



# PeGASus

Newsletter of the

Royal Astronomical Society of Canada: Prince George Centre

Published: January to May & September to November.

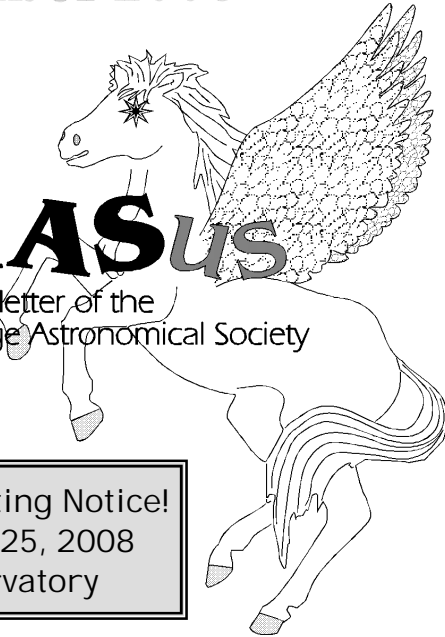
[www.rasc.ca/princegeorge](http://www.rasc.ca/princegeorge)

## September 2008

*Our pursuits are out of this world.  
Our activities are astronomical.  
Our aim is the sky.*

# PeGASus

Newsletter of the  
The Prince George Astronomical Society



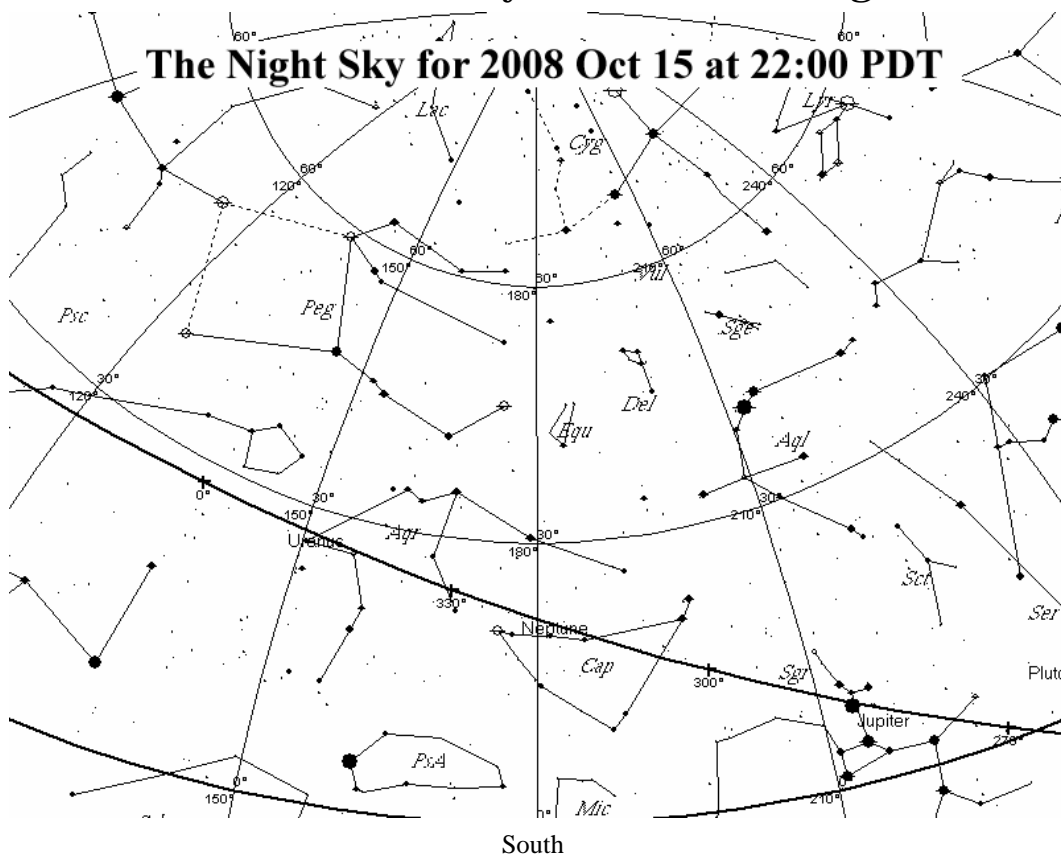
Annual General Meeting Notice!  
Saturday, October 25, 2008  
7:30 pm @ Observatory

