 2007
- Astrofest invited talk "Google Sky" January 2008
- University of Cincinnati Keynote April 08
- Harvard Talk invited "Google Sky" April 2008
- STScI public talk November 2007
- SkyWatch talk 21 October, 2007 Cockeyville Library

2008:

Review of papers: S&T and Policy for USGS Scientist Dr. J. Kelmelis

- Google Sky Teacher Workshop – Organizing Committee, Presenter, University of Washington July 2008
- Cosmic Signatures Proposal with JHU

NVO

- Invited Seminar on NVO, HST, GS at Google Chicago
- NSF proposal successful **the Pulsar Search Collaboratory project** -- Sue Ann Hawkins NRAO event data, Advisory Board and NVO Rep
- LSST EPO coalition proposal to DOE
- Discussion with Microsoft WWT C. Wong on EPO related to NVO
- Meta-tag and WWT PRO w Harvard

CMO

- Supported SMEX proposals...
- Astrobio proposal – Cosmic Signature, JHU/STScI
- Google disks – Palmpsest project

2009

Invited:

C. Christian 2008, GoogleSky / World Wide Telescope Tutorial Session (talk constructed with A. Conti) **ADASS 2008 XVIII. HST Resources for Google Sky**

GoogleSky, by video conference to Astronomy meeting in Cardiff (with A. Conti)

NSF Panel: LIGO data management

LaRC ADC user group

ASP board member, and Chair of Awards committee

KICP workshop invitation

LOC May Symposium member

C. A. Christian- Vita

School talks (Hamden)

2010 (up until June)

√ASP Audit Committee

√Advisory Committee Chair: CDI-Type II: Zooniverse – Conquering the Data Flood with a Transformative

√Advisory Committee Member: LSST EPO program

√User/advisory group: LaRC ADC Earth Science

√Education Committee, AAS, elected

Initiatives:

√Citizen Science:

- Co-organized with OPO brainstorming on Citizen Science with HST data
- Documented various strategies
- Subsequently served as Lead of the STScI side of partnership between Citizen Science Galaxy Zoo 2 and STScI to bring HST data into Zoo for the anniversary. Develop a longer term plan for bringing data into Zoo

√Technology: LSST Transient iPhone Application Beta Tester

√Dashboard: Oversight of work on CMO Dashboard, set schedule with A. Conti, prepared presentation to directorate, monitored negotiation with PMO

√Mast/EPO: Lead on program for metatags. Set schedule, conduct regular meetings

√MDSi: Proposal, meetings with E. St. John, support for project appeal to Sen. Mikulski

Science Community Service:

√LOC May Symposium member

√NSF Proposal Review: Research with Astronomical Surveys

Public Talks:

- √Florida public talk Jupiter Florida
- √Intro to 3D 13 minute trailer and education event (November?)
- √Friends School 12th grade physics
- √Baltimore May 17 DAR

CMO Work:

- √Fiscal planning
- √Work with PMO on new budget authority proposal
- √Cleaned up and produced Admin Assistant manual based on raw materials from Pat Brown and Alberto Conti
- √Steering Committee for STScI website

2010 – 2011

CMO/MISC

- √Facilitated organization of Archive banners and posters for HST 3 conference
- √MAST / EPO
- √Meta-tagging workshop steering committee
-

Training

- IT Security Training (April)
- GSFC – SBU Training (June)
- Federal Records management
- Export Controls
- ITAR

Science/ Research Community Service

- ASP Audit Committee
- AAS Education Board
- **User/advisory group:** LaRC ADC Earth Science
- LSST EPO Advisory Committee
- Zooniverse Advisory Committee, Chair
- AAAS Kavli Journalism Awards screener
- NSF Nat Astron. And Ionosph Center proposal review (Aricebo)
- AAVSO director's review
- Advisor to the DC Art and Science Evening Rendezvous (DASER) monthly programs committee- Cultural Programs of the National Academy of Sciences (CPNAS) partnership with **Leonardo** <http://www.cpnas.org/>, <http://www.leonardo.info/isast/laser.html>
- First DASER panel member 16 February 2011
- Public Talk Eastpointe, Palm Beach 3 March 2011
- ASP LOC for 2011 meeting
- SEOC – Youth Grant Review Fall-Winter 2010-11
- ITACCUS – Strategic Plan Committee ongoing
- SEOC – Malina Award Committee March 2011
- SLOAN proposal review April/May 2011

2011 – 2012

CMO MISC

- CMO external website redesign
- MAST / EPO
- Budgets
- Mission / Division meetings
- Digital TV Metadata Working Group (NASA): member

Public Talks

- After School Groups Annapolis Edgewater Elementary
- Eastpointe

Proposals

- Astrobiology with JHU

Science/ Research Community Service

- ASP Audit Committee
- AAS Education Board
- **User/advisory group:** LaRC ADC Earth Science
- LSST EPO Advisory Committee
- Zooniverse Advisory Committee, Chair

C. A. Christian- Vita

- AIP Diplomacy Fellow selection committee
- AAAS Kavli Journalism Awards screener (video documentary)
- Advisor to the DC Art and Science Evening Rendezvous (DASER) monthly programs committee- Cultural Programs of the National Academy of Sciences (CPNAS) partner ship with **Leonardo** <http://www.cpnas.org/>, <http://www.leonardo.info/isast/laser.html>
- ASP LOC for 2011 meeting
- Maybe
 - SEOC – Youth Grant Review Fall-Winter 2011-12
- ITACCUS – Member and Strategic Plan Committee ongoing
- SEOC – technical committee, chair of sessions, IAC program committee
- IAC 2011 - Rapporteur for Education Session, Presentation in Space Astronomy

