



A message from the new ICVS President

Professor John Mollon, DSc, FRS

It is an honour to become President of the International Colour Vision Society, but it is also an especial personal pleasure. For the ICVS has long been my favourite society. Like many other members, I value its friendly and inclusive atmosphere as well as the convivial structure of the meetings. The formula for our biennial symposia was developed by European clinicians, who know how to make a happy blend of good science, good location, and good catering. It is a formula we should carefully cherish. It would be a sad day if the Society grew so large that we could not all be gathered into three charabancs to be carried off – in golden sunshine – to that breezy boat trip or to that remote chateau where cold wine waits for us on crisp white tablecloths. The excursions and the shared meals play a critical part in our meetings, ever shuffling us into new groupings, to ensure that everyone meets everyone else.

The tasks of the ICVS President are traditionally light, since the hidden work that keeps the Society running so smoothly is done largely by the **General**-Secretary and the Treasurer – currently Steve Buck and Neil Parry – together with the organisers of the individual symposia. In the days of our predecessor society, the IRGCVD, the President was expected to be able to address, in formal German, the Deputy Minister for Science, who had come down from Zurich to honour our humble society; then thank, in elegant French, the local *Maire*, who had so graciously extended the hospitality of the town; and finally, in English, welcome the

members freshly assembled from their planes and trains. I hope the ICVS does not still expect these linguistic skills. But I shall do my best to serve the Society. I shall try to take my part in sustaining the essential friendliness of ICVS, its inclusion of the several disciplines and approaches that are drawn together in the domain of colour, and in particular its traditional combination of clinical and fundamental science.

I should like to take this opportunity to thank Joel Pokorny for the sage and inspiring way in which he has guided the Society for the last eight years. We are all indebted to him for the time, the care, and the affection he has given to the Society's business. A firm legacy of his Presidency is the increased support that the ICVS gives to students who attend our symposia.

Some comments from the outgoing ICVS President

Joel Pokorny, PhD

John Mollon very beautifully summarizes the qualities of the ICVS that make it so special to many of us. Like John, "the ICVS has long been my favourite society." Vivianne and my first meeting of the Society, which was then called the International Research Group on Colour Vision Deficiencies, was in Amsterdam in 1975. The meeting was a real eye-opener. International meetings were less accessible to younger scientists at that time. Here we had the opportunity to interact with the European basic scientists in color vision research and the great

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international clinicians who used color vision testing as an effective clinical tool. Through contacts made within the Society, Vivianne and I organized a one-year stay in the Netherlands working on diverse projects with the geneticist Lou Went, Medical Physicist Dirk van Norren and Ophthalmologist Alfred Pinckers. Following Amsterdam, we have attended every meeting of the Society.

I could end this commentary here but wish to focus briefly on how the Society has evolved over the years. Daltoniana, which is available on our website (www.icvs.info) from the first issue dated January 1972 to the present, offers a history of how interests, ideas, tools and techniques have changed over the time the Society has existed. From the onset, the primary functions of the Society have been to hold a biannual meeting, publish the Proceedings, and publish Daltoniana. Subsequently an award was established in 1991 in memory of Dr. Guy Verriest who as General Secretary ran the Society and served as the Daltoniana editor from 1972 until his untimely death in 1988. Originally dues were collected to publish the Proceedings, to pay for mimeographing Daltoniana and to pay postage. Over time the model has changed. Today, dues cover publishing the Proceedings, which in recent years has been in refereed and indexed vision journals, pay the Verriest Medalist expenses, and offer travel awards to junior color vision scientists.

What I find remarkable is that the meeting model, 100-120 scientists meet for 5 days, Friday-Tuesday, with half days on Friday and Sunday, continues to maintain the same air of informality and congeniality. Members share coffee breaks, lunches and dinners with a group diverse in discipline and seniority. For Vivianne and me, the early meetings offered the opportunity to interact with some of the famous senior scientists who we had previously respected only from afar. It is nice that the model has not changed.



**Verriest Medalists in
Kongsberg, Norway**

André Roth (2003)
John Mollon (2005)
Vivianne Smith (1995)
Joel Pokorny (1995)
Steve Shevell (2011)
Barry Lee (2007)
Jack Moreland (1997)

Photo: Magne Helland

MESSAGE FROM THE GENERAL SECRETARY

Steven Buck, PhD

On behalf of the entire Society, I want to again thank Rigmor Baraas and the organizing committee and local organizers for putting together the 2011 ICVS Symposium in Kongsberg, Norway. It was a scientifically exciting, culturally and historically fascinating, culinarily delicious, and unfailingly congenial meeting. Rigmor has provided an account of the meeting elsewhere in this issue.

I also want to welcome our new President, John Mollon, and extend my deepest gratitude to outgoing President Joel Pokorny for his wise and steady leadership over the past 8 years.

Forty-five manuscripts based on presentations at the 2011 Symposium now appear as a special Color Vision issue of the *Journal of the Optical Society of America A*. The table of contents can be seen at: <http://www.opticsinfobase.org/josaa/issue.cfm?volume=29&issue=2> Print issues should be mailed to members soon. This historic partnership with OSA stands to greatly benefit both organizations.