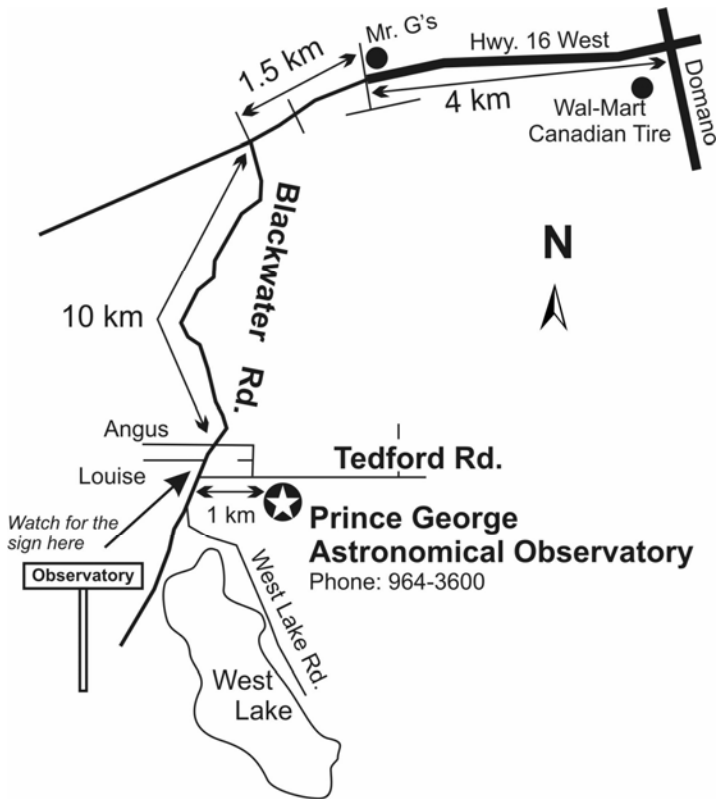
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The RASC: Prince George Centre meets next,  
Saturday September 27, 7:30 pm  
at the Observatory for a Social Evening

## The Night Sky for 2008 Oct 15 at 22:00 PDT





Send correspondence to  
**RASC: Prince George Centre**  
**7365 Tedford Road**  
**Prince George B.C.**  
**V2N 6S2**

Phone: 964-3600

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Contributions to the newsletter are welcome.

**Deadline for the next issue is**

**October 17, 2008**

**PeGASus Editor**

**Brian Battersby**

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## Coming Events

*To Volunteer to help run an event please contact Brian Battersby.*

*brianbattersby73@yahoo.ca*

*Phone: 561-8138 (day) 612-4623 (evening)*

<i>Date</i>	<i>Event</i>	<i>Time</i>	<i>Place</i>	<i>Volunteers</i>
Sept. 26.....	Open House .....	8:00 pm .....	Observatory.....	Blair S, Bob N
Sept. 27.....	Social Meeting.....	7:30 pm .....	Observatory.....	Gil S, <i>everyone!</i>
Oct. 2 .....	Tour .....	8:00 pm .....	Observatory.....	Wayne S, Blair S
Oct. 3 .....	Open House .....	7:30 pm .....	Observatory.....	*HELP*
Oct. 4 .....	Astronomy Day ( <i>weather permitting</i> )...7:30 pm .....	7:30 pm .....	Observatory.....	Brian B, Blair S
Oct. 8 .....	Business Meeting: Maurice's office .....	7:30 pm .....	230-177 Victoria St. ...	<i>all welcome!</i>
Oct. 8 .....	Tour .....	8:00 pm .....	Observatory.....	Wayne S, Brian B
Oct. 9 .....	Tour .....	8:00 pm .....	Observatory.....	Wayne S, Trevor P
Oct. 10 .....	Open House .....	7:30 pm .....	Observatory.....	*HELP*
Oct. 17 .....	Open House .....	7:30 pm .....	Observatory.....	*HELP*
Oct. 24 .....	Open House .....	7:30 pm .....	Observatory.....	*HELP*
<b>Oct. 25 .....</b>	<b>AGM: Election of Officers .....</b>	<b>7:30 pm.....</b>	<b>Observatory.....</b>	<b>Gil S, <i>everyone!</i></b>
Oct. 31 .....	Open House .....	7:30 pm .....	Observatory.....	*HELP*
Nov. 7 .....	Open House .....	7:30 pm .....	Observatory.....	*HELP*
Nov. 14.....	Open House .....	7:30 pm .....	Observatory.....	*HELP*
Nov. 21 .....	Open House .....	7:30 pm .....	Observatory.....	Bob N, *HELP

*For an up to date list of the Volunteer Schedule visit our website in the MEMBERS AREA*

*www.rasc.ca/princegeorge*

## Editorial

by Brian Battersby

**E**lections. What a waste of time. I *know* what the outcome will be. Why bother. Who cares who runs the club? It doesn't affect me. I just want to observe. Nothing will change anyway. Nobody cares about my vote. It just *doesn't* matter.

If the above reflects your attitude you had better change it. It DOES matter who runs the club. The people running the club have to WANT to run it. They need to have a vision and a direction to move the club toward. Without an idea of what the club should be doing it stagnates and eventually dies.

An election provides an opportunity for those people with a vision to share with the members what that vision is. It allows the members to CHOOSE which direction they want to move in.

