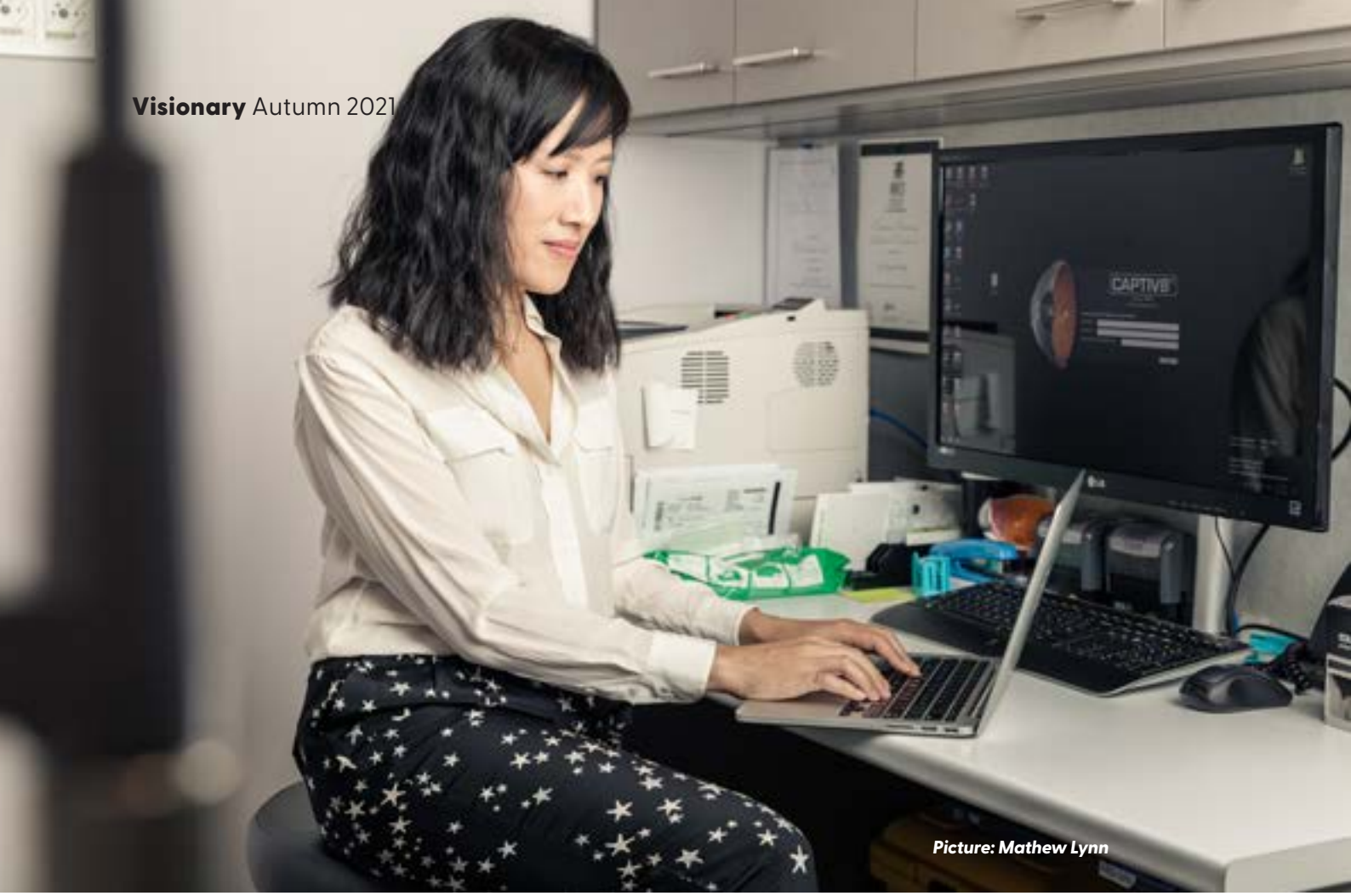

Picture: Mathew Lynn

Stopping scarring to save sight

New research is striving to find safe and effective ways to stop scarring after glaucoma surgery, which can prevent the treatment from working.

Dr Jennifer Fan Gaskin, who leads CERA's ocular fibrosis research, is devoted to discovering new ways to control scarring after glaucoma surgery, giving patients the best chance of keeping their sight.

"Any vision loss from glaucoma is irreversible, so it's essential that we do everything we can to slow or stop the progression of the disease, protecting the sight the patient has left," Dr Fan Gaskin says. "My research aims to find new glaucoma treatments that can prevent blindness and maintain a patient's quality of life."

Reducing eye pressure through surgery

Glaucoma is a common ageing eye condition that affects the optic nerve, the connection between the eye and brain. The most common cause is too much fluid pressure build up in the eye, which applies pressure on the optic nerve, causing injury.

The first line of treatment for glaucoma is usually medicated eye drops or laser therapy to reduce this eye pressure. For some patients, however, filtration surgery may be necessary.

Glaucoma surgeon and researcher Dr Jennifer Fan Gaskin is looking for new solutions to prevent scarring from glaucoma surgery.

In this procedure, surgeons create an extra 'drain' in the eye that can release excess fluid, reducing pressure and protecting the optic nerve from further damage.

While glaucoma surgery is generally a very effective treatment, the body's natural healing response – forming scar tissue – can block the newly created drain, causing it to fail.

"This is one instance where we don't want this natural scarring response – we need the drain to stay open and keep working," Dr Fan Gaskin says.

"If scarring causes the surgery to fail, then the eye pressure will go back up, the disease will progress, and the patient could continue to lose vision and eventually go blind.

"Unfortunately, then we're not left with many options for treatment for the patient."

Finding better anti-scarring agents

Currently, anti-cancer drugs are used to control scarring in glaucoma surgery. While these are effective, there are some downsides to this approach.

"Because these drugs are harsh and non-specific, they have some unfavourable risks and can damage the healthy tissue around it," Dr Fan Gaskin explains.

"Our goal is to find a less toxic, more specific and highly effective anti-scarring medication to improve the safety and efficacy of glaucoma surgery."

The team at CERA is investigating several possible drugs, including an antioxidant compound.

While this research is still in the laboratory phase, Dr Fan Gaskin is hopeful that an effective solution will be available in the not-too-distant future.

"Blindness from glaucoma can be prevented, but it has taken the sight of more Australians than any other disease," she says.

"Improving glaucoma surgery is one important way we can help change this in the future."

Dr Fan Gaskin's research is supported by an Ophthalmic Research Institute of Australia grant.