

**CONFIDENTIAL REFEREE'S ASSESSMENT OF THE APPLICANT**  
(TO BE COMPLETED BY AN INDEPENDENT REFEREE PREFERABLY NOT LINKED TO THE HOST INSTITUTION)

		EUROPEAN COMMISSION	
		6 <sup>th</sup> Framework Programme on Research, Technological Development and Demonstration	

Name of applicant | Dr Richard Guy Dodson

**INFORMATION ON THE REFEREE**

Name	Tzioumis	First name(s)	Anastasios
Title	Dr	Sex Female(=F)/Male(=M)	M
Department/Faculty/Institute/Laboratory name	Australia Telescope National Facility (ATNF) Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia		

**Contact details**

PO Box	76	Postal Code	1710	Cedex	
Street name and number	Cnr Pembroke & Vimiera Rds				
Town	Epping NSW	Country	Australia		
Phone 1	+61 2 9372 4350	Phone 2	+61 2 9372 4100	Fax	+61 2 9372 4450
e-mail	Tasso.Tzioumis@csiro.au		Internet home page	www.atnf.csiro.au	

**Legal address (if different from above)**

Organisation legal name					
PO Box		Postal Code		Cedex	
Street name and number					
Town		Country			

**ASSESSMENT**

**Describe in detail the quality of the applicant, regarding his/her research experience, aptitude and potential for high scientific achievement. Also describe the benefit of the training that he/she will receive in the host institution. Specify how well you know the candidate. If relevant, please indicate the applicant's overall rank in terms of marks/quality, compared to other students/fellows whom you have supervised or supervise. Use an extra page, if necessary.**

I have known and worked with Richard Dodson since his arrival in Australia in 1997. While in Australia, he was a critical member of the team running the ATNF Long Baseline Array (LBA), the only extensive VLBI array in the southern hemisphere. I am the Coordinator of all LBA operations and I've got to know Richard both as a co-worker in the LBA team as well as a fellow researcher and collaborator. He has always been an extremely diligent worker and has always worked very effectively alone or as part of a team.

Richard offers a rather *unique* combination of talent, experience and aptitude. He is not only a very good research scientist in astrophysics but he is also very experienced and talented in the techniques of radio astronomy, both in software and hardware. This is a rare combination and Richard thrives working with new instruments and techniques. Thus, he is very effective and much in demand with new telescopes and instruments, where he is able to push the frontiers of techniques and new research.

His astrophysics research in both pulsars and masers around stars is of the highest calibre. Richard's projects on the LBA always pushed the frontiers of new research and techniques and he often stretched and extended the capabilities of the LBA. He has initiated and continues to work on major research projects in both pulsars and masers.

On the technical side, Richard was instrumental in adding the Ceduna antenna to the LBA and streamlining the operations at the Hobart observatory.

Richard initiated the eVLBI project in Australia against the scepticism of many of his colleagues and developed almost single-handedly the hardware and software for a prototype eVLBI system. This has now expanded to a major project, which I lead. Richard has continued to be a major contributor to this project even while he has been working in Japan. The culmination of this has been the successful eVLBI observations of the Huygens probe descent onto Titan from many telescopes in Australia, using much of the equipment that Richard pioneered.

The proposed work at the new telescope at Yebes is ideally suited to Richard's expertise with instruments and techniques and with his astrophysical research and interests. He will also gain experience with mm-VLBI and frequency phase referencing of spectral line VLBI. This expertise does not currently exist in Australia and will be extremely useful with future instruments.

ATNF has recently upgraded some of its telescopes to mm wavelengths and is also developing eVLBI capabilities. New wideband systems are under development and will be deployed in 2-3 years. In that period, eVLBI will also connect all telescopes in Australia directly with high-speed optical fibres into the new wideband correlator. Thus, new facilities will become available in about 2-3 years, which will require researchers with new expertise.

Richard's experience and the training from the proposed project will suit our new facilities. We hope to attract Richard back to Australia in that timescale. I should add that ATNF had previously offered Richard a position but he was unable to accept for personal reasons. We would be prepared to do so again in the future as part of our new facilities.

### **Summary**

Richard is an excellent researcher in both astrophysics and techniques. He offers a unique combination of talent and expertise and has the potential for high scientific and technical achievement. He is ideally suited for the proposed research at the new Yebes telescope and the training he will receive will be invaluable for future work in Australia.