



## Eye Vision for the Future - Can You See It That Far?

What awaits us in the future? Advanced health care help us to improve vision, are you ready for what awaits us in years to come?

Its amazing what science has been able to do for vision and eye health in the last century. Contact lenses were any amazing thing no more need to wear glasses. Then came the advances in eye surgery - first there was RK, which has now been largely replaced by Lasik. Technology for human health has become pretty advanced. Just imagine what may be coming in the next century. Professor Babak A. Parviz of the University of Washington has visions of creating tiny circuits with LED displays and combining those with a polymer that could be made into contact lenses. Things like the displays on the dashboard of your car speedometer, gas gauge, and miles traveled could be streamed directly into the field of vision provided by contact lenses. This type of science is called Augmented Reality (AR) and its applications are showing up everywhere. It allows digital information and images to be combined with streaming video in real time. Another idea already being tested on human subjects is a form of stem-cell treatment that a condition called corneal opacity. This is a disorder of the cornea, the transparent structure that is on the front of the eyeball, and it can result in serious vision problems, even total blindness. This is one of the few stem cell advances that has already shown actual results in real patients. Two patients who were legally blind have gotten back almost all of their functional vision. This procedure starts with the collection of small bits of corneal tissue from the patients eyes. These are used to grow stem cells onto a soft contact lens. Then the damaged tissue is removed from the patients corneas and is replaced with the contact lens containing the new stem cells. In about 10 days these stem cells grow to be a healthy new cornea. Other technologies for the future to advance vision include a bionic eye, which is an assortment of electrodes implanted onto the retina. These electrodes can transmit signals to the brain that the real retinal cannot. Other ideas for the future are implantable eye telescopes and a strategy that will give man the ability to see with the tongue by sending visual data through the mouth.