

## **Astrophotography by Rodney Topor**



It's an awe-inspiring experience to gaze at the Milky Way on a cloud-free, moon-free night, far from city and town lights. And so, it's natural to try and photograph the Milky Way. This article presents some considerations in making "nightsapes", night landscapes with an emphasis on the Milky Way, also called wide field astrophotography.

The sharp, wide aperture, short focal length lenses required for such

astrophotography used to be expensive. But in the last 10 years, suitable (third party) lenses have become cheaper, sensors have improved, and noise reduction software has become much better. So now anyone can do it.

### **Planning**

The best time to shoot the Milky Way is around new moon, every 28 days or so, from March to October. You can tell when the next new moon will occur by observing the sky for several successive nights and reasoning (!), by consulting the Website [timeanddate.com/moon/](http://timeanddate.com/moon/), or by using the mobile app PhotoPills. You can tell where the Milky Way will be in the sky at a given place, date and hour by consulting the WebSites [stellarium-web.org](http://stellarium-web.org) or [photoephemeris.com](http://photoephemeris.com), or mobile apps such as PhotoPills,



Stellarium or The Photographer's Ephemeris. It's not dark enough to shoot the Milky Way until 90 minutes after sunset. You can tell (less accurately) what the cloud cover will be by consulting the websites [bom.gov.au](http://bom.gov.au) or [cloudfreenight.com](http://cloudfreenight.com), or the mobile app Clear Outside. To find a dark location, you need to drive at least an hour from Brisbane outskirts or 30 minutes from, say, Toowoomba or Warwick, and then look away from the city or town. E.g., Lake Moogerah (Bortle 2) is very good, Lake Wyaralong (Bortle 3) is less good, you want locations with the lowest possible Bortle number. It's best to go with a small number of companions and stay overnight somewhere nearby.

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## Equipment

You need a solid tripod, a cable release or 2-second delay, a good lens (focal length around 21mm-e, aperture f/2.8 or better) and a camera sensor that is reasonably noise-free at 6400 ISO, a headlamp, one or more LED panels, warm clothes, and food and drink. **You need to be able to operate all aspects of your camera in the dark. Practice before you leave home.**

## Photographing the sky

There are three main issues to deal with.

(1) The earth spins very fast around its axis, causing the stars to appear to move very fast across the sky. This means you need a fast shutter speed to ensure the stars appear as points and not trails. A common rule is that the shutter speed should be at most 400/FL for a full frame camera, 300/FL for a 1.5x crop sensor camera, and 200/FL for a 2x crop sensor camera, where FL is the focal length of the lens you're using. So, with a 21mm lens on a full frame camera, you need a shutter speed of at most  $400/21 \approx 20$  seconds. PhotoPills and I recommend an even faster shutter speed.

(2) The sky is dark, despite the many stars. So you need to use a wide aperture and a high ISO. My standard settings with a 20mm-e lens are



1/15 sec, f/2 and 5000 ISO. If your lens's widest aperture is f/2.8 you can adjust the shutter speed and ISO accordingly. If your widest aperture is f/4 or narrower, you will need to take multiple images and stack them using software such as Sequator (Windows) or Starry Landscape Stacker (macOS) to capture enough light and to control noise.

(3) Focusing in the dark. First, use manual focusing or back button focusing. With a wide-angle lens, precise focus is less critical than you might expect. You can focus on a bright star, a distant streetlight, or a tree 10 metres away illuminated by a torch.

Shoot raw not jpeg! Turn long exposure noise reduction off. Use a solid tripod and cable release or 2-second

delay to avoid camera shake. Take test shots to confirm composition and settings. Use the histogram not the camera's rear screen image to evaluate exposure; the peak in the histogram due to the Milky Way should be in the left half but well away from the leftmost edge. Zoom in to the rear screen image to check focus and absence of star trailing.

