

CLOSE-UP

Reaching for the universe

Observatory supporters
show persistence in
pursuit of dream

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Guy Mackie will never forget the promise he made to one special child during a Canada Day celebration in Kelowna a couple of years ago.

The girl was in a highly specialized wheelchair and, despite all the efforts of local Royal Astronomical Society of Canada volunteers, they were unable to position a telescope eyepiece properly so the child could observe the stars like other children that evening.

"I told her about our observatory project and that we would have this wheelchair accessible site. I promised her it was going to happen and she started shaking with excitement," Mackie said.

"I'll keep that promise to her so we don't have kids like her disappointed ever again," said Mackie, who caught his breath in a sudden wave of emotion after sharing his story.

The Okanagan Centre of the Royal Astronomical Society of Canada has been working towards its vision of a public Okanagan observatory since 2005, sharing



SEAN CONNOR/CAPITAL NEWS

COLLEEN O'HARE says a Sunspotter solar telescope is one of the many pieces of equipment local amateur astronomers have at their finger tips to share with the public during Sidewalk Astronomy events and hopefully one day at an observatory near Big White.

the goal during literally hundreds of community outreach events in that time.

The outreach opportunities are called Sidewalk Astronomy. Many of us have likely seen volunteers' telescopes set up for star gazing at the Walmart parking lot, our children's schools, or countless charity and community events.

The club doesn't charge a cent for the opportunity to look through the lenses. In the last few years, the club has started to put out a donation bucket, hoping more coins and cash would fall in, bringing them closer to their lofty goal of building that observatory.

Last year alone, society volunteers held 123 free outreach nights, sharing their telescopes and knowledge of astronomy with more than 8,000 people.

And at almost every one of those events comes another special moment that makes the time and effort so worthwhile, and the need for an observatory so apparent, for a volunteer like Colleen O'Hare.

"You need to come out to one of our Sidewalk Astronomy events and to see a six-year-old look through a telescope for the very first time, or a 90-year-old look through the telescope for the very first time and see the wonder—see their eyes glow with amazement," said O'Hare.

The amateur astronomer said she would never forget one evening in particular.

"We go to retirement homes and I gave this presentation one night and brought the telescope. But, it was kind of cloudy so there were only two or three stars showing," O'Hare began.

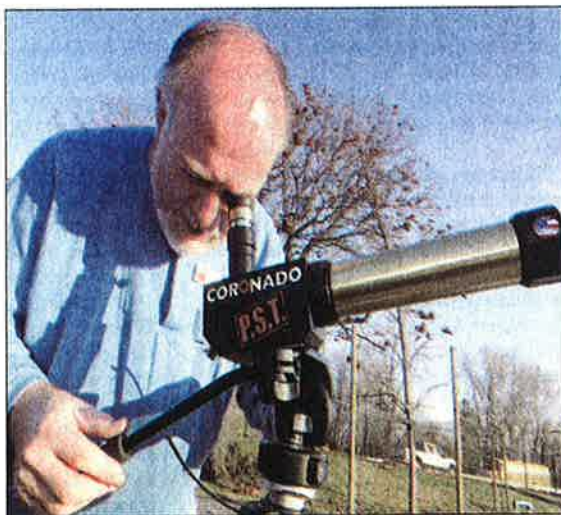
"One lady said, 'Can we look at the stars.' And I said, 'Oh, you're going to be disappointed. Stars are just points of light, not much other than that.'

"But, she said she'd always enjoyed looking at the stars and she was losing her sight and this might be the last time she could see a star," O'Hare said, holding back tears as she recalled the moment.

"So I immediately showed her every single star that I could while the tears were flowing down my face. And she could just not be more thankful that she could have that experience to carry with her."

O'Hare admits that there are times however, when not every one is so eager to take a look.

SEE REACHING A4



RICHARD CHRISTIE, an Okanagan College astronomy instructor, lines up his Coronado PST telescope, which is specifically designed for looking at the sun.

