MMRT

MMRT NEWSLETTER

THE MCMASTER MARS ROVER TEAM'S MONTHLY NEWSLETTER

ADMINISTRATIVE UPDATES

A new leadership change is underway: **Congratulations to Zsolt Kormendi**! He will be taking on the role of VP Engineering after Haashim Rehan graudates. Additionally, new merchandise is on the horizon – team members are to expect freshly designed polos sometime next month.

Zsolt Kormendi – New VP Engineering!

SUB-TEAM UPDATES

MECHANICAL

For the rover arm, all of the RAD boards and motors have been mounted accordingly along with the limit switches, and the gripper and wrist function quite well! For the drivetrain, the swerve module design went through a design review and revisions are pending, and the 2nd version of the BLDC gearboxes have been resin printed. The chassis, made entirely out of hockey sticks, is also done!

ELECTRICAL

A new member has been onboarded! New RAD boards have also been designed and will be manufactured soon once the remaining work for OBC is complete! Updates to the RAD boards include improvements such as reconfigured components, enhanced ESD protection, and better fuse selection. The OBC firmware now integrates better temperature monitoring and overall system robustness.

SCIENCE

Hydrogen sensor testing is underway and an ozone sensor has been ordered for future evaluations. The team is also utilizing ARC GIS for geospatial analysis, mapping competition landmarks to enhance geological assessments. For the V3 rover, the team is integrating a spectrometer and microscope to enhance scientific analysis.

SOFTWARE

Maxwell's drive tests show improved traction and curb-climbing due to firmware updates. RAD firmware refinements have reduced drifting, and arm software development includes closed-loop control, inverse kinematics, and potential autonomous modes. Additional efforts focus on OBC firmware refactoring, TSBS integration, joystick drift mitigation, top-down visualization, and camera latency optimization.