We need an election. Come out on Saturday, October 25, 2008. Choose a direction for this club to move in. Be a part of running this facility. It does important work in the northern half of this province. It deserves to be run by the most motivated, competent people. Let's not just have another "acclamation night" lets have an ELECTION!

## Letter to the Editor

by Wayne Sanders

As I look back over the club's summer break and what normally is a quite period for its members, one must make note that the above does not hold true for all.

I am speaking of our member, Glen Harris. Glen was a driving force in many projects this summer. Including; exterior roof repair, interior ceiling repair, assist in the mounting of the worm and drive motors on both DEC and Ra axis of the scope, assist in fabricating a patch panel for the big scope mounted on the top of the RA axis, mounting and calibration of the controller unit for the new servo controller, run cables from computer in the scope room to the scope installed planetarium software, checked out operations, headed up cleanup detail about the observatory, weed whacked the grounds, repaired the gate/fence, headed up a group to mount the railings as needed in their designated spots, repaired the antenna system used for the Meteor monitoring system, painted the big scope.

I am not presuming that Glen did all of these projects by himself however I am sure that with out his spearheading, calls for manning of work bee's,

long hours most evenings that 1/4 or less of the above projects would still be being talked about.

Thanks to Glen and those that also volunteered we have a more pleasing Observatory to start the Fall 2008 viewing season.

Well done Fellows

Thank you Glen.

Wayne Sanders.

## Roof Repair, "thank you"

by Bob Nelson

I believe that it is important that we credit all the wonderful volunteers who helped out on our momentous weekend out at the observatory. All the people worked selflessly hard in getting the job done. There were no prima donnas, and everyone seemed to know what to do without any overboss running things. I have (in alphabetical order):

Art B, Bob N, Brian B. & son Lucas, Glen H, Greg M, Jim A., Jim v. D, John A, Maurice S, Paul Roberts and Trevor P.

I fervently hope that I have not forgotten anyone.

Bob Nelson

*Editor's Note: A big thanks to Maurice Sluka for spearheading the repairs.*

## P.G. Centre News

Annual General Meeting and Election of Officers  
October 25, 2008. 7:30 pm at the Observatory. All members should attend!

\*\*\*

Roof repairs, telescope upgrades, hand railing installation, dome improvements and a clean-up work bee were all accomplished during the summer months.

\*\*\*

Wayne Sanders sold 28 Astronomy teaching CD-Roms at the 2008 Saskatchewan Star Party.

\*\*\*

An all sky-camera system will be purchased and set up to monitor meteor events.

\*\*\*

Gaming grant application will be submitted in mid-October. Items to be included are: SBIG ST10 ccd camera with filters, low light camera for video streaming, new aluminum truss assembly for the 0.6 m telescope, floor coverings (industrial lino), additional dome repairs and monies for parking lot expansion.

# RASC eNews

## *Across the RASC*

Sir Patrick Moore Honoured by University of Leicester

Astronomer and educator Sir Patrick Moore, an Honorary Member of the Royal Astronomical Society of Canada, was recently made a Distinguished Honorary Fellow of the University of Leicester in England. A former president of the British Astronomical Association, Sir Patrick is best known for his long-running BBC television series *The Sky At Night*, and is the author of over sixty books. Click here for transcripts and pictures from the July 2008 degree ceremonies.

Sep 19, 2008, 19:15

## *Announcements*

The October Journal is now on-line!

Check out the latest issue of the RASC Journal - now on-line at

<http://www.rasc.ca/journal/currentissue.shtml>

Sep 15, 2008, 18:20

## *Astronomy Outreach*

Student Representatives Wanted for International Year of Astronomy 2009 Opening Ceremonies  
The Canadian Astronomical Society and the Canadian Association of the Universities for Research in Astronomy will be selecting student representatives to attend the International Year of Astronomy opening ceremonies in Paris! Read on to find out how you or your students can apply!

Sep 12, 2008, 22:15

## *Announcements*

National Office Now Back in Business!

The RASC National Office was relocated on a temporary basis beginning Friday, May 9th. As of September 9, 2008 we are now back at our usual address of 136 Dupont Street. Our normal telephone number - (416) 924-7973 is also operational.

Our thanks to our members and customers who may have been inconvenienced during this disruption.

Sep 9, 2008, 09:00

## *Northern Skies*

The Sky This Month - September 2008

The Winged Horse Pegasus is portrayed this month.

Sep 5, 2008, 19:54

## *Northern Skies*

WorldWide Starparty 2008

A virtual WorldWide Starparty over the internet will take place September 6, 2008

Sep 5, 2008, 16:25

## *Across the RASC*

Amateur Astronomers Win Observing Time on MOST

Two Canadian amateur astronomers, David Gamey of Toronto and Gordon Sarty of Saskatoon, have won a recent contest to provide observing targets for Canada's MOST space telescope. Find out more by checking out this press release from the University of British Columbia. [ Visit Website ]

Sep 5, 2008, 13:44

## *Astronomy Outreach*

Your Students can Win Observing Time at Gemini!