SEAN CONNOR/CAPITAL NEWS



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HUGH PETT uses a 3.5-inch refractor telescope fitted with a special sun watching eye piece to view the sun safely. When the sun goes down at City Park, local astronomers break out the star gazing equipment.

▼ STEADFAST STARGAZERS

Light pollution made Kelowna poor telescope site choice

REACHING FROM A3

So then she'll do a little arm-twisting.

"We'll say, 'Come on over and have a look at the moon,' and they'll say 'Nah, I can see it on TV.' And we'll say, 'Oh no, you can't! Just take one second.'"

"And then they look through the telescope and they are awestruck and their attitude completely changes when they see the moon up close."

Mackie added that he's encouraged by how increasingly rare it is to find someone who doesn't want to take a glimpse up at the stars during outreach events.

"Nights will go by where everybody will stop," Mackie explained.

"That's another thing that makes it plainly obvious to me that this project will succeed very well in this community. It adds enthusiasm and motivates us to keep going."

And motivation is essential when tackling such a massive fundrais-

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Colleen O'Hare

ing project, according to O'Hare and Mackie.

It's taken the group five years to raise \$80,000 toward their \$250,000 goal.

As chairman of the observatory fundraising project, Mackie said

he's learned to approach the club's dream with "a marathon stance."

"We flow. We go 'public observatory' and whatever meandering path takes us to that goal we will accept."

But, he said he's confident that support for the project will grow as word spreads about why the local astronomical society wants to build the facility.

"Every community you look at around Canada of a similar size to Kelowna, or the Vernon-Penticton-Kelowna corridor population, is served by a public observatory—Prince George, Victoria, Vancouver, Calgary, Edmonton and so on. We know it will work here too, it's just a matter of time."

The group's goal is to build an observatory with a roll-around roof to start with because the typical domed version proved too expensive.

The society plans to build the observatory on a 12-hectare site along Big White Road, on land that



CONTRIBUTED

MEMBERS OF the Royal Astronomical Society of Canada have built this 25-inch telescope which they will roll out for star gazing nights this spring up at the site of a future observatory on Big White Road.

is leased from the provincial government.

"In addition to giving us the lease for only \$1.06 for a decade, they also put regulations on the surrounding Crown land limiting the use of lights," Mackie said.

While it would be nice to have the observatory closer to Kelowna, Mackie said light pollution from the city was a big concern.

The Big White Road site was chosen because it is ideally located just outside the creep of light pollution from both Kelowna and Big White.

"I mean, the best place for the public would be on a bus route here in the valley. But that would not be fair to the observatory crowd," Mackie said.

"So there we have a paved road, year round maintained, to a very dark sight. So we've compromised on the astronomical side and we've compromised on the public (accessibility side)."

Dr. Ken Tapping, with the National Research Council of Canada and a professional as-

tronomer at the Dominion Radio Astrophysical Observatory near Penticton, noted other factors which inhibit proper observation from Kelowna.

Haze is one of the obstacles. "The bottom of the Okanagan Valley, where most of us live, is a rotten place for optical astronomy. It is a good place for radio astronomy, which is why the Dominion Radio Observatory is located here," Tapping explained.

"The haze makes observation worse as does extremely turbulent air.

"The sky glows with light pollution and the turbulent air makes telescope images shimmer and shake so that detail only appears on rare moments.

"A high site like Big White gets around these problems to a good degree (because) it is above the haze and turbulence and a good distance from bright lights and flashing signs."

Tapping said serious astronomers pack up their telescopes in their vehicles and head for high ground.

"It is difficult to do this with big telescopes. The only way to have a big telescope on a good site is to install it there permanently."

O'Hare added that without a dark site like the one near Big White, the group is extremely limited in what it can share with the public at the valley bottom.

"The light pollution in Kelowna means we just can't show the objects we want. At the Walmart parking lot we show the moon and if there are any planets, which is fine."

The Big White site would allow the public to see so much more.

"Just with their naked eyes they can start seeing things that they didn't realize they could see like the Milky Way or the Andromeda Galaxy."

