

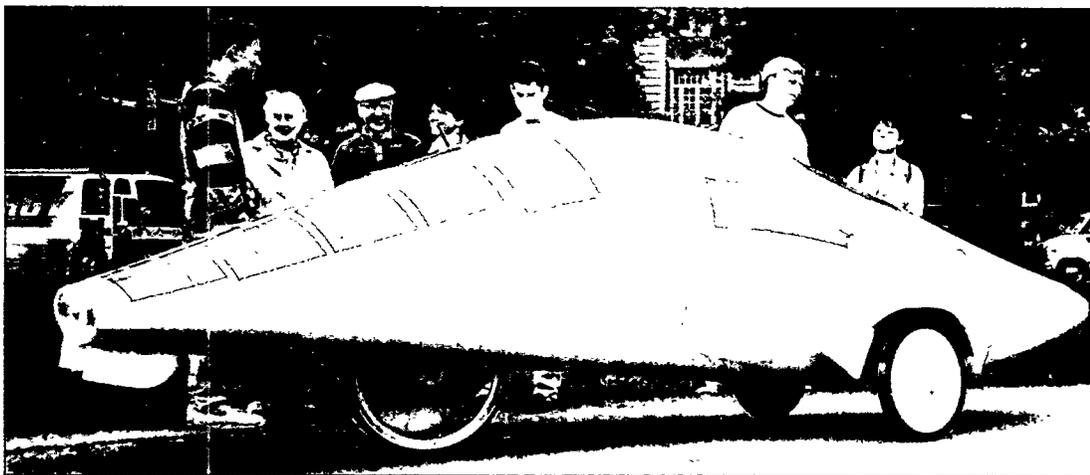
## ARGONNE AND YOU IN THE YEAR 2046

Your personal robot wakes you in the year 2046. You tell your household computer to open a window, and you take a deep breath of clean, fresh air — despite the big factory just a half-mile away. The plant's emissions are continuously monitored by a device developed at Argonne National Laboratory that keeps pollution to a minimum. You make sure the solar cells on your window shades are correctly angled to capture the sun's beams and produce the electricity your home will use today. The solar cells, too, resulted from Argonne research. If your home doesn't need all that electricity right away, it can be stored for future use on a cloudy day without any loss of energy, because the storage device uses a frictionless superconducting flywheel — still another product of Argonne research.

You could stay home today, doing your work through an instantaneous, interactive computer link that virtually recreates your office — or your boss's office — in your home. Argonne's computer research and development has put all the information resources and communication tools you need at your fingertips, in a tiny computer linked to a mighty wireless international network — the "global village" that Marshall McLuhan envisioned years earlier. The virtual-reality panels on your walls and ceiling allow 3-D videoconferencing with your friends and professional colleagues around the world. They also let you take a break by playing the role of the hero in a medieval or futuristic adventure, or going on a virtual sailboat ride around an island in the Caribbean.

Instead, you decide to resist the temptation and go to the office. You could ride a pollution-free, smooth-riding people mover — nobody calls them "buses" anymore — that efficiently uses oxygen-enriched fuels, yet another research accomplishment from Argonne. Or you might commute on a superconducting levitated monorail that cleanly and efficiently travels across the state, carrying commuters at speeds of more than 300 miles an hour. Today, however, you choose to drive your electric vehicle to work. It can travel at high speeds over the Argonne-designed Intelligent Transportation System, which allows your car computer to plot and drive the quickest route, while you scan the electronic newspaper or read your e-mail.

And that's just the beginning of your day. Before it's over, you'll encounter the fruits of hundreds of other technical advancements whose origins lie in research done between 1946 and 1996 at Argonne National Laboratory. Read on — you'll find the seeds of your future inside this issue of *Frontiers*. We hope you like it.



*In the year 2046 you could travel to work in a solar-powered vehicle programmed to drive the car on a route to avoid traffic jams thanks to Argonne research.*