Grade 9-12 students in Canada can compete for an hour of observing time on one of the 8-metre Gemini telescope! Read on to find out how your school can participate!

Aug 30, 2008, 09:52

## *Astronomy Outreach*

Fall Astronomy Day is 4 October 2008

The RASC is gearing up for fall and the clock is ticking down to the International Year of Astronomy. If you missed out in the spring, join in the fun for the Fall Astronomy Day on 4 October 2008 and the preceding week! Read on to find out more...

Aug 29, 2008, 23:10

## *Astronomy Outreach*

Keep in Touch with IYA News

Get the latest news on Canadian participation in the International Year of Astronomy through the new IYA newsletter and Facebook group!

Aug 12, 2008, 20:07

## *Northern Skies*

The Sky This Month - August 2008

This month we will examine some of the favourite object located in the Northern Milky Way.

Aug 2, 2008, 20:45

## *Announcements*

New Society Fees Now in Effect

The new Society Fee structure, including differential fees for members residing in Canada, the United States and other International locations came into effect on July 14, 2008. Please visit [www.rasc.ca/join](http://www.rasc.ca/join) for more information.

Jul 14, 2008, 17:54

# 2008 Technical Improvements to Date

by Glen Harris

This past summer has seen many improvements to the operation of the observatory.

When you first drive into the parking lot, you will notice the new railings along the sidewalk and attached to the building. The addition of the railings provides a level of safety absent in the past. Northern Steel supplied the labour for welding, A.J. Forsyth provided the pipe, painting was performed by Arctic Manufacturing, and installation was done by PG Centre volunteers.

As you walk into the building, you will notice a display case donated by SpeeDee Printers. Not only does it present a more professional image to the visiting public, we can now display, in an organized fashion, the products we offer for sale.

Much time, effort, and a fair amount of money was expended during the summer months bringing the 0.6m (24") telescope to the point where it can be controlled by any number of planetary programs. It is indeed now a Go-To scope. All that remains for it to be used to its full capacity is the acquisition of a research grade CCD camera. The camera will be used both photometrically to accumulate scientific data, and photographically to capture images of the universe. Stay tuned for further developments in this area.

As part of the telescope upgrading process, all unused and obsolete wiring was stripped from the axis tube, and outmoded equipment removed from the telescope base. New wiring reflecting proposed and current use was placed and terminated accordingly.

To ease the burden of rotating the dome, a project nearing completion is motorizing dome rotation. P.G. Machine Works is doing the drive motor machining. Also under way is the automation of opening and closing the dome slot.

The dome has been leveled, and the flange straightened out. In the event that the dome needs to be rotated manually, using the hand crank will require significantly less effort.

The leaking roof has finally been repaired. There was significantly more damage uncovered than was expected. A concerted May weekend effort by many hard working volunteers repaired the damage and prepared the roof for Prince Sheet Metal to install a shallow peak and torch on roofing material. Canfor

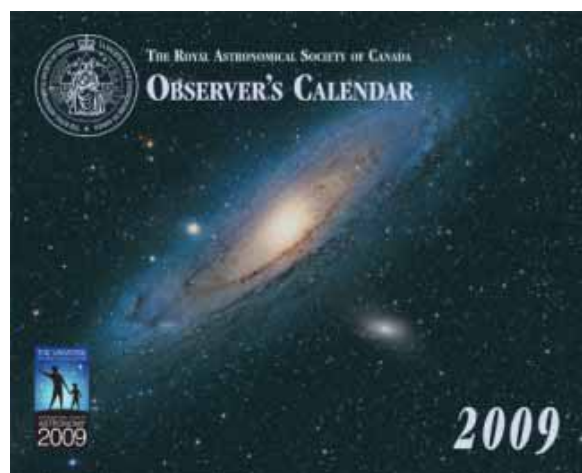
donated both the plywood and 2 x 10's required to implement the repairs.

Much clutter had been accumulated over the years, but a work bee was organized, the building and grounds were cleaned up, and the interior given a thorough scrubbing in preparation for the public opening in mid August.

With the participation of dedicated volunteers, many projects were completed and have brought the observatory to a new technical level. The vision of using the observatory as a research facility, as well as improving the visual experience of our many visitors is much closer to realization.