I am deeply grateful to Del Lindsey, *JOSA A* Color Vision Topical Editor, for his enthusiastic support of this project, to my fellow feature editors – Rigmor Baraas, Barry Lee, Mike Webster, and Jack Werner – for their editorial work, and to all of the authors and referees. With so many manuscripts to be processed in a record-breaking short time period, everyone's contribution was essential.

Plans are well underway for the 2013 Symposium in Winchester, UK, for which Valerie Bonnardel and John Barbur are leading the organization. Symposium dates have been set for July 14-18, 2013. The 2015 Symposium will be held in Sendai, Japan. The organization efforts are being headed by Keiji Uchikawa.

Watch for the upcoming email announcement of the online election of new members of the ICVS Board of Directors. If you have changed your email address, please update it with Treasurer Neil Parry (Neil.Parry@manchester.ac.uk).

TREASURER'S REPORT

Neil Parry, PhD

First and foremost, I'd like to join John and Steve in thanking our outgoing president, Joel Pokorny, for all his support over the past few years. To business, and we are in the middle of a 2-year membership cycle so I'm not here to hassle you about rejoining. That won't happen for another 12 months. Just to give you a brief update on the membership and financial position of the society, we have 114 members, of whom 36 are new to the society. Welcome to our family. Financially we are in a comfortable position. We received £8253.59 in membership dues, and a £1261.38 cash injection from the Kongsberg meeting surplus. We paid out £6086.94 in travel grants, leaving us with £12076.29 in the bank. It's too early to say exactly how much the proceedings will cost but it should be in the region of £2000. This puts us in a good position to be able to continue to offer a substantial amount of travel support next year. In the next few months we will be looking at ways in which we might improve on the funding model we have used for the past three meetings. Finally, can I just repeat Steve Buck's plea that you let me know if your email address has changed.

Editorial

Dingcai Cao, PhD and Andrew J. Zele, PhD

This is a very interesting issue of *Daltoniana*. We have received contributions from not only the new president of ICVS, Professor John Mollon, but also from the immediate past president, Professor Joel Pokorny. Both of them have pointed to the importance of the society to their academic lives. We are sure a many ICVS members also share these feelings. We also take this opportunity to recognize Joel for his leadership, support and mentoring.

If members would like to contribute to *Daltoniana*, please contact us.

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21st ICVS symposium, Buskerud University College, Kongsberg, Norway

The 21st Symposium of the International Colour Vision Society (ICVS) took place at Buskerud University College, Kongsberg, Norway, from Friday July 1st to Tuesday July 5th, 2011. The symposium attracted scientists and students from 21 countries (five continents). There were a total of 141 attendees, 38 were students. The society awarded 25 travel grants.

The scientific program included the Verriest Lecture, 5 invited talks, 57 oral presentations and 34 poster presentations. There were 12 sessions and a symposium in memory of Georg H. M. Waaler. Waaler was a Norwegian ophthalmologist who following a large-scale study of colour-vision in Oslo (1925-26) was the first to discover an inherited variability in extended Rayleigh matches.

Professor Steven Shevell was awarded the Verriest Medal on Friday evening. Professor Shevell has contributed to the color vision community for 35 years. He gave an inspiring lecture entitled "Insight about color from its colleagues: Space, time, motion". In the evening, a reception was held at the Chruch Square under the inflatable shell *Tubaloon* followed by an acoustic concert inside Kongsberg Chruch.

Saturday was packed with oral and poster presentations and the Waaler symposium was on Sunday morning. The excursion on Sunday afternoon entailed a cruise on the Oslofjord. Attendees embarked the tall ship SS Vollan at Oslo's Aker Brygge for a relaxing and pleasant voyage around some of the islands in the inner part of the fjord. A local jazz trio provided musical entertainment and the weather was just perfect.

Monday was another day packed with scientific sessions followed by the business meeting. Professor John Mollon was elected to be the new president and Elisabeth Allen and Bonnie Cooper was awarded the Optical Society of America 2011 best student poster prize. The conference banquet took place in the Silver Melting Hut later in the evening.

Tuesday was the last day of the symposium and included two exciting sessions on "Ecology of colour vision" and "Physiological processes of colour vision".

Thank you all for making ICVS 2011 a wonderful and memorable meeting.

