



'SPARKS' OFF THE ROTARY WHEEL

An Award-Winning Newsletter

**The Rotary Club of Altadena meets Thursdays at noon
at the Altadena Town and Country Club**

Rotary Club of Altadena - #772

Chartered: February 14, 1949, P.O. Box 414, Altadena, CA 91003

RI Pres: Gordon R. McNally, Dist. 5300 Gov: Michael L. Soden

THIS WEEK: MATHEW P. JOHN

Altadena Town and Country Club, at noon

Speaker Chair: Dr David Campbell

"Mathew P John has just the right spirit and content to speak to a culture often confused or turned off by religion."

PHILIP YANCEY

(Multiple Gold-Medallion Winning Author & Editor at Large, Christianity Today)



Originally an electrical engineer from the East (India), **Mathew P John** pursued a successful corporate career in the Middle East (Kuwait) and eventually transitioned from 'technology to theology' in the West (Canada). He holds a Master's degree in Theological Studies (MTS) from the University of Toronto (Canada) and a Ph.D. in Intercultural Studies

from Fuller Theological Seminary (USA) with a specialization in Film and Theology. His dissertation won the prestigious Alan Tippet Award for bringing three disciplines, i.e., cultural anthropology, world religions, and world cinema, into a dialogue.

Mathew is the creator of *The Mosaic Course*, an online platform for exploring world religions from a Christian perspective. He is also an award-winning producer and alumnus of the Professional Producer's Program at UCLA School of Theater, Film, and Television.



D.Vance Graphics

JULY 20, 2023

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Vocational Service: Steve Kerekes
Youth Contests, Scholarships, Awards: Mike Zoeller
Youth Activities: Tony Hill
International Service: Sarah O'Brien

Mathew has acquired over two decades of professional experience in various academic, corporate and ecclesiastical platforms. He has taught courses in theology, film, and culture and presented papers at academic conferences hosted by American Anthropological Association, Center for Religion at UCLA, etc. He is the author of *Film as Cultural Artifact: Religious Criticism of World Cinema* (Fortress, 2017) and *The Unknown God: A Journey with Jesus from East to West* (David C Cook 2020).

Mathew currently serves as the Pastor of Missional Outreach at the historic Lake Avenue Church, Pasadena. He is married to Joanne, who is the CFO at Calpoly Pomona (Foundation), and they have two university-bound daughters, Hannah (University of Toronto) and Emma (UCLA).



<https://www.ecsforseniors.org/montecedro/>

LAST WEEK: MARS OR BUST!

MARK UNDERWOOD

MISSION ASSURANCE MANAGER
NASA'S JET PROPULSION LABORATORY

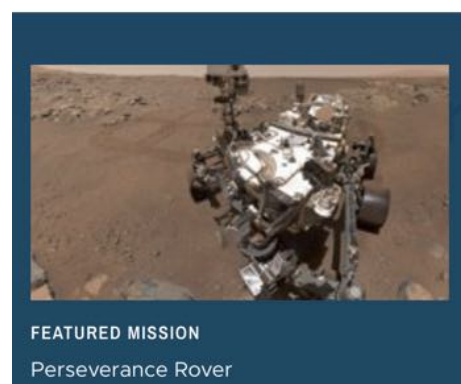
Speaker Chair: David Campbell

Program Review: Steve Kerekes



This past Thursday we were treated to a talk by Mark Underwood, the division manager for mission assurance at JPL for the upcoming unmanned Mars rover mission. He explained that “mission assurance” means assessing the risks and dangers for a specific project. Whereas a

regular project team at JPL might be responsible for the construction and delivery of a specific item, the “mission assurance” team is a separate pathway outside of the project team which is tasked with making sure that the item or project is designed and constructed to operate as safe as possible and with the least risk to the mission and human life. This idea of a separate “mission assurance team” arose out of the Challenger disaster, to help assure that nothing like that happens again.



<https://www.jpl.nasa.gov/>

Mark discussed the rover mission, which is to take samples of soil, rocks and minerals, do some analysis there, and send the rest back to earth for a more detailed analysis. He started his discussion with the landing of the rover on Mars. There are cameras underneath the landing capsule which will identify the exact terrain, do an analysis in a split second of the area based on its databases, and find the safest place to land, and then maneuver the craft to land there. The atmosphere of Mars is only one tenth that of the Earth. So there is very little atmosphere to break the fall. It has to be decided fast. That itself is a technological feat.

Once on the ground, the rover will drive around and analyze where it wants to take samples and then take a sample by using a tube with a hammer-like method to core into the ground. Once it has extracted the core sample, it will conduct a chemical analysis which is built right into the rover. It also has an on-board a system called "MOXIE," which is short for "Mars Oxygen In-Situ Resource Utilization Experiment" which investigates the production of oxygen on Mars. On a present Mars rover mission, MOXIE has been used to produce oxygen from carbon dioxide in the Martian atmosphere by using solid oxide electrolysis. The production of oxygen is important if we plan to have humans visit Mars. After the chemical analysis that the rover can perform on-board the vehicle, it will bottle the samples and make them ready for pick-up by another craft called the "Earth Return Orbiter."

One of the goals of the mission is to look for signs of ancient life on Mars. One of the earliest and simplest forms which they will look for are called stromatolites. Stromatolites are the oldest known macrofossils on Earth, dating back over three billion years

They are an important source of information about the early development of life on Earth and possibly Mars as well. They look like layered rocks – and are microbial reefs created by cyanobacteria (formerly known as blue-green algae), which die off and solidify, they form structures that look like large rocky cauliflowers. (Image by nasa.mars.gov)



(Cont'd opposite)

(Cont'd) The rover will be accompanied by a small helicopter that will be powered by a solar battery. Because of the very thin atmosphere of Mars, the blades of the helicopter must spin especially fast, The blades of the Mars helicopter rotate at roughly four times the speed of a regular helicopter here on Earth! The Mars helicopter in use on the current expedition was designed to fly just five times. Part of this short life expectancy was because of the brutal Martian winter. Its gets down to -100 degrees Celsius. In Winter, most of the batter energy is used just to keep the battery from freezing and becoming useless. The battery on the current mission has done very well. Mark told us that that the current Mars helicopter has just completed its 52nd mission.

The rover mission will be launched from Earth in 2028. The Earth Return Orbiter will be launched in 2029, pick up the samples from Mars and leave for its return voyage to Earth in 2031, arriving back here in 2032 for further rock and soil analysis. I'm looking forward to seeing what they find, but I'm not going to hold my breath!



Greetings from Cambodia!

Sarah meets with Darrel Steer, Rotarian from Australia and founder of Cambodia Clean Water & Toilet Project
<http://www.cambodiacleanwater.com.au>



Brad leading the Club in song

Maricela's inspirational moment



Pledge by Lisa