## Photographing the foreground

Like any landscape, you want an interesting foreground. Possibilities for nightscape foregrounds include rocky outcrops, lone dead trees, ruined buildings, farm machinery, and so on. But the foreground will be even darker than the sky! You have several methods to deal with this. (1) My recommended method is "low level lighting". Use one or more LED panels on light stands or lightweight tripods (or fence posts) far from the foreground subject to provide constant, directional, illumination. A general rule is that if you can see the illumination, the light is too bright or too close. This method is particularly suitable when there are several photographers or if you are making a panorama. Invest in a LED panel with adjustable





power and adjustable white balance for this purpose. Brief, powerful torchlight is far inferior. Other methods require you to blend images with correctly exposed skies and correctly exposed foregrounds in post processing. (2) Use a very long exposure to capture enough light on the foreground before or after a separate shorter exposure for the sky and blend the two images in Photoshop afterwards. (3) Use one exposure for the foreground taken at golden hour or blue hour, leave the tripod and camera in the same position, and use a second exposure at night for the sky. Again, blend the two exposures in Photoshop afterwards. This produces good results but is logistically challenging.

Normal composition principles apply, but I do recommend that at least 2/3 of the image should be sky. **Use manual settings for everything!**



### Postprocessing



**Postprocessing is essential for nightscape images.** Good processing will make your image pop. What you do is your decision. It's OK to make your image look better than what your eyes saw (in my opinion). I'll assume you've captured a single image using low level lighting as described above and are processing it in Lightroom.

First, adjust the white balance according to taste. I like a temperature of about 4000 and a tint of about 10, but others prefer much warmer temperatures.

Second, reduce noise. I recommend using Photo/Enhance aka Denoise with default settings in Lightroom, which is really very good for this purpose. It may help to increase exposure before doing this. Topaz Denoise AI and DxO Pure RAW are also very good.

Third, process the sky and the foreground separately. Lightroom now makes this easy with the sky selection masking tool. Make changes gradually. Expect to use trial and error, as there is no definitive formula.

To process the sky, you may start by increasing exposure, increasing whites, and possibly decreasing blacks. You may try slightly increasing vibrance, saturation, texture and clarity. You may need to reduce highlights. Importantly, you should

use the Tone Curve panel to put an S-curve on the (Milky Way) peak of the histogram. This increases contrast (and hence saturation) on the Milky Way. I used to edit the Milky Way separately, using a brush or radial filter to select it, but I now find that tone curve adjustments make this unnecessary.

To process the foreground, you may wish to increase exposure and raise shadows. Otherwise, do what you can to increase contrast and saturation, as with any landscape image, while maintaining balance with the sky to ensure a pleasing overall image.

### Other types of night sky photography

**Star trails.** In principle, leave your shutter open for an hour or more to reveal the rotation of the earth and achieve a different type of image. In practice, take multiple 30 or 60 second exposure and blend them with the app StarStax in postprocessing.



Milky Way Panoramas. Images that show the Milky Way curving from horizon to horizon can be particularly appealing. These are made by taking multiple single shots and stitching them with software.

(I don't have space to describe more details of how to make these two types of images here, but if there is enough demand, I can write a second article.)

Deep sky astrophotography. Here you use a telephoto lens or telescope on a tracker, that rotates at the same speed as the earth, so you can make very long exposures. You then blend multiple exposures, taken in different ways, with sophisticated software, to get wonderful, detailed images of nebula, galaxies, star clusters, and so on. John Doody knows all about this.

### Further reading

There are many YouTube channels and other online resources giving details of all the above techniques. Search YouTube for "nightscape", "astrophotography", "low level lighting" and find a channel you like. Jeffrey Mott is a good resource! I'm happy to answer questions.

Happy shooting!



### FROM THE EDITOR



I thank Rodney Topor for his very informative article and images on Astrophotography. Rodney's images are inspiring in their composition, yet he has provided simple instructions on how to move forward in this area.

Many of you will have heard that we are currently missing a Vice-President. I encourage every member to consider whether to step up and mention your interest to Ian Sweetman. We are a club of volunteers and our whole existence depends on a team of volunteers who keep the club functioning. Many of us work outside our comfort zone and we occasionally make mistakes, but no one expects perfection from volunteers. On club nights, there is a great sense of camaraderie so please have a chat about who might step forward and take on the VP role.

I am seeking more feature article writers for Newsletter from May onwards. Let me know if you can help.

Please send ideas, feedback or contributions to **my email**.