Submitted by:  
Glen Harris

## Available Soon!



**\$14.95** for members

Contact Brian to reserve your copy

brianbattersby73@yahoo.ca

Phone: 250-614-3316



# Observatory Roof Repair Photos

by Trevor Padgett and Bob Nelson





# The Night Sky for May 2008

by Bob Nelson, PhD

Hi Folks,

As I write this, the data is flowing in from an eclipsing binary that I am observing with my backyard roll-off observatory. The star is V396 Cas (the 396th variable star to be discovered in the constellation of Cassiopeia) and is an eclipsing binary. I determine accurate times of minima in order to understand period variations. [In these systems, two stars revolve about their common centre of mass and -- just by chance -- have the plane of their orbit lying edge-on or nearly so. Usually these systems are too far away for us to see the two stars, but we know that there are two stars because the light intensity dips once or twice per revolution as eclipses occur.] This system belongs to the subclass called *Algols* (named after its first member). Algols usually display a light curve that is flat between eclipses, implying that the stars are separate. Time does not permit a full description; however, I can say that this one has a period of 5.5 hours, meaning that, although it is in decline, I might be here a while ...

Anyway, welcome to our new season! While I'd love to be around to help out and be part of the general activities, my wife and I will be away travelling in Africa from Oct 6 to Nov 15. We'll also miss two elections -- the Canadian one (when we'll be driving from Cape Town to Port Elizabeth) and the U.S. one (when we'll be on safari in Tanzania -- and *totally* out of touch!). I am not sure if this is a good thing, and may take along my shortwave radio so that I can get the CBC overseas service (well, maybe). Who knows? Anyway, I'll have lots to talk about when I return (before getting down to work on the flip secondary!).

Anyway, here is what is happening in *your* skies in October.

MERCURY is a morning object for the last three weeks of the month, reaching greatest western elongation on about Oct 23. Then it's a favourable apparition for us "northies", and lies at 13° above the ESE horizon at sunrise., some 15° (a hand width) to the upper right of the Sun. You might want to have a look for it with binoculars (but take care not to get eyefuls of damaging sunlight!!!!). Using the moments before sunrise might be wise, or as would posi-

tioning yourself behind the edge of a building so that zapping your eyes is impossible. It's only a 7" disk of magnitude -0.6 and will be a bit of a challenge to spot. Users of goto telescopes should have a ball here.

VENUS, is an evening object for the rest of the year. At month's start, it lies only 6° above the SW horizon and sets about 3/4 of an hour later. Because the planet is once again overtaking Earth in its orbit, you might think that, by month's end, it would be higher and brighter at sunset, and set later. However, this is only partially true. In September, the ecliptic at sunset lies at a lower angle to the celestial equator as it dips into the southern half of the sky in preparation for the very low winter Sun. Therefore, Venus is at about the same altitude at sunset as before (7°). It has, however, increased from a 12" gibbous disk 85% illuminated and of magnitude -3.9 to a 14" gibbous disk 78% illuminated and of magnitude -4.0. This is not a large change, but just wait!

MARS, in Virgo until October 15, after which it passes into Libra, is an evening object this month. At mid-month, it lies a tiny 3° above the WSW horizon at sunset and sets a half hour later. It's probably not worth bothering about, except for those who like a challenge and have a good southern sky. For what it's worth, it's a 4" disk (ouch) of magnitude 1.6. Good luck there.

JUPITER, in Sagittarius until 2009 (Jan), is an evening object this month. At mid-month, it lies some 13° above the southern horizon at sunset (so low!!), and sets at 22:54. It's a 38" disk of magnitude -2.3.

SATURN, in Leo until 2009 (Sept), is a morning object all month. At mid-month, it lies a nice 30° above the SE sky at sunrise and will surely be a magnificent sight for those who get up early. It will be a 16" disk of magnitude 1.0.

URANUS, in Aquarius until 2009 (March), is visible most of the night in October, setting at mid-month at about 17:12 (PDT). At mid-month, it lies some 7° above the ESE horizon at sunset, transits at 22:53, and sets at 04:38 in the wee hours. As usual, it's a 3.6" disk at about magnitude 5.7.

*Continued: pg. 9*



NEPTUNE, in Capricornus until 2010 (March), is mostly an evening object this month. At mid-month, it lies some 11° above the SE horizon at sunset; it sets at about 01:51 (PDT) next morning. As usual, it's a 2.3" disk at about magnitude 8.0.

CONSTELLATIONS to look for in October (at 21:00, PDT) are Pisces Austrinus, Aquarius, Capricornus, Equuleus, Delphinus, Pegasus and Vulpecula.

Pisces Austrinus (PsA, "The Southern Fish"), visible only on the extreme southern horizon here in Prince George and lying as it does off the Milky Way, contains only a few galaxies and no star clusters or nebulae. It does contain the well-known star Formalhaut (= Alpha PsA = Al Rischa, "The Cord"), the 18<sup>th</sup> brightest star in the night sky. It is a fine binary star, discovered by William Herschel in 1779. The galaxies visible are NGC 7172 and 7154 but these are very, very close to the horizon when on the meridian and represent challenge objects from here.

