TEAM MEDIA FORM

TEAM INFORMATION

Team Name		Team Alpha CubeSat			
Team Location		Headquarters: Cabin John, Maryland			
		Colab: DSI/XISP-Inc NASA Ames Research Park, Moffett Field, California			
		Outpost: Minneapolis, Minnesota			
Team Leader(s)		Gary Pearce Barnhard			
Contact Email		gary.barnhard@xisp-inc.com			
Contact Phone		+1 301 229 8012			
Team Photo: ☐ Attached ☑ Will send at a later date					
Logo/ Mascot		Yes, Logo and Patch designs attached			
	Team Members and their roles and responsibilities on the team				
1	Gary Pe	Pearce Barnhard, Team Leader/Lead Systems Engineer			
2	Matteo	eo K. Borri – Communications, Attitude Control Systems, Testing & Trades			
3	Michelle Kennedy Cadieux – Communications, Testing & Trades				
4	Ethan Shinen Chew – Propulsion, Trajectories, Testing & Trades				
5	Adam Glickman – Materials, Testing & Trades				
6	TJ McKinney – Electrical, Testing & Trades				
7	Joseph Rauscher – Documentation & Organizational Interface Development				
8	Jephrey Rodriguez – CAD/CAE, Testing & trades				
9	John Tascione – Structures, Testing & Trades				
TE/	AM BAC	KGROUND			
Questions					
Team Name Explanation					

^{*}Please keep in mind all answers will be shared with media/public/other teams.

Questions

Team Origins

Through a combination of Bay Area Hackathon encounters, other local networking contacts, social media, and the Cube Quest Challenge Summit our team came together. After multiple technical discussions and a commitment by our teams founding sponsor Xtraordinary Innovative Space Partnerships, Inc. (XISP-Inc) http://www.xisp-inc.com to support the business infrastructure requirements we recognized that a real opportunity existed to successfully take on the Cube Quest Challenge.

Team Strategy

Our strategy is to succeed through a combination of competition and cooperation. We intend to leverage all available assets implementing the project as part of multiple profit driven technology development efforts underway by our teammates and sponsors.

Team Uniqueness

The Team Alpha CubeSat Leader Gary Pearce Barnhard is a robotic, space, and computer systems engineer -- a self-described synergistic technological philanthropist, entrepreneur, and serial venture capitalist.

Our propulsion engineer Ethan Chew splits his time between inspiring his high school aerospace technology students and calculating trajectories and propulsion engineering for Alpha CubeSat.

Our Team, an eclectic collection of engineering and scientific talent, has chosen to lend their efforts to not waiting for the future – but rather helping to build it!

Our team consists of core members which take on the accomplishment responsibilities for all work items, team advisors who lend their expertise and good offices to helping the core members identify the references and resources needed to move the work forward, and international liaisons who offer unique perspectives on how to foster collaboration that can enable the team to do more with less cost, schedule, and technical risk.

Additional Background

Gary Pearce Barnhard

Gary Barnhard is the President & CEO of Xtraordinary Innovative Space Partnerships, Inc. (XISP-Inc) (www.xisp-inc.com) a start-up company focused on International Space Station technology development work and Barnhard Associates, LLC, a systems engineering consulting firm and Internet Service Provider (Xisp.net) based in Cabin John, Maryland. He is a robotic space systems engineer whose professional work includes a wide range of robotic, space, and computer systems engineering projects.

Mr. Barnhard received a Bachelor of Science in Engineering from the University of Maryland College Park (UMCP) in 1982 combining Aerospace Engineering, Materials Science, with graduate work in science policy, solar physics, and artificial intelligence/knowledge based systems.

He was awarded a grant to participate in NASA's Graduate Student Researchers Program under the auspices of NASA Goddard Space Flight Center (GSFC) and the UMCP Aerospace Engineering Department. His work with the GSFC Advanced Missions Analysis Office included serving on the NASA Headquarters Space Station Mission Requirements Working Group Technology Development Missions Working Group. His work with the GSFC Mission and Data Operations Director included supporting the development of the Space Station User Information System Requirements. His thesis work on "the application of knowledge based systems to the domain of spacecraft systems engineering" was published by the UMCP Aerospace Engineering Department and was subsequently implemented as a research and development project at the NASA GSFC.