[newsletter@mgpsinc.onmicrosoft.com](mailto:newsletter@mgpsinc.onmicrosoft.com) Paul Mackay

## April Photo Shoot – Sandy Camp Wetlands

<b>Date, Location and Time:</b>	Sunset at Wilson's Lookout Friday 19 April at 4.00 pm
<b>Details</b>	<p>If you love the Story Bridge and you love a sunset shoot, this is the place to be. Wilson's Outlook is a great viewing point and then you can also go down the lift and stand along the riverside walkway and get a different view. It is very pretty no matter where you stand. Even if the sunset is a letdown, the lights on the Story Bridge are beautiful. We are getting into winter now so sunset is early at 5.26 pm.</p> <p>Parking can be a problem, so I would suggest either come early to park close by or get the ferry from the city to Howard's Wharves.</p> <p>Fingers crossed the weather starts to clear over the next couple of weeks and I don't have to cancel this shoot. I am making it a Friday night, as Saturday nights are very busy with people picnicking etc.</p>

## Club Meeting 10 April

Erik Victor will talk about the advertising industry and his involvement as a photographer. Eric was a key player in the photographic industry over the last 30 years in Brisbane. He ran a large commercial and advertising studio called Momentum, giving many the opportunity to start their own business and their passion in the industry. He was the Queensland President of the AIPP (Australian Institute of Professional Photography) before becoming National President in 2000. He was the ambassador for major European brands such as Broncolor, Sinar and Rollei . He lectured across South East Asia and ended up as the importer of Broncolor in Australia.

His studio Momentum in Bowen Hills was a premium space in Brisbane and was involved in the production of many significant images from the period. He will also respond to questions about what made him choose this kind of work. The "what and how" journey that grew to fulfill a great professional life.

Being retired he still takes pictures, but this time for himself. Being more demanding than his past clients, he has given himself specific rules and directions which underpins his photography."

He is currently volunteering with Maud gallery host to the Queensland Centre for Photography. He aims to raise awareness about the gallery, its various exhibitions and workshops.

## Sandy Camp Wetlands Photo Shoot

Although we did get a slight sprinkle of rain a couple of times, it didn't hold us back from hunting for birds. There was still plenty of sunshine with a great turnout for the morning. Although there was not a big variety of birds around, we still spotted the faithful Kookaburra, a pretty Kingfisher, a lovely cormorant drying its wings and I am pleased to say I finally managed to see a Rainbow Bee Eater. Thank you all for coming and for the great chat with coffee. Gwenda Kruger



Dotti Harkins



Lekha Suraweera



Rodney Topor



Ian Sweetman



Gwenda Kruger



## Honours from February - Creative

### ***Kelp Gull in the frozen south* by Jeff Mott**

Shot on Brown Island in Antarctica, this Kelp Gull had grabbed some food and was getting ready to fly off up to the cliffs to enjoy its meal. There was very heavy snow which made focusing difficult and I was grateful that my lens hood did a good job keeping snow off the front of the lens.

ISO 560 800mm f6.3 1/2000th Sec Nikon Z9 + 800mm 6.3 PF



### ***Pink Lotus* by Rose Parr**

I took this shot while on the MGPS's October 2023 monthly photo shoot "Macro & Wildlife at Mt Coot-tha Botanical Gardens". The specific location was the section of raised ponds outside the Administration & Library buildings, where one goes to check out water plants and dragonflies.

I used my telephoto zoom lens to achieve a vantage point from across the pond.

The original RAW image was pretty ordinary, and cropped considerably, but due to the nature of this flower I was pleasantly surprised when the image responded really well to the usual Lightroom adjustments in lighting, contrast, sharpening etc. Lightroom cooperated and identified the background accurately, so I could mask it

to create the black background.

Edited in Adobe Lightroom Classic.

Capture: Sony A7Riii camera body, Sigma 100-400 F5-6-3 lens at 217mm. Aperture Priority,

1/160 seconds, f13, ISO 100. Centre metering mode. Handheld.

### ***Refractions* by Robert Vallance**

Refractions, Is the result of my pushing the limit "again". Any detail regarding the technical aspects of the shot are lost as the image is really a product of editing. The original, a simple refraction shot except that I added ink to the water, the look was achieved by flattening softening and reducing the contrast then selectively saturating colours.

I shot the image in my workshop using my Fujifilm X-T30, tripod mounted with lighting provided by a couple of table lamps. I used Luminar Neo to edit the image



### ***Cheese & Quackers* by Bhaskar Desha**

My wife has a collection of ducks on her dresser and my original thoughts for an creative photo was to photograph the ducks looking down from the shelves on the dresser. The experiment then evolved into arranging the ducks to show them eating cheese and crackers on a table top. The bottle of red wine completed the picture: **Cheese and Quackers**.