Capricornus (Cap, "The Sea Goat"), lies on the Zodiac but lies out of the Milky Way (to the northwest of PsA) and contains only M30, a fine globular cluster. Of the brighter stars, Delta and Epsilon are both variable stars. Delta is an eclipsing binary of the Algol type (fully detached, with flat regions in the light curve between eclipses); its period of 1.023 days makes it hard to study. Epsilon is a variable of the Gamma Cassiopeia variety. These are young stars that are rapid rotators; in fact, they are rotating so fast that the star's gravity is only just strong enough to retain the stellar material. With instabilities, material gets ejected every once in a while, resulting in irregular light variations and emission lines in the spectra.

Aquarius (Aqr, "The Water Bearer"), to the north of Cap, lies on the Zodiac and contains a number of variable stars but no deep sky objects (!) -- at least as listed in Norton's Star Atlas.

Delphinus (Del, "The Porpoise"), to the northwest of Aqr, is another boring little constellation, containing only two globulars, NGGs 6394 and 7006.

Vulpecula (Vul, "The Fox), in the Milky Way just to the south of Cygnus (and the last constellation in the book), contains M27, the famous "Dumbbell" Nebula (disc'd by Messier in 1764 and lying close to 900 light years from us) -- it's a wonderful object worthy of close observation or CCD photography (just wait

til we have colour filters available).

Equuleus (Equ, "The Little Horse"), a tiny constellation (the second smallest in the sky, after Crux) and contains NO deep sky objects at all. Delta Equulei, however, is a close visual binary. It was discovered by Otto Struve in 1852; it was for many years at period 5.7 years, the shortest known for any visible binary. According to Burnham, the system has made 19 revolutions in the last 112 years. It is, however (as you might expect) a difficult close binary, never separated by more than 0.35 arcseconds.

Pegasus (Peg, "The Winged Horse", "The Great Square" and our mascot), also lies off the Milky Way. It contains a few faint galaxies, an open cluster, and M15, a fine globular.

Clear skies,  
Bob Nelson

Free Printable Word Search Puzzles

**Astronomy**

Find and circle all of the Astronomy related words that are hidden in the grid. The remaining letters spell a secret message.

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T H T F A R C E C A P S P E L F A I R S
O R B I T S R T S P M E M I E V R E S O
N T O D S P S A E A R I G O O T I Q H R
S S F I R A U O T I T H L N O R O U E E
R O T O E C N E G S T E R K U N B I C D
A L E R M E O E P Y Y E L A Y B O N A G
S A C E O S E N E O P R T L L W N O P I
L R L T N H T A S U C N A E I S A X S A
U W I S O U R R S T E S F N O T M Y P N
P I P A R T A H E C E R E L I M E A E T
O N S P T T O N A G A L A L W B T U E G
A D E O S L A M A W S R L Y E S E R D A
L R D G A E I L D R S A E A T T O O N L
U E I E E X A E A Y I L N L T I R R C I
B T T E O X T S S I R A L O P I V A E L
E A A R I I A T M O S P H E R E O A S E
N R P E H U E L O H K C A L B O K N R O
R C S W Q M M U N I V E R S E S C T A G
A N D R O M E D A G A L A X Y R O N P G
  
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- |                  |            |                  |               |
|------------------|------------|------------------|---------------|
| ANDROMEDA GALAXY | DEEP SPACE | MOON             | SOLAR SYSTEM  |
| APOGEE           | ECLIPSE    | NEBULA           | SOLAR WIND    |
| ASTEROID         | EQUINOX    | ORBIT            | SPACE SHUTTLE |
| ASTRONOMER       | GALAXIES   | PARSEC           | SPACECRAFT    |
| ATMOSPHERE       | GALILEO    | PERIGEE          | STARS         |
| AURORA           | GRAVITY    | POLARIS          | SUN           |
| BINARY STAR      | HUBBLE     | PROXIMA CENTAURI | SUPERNOVA     |
| BLACK HOLE       | KEPLER     | PULSARS          | TELESCOPE     |
| CONSTELLATION    | LIGHT YEAR | QUASARS          | TIDES         |
| CORONA           | METEOR     | RED GIANT        | UNIVERSE      |
| CRATER           | MILKY WAY  | SATELLITE        | WHITE DWARF   |

Did you enjoy this puzzle? Visit: <http://www.puzzles.ca/wordsearch.html>

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# Extreme Starburst

by Dr. Tony Phillips

A star is born. A star is born. A star is born.

Repeat that phrase 4000 times and you start to get an idea what life is like in distant galaxy J100054+023436.

Astronomers using NASA's Spitzer Space Telescope and ground-based observatories have found that the galaxy gives birth to as many as 4000 stars a year. For comparison, in the same period of time the Milky Way produces only about 10. This makes J100054+023436 an extreme starburst galaxy.