Mr. Barnhard served as a Space Systems Engineer and Information Systems Architect for EER Systems, and as a Senior Space Systems Engineer on the Grumman Space Station Systems Engineering and Integration Contract (SSEIC) responsible for advanced automation and robotic systems support. He was the Executive Secretary of the Space Station Freedom Program Robotics Working Group and received a NASA Group Achievement Award for the Robotic Systems Integration Standards Interface Design Review Team, as well as an Outstanding Support Award from the Canadian Space Agency Space Station Freedom Program Liaison Office. Mr. Barnhard is an Associate Fellow of the American Institute of Aeronautics and Astronautics (AIAA).

Over the last 37 years he has been extensively involved in the space advocacy community: as the co-founder and Executive Director of the Maryland Alliance for Space Colonization (MASC) one of the most successful chapters/affiliates of the L5 Society, as founder and Executive Director of the Space Development Foundation, as a frequent public speaker on space advocacy issues, as an organizer of space related educational programs and conferences, and as participant in many other space advocacy organization activities.

He is a Life Member of the National Space Society and has served as an At-Large member of the NSS Board of Directors from 2004-2008, and as the Chairman of the NSS Executive Committee/Chief Executive Officer from 2004-2010, Executive Director of the Society from 2010-2012, and Vice President At Large in 2012. He received the National Space Society's Space Pioneer Award in 2004 and the NSS Award for Excellence in 2005 and 2008 for his efforts to further the goals of the Society.

Gary Pearce Barnhard

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Michelle Kennedy Cadieux

Michelle is the President & CEO of Creative Communications and Executive Director of the nonprofit Community Safety Programs, Inc.

(www.www.linkedin.com/in/creativecommunications) a start-up company focused on space business development work based in Minneapolis, Minnesota. She is trained in structural and chemical engineering and whose professional work includes a wide range of robotic, space, and computer projects. She does business development, grant writing, partnership management, CAD and 3d printing and design, and social media campaigns.

Ms. Cadieux received a MBA in 2000 from San Jose State. She has almost completed the 2 year degree from FEMA in Emergency Management and has been an instructor in Hazardous Materials and Disaster Structural Assessment. She also has coursework in System Engineering, Nano and Cleantech, and PGE Energy and Solar Installations.

She has been selected by womenwhotech.com for the current Women's Startup Challenge sponsored by Craigslist's Craigconnects. She also serves as a science fair judge on 4 competitions including Conrad Awards and the Cleantechopen. Her work with NASA has included Social media, and being a contractor for Raytheon and a Senior Technical Trainer for Lockheed on satellite projects. She was the VP at LiftPort.com Space Elevator. She has been on the team of solarsystemexpress.com including working on the award winning SolarSpike robotic boot, and development on promotions for the DeathStar Pong Sat equipment and workshop and GDB programmable logic board. She also has been active with LeewardSpaceFoundation.org and projects including the Roadmap to the Stars book, space based solar industry promotion and scholarship support. She has also been an organizer on Space and Flight Startup Weekends, and competed in many hackathons like spaceappschallenge.com and NASA Game Jam.

Over the last 20 years she has been extensively involved in the space advocacy community: as a frequent public speaker on space advocacy issues, as an organizer of space related educational programs and conferences, and as participant in many other space advocacy organization activities including LunarCubes, and the Space Elevator and Asteroid Mining conferences. She was on the board of MNVoad disaster preparation and RebuildingTogether.org.

GS9 Equivalent when at Lockheed.

Michelle Cadieux, MBA CNCP

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Joseph Rauscher

Program development and editorial oversight

Background:

^{*}Please keep in mind all answers will be shared with media/public/other teams.

- USA federal and local government environmental protection, green remediation and renewable energy program operations; and grants, contracts, and interagency agreement (IA) administration and financial management.
- Aerospace non-profit program development and editorial oversight

Experience:

- Forty-four years' experience in USA federal and local government environmental protection, green remediation and renewable energy program operations; and grants, contracts, interagency agreement administration; and financial management.
- Two years' experience in program development and editorial oversight with Space Development Foundation and Xtraordinary Innovative Space Partnerships, Inc.

Ratings: GS-13 Received outstanding and exceeds expectations formal ratings.