Rigmor C. Baraas, PhD. *Organising Committee of the 21st ICVS Symposium*

Early-Career Member Profile: Marisa Rodriguez-Carmona, PhD



Marisa Rodriguez-Carmona's interest in human vision began in her final year of undergraduate studies at Imperial College London working with Chris Dainty on adaptive optics and with Fred Fitzke at Moorfield's Eye Hospital in London. In 2001 she began her graduate studies in John Barbur's laboratory at City University London, after completing an MSc in Physics. Her thesis work focused on optimising a spatio-temporal perturbation technique to isolate the use of colour signals enabling to investigate variability in colour normal and colour defective observers. During her PhD Marisa worked with the Civil Aviation Authority (CAA) UK and Transport for London Ltd on establishing minimum colour vision requirements specific to the working environment. Marisa obtained her PhD in 2006, and was then awarded a City University Fellowship to continue with colour-related research studies. During this time her research focused largely on the diagnosis of colour vision deficiency, the measurement of small changes in colour vision in relation to disease and

Marisa in Belém

normal ageing, gender related differences in colour vision and occupational consequences of colour vision deficiency. As a result of Marisa's collaboration with the CAA UK, new colour vision requirements have been established within the aviation environment in 2009 allowing ~35% of applicants with congenital colour deficiency to work as pilots in commercial aviation.

Marisa is a board member of the Colour Group Great Britain. She is involved in postgraduate teaching for the Escuela Universitaria de Óptica, Universidad Complutense de Madrid in Spain and gives color vision courses to occupational health professionals. She is also involved in co-organising the ICVS meeting in Winchester in 2013.

Marisa has been recently awarded a Fellowship by the Colt Foundation to work on colour-related projects within occupational environments. She will also supervise a full-time research student who will work on the project.

Marisa was born in San Diego, California and lived there until she was 6 while her father completed his PhD and postgraduate studies in astrophysics. She has lived in Germany, Madrid and Tenerife and is currently in London. She has twin sons (born December 20th, 2008) and cannot wait to play football with them.

Selected publications:

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Rodriguez-Carmona M, Sharpe LT, Harlow JA, Barbur JL. Sex-related differences in chromatic sensitivity. *Vis Neurosci* 2008; 25(3):433-440.

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- Steven Buck, Rigmor Baraas, Barry Lee, Delwin Lindsey, Michael Webster, and John S. Werner

Verriest lecture

The Verriest Lecture: Color lessons from space, time and motion

- [Abstract](#) | Full Text: [PDF](#) (2235 KB)
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- Steven K. Shevell

Individual differences in simultaneous color constancy are related to working memory

- [Abstract](#) | Full Text: [PDF](#) (397 KB)
- JOSA A Vol. 29, Iss. 2, pp. A52–A59 (2012)
- Elizabeth C. Allen, Sian L. Beilock, and Steven K. Shevell

Direction in the color plane as a factor in chromatic flicker and chromatic motion

- [Abstract](#) | Full Text: [PDF](#) (653 KB)
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- David Bimler

Role of eye movements in chromatic induction

- [Abstract](#) | Full Text: [PDF](#) (788 KB)
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Feature binding of a continuously changing object

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- [Abstract](#) | Full Text: [PDF](#) (1254 KB)
- JOSA A Vol. 29, Iss. 2, pp. A258–A267 (2012)
- Darren E. Koenig and Heidi J. Hofer

The perceptual balance of color

- [Abstract](#) | Full Text: [PDF](#) (781 KB)
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Tests of a functional account of the Abney effect

- [Abstract](#) | Full Text: [PDF](#) (901 KB)
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- Sean F. O’Neil, Kyle C. McDermott, Yoko Mizokami, John S. Werner, Michael A. Crognale, and Michael A. Webster

Quantal and non-quantal color matches: failure of Grassmann's laws at short wavelengths

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A three-dimensional color space from the 13th century

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Hue discrimination, unique hues and naming

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Chromatic discrimination: differential contributions from two adapting fields

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Cardinal axes are not independent in color discrimination

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- Marina V. Danilova and John D. Mollon

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Visual search in natural scenes explained by local color properties

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Predicting frequency of metamerism in natural scenes by entropy of colors

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Context-dependent judgments of color that might allow color constancy in scenes with multiple regions of illumination

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Uniform color spaces and natural image statistics

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- JOSA A Vol. 29, Iss. 2, pp. A182–A187 (2012)
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Effect of spatial structure on colorfulness adaptation for natural images

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Are Gaussian spectra a viable perceptual assumption in color appearance?

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Psychophysical optimization of lighting spectra for naturalness, preference, and chromatic diversity

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Changes in color vision with decreasing light level: separating the effects of normal aging from disease

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Rod hue biases produced on CRT displays

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The relationship between peripherally matched invariant hues and unique hues: a cone-contrast approach

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Real-world stimuli show perceived hue shifts in the peripheral visual field

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Color appearance at $\pm 10^\circ$ along the vertical and horizontal meridians

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Mesopic rod and S-cone interactions revealed by modulation thresholds

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Psychophysical and physiological responses to gratings with luminance and chromatic components of different spatial frequencies

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Contrast adaptation reveals increased organizational complexity of chromatic processing in the visual evoked potential

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Effect of luminosity on color discrimination of dichromatic marmosets (*Callithrix jacchus*)

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Spatial distributions of cone inputs to cells of the parvocellular pathway investigated with cone-isolating gratings

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Chromatic visual evoked potential responses in preschool children

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The Farnsworth Flashlight is not equivalent to the Farnsworth Lantern

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Blue–green color categorization in Mandarin–English speakers

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