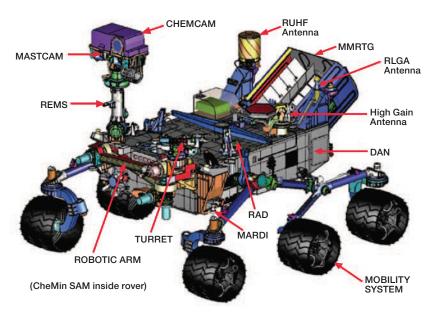
## science & you designers

## **Perfect Choreography**

n the flow of time, when parents become grandparents—as has just happened to us-and they are confronted anew with the awe-inspiring miracle that is new life, some pause to give thanks to God that the intricate choreography of human development and birth happens safely and automatically because of the careful and reasoned design of a loving Creator. Some give thanks to God that it is not happening again to them but rather to their son or daughter. And, sadly, some new grandparents actually attribute the entire process of development and birth to beneficial cosmic and genetic accidents. They have no one to thank for the miracle of a new life except their "lucky stars."

Is it reasonable to believe that something as complex as the Mars rover Curiosity and its recent successful landing on Mars was the result of random, undirected tinkering by NASA engineers? Of course not! Under intense development for eight years, Curiosity is larger than previous rovers and needed a new procedure to descend safely through the thin Martian atmosphere and to land in a precise location.1 Since it takes fourteen minutes for a signal to travel from Mars to Earth, the entire entry, descent, and landing sequence had to be fully automated using 500,000 lines of computer code, six vehicle configurations, 76 rocket engines, and the largest, strongest supersonic parachute ever built. For the rover to arrive "alive" on Mars meant that everything had to happen in



Curiosity Rover schematic (Image: NASA/JPL-Caltech)

perfect sequence, with perfect choreography and timing, or it would be game over. *Curiosity*'s successful landing was the result of years of reasoned thinking and careful planning, not random tinkering by NASA engineers.

If Curiosity's success needed eight years of intense engineering by intelligent designers, why would the much more complex process of human conception, development, and birth need no designer at all? Even the initial events in human pregnancy that prepare the uterus to receive and nourish the fertilized egg must happen in the correct sequence and with perfect timing if there is any hope of the infant arriving alive in her mother's arms. A woman's body is programmed to think ahead, preparing for pregnancy every 28 days during her approximately 40 years of fertility. The process involves the intricate and coordinated rise and fall of four separate hormones (FSH, EST, LH, PROG), each peaking on different days

of the 28-day cycle.<sup>2</sup> The choreography must be perfect for life to continue.

The achievement of *Curiosity*'s designers is amazing and worthy of acclaim. But it cannot begin to compare with the divine design of a single living cell or the symphony-like orchestration of human conception and development, as the single cell of new life is nourished into 50 trillion specialized cells before birth. Looking at a newborn grandchild shows God's choreography was indeed perfect, and He gives us a glimpse of His own glory in that tiny face—even as we thank Him for it.

-MICHAEL G. WINDHEUSER, Ph.D.

 $1\ You Tube: 7\ Minutes\ of\ Terror: Incredible$  animation and explanation of Mars landing of Curiosity Rover, 2012.

http://bit.ly/7min-terror-curiosity

2 YouTube: 6.6.3 *Annotate a graph showing hormone levels in the menstrual cycle*, 2012. http://bit.ly/graph-menstrual-cycle