Academics:

- St. Louis University; St. Louis, Missouri B.S., Meteorology, December, 1965 Magna Cum Laude
- University of Michigan; Ann Arbor, Michigan M.S., Meteorology (included air pollution meteorology research), April, 1967
- University of Southern California; Los Angeles, California 12 Doctoral Credits, Public Administration, December, 1967

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Matteo K. Borri –Control Systems, Testing & Trades

MKB is a roboticist with some previous aerospace experience (Phonesat). Previously, he has built autopilots for autonomous barges and collaborate with Inertia Labs (formerly TeamToro on Battlebots).

Matteo Borri co-owns Robots Everywhere LLC, a company that is best known for releasing the first Android robotics SDK in 2010. More recently, RE has passed 300% on a crowdfunding endeavor for a portable laser cutter, with all preorders fulfilled within 3 months. Other accomplishments include collaborating with Dr. Chris Mckay, the Mars Society, the Phonesat project, eTrac Engineering. A full list of projects is available at http://www.robots-everywhere.com

• Ethan Shinen Chew – Propulsion, Trajectories, Testing & Trades

Ethan Chew is an engineer on Team Alpha CubeSat and specializes in trajectory and propulsion systems engineering and development. He has a history of being engaged in engineering, business development, networking and marketing and management for entrepreneurial ventures.

He is currently networking together space communities to develop business for commercial space under the California International Spaceports Network that has engagements in startup and emerging commercial space ventures in the US, Puerto Rico, Mexico, Canada and Australia.

He has experience developing and fabricating composite structures and rocket propulsion of space vehicles for the commercial space sector for Masten Space Systems.

He has a foundation in the design-build-test-fly cycle for UAVs and has built and flown 4 aircraft projects for the AIAA-ONR Cessna Design-Build-Fly competition and rocket engines for National Space Society's HAL5 Project Halo. He has also done vehicle sizing and trajectory analysis on launch vehicles for Project HALO.

He started his career as a NASA contract systems engineer for Space Shuttle Program at Marshall Spaceflight Center.

He is experienced with establishing and managing makerspaces (http://en.wikipedia.org/wiki/Hackerspace) as non-profit 501c3 entities as a co-founder and member of the managing board. He started at Makers Local 256 in Huntsville, AL and launched Mojave Makers in Mojave, CA in 2012. He is now engaged with local community organizer, We Are Mojave, and the local Mojave Junior & Senior High School to bring maker and technology projects and classes to the community and classroom.

Ethan Chew shinen.chew@gmail.com www.linkedin.com/in/ethanchew

Adam Glickman – Materials, Testing & Trades

Adam Glickman has over 15 years experience in technology, engineering and operations in Silicon Valley. His experience includes: MEMs, Quality Systems, computer application, manufacturing, optics, plastics, tooling, and printed circuit board assembly.

He helped establish a quality system for InvenSense, a smart phone sensor company, that allowed it to grow. This now public company is now at over one

billion chips sold. Statistical Process Control (SPC) and ISO9001 have been some of the tools he has helped establish.

Previous professional certification achieved include: American Society of Quality (ASQ) Certified Quality Engineer, Quality Manager, Quality Auditor, and Software Quality Engineer.

Academics: Education includes a Bachelors of Science in Industrial Technology, Polymers with coursework in advanced composites through Society of Advanced Material Process Engineer (SAMPE) led composites classes, CAD/CAD. Further study include Advanced Nanotechnology coursework with a certificate of completion at California Institute of Nanotechnology and select classes in Project Management, and Database classes at Foothill Community College. The project management class is a qualifier for the Project Management Institute (PMI) Project Management Professional (PMP) certification.

He is an attendee of numerous technology, space and Cubesat specialized engineering workshops and conferences. Additionally he has been a founding member of the Mountain View based Hacker Dojo, a co-working space.

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• Terry James (T.J.) McKinney – Electrical, Testing & Trades

Senior Radiation Technician with Los Alamos Technical Associates, and CEO & Founder of Asteroid Mining Corporation

T.J. McKinney uses his multiple work experiences to allow him to advance in life as a leader. He currently works as a Senior Radiation Technician on a deactivation project for LATA Environmental Services of KY LLC at the Paducah Gaseous Diffusion Plant (PGDP), a U.S. uranium enrichment plant in Paducah, KY and has worked there for the last 6 years. LATA is a prime contractor for the Department of Energy. In his daily duties, he provides job coverage while protecting persons and property from radiation and other potential hazards. He does daily source checks to calibrate alpha, beta & gamma radiation instruments using radioactive sources, and perform incoming and off-site regulated and unregulated DOE & DOT shipments. He has an active DOE (Dept. of Energy) Core Test certification good until March 31, 2016 and a DOE "L" Secret Clearance active until April 7, 2019. He has completed the 40 Hour HAZWOPER Radiological Control Technician Training & taken two Health-Physics classes at West KY Technical College.