Mackie used a movie watching analogy to explain why an observatory near Big White would be so much better than a park or a parking lot in the city.

"In Kelowna, it doesn't have the same effect, every image is washed out. It doesn't

have that colour and snap that having a dark theatre provides, like a dark location provides for astronomy."

In the same vein, an image in a magazine or the Internet doesn't generate the same excitement as seeing the moon, stars or a planet through a telescope, said O'Hare.

"It just brings the universe right down to them."

The group also hopes to use the observatory for youth education and to provide another opportunity for free, tourist-in-your-own-town type outings. "Something a whole family can do together instead of watching TV," said O'Hare.

The society also hopes to eventually share the facility with UBC Okanagan's astronomy department.

Mackie said he's been chatting with Dr. Erik Rosolowsky at the university and has offered space at an observatory for a research telescope.

Rosolowsky couldn't

SEE REACHING A5

CLOSE-UP

REACHING FROM A4

be reached in time for comment.

However, Tapping offered his opinion, stating that an observatory would be a great resource for the university. "The facility could be relevant for post graduate research projects."

Tapping also mentioned that the addition of a 25-inch telescope, which the local astronomical society will eventually station at the Big White site, is another great resource that the club has provided to the Okanagan already.

"Outside professional and university observatories, a telescope with a (25-inch) mirror is definitely large," Tapping said.

"Most amateurs have no access to such instruments. Thanks to high end computers, high sensitivity cameras and image processing software now in widespread use in the amateur community, it is possible to do serious science with a telescope of

that size."

According to Tapping, possible uses for the large telescope include searches for planets orbiting other stars.

"Modern cameras and software can be used to look at a field of stars and search for any of them dimming very slightly for a while as one of their planets move in front of them," he said.

"Amateur astronomers are major contributors to this branch of astronomy and are doing something that even 15 years ago would have been deemed impossible in professional, let alone amateur observatories."

Tapping also mentioned that a telescope with a 25-inch mirror would catch thousands of times more light than the human eye, revealing faint objects that are otherwise invisible.

"From an outreach and education point of view, instruments like this can be used to stimulate interest in astronomy and science generally. I think

this is a great project."

The Royal Astronomical Society of Canada, Okanagan Centre, said it will have the 25-inch telescope at its site near Big White starting again this spring, after it unveiled the equipment in September.

Unfortunately, the group doesn't have a snow-clearing budget so it hasn't been able to hold its weekly viewing nights throughout the winter.

The viewing nights will be offered every Friday night at sun down as soon as the snow melts through to the first big snowfall again next fall.

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telescope with money from B.C. Gaming grants.

Club members will be dipping into their personal bank accounts, however, to build a small, secured bunker where the telescope can be kept until an observatory is built.

The roll-around roof

observatory would have room for the group's 25-inch telescope, a UBC Okanagan research telescope and a telescope with an articulated eyepiece, which would allow handicapped accessibility.

"This is an eyepiece that has two universal joints in it so it can swing down and it allows wheelchair access to the eyepiece. So we have direct visual observation for wheelchair participants," Mackie said.

Eventually the group would also like to build an open-air amphitheatre on site with benches and a screen, similar to a B.C. Parks interpretation facil-

ity, for lessons and movies on cloudy nights.

The club also dreams of one day having a discovery centre, including classrooms and washrooms.

But, the ultimate goal would be to build a domed observatory with a photographic and research grade, tracking telescope.

"This is a project, a location and a concept that will continue to grow with the community. It will develop and evolve as the years go by," said Mackie.

The group had originally hoped to build the roll-around roof observa-

tory this year.

There is no new timeline for the construction of the observatory, mentioned O'Hare.

"It will just depend on how fundraising goes. We'll just continue squirreling away money until we get to our point, she said.

"And our vision might evolve differently as we move forward.

"It has already gone through a few different iterations."

To donate, e-mail guy.m@shaw.ca or outreachkelowna@shaw.ca. Donations over \$25 are tax deductible.

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