I selected ISO 100 on my camera to provide good details with a long exposure using daylight coming in from a window with a white curtain.

Camera and lens settings were: tripod mounted Nikon Z8 Camera, 135 mm Nikon Z telephoto lens, Aperture Priority, ISO 100, focal length 135 mm, f16 and 2.0 sec.

# Results from March Competition

## Subject: Architecture

AB Grade Print	PRINT COMPETITION judged by Lee Schatkowski			
Member name	Open Image	Set Image	Points	Points YTD
Margareta Dewilde	Merit	Credit	15	126
Carol Rustichelli	Credit	Honour	18	90
Christine Jull	Honour	Honour ***	24	111
Robert Vallance	Credit	Credit	12	78
Rose Parr	Honour	Merit	21	174
A Grade Print				
Bob Garnett	Credit		6	117
Hector Beveridge	Merit	Credit	15	129
Dorothy Harkins	Credit	Credit	12	123
Lekha Suraweera	Credit	Merit	15	117
Paul MacKay	Honour	Credit	18	123
Susan Chisholm	Credit	Credit	12	105
Bruce McDonald	Merit	Merit	18	102
Joyce Metassa	Credit		6	60
Kerri-Anne Cook	Honour	Credit	18	141
Rosslyn Garnett	Merit	Honour	21	126
Swarna Wijesekera	Credit	Credit	12	102

\*\*\* Print Image of the night

B Grade Digital	DIGITAL COMPETITION judged by Simon Cox			
Member name	Open Image	Set Image	Points	Points YTD
AB Grade Digital				
Trudi Aykens	Credit	Merit	15	126
Margareta Dewilde	Credit	Merit	15	123
Carol Rustichelli	Credit	Credit	12	108
Christine Jull	Honour	Credit	18	114
John Langer	Merit	Credit	15	123
Janet Richardson	Credit	Honour	18	135
Gwenda Kruger	Merit	Merit	18	117
Bhaskar Desha	Credit	Credit	12	141
Robert Vallance	Credit	Credit	12	132
Rose Parr	Merit	Credit	15	129



A Grade Digital				
Member name	Open Image	Set Image	Points	Points YTD
Dorothy Hurdle	Credit	Credit	12	12
Gordon Dixon	Credit		6	81
Hazel Sempf	Acceptance	Credit	9	96
Rodney Topor	Credit	Credit	12	78
Bob Garnett	Honour		12	96
Hector Beveridge	Credit	Credit	12	111
Dorothy Harkins	Credit	Credit	12	108
Lekha Suraweera	Acceptance	Honour ***	15	117
Suzanne Edgeworth	Acceptance	Credit	9	120
Paul MacKay	Acceptance	Credit	9	117
Heidi Wallis	Credit	Merit	15	120
Robert Macfarlane	Merit	Credit	15	111
Susan Chisholm	Honour	Credit	18	132
Bruce McDonald	Credit	Credit	12	111
Stephen Relf	Credit	Credit	12	18
Ian Sweetman	Credit	Credit	12	18
Joyce Metassa	Credit	Credit	12	102
Kerri-Anne Cook	Merit	Credit	15	150
Roslyn Garnett	Credit	Credit	12	93
Jeffrey Mott	Credit	Credit	12	165
Swarna Wijesekera	Merit	Credit	15	120
Shuying Jiang	Credit	Credit	12	105
Cheryl Zwart	Acceptance	Merit	12	72
Michael Keenan	Credit	Credit	12	48

\*\*\* Digital Image of the night

Images awarded Merits or Honours will be displayed on the MGPS website -[www.mgps.org.au/club/monthly-comps/winning-images](http://www.mgps.org.au/club/monthly-comps/winning-images) Contact the Records Officer [records@mgps.org.au](mailto:records@mgps.org.au) for any problems.

### MGPS OBJECTIVES

The Mount Gravatt Photographic Society is a community-based non-profit camera club that is affiliated with the Photographic Society of Queensland (PSQ). The club was formed in February 1967 by a small group of enthusiastic amateur photographers.

See <http://www.mgps.org.au/club/about-mgps/club-history> for more details.

#### The Aims of Mount Gravatt Photographic Society:

- To foster a love of the art of photography amongst its members and in the community.
- To assist members with problems pertaining to photography.
- To achieve a more fruitful alliance between the beginner and the experienced photographer.
- To present lectures on photography for beginners.
- To arrange competitions both within the Society and with other bodies from time to time.