In 2013 to 2014 he volunteered as Logistics Lead for the American Red Cross in Mayfield, KY and before that was a Disaster Assessment Team Leader with the American Red Cross to respond to local fires and emergencies to do assessments when families are displaced from their homes. He has obtained the following awareness & hands-on training: hazardous materials handling,

hazard communication, regulatory compliance, safety systems, using self-protective gear, emergency response, operating mobile equipment, beryllium, lead, heavy metals, heat/cold stress, ladders, respirators, hand-held and lab radiation instruments, arsenic, asbestos, alpha and beta/gamma doses, TRU & modified TRU limit areas, personnel decontamination, and more. Back in 2012, he started a Facebook page http://www.PrepareForDisasters.org to help people get prepared for any type of man-made or natural disaster. He currently has an active Principal Auctioneer's License, a Master Electrician License, a Contractors Electrician License, a CDL License with Hazmat & Tanker endorsements, he also is a certified CCDW Instructor for the state of Kentucky.

He started an official company in Kentucky in the fall of 2014 called Asteroid Mining Corporation. The Facebook page is located at http://www.AsteroidMiningCorp.com It is a space start-up company to eventually mine asteroids, comets, the Moon and Mars, but for now he is getting the word out about his business, and the interest in space by creating a "Rover Simulator Studio." The Rover Simulator Studio has working models of remote control vehicles or "rovers" in his warehouse (that will soon be remodeled to look like the Moon or Mars surface,) while letting people control it live, from his website, from anywhere in the world. This is for those who wishes they could control an actual Mars Rover but makes it a realistic alternative for people of all ages. This website is

http://www.RoverSimulator.com
He hopes to have a mutually beneficial relationship with NASA and other space related companies and/or organizations. He sometimes says, "I have purposely set almost impossible life-long goals for myself to achieve, since striving for only easy goals are not a challenge and would be boring."

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http://www.AsteroidMiningCorp.com

http://www.RoverSimulator.com

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Jephrey Rodriguez – CAD/CAE, Testing & trades

Jephrey is currently working as an R&D Engineer with previous working experience in product design, product development and operations. A member of SNF (Stanford Nanofabrication Laboratory), where he worked on microfluidic devices and developing innovative/cost-effective MEMs technology processes. He is an avid Arduino user with current interest in integration and prototyping 3D printing machines. He is working on getting a

Pilot's Certificate which was the catalyst in catching his interest in the aeronautical/aerospace industry.

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• John Tascione – Structures, Mechanisms, Controls, Testing & Trades

John has approximately 31 years experience in radio control aircraft scratch building and design. He is an accomplished mechanic that has been rebuilding gasoline engines since the age of 12.

He has 12 years experience as a California smog technician and an enhanced engine performance specialist as certified by ASE (Automotive Service Excellence) and is a current business owner in the field. He brings to the team a general reality check and skills of an engineer that knows how to make things work.

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ADVISORS:

• Eric Dahlstrom

Eric's specialties include: Space Systems Engineering, Mission Analysis and Design, Orbit Design, Operations; Project Management, Technical Teams, Technical Proposals. Eric has and a BA in Physics from the University of North Carolina (1979), an MS in Astronomy from the University of Maryland (1984), graduate work in astronautical engineering at George Washington University (1989 – 1995), and earned a Certificate in Space Studies from the International Space University (1991).

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Jerry Isdale

Jerry Isdale is a software engineer with a long career in a variety of leading edge software systems from early computer animation for film and TV to DoD funded research projects. He was the lead engineer for the PENCIL project in 1994-96, developing a pen notebook computer/email system providing interactive maps, forms and coordination applications for the US Army National Guard. He was a developer and research scientist on several other projects for ISX Corporation and HRL Laboratories LLC. He worked on Aerovironment's Global Observer Apple OSX based Ground Control Segment until 2009 when he left to start Maui Makers, a makerspace on the island of Maui, HI. He will be responsible for coordinating and participating in various engineering and educational projects for the organization.