"We call it the 'Baby Boom galaxy,'" says Peter Capak of NASA's Spitzer Science Center at the California Institute of Technology in Pasadena, CA. "It is undergoing a major baby boom, producing most of its stars all at once. If our human population was produced in a similar boom, then almost all people alive today would be the same age."

Capak is lead author of a paper entitled "Spectroscopic Confirmation of an Extreme Starburst at Redshift 4.547" detailing the discovery in the July 10th issue of *Astrophysical Journal Letters*.

The galaxy appears to be a merger, a "train wreck" of two or more galaxies crashing together. The crash is what produces the baby boom. Clouds of interstellar gas within the two galaxies press against one another and collapse to form stars, dozens to hundreds at a time.

This isn't the first time astronomers have witnessed a galaxy producing so many stars. "There are some other extreme starburst galaxies in the local uni-

verse," says Capak. But the Baby Boom galaxy is special because it is not local. It lies about 12.3 billion light years from Earth, which means we are seeing it as it was 12.3 billion years ago. The universe itself is no older than 14 billion years, so this galaxy is just a youngster (Capak likens it to a 6-year-old human) previously thought to be incapable of such rapid-fire star production.

The Baby Boom galaxy poses a challenge to the Hierarchical Model of galaxy evolution favored by many astronomers. According to the Hierarchical Model, galaxies grow by merging; Add two small galaxies together, and you get a bigger galaxy. In the early years of the universe, all galaxies were small, and they produced correspondingly small bursts of star formation when they merged. "Yet in J100054+023436, we see an extreme starburst. The merging galaxies must be pretty large."

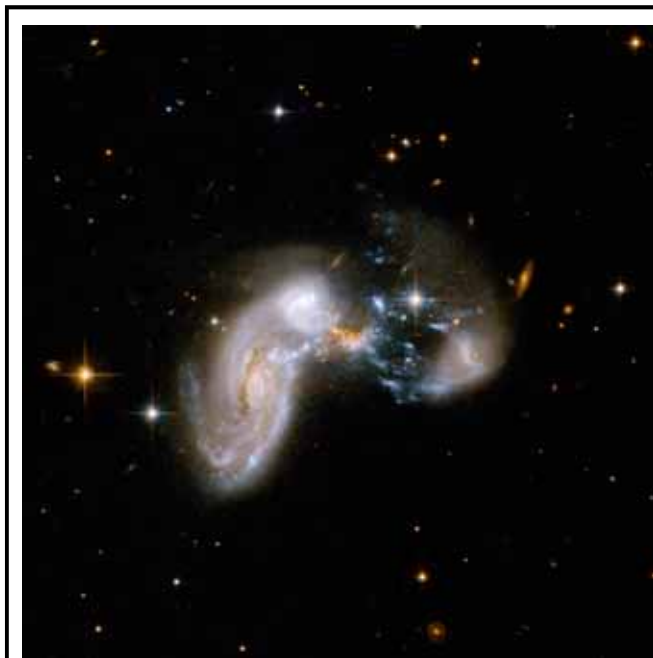
Capak and colleagues are busy looking for more Baby Boomers "to see if this is a one-off case or a common occurrence." The theory of evolution of galaxies hangs in the balance.

Meanwhile... A star is born. A star is born. A star is born.

See more breathtaking Spitzer images at

[www.spitzer.caltech.edu/Media/mediainages](http://www.spitzer.caltech.edu/Media/mediainages). Kids can play the new Spitzer "Sign Here!" game at [space-place.nasa.gov/en/kids/spitzer/signs](http://space-place.nasa.gov/en/kids/spitzer/signs).

*This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.*



*The "Baby Boom" galaxy loosely resembles the galaxy shown here, called Zw II 96, in this Hubble Space Telescope image. This galaxy is only 500 million light-years away, while the Baby Boom galaxy is 12.3 billion light-years away.*

**Want to join the RASC Prince George Centre?**  
 Fill out the form below and mail it in to the address at the top of the form.  
 Existing members can use this form to renew as well!



**THE ROYAL ASTRONOMICAL SOCIETY OF CANADA**

136 Dupont Street, Toronto, ON M5R 1V2 Canada  
 Tel: 416-924-7973 Fax: 416-924-2911 Website: <http://www.rasc.ca>  
 Join/renew online at: <http://www.rasc.ca/join> Form Updated: 2008 July 14

*ORDINARY MEMBERSHIP APPLICATION*

**PERSONAL INFORMATION**

Name (Please print in full) \_\_\_\_\_

Address \_\_\_\_\_ City \_\_\_\_\_

Province/State \_\_\_\_\_ Country \_\_\_\_\_ Postal Code \_\_\_\_\_

Telephone (Days) \_\_\_\_\_ Telephone (Evenings) \_\_\_\_\_

E-mail Address \_\_\_\_\_

*Membership in the RASC includes one issue of the annual **Observer's Handbook**, six issues of the **Journal of the RASC** and six issues of **SkyNews** along with benefits that your Centre may also offer.*

**APPLICATION**

I hereby apply for membership in the Royal Astronomical Society of Canada. I understand that personal information is collected and used according to the Society's Privacy Policy available at [www.rasc.ca/privacy.shtml](http://www.rasc.ca/privacy.shtml)

Note that **Toronto Centre** memberships are processed locally. Visit [toronto.rasc.ca/content/membership.shtml](http://toronto.rasc.ca/content/membership.shtml) for details and to download an application form.