## Top ten scores for this stage of the competition year in each category

B Grade Prints	YTD
Joni Keenan	36

B Grade Digital	YTD
Joni Keenan	87

AB Grade Prints	YTD
Rose Parr	174
Margareta Dewilde	126
Christine Jull	111
Bill Van Diest	108
Janet Richardson	99
Carol Rustichelli	90
Robert Vallance	78
Gwenda Kruger	54
Trudi Aykens	18

AB Grade Digital	YTD
Bhaskar Desha	141
Janet Richardson	135
Robert Vallance	132
Rose Parr	129
Trudi Aykens	126
Margareta Dewilde	123
John Langer	123
Gwenda Kruger	117
Bill Van Diest	114
Christine Jull	114

A Grade Prints	YTD
Kerri-Anne Cook	141
Hector Beveridge	129
Rosslyn Garnett	126
Paul MacKay	123
Dorothy Harkins	123
Bob Garnett	117
Lekha Suraweera	117
Susan Chisholm	105
Swarna Wijesekera	102
Bruce McDonald	102

A Grade Digital	YTD
Jefferey Mott	165
Kerri-Anne Cook	150
Susan Chisholm	132
Suzanne Edgeworth	120
Heidi Wallis	120
Swarna Wijesekera	120
Paul MacKay	117
Lekha Suraweera	117
Bruce McDonald	111
Hector Beveridge	111
Robert Macfarlane	111

## PQS BARBEQUE 2024

MGPS will be hosting this year's PSQ BBQ, to be held Oct/Nov this year. As well as a great event for PSQ and an opportunity to showcase MGPS and network with other clubs, this is a fund-raising opportunity.

We are looking for a couple of people who, with the support of the MGPS committee and the PSQ Events Co-ordinator, will organise the event.

In the lead up to the event and on the day, we will need several volunteers to assist with activities food etc.

Please consider being part of the organising team, if you want to be involved or have any questions, please contact me asap. *Ian Sweetman*

## MGPS Executive

	<p>Ian Sweetman President</p>	<p>Vice President (currently vacant)</p>	
	<p>Gavin Carter Secretary</p>		<p>Gwenda Kruger Treasurer</p>
	<p>Janet Richardson Activities Officer</p>		<p>Margareta Dewilde Competitions Officer</p>
	<p>Paul Mackay Newsletter Editor</p>		<p>Michael Mitchell Records Officer</p>
	<p>Margaret Kemmery Member #9</p>		

MGPS Officer Bearers			
Technical Support Officer	Susan McGrory	Welcome Desk 1	Hazel Sempf
Club Activities Officer	Gwenda Kruger	Welcome Desk 2	Joni Keenan
Data Projectionist	Rodney Topor	Welcome Door 1	Christine Jull
Assistant Projectionist	Rick O'Shea	Welcome Door 2	Lekha Suraweera
Digital Competitions	Tony White	Welcome Door 3	Bruce McDonald
Interclub Competition Officer	Suzanne Edgeworth	PSQ Liaison	Sue Gordon
Assistant Treasurer			
Competition Assistant	Janet Rowe	Supper Convenor	Margaret Kemmery
Equipment Officers	Rick O'Shea	Hunt and Shoot Coordinator	Ellis Cole
Public Officer	Suzanne Edgeworth		
SUBGROUP COORDINATORS			
Digital Group	Jeffrey Mott Reserve: Geoffrey Hui	Monochrome Group	Warren Veivers, Cheryl Zwart