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https://www.linkedin.com/pub/jerry-isdale/0/185/678

INTERNATIONAL LIASIONS:

- •Isaac DeSouza Head of Robotics & Automation at Thoth Technology Inc. Electrical Engineer. B.A.Sc Specialized Honours Space Engineering · Toronto, Ontario York University (2014) (Canadian Citizen based in Canada)
- Daniel Faber Daniel is the President & CEO of Deep Space Industries, Inc. Daniel is a Systems Engineer and Entrepreneur, with experience managing complex, international projects and designing and building satellite systems and subsystems. Particular interest in new technologies and business models for space, telecommunications and mining industries. (Australian citizen based in Mountain View, California)

https://www.linkedin.com/in/danielfaber

- •Joshua Skrzypek Mobile Web Consultant / Full Stack Developer @ Yoobic. (United States Citizen based in Israel) https://il.linkedin.com/in/joshuaskrzypek
- •Joe Hatoum Joe Hatoum is a STEM guru, and founder of Spacelite life sciences company focused around aerospace nutrition, sports medicine & universal remedies. Joe was previously a software developer before diving fulltime into the fields of life sciences, electronics, & materials engineering to create new aerospace grade building concepts, and possibilities for electronics, robotics, propulsion, and other necessary systems to win an ACS challenge. (Canadian Citizen based in Canada) https://ca.linkedin.com/pub/joe-hatoum/49/a66/ab5

CUBEQUEST CHALLENGE

^{*}Please keep in mind all answers will be shared with media/public/other teams.

Questions

Obstacles

When the team was coming together there was no shortage of technical ideas, but the business infrastructure requirements were daunting, and there was no clear path or approach to bring together the necessary resources to move forward.

It was quickly realized that between us we did not have sufficient resources to buy the prize and could not count on finding a way to obtain them. Accordingly, a different strategy was required. We were going to have to succeed by effectively out-collaborating our competition. Leveraging the resources of our team, it's sponsors, and the value inherent in providing a testing environment that offers flight experience to new hardware, software, and methodologies thereby enabling our team to do more with less.

Prize Money

Make sure all our team bills are paid, reward the team members for their work, and invest in further efforts to commercialize the technologies we have developed and/or tested.

Additional Information

Team Beverage: Rocket Fuel - a nice mixture of lemonade concentrate, limeade concentrate, water, dry ice, and 190 proof ethanol to taste.

SOCIAL & TRADITIONAL MEDIA

Questions

Social Media

Facebook: Alpha CubeSat (526 likes), Alpha CubeSat Supporters Group (315

members),

Twitter: @alphacubesat

Wiki: http://www.xisp-

inc.com/dokuwiki/doku.php?id=alpha cube sat team organization front page

'Read' the press at https://angel.co/alpha-cubesat-1/activity#press

'Like' our http://facebook.com/alphacubesat

'Join' our discussions at http://facebook.com/groups/alphacubesat

'Follow' us at http://twitter.com/alphacubesat

'Follow' and Invest (accredited) at http://angel.co/alphacubesat

See us at https://gust.com/companies/alphacubesat

'Follow' and Work open source projects at http://github.com/alphacubesat

'Subscribe' to us on youtube at

https://www.youtube.com/channel/UCZD7A704CQu-fMWuem8gqpw

'Friend' us on Google Plus

https://plus.google.com/u/4/114257548848858286680/about...

Shop and donate, once or monthly at http://patreon.com/alphacubesat

Crowdfund: contact us, we can raise up to \$1 million from small donations. (This amount may vary.)

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Questions				
	We have successfully used social media to develop partnerships, a mission patch, a video, and a logo.			
Traditional Media	Washington Post: Digital and print editions SpaceNEWS: Digital and print editions Aviation Week & Space Technology: Digital and print editions National Space Society: • www.nss.org, • blog.nss.org, • wiki.nss.org, • Facebook - National Space Society, and • Ad Astra quarterly magazine.			
Future Promotion	Yes, we would be pleased to show a video of our DSI/XISP-Inc Colab facility as it comes together in the NASA ARC Research Park as well as our facilities in Cabin John, MD.			
Additional Information	We will actively developing all the media outlets we have defined and will continue to augment and exercise them through the efforts of our team members and sponsors.			

PRIMARY CONTACTS

Janet Sudnik, janet.m.sudnik@nasa.gov Media Manager, Centennial Challenges	Janet Anderson, <u>janet.l.anderson@nasa.gov</u> Public Affairs Officer, Marshall Space Flight Center
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THANK YOU!



alpha cubesat



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