

The Aerospace & Defense Forum



Los Angeles Chapter June 21, 2013 Meeting

The Aerospace & Defense Forum is a global aerospace and defense leadership community of over 690, providing opportunities for sharing of information, current events, and analysis, mutual support and encouragement, partnering, innovation, and performance breakthroughs. More information at AerospaceDefenseForum.org

[Click here to attend in person](#)

Both members and non-members must register to attend.

Registration Fees

Free - A&D Forum member

\$30 - Non-member Early Bird until
June 14

\$40 - Non-member after June 14.

You will receive multiple invitations, regardless of whether you have already registered. Please do not register more than once!

[Click here to attend via Internet](#)

You can register to access the live Webinar stream.

After completing and submitting the registration form, you will receive an e-



A Disruptive Technology: Developing the XCOR Fully Reusable Spacecraft

Lee Valentine

Member of the Board of Directors
XCOR Aerospace

XCOR Aerospace was founded 14 years ago to bring the low cost associated with a mature system to the space transportation sector. Flight tests of the world's first fully reusable piloted spacecraft, the XCOR Lynx Mark I, begin later this year.

For XCOR, the Lynx program serves two functions: Demonstrating the essential technologies for low-cost space transportation and providing a revenue stream to develop the

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fully reusable orbital transportation system.

In addition to flying four daily flights to suborbital space, the Lynx Mark III will launch small satellites. Lynx will be the first spacecraft whose marginal cost of operation is a single digit multiple of the propellant cost, qualifying it as a mature transportation system.

Lynx integrated performance is similar to the piloted X-15 plus the Vanguard launch vehicle. The cost of those two programs 50 years ago was several billion dollars in today's money. Lynx development will be less than 2% of that. XCOR's initial funding was its four founders savings; its funding mechanism may be unique in the history of successful industrial startups.

In this presentation, Lee will discuss XCOR's unique mechanism for funding launch vehicle development, its approach to low-cost development of aerospace hardware, the development and maturation of an engineering culture that facilitates rapid development and test of innovative concepts, and its maturing plans for a fully reusable piloted orbital spacecraft. He will discuss serendipitous events, completely unexpected, that have allowed very rapid progress toward a fully reusable orbital system. He will mention technical approaches to satellite construction enabled by this low-cost transportation that are likely to disrupt the communication satellite market and power generation markets worldwide in the next two decades.



Dr. Lee Valentine has been involved in space development for



Los Angeles Chapter Steering Committee

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A&D Forum Executive Director

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The A&D Forum website

three decades. He has been a member of the Board of Directors of the Space Studies Institute since 1980 and now serves as Chairman of the Board. At SSI, he financed engineering models of the successful Lunar Prospector spacecraft. He financed the Mass Driver III test bed and, with EMEC Corp., the development of processes to refine aluminum on the Moon. He brought Prof. Yuri Raizer to SSI to perform analytic studies of laser shock dynamics in support of Prof. Leik Myrabo's laser launch program at RPI. He started and financed the initial closed ecology life support systems development by Prof. William Jewell at Cornell University.

He has been an investor in XCOR Aerospace since 2002, and serves on XCOR's Board of Directors. He is a director of Orbital Outfitters and was the initial outside investor. He is a general partner of V Aerospace Ventures, a private venture fund. He was the initial outside investor in SEEGRID Corp. the world's sole producer of autonomous, visually guided, industrial robots.

He is the author of "A Space Roadmap: Mine the Sky, Defend the Earth, Settle the Universe", "Critical Trajectories for the Human Settlement of the High Frontier" and "Mass Drivers for Planetary Defense." He is coauthor with Prof. William Jewell, of "The Engineering Trade Space for a Robust Closed Ecological Life Support System: A Suggested Technology Road Map." He is the editor of Settling Circumsolar Space: Space Manufacturing 13.

He has served on the board of ProSpace America. Thirty years ago, he helped finance the successful defeat of the "Moon Treaty." He is an adviser of the National Space Society.

Dr. Valentine has a Bachelor of Science from Penn State University and an M.D. from Jefferson Medical College. He is board certified in internal medicine and in emergency medicine.

June 21, 2013 Meeting

- Please check-in on arrival.
- Attire is business casual.
- Park in the building or for free across the street at the Century City Mall
- A light continental breakfast will be available starting at 7:15AM.
- Bring a business card - they will be duplicated and everyone will get a copy of all attendee's cards.
- Flyers and other material may be placed on the receptionist's shelf for pickup before and after the meeting. Please do not distribute anything during the meeting.
- Because of the large number of attendees, introductions will be minimal - your name, company, industry, and a 5 word "elevator speech". We encourage you to be creative!
- You are welcome to stay around and network after the meeting.

Feel free to pass this invitation on to others you think would be interested.

Event Info

AerospaceDefenseForum.org

Friday, June 21, 2013
7:30AM-9:00AM
Jeffer, Mangels, Butler & Mitchell
1900 Avenue of the Stars, 7th Floor
Los Angeles, California