# CLUB COMPETITION SCHEDULE Nov 2022-Jan 2025

Set subject	Entries due	Judging date	Description
<b>Nature</b>	24-April	22-May	<p>Nature photography records all branches of natural history except anthropology and archaeology. This includes all aspects of the physical world, both animate and inanimate, that have not been made or modified by humans.</p> <ul style="list-style-type: none"> <li>• Nature images must convey the truth of the scene that was photographed. A well-informed person should be able to identify the subject of the image and be satisfied that it has been presented honestly and that no unethical practices have been used to control the subject or capture the image. Images that directly or indirectly show any human activity that threatens the life or welfare of a living organism are not allowed.</li> <li>• The most important part of a Nature image is the nature story it tells. High technical standards are expected, and the image must look natural.</li> <li>• Objects created by humans, and evidence of human activity, are allowed in Nature images only when they are a necessary part of the Nature story.</li> <li>• Photographs of human-created hybrid plants, cultivated plants, feral animals, domesticated animals, human-created hybrid animals and mounted or preserved zoological specimens are not allowed.</li> <li>• Images taken with subjects under controlled conditions, such as zoos, are allowed.</li> <li>• Controlling live subjects by chilling, anesthetic or any other method of restricting natural movement for the purpose of a photograph is not allowed.</li> </ul> <p><b>EDITING GUIDELINES</b> Processing or editing must be limited to making the image look as close to the original scene as possible, except that conversion to grayscale monochrome is allowed.</p> <p><b>Allowed editing techniques:</b></p> <ul style="list-style-type: none"> <li>• Cropping, straightening and perspective correction.</li> <li>• Removal or correction of elements added by the camera or lens, such as dust spots, noise, chromatic aberration, and lens distortion.</li> <li>• Global and selective adjustments such as brightness, hue, saturation, and contrast to restore the appearance of the original scene.</li> <li>• Complete conversion of color images to grayscale monochrome.</li> <li>• Blending of multiple images of the same subject and combining them in camera or with software (exposure blending or focus stacking);</li> <li>• Image stitching – combining multiple images with overlapping fields of view that are taken consecutively (panoramas).</li> </ul> <p><b>Editing techniques that are <u>not</u> allowed:</b></p> <ul style="list-style-type: none"> <li>• Removing, adding to, moving or changing any part of an image, except for cropping and straightening.</li> <li>• Adding a vignette during processing.</li> <li>• Blurring parts of the image during processing to hide elements in the original scene.</li> </ul>

<b>People</b>	22-May	26-June	A photograph of a person or people that must show <b>all of the person(s) from head to foot</b> (no head to waist close-ups). The person(s) in the photograph must be the focal subject, however the image could also depict their environment or a broader scene. Can be posed or candid. Must be a live human being (mannikins, statues or ornaments will not be accepted).
<b>Scapes</b>	26-June	24-July	An image featuring an expansive view without humans dominating the scene - urban, rural, sea, sky scapes, and traditional landscapes are all included in this category. A landscape is a photograph of natural scenery with land and sky-based elements displayed in a pictorial fashion. It may include evidence of man, people, animals, even part of the sea provided that none of these additional elements dominate the photograph. A seascape is a photograph of natural coastal scenery, a wave study, or a picture of the open sea, provided always that the sea is the centre of interest of the photograph. People, boats, and man-made structures may be present as incidental to the photograph. (APS definition)
<b>Mono</b>	24-July	28-Aug	Any photograph containing shades of only one colour. If toning is carried out, it must be over the total photograph-partial toning and/or the addition of one or more colour is not acceptable in this monochrome section
<b>Solitude</b>	28-Aug	25-Sept	The state or situation of being alone, a lonely uninhabited place.
<b>Curves</b>	25-Sept	23-Oct	Curves are graceful, rhythmic, dynamic and add energy to an image.
<b>Machinery</b>	23-Oct	27-Nov	An apparatus or part there-of, designed to apply mechanical power or to carry out some mechanical function. It must consist of several parts each with its own function.
<b>Annual</b>	<b>13-Nov</b>	11-Dec	Refer to MGPS website competition page or <b>Member handbook</b> number 6.1-page 11
<b>Open</b>	11-Dec	22-Jan 2025	"An image of any subject or genre. 2 open images can be entered for both the digital and the print competitions."

#### EXTERNAL COMPETITION OPPORTUNITIES FOR INDIVIDUALS

Competition	Closes	Website
Outback International Photography Exhibition	11-5-24	<a href="http://myphotoclub.com.au">Outback International Photography Exhibition (myphotoclub.com.au)</a>
Terra Australis International Photographic Exhibition	2-6-24	<a href="http://myphotoclub.com.au">Terra Australis International Photography Exhibition (myphotoclub.com.au)</a>

It is a good challenge to participate in National and International photographic competitions. There are hundreds of competitors approved by the Photographic Society of America. You can access these competitions via this website: [Exhibitions \(psaems.org\)](http://Exhibitions(psaems.org))

For Australian based competitions, check the APS site at [Current Exhibitions \(a-p-s.org.au\)](http://Current Exhibitions (a-p-s.org.au))

You can use your results in these competitions to build credit for photographic honours.