Vehicle highlights
This red Model S, 75D is a standard Tesla with a glass roof (Tesla likes glass in the roof), except the 75D means the battery size is 75 kwh (the largest Tesla battery is 100 kwh), and “D” means that it has dual electric motors, one front and one rear to make it all-wheel drive. The two motors provide about 500 HP and it is capable of 0-60 in about 4 seconds. (For Tesla this is not that remarkable, because the performance version of the Model S (i.e., P100D) does 0-60 in 2.5 seconds, and the new Roadster due out in 2020 does 0-60 in 1.9 seconds.)
2016 Audi S5 – Tom Dressel, BME 1968
2011 Corvette – Rob Bleckinger, BME 1969
This silver 436hp C6 coupe is Bob’s eighth corvette and was the number one selling corvette of its time. Missing from the show is Bob's 2001 corvette, his particular favorite, which he uses during his months as a snowbird in Arizona.
2002 BMW 320si – Tom Jensen, BME 1973
1990 BMW 325i – Courtney Billing – CSE External Relations
1990 was near the end of the E30 generation of 3 series that became the global standard for performance sedans. BMW was out-engineering national rivals Audi and Porsche in this period, and the car’s 220,000 miles on the original engine are proof.
1989 Jaguar XJS – Joelle Larson, CSE Director of Alumni Relations
1987 Ferrari Testarossa – Paul Plahn, BME 1968
This top of the line 5 liter 12 cylinder Ferrari has become a classic from the 80's. Paul has owned it for 18 years and he performs all minor and major maintenance.
1984 Ford C-800 Pump Firetruck, aka The Fireball – Jay Mega, CLA 1966
1995 Camaro Z28 – Clay McCarthy, ME Senior
This car has a completely upgraded suspension featuring many tubular components and polyurethane bushings, as well as slight power train and appearance modifications. The car competes in the MN Autosports Club’s Autocross events as well as Brainerd International Raceway’s Street Legal Drags.
1972 Honda Z600 – Roy Williams, BME 1972
1970 Ford Thunderbird – Chauncy Griggs, BME 1968
1969 Camaro Pace Car – Rhonda Zurn – CSE Director of Communications
1962 Chevy half-ton pickup – Dick DeSchane, BME 1959
1949 Chevrolet 3100 pickup – Thomas Kempf, BChemEng 1978/MS 1986

Plus!
2017 UMN Solar Vehicle - Eos II
The Solar Vehicle Project (SVP) is a student run organization which designs and builds solar-electric vehicles to race in solar challenges around the world. Their goal is to create better engineers, business people, and leaders while innovating solar vehicle technology.

Unveiled in July 2017, the Eos II, UMN’s 13th solar vehicle, is a cruiser class vehicle. The Eos II placed 5th in the 2017 World Solar Challenge, 1st place in the 2017 Formula Sun Grand Prix, and 2nd in the 2018
American Solar Challenge this past July, making it the #1 cruiser class solar car team in North America. The team is currently designing their next vehicle.

**Formula SAE Race Car**
Each year the University of Minnesota Student Chapter of the Society of Automotive Engineers (SAE) designs and builds a vehicle to compete in the global Formula SAE Series. The competition goal is to design, manufacture, market, and race an open-wheel, open-cockpit, and single-seat vehicle marketable to the weekend autocrosser.

**Autonomous Snowplow Robot – UMN Student Team**
The ION Autonomous Snowplow Competition objective is to build a commercially viable and completely autonomous robot to remove snow from 2 courses. One (1mx10m) simulates a sidewalk, and a second (3mx10m) simulates a driveway. There are some stationary obstacles (poles) and a moving obstacle (a stop sign) that the robot must avoid in order to not lose points. The competition is mainly graded on the amount of snow removed, amount of time the robot took, and the final location of the robot.

UMN team’s robot, Snow Squirrel, is a tracked robot featuring four 1 hp motors, 4 deep cycle batteries, and a SICK Lidar unit for navigation. The robot weighs 525 pounds and makes 760 ft-lbs of torque. The robot has competed for 2 years, receiving 4\textsuperscript{th} place the first time out, and scoring the U its first title this past season. The competition is judged by members of the Institute of Navigation who work at local companies and local academic institutions. Other competitors often include NDSU, Michigan, Iowa State, Case Western Reserve, Dunwoody, and St. Thomas.

**Motorcycles – Jim Rutzick, BME 1966**
- Late sixties Ducati Grand Pre Racer
- Suzuki Hayabusa Land Speed Racer, 1350cc. Raced at Bonneville this summer. Top speed so far is 215.92, just 4mph short of the current class record. Photos taken at Utah’s El Mirage, the dry lakebed.

**Bicycles - Patrick Geraghty – BME 1988**
*1892 The Express* - This bicycle is an example of a hard tired safety. These bicycles were the transition between the ordinaries and the pneumatic tired safeties. The use of a chain drive and different sprocket sizes facilitated wheels of about the same diameter. They were only made for a few years as the pneumatic tires took over about the mid 1890’s and hard tires became obsolete. This bicycle was built by the Mecham Arms Co. of St. Louis.

*1952 Monark Super Deluxe* - A very beautiful bicycle that continues the Art Deco stylings of the 1950 Super Deluxe, but has a few details that set it apart. The fork here is a dual-spring model rather than a single-spring, knee-action fork and both the tank and seat feature chrome pipe accents.

*1986 DeRosa Moser TT commemorative* - Francesco Moser set the 1 hr. record in 1985 at 51.151 km. This commemorative custom built time trial bicycle was made to celebrate that record. It has aerodynamic Columbus SLX tubing, Campagnolo C Record components and Ambrosio disk wheels.

**Unique three-wheeled vehicles – William Eggert**
*Human-powered mobile elliptical trainer* - An arm-and-leg powered elliptical trainer that actually goes somewhere — the designer of this vehicle is a former long distance runner who was looking for a way to get a vigorous workout that didn’t require bone-jarring impact with pavement or being confined to an
exercise machine in a health club. One of the main design challenges was how the rider should steer the vehicle, given that his or her hands would be occupied moving the arm levers, and then how to design a mechanical linkage from the rider’s hands down to the front-steered wheels. His solution? Please come to the October 5th show to find out!

_Powered by the COLD_ - This vehicle was built to demonstrate the feasibility of powering an engine that runs off of a source of coldness, e.g., dry ice, liquid nitrogen, or even ice cubes and salt. How? (Hint: There are neither dielectrics nor thermocouples involved.) Please come and find out!