2013-2014

Public Talks

Proposals

One Cycle 22 proposals

One Cycle 22 EPO proposals

Science/ Research Community Service

- AAS Education Board
- LSST EPO Advisory Committee
- Zooniverse Advisory Committee, Chair
- AIP Diplomacy Fellow selection committee Chair
- AAAS Kavli Journalism Awards screener (video documentaries)
- Advisor to the DC Art and Science Evening Rendezvous (DASER) monthly programs committee- Cultural Programs of the National Academy of Sciences (CPNAS) partner ship with **Leonardo** <http://www.cpnas.org/>, <http://www.leonardo.info/isast/laser.html>
- ITACCUS – Member and Strategic Plan Committee ongoing
 - SEOC – technical committee, chair of sessions, IAC program committee IAF Space Education and Outreach Committee (SEOC) – technical committee, chair of sessions, IAC program committee, Vice Chair for Communications
- IAC 2011 - Rapporteur for Education Session, Presentation in Space Astronomy
- Reviewer, IAF Young Professionals Grant Awards (international)

2013-2014

Public Talks

Proposals

One Cycle 22 proposal (won) LEGUS co-I

One Cycle 22 EPO proposal (won) LEGUS EPO PI

Science/ Research Community Service

- AAS Education Board
- LSST EPO Advisory Committee
- Zooniverse Advisory Committee, Chair

C. A. Christian- Vita

- AIP Diplomacy Fellow selection committee Chair
- AAAS Kavli Journalism Awards screener (video documentaries)
- Advisor to the DC Art and Science Evening Rendezvous (DASER) monthly programs committee- Cultural Programs of the National Academy of Sciences (CPNAS) partner ship with **Leonardo** <http://www.cpnas.org/>, <http://www.leonardo.info/isast/laser.html>
- International Aeronautical Federation – Member and Strategic Plan Committee ongoing
 - SEOC – technical committee, chair/co-chair of 3 sessions, IAC program committee
 - IAF Space Education and Outreach Committee (SEOC) – technical committee, chair of sessions, IAC program committee, Vice Chair for Communications, selection official IAF Emerging Space Leaders Plenary applications,
- IAC 2014 – Chair/Co-Chair for 3 sessions, one presentation, co-organizer of Emerging Space Leaders Plenary Session for IAC

Talk – Space Visions, Hubble Science Briefing, NFB Orlando 3D printing,

2014-2015

Science/ Research Community Service

- LSST EPO Advisory Committee
- Zooniverse Advisory Committee, Chair
- AIP Diplomacy Fellow selection committee Chair
- AAAS Kavli Journalism Awards screener (video documentaries)
- Advisor to the DC Art and Science Evening Rendezvous (DASER) monthly programs committee- Cultural Programs of the National Academy of Sciences (CPNAS) partner ship with **Leonardo** <http://www.cpnas.org/>, <http://www.leonardo.info/isast/laser.html>
- International Aeronautical Federation – Member and Strategic Plan Committee ongoing
 - SEOC – technical committee, chair/co-chair of 3 sessions, IAC program committee
 - IAF Space Education and Outreach Committee (SEOC) – technical committee, chair of sessions, IAC program committee, Vice Chair for Communications, selection official IAF Emerging Space Leaders Plenary applications,
- IAC 2014 – Chair/Co-Chair for 3 sessions, one presentation, co-organizer of Emerging Space Leaders Plenary Session for IAC

2015-2016

Science/ Research Community Service

- STScI SPC
- AAAS Kavli Journalism Awards screener (video documentaries)
- IAU C.C2 Organizing Committee: Communicating Science to the Public
- LSST EPO Advisory Committee
- LSST EPO Manager Search Committee

Meeting Org

- IAC 2015 – Chair/Co-Chair for 3 sessions, one presentation, co-organizer of Emerging Space Leaders Plenary Session for IAC

Presentations

C. A. Christian- Vita

- 3 talks at IAU in HNL (Citizen Science and 2 Hyperwall on Search for Life)

Service

- Science PG

2015-2016

Science/ Research Community Service

- STScI SPC
- AAAS Kavli Journalism Awards screener (video documentaries)
- IAU C.C2 Organizing Committee: Communicating Science to the Public
- LSST EPO Advisory Committee
- LSST EPO Manager Search Committee

Meeting Org

- IAC 2015 – Chair/Co-Chair for 1 session, co-organizer of Next Generation Space Leaders Plenary Session for IAC

Presentations

2016-2017

Science/ Research Community Service

- AAAS Kavli Journalism Awards screener (video documentaries)
- IAU C.C2 Organizing Committee: Communicating Science to the Public
- LSST EPO Advisory Committee
- LSST Operations Proposal Red Team

Service

- Science PG

Proposals

NASA Museums (tactile astronomy) proposal

2017-2018

Science/ Research Community Service

- AAAS Kavli Journalism Awards screener (video documentaries)
- IAU C.C2 Organizing Committee: Communicating Science to the Public
- AAS Education Awards Committee
- IAC NG panel
- AAAS Executive Branch Science Fellowship Screener
- Science PG Reviews
- SPSS Strategy at STScI

Proposals

NSF CEL (tactile astronomy) proposal

SCCB funding for summer camp

C. A. Christian- Vita

Presentations

Citizen Science with HST Data (and Mast) Nov 2018 Citizen Science group
Hubble and Beyond, invited talk, Palm Beach Gardens community group

Reviews

Leckrone book for IOP books

2019-2020

Science community service in the past year.

AAS Education Awards Committee

AAAS Kavli Journalism Awards, reviewer (science communications)

IAF Young Space Leaders Grant Awards, Reviewer

IAF Next Generation Space Leaders, Selection Committee

Presentations

Collaborator on the United Nations Exhibit of the Outer Space Affairs: Astronomy for
Equity and Inclusion

Reviews

Science and US Policy Papers *Texas National Security Review*