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EUROfusion Program Management Unit
EUROfusion
Boltmanstrasse 2 Garching, Germany

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Dear Sir or Madam,

my name is Nicola Vianello, I am a 44 years old Phd Physic Scientist, currently working at the Consorzio RFX, Padova. I would like to apply for the position of Task Force Leader for Tokamak Exploitation within the Fusion Science Department.

I've been involved in Fusion plasma Science since my M.Sci. Thesis in Physics in 1999. My primary research interest is transport phenomena in fusion oriented plasmas with strong emphasis on non-linear dynamics. I have approached the problem both experimentally, through diagnostic design and collection, analysis, interpretation and modeling of experimental data, and numerically, through the use of massive parallel fluid codes.

I've a strong attitude in data analysis and interpretation with a particular emphasis on the comparison with theories and codes which can provide the suitable framework for the correct interpretation of real data. I've been involved in the investigation of a variety of phenomena, ranging from electrostatic turbulence particle transport, sheared flow turbulence generation, turbulent non-linearly generated structures, 3D magnetic perturbation and its relation with plasma transport phenomena, ELMs, divertor physics and the connection between divertor and upstream SOL and pedestal properties. I've worked on a variety of different devices with the rather unique opportunity to extend my competences on all the major magnetic configurations, tokamaks, stellarators and reversed field pinches. Addressing each of theses scientific topics has required the development of a solid theoretical background, and the adaptation of theories to the framework studied. Motivated by my scientific curiosity I've established fruitful collaborations with the plasma astrophysics community: this experience helped me to keep a broad-minded approach for a deeper understanding on the basic phenomena shared by the two plasma environments as turbulence or particle energization. I strongly believe that my scientific carrier testifies my attitude towards a comprehensive integrated comprehension of plasma and tokamak physics.

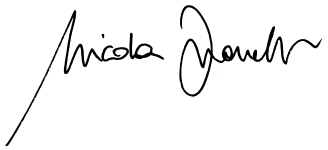
I've bee involved in the WP-MST1 as Scientific Coordinator since its establishment (AUG14-2.2-3, TCV15-2.2-3, TCV15-1.5-1, Topic 21 and Topic 16) but I have been as well an active contribution in WP-JET1, acting as Scientific Coordinator of Task T18-02 and Experiment M18-41. The developed expertise aligns to those required for Mission 2 of the EUROfusion Roadmap, for the determination of a viable plasma exhaust solution, as well as for Mission 1

given interest on the interplay between divertor conditions and upstream SOL and pedestal. I've enjoyed the possibility offered by the EUROfusion framework to work on different devices. I strongly believe that the level of comprehension mandatory to extrapolate to future machines requires an appropriate comparative approach, overcoming the specific issues of singular experiments. EUROfusion offered me the possibility to work within a stimulating scientific environment. I believe that gathering european expertise to work on specific issues in a goal-oriented approach helped Europe as a whole community to consolidate the leadership on fusion science.

The role of Scientific Coordinator induce me to increase my management and coordination capabilities in an international environment. I've always acted in an inclusive manner, by properly spreading knowledge and information while keeping the leadership in pushing forward the scientific objectives. I'm a strong supporter of Open Science and I've promoted it within the scientific team in the hope of speeding up the research activity.

The role of TFL within the Tokamak Exploitation workpackage would represent for me a stimulating and aspiring challenge. The TE workpackage, in particular for the Scientific program concerning the Medium Size Tokamaks, will focus on extending even further our present understanding of the tokamak physics providing robust scenarios in term of performance and exhaust solution for DEMO class devices, while consolidating the ITER physics understanding to increase the confidence for a safe and successful operation of ITER. As aforementioned this is an ambitious task which require a focused program while keeping an open minded approach to extend our knowledge towards partially unknowns territories. I think my competences fits well with the requirements for the position and I hope I could be able to provide my personal contribution.

Yours faithfully,



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