**YOUR CENTRE AFFILIATION (PLEASE CHOOSE ONE ONLY)**

✓	Centre	Base National Fee	Centre Affiliation Discount	Centre Fee	Total Fee
<input type="checkbox"/>	Belleville	67.00	(23.00)	31.00	\$75.00
<input type="checkbox"/>	Calgary	67.00	(23.00)	36.00	\$80.00
<input type="checkbox"/>	Charlottetown	67.00	(23.00)	23.00	\$67.00
<input type="checkbox"/>	Edmonton	67.00	(23.00)	23.00	\$67.00
<input type="checkbox"/>	Halifax	67.00	(23.00)	23.00	\$67.00
<input type="checkbox"/>	Hamilton	67.00	(23.00)	36.00	\$80.00
<input type="checkbox"/>	Kingston	67.00	(23.00)	28.00	\$72.00
<input type="checkbox"/>	Kitchener-Waterloo	67.00	(23.00)	33.00	\$77.00
<input type="checkbox"/>	London	67.00	(23.00)	27.00	\$71.00
<input type="checkbox"/>	Mississauga	67.00	(23.00)	23.00	\$67.00
<input type="checkbox"/>	Centre Francophone de Montréal	67.00	(23.00)	48.00	\$92.00
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<input type="checkbox"/>	New Brunswick	67.00	(23.00)	23.00	\$67.00
<input type="checkbox"/>	Niagara	67.00	(23.00)	27.00	\$71.00
<input type="checkbox"/>	Okanagan	67.00	(23.00)	28.00	\$72.00
<input type="checkbox"/>	Ottawa	67.00	(23.00)	23.00	\$67.00
<input type="checkbox"/>	Prince George	67.00	(23.00)	27.00	\$71.00
<input type="checkbox"/>	Québec	67.00	(23.00)	34.00	\$78.00
<input type="checkbox"/>	Regina	67.00	(23.00)	27.00	\$71.00
<input type="checkbox"/>	St. John's	67.00	(23.00)	27.00	\$71.00
<input type="checkbox"/>	Sarnia	67.00	(23.00)	23.00	\$67.00
<input type="checkbox"/>	Saskatoon	67.00	(23.00)	33.00	\$77.00
<input type="checkbox"/>	Sunshine Coast (BC)	67.00	(23.00)	23.00	\$67.00
<input type="checkbox"/>	Thunder Bay	67.00	(23.00)	23.00	\$67.00
<input type="checkbox"/>	Toronto (see note at upper right)				
<input type="checkbox"/>	Vancouver	67.00	(23.00)	26.00	\$70.00
<input type="checkbox"/>	Victoria	67.00	(23.00)	25.00	\$69.00
<input type="checkbox"/>	Windsor	67.00	(23.00)	23.00	\$67.00
<input type="checkbox"/>	Winnipeg	67.00	(23.00)	23.00	\$67.00
<b>OR</b>					
<input type="checkbox"/>	<b>Unattached (No Centre Affiliation)</b>	67.00	n/a	n/a	\$87.00

**MEMBERSHIP FEE CALCULATION\***

Your Total Fee (from table) \$ \_\_\_\_\_

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- United States **add \$16.00**
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**Total Membership & Options** \$ \_\_\_\_\_

\* Note that membership fees outside Canada are in US currency

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- My cheque/money order is enclosed
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Name on Card: \_\_\_\_\_

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Expiry date: \_\_\_\_ / \_\_\_\_ (mm / yy)

Signature: \_\_\_\_\_

Please return this form with payment to:

**Royal Astronomical Society of Canada**  
 136 Dupont Street  
 Toronto ON M5R 1V2  
 CANADA

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Please keep this portion for your records

**THE ROYAL ASTRONOMICAL SOCIETY OF CANADA**  
 136 Dupont Street, Toronto, ON M5R 1V2 Canada  
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 Website: [www.rasc.ca](http://www.rasc.ca)

Your Membership is appreciated  
 Thank you.

DATE: \_\_\_\_\_

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*AKA the Prince George Astronomical Society*

Phone: 964-3600

Email: pgcentre@yahoo.com

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Back issues of PeGASus available on  
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# WANTED

I would like to locate and purchase an  
EQ mount, "push to".

A simple EQ1 - EQ3 type would be preferred.

## CONTACT

Wayne at 1-250-967-4401



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