

Date: 28th December 2020

Your ref:

Our ref:

To whom it may concern,

Reference for Dr. Jérôme Lasne for Permanent Position in CNRS Section 19

Dr. Lasne is an excellent young researcher. He worked with me as an “Experienced Researcher” on a contract associated with LASSIE ITN under FP7 on aspects of the IR spectroscopy of model molecular adsorbates on cryogenic models of interstellar grains for 2 years from January 2012. We have continued to collaborate on and off since then. As part of that project, he instigated studies of the vibrational spectroscopy of ultrathin films that demonstrate spontaneous dipole alignment in such films. This was part of a collaborative effort with David Field’s group from Aarhus University in Denmark, the first group to observe this fascinating phenomenon, and included a short secondment to the Danish synchrotron Astrid where Dr. Lasne participated in measurements on this effect. He, and the PhD student working on this project, have since been co-authors with me on a number of significant publications arising from those measurements highlighting unique behaviour in thin dipolar molecular films. He has also collaborated more recently with me in an effort to obtain UK-funding agency support for a research programme aimed at elucidating this important fundamental phenomenon.

I also know that Dr. Lasne has gone on to collaborate independently with the Field group in relation to extending these novel studies to synchrotron-based ultraviolet-visible spectroscopy in thin films. This effort has brought him additional publications and demonstrates a willingness to collaborate with other groups that is essential in a multidisciplinary field such as laboratory astrochemistry and astrophysics. This is clearly a very firm foundation on which he can establish a research career.

In terms of the research direction that he has chosen, he has uniquely demonstrated considerable initiative in respect of his research interests in publishing a well-written article in *ACS Earth and Space Chemistry* that highlights the key role played by heterogeneous chemistry on planetary surfaces. While this clearly establishes his scientific direction through studies of the role of heterogeneous physico-chemical on solid surfaces on the evolution of the atmospheres of Earth-like planets, which will investigate heterogeneous reactivity on dust surfaces in the atmospheres of Earth, Mars and Venus, it will undoubtedly spur his potential competition in this area. However, in developing this programme, he has acquired the necessary research expertise and opened collaborations, including with myself, that will leverage him significant advantage in moving forward.

Dr. Lasne has excellent laboratory skills and is a patient and dedicated researcher. His work ethic is excellent and he has confidently demonstrated an ability to work with staff at all levels; technicians, undergraduate students, research students and academic staff. I am very confident that he will be able to integrate into any environment both as an able and leading researcher and as a teacher. In my opinion, he has clearly demonstrated the necessary self-motivation and leadership to pursue a research career.

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In conclusion, I reiterate my utmost support for his application for this position and look forward to hearing of his success.

Yours faithfully,



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