Dr. Rodolphe BOUDOT
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October, 24th, 2022

To UFFC-S Admin,
To Colleen Brick,

Dear Collen Brick,

I am pleased to be nominated as a candidate to become an elected AdCom member, Frequency Control section, of the IEEE UFFC Society.

I served as a member of the EFTF Technical Committee in 2012 in Göteborg (Sweden), Group 2 "Oscillators, synthesizers, noise and circuit techniques", and of the IFCS-EFTF Joint Technical Program Committee (JTPC), Group 2 in 2011 (San Francisco, USA), and Group 3 "Microwave frequency standards, in 2019 (Orlando, USA). I have served as a Group 3 co-chair of the IFCS-EFTF 2022 JTPC (Paris, France) and will also serve at this position for IFCS-EFTF 2023 in Toyama, Japan. IFCS-EFTF conferences constitute an exquisite opportunity for me to present my scientific results, recently awarded by the EFTF2020 Young Scientist Award. In addition, I am a regular reviewer for manuscripts submitted to IEEE Transactions on UFFC, but also for other various international scientific journals.

With this experience, I would be pleased and motivated to serve the UFFC-S AdCom and making the committee benefit from my expertise and experience. I believe that I could contribute to strengthen the representation of Europe and of the cooperation with EFTF in the UFFC committee, reinforce the ties between EFTF and IFCS, while keeping in mind to diffuse the importance to support greatly the development of next-generation ultra-precise integrated quantum devices (clocks, sensors or instruments) for a wide spectrum of applications and society.

For your information, you can find attached below my curriculum vitae (1-page and <150 words versions) and some few additional data. Feel free to contact me if you need any additional information.

Best regards,

Dr. Rodolphe Boudot

Curriculum Vitae (1-page version)

Dr. Rodolphe Boudot
Birth date: 05 December 1980
Age: 41, Married, 1 child
Current situation: CNRS researcher, FEMTO-ST, Besançon, France.
Nationality: French
Phone office: +33 (0)3 81 40 28 56
Email: rodolphe.boudot@femto-st.fr

Rodolphe Boudot received his Ph.D. degree in engineering sciences, in 2006, from Université de Franche-Comté, Besançon, France. His PhD thesis topic was the development of ultra-low phase noise microwave sapphire oscillators. From 2007 to 2009, R. Boudot worked as a post-doctoral researcher at SYRTE, Paris, France, on the development of a pulsed Cs vapour cell clock based on coherent population trapping (CPT). Since October 2008, R. Boudot has been a permanent CNRS researcher at FEMTO-ST and is currently the leader of the ~30-person OHMS (Oscillateurs Horloges Métrologie Systèmes) group [https://teams.femto-st.fr/equipe-ohms/] at Time-Frequency department of FEMTO-ST (since 2017). This group currently consists of 12 permanent staff, ~8 post-doctoral research associates and ~10 PhD students. His research interests are mainly focused on the development of compact and miniaturized cell-based atomic clocks, involving atomic spectroscopy, photonics and MEMS technologies.

R. Boudot has contributed to the development and characterization of a Cs vapour microcell technology, now industrially-transfered, and has been significantly involved in the industrial transfer of miniaturized atomic clocks in France. R. Boudot has also conducted, in collaboration with SYRTE and INRIM (Italy), the development of a state-of-the-art CPT-based Cs cell atomic clock achieving stability level in the low 10^{-15} range at 10^{4} s using the implementation of advanced interrogation protocols. From April 2018 to July 2019, R. Boudot has worked as a NIST Guest Researcher, in Atomic Devices and Instrumentation (ADI) Group, on laser cooling experiments in microfabricated cells, cold-atom clocks and sensors. He has been the coordinator of several national projects supported by ANR, DGA, CNES, LNE, Région Franche-Comté and scientific co-investigator to European projects (EU Commission – MAC-TFC, EURAMET – Mclocks). His group has collaborated with several international institutions including SYRTE, INRIM, NIST (Boulder), University of Strathclyde, the University of Neuchâtel, and some industrial partners.

He has served as a member of the technical committee (Groups 2 and 3) of the EFTF and IFCS-EFTF (joint)-technical program committees. He has served as co-chair (Group3) of the IFCS-EFTF 2022 (Paris) Joint Technical Program Committee (JTPC) and will also serve at this position for IFCS-EFTF2023 in Toyama, Japan. Dr. R. Boudot has received the Best Student Paper Award in IFCS 2006 (Miami, Group. 2), Prix de la Société Française des Microtechniques et de Chronométrie 2007, an Outstanding paper Award of IEEE UFFC in 2012*, and the EFTF2020 Young Scientist Award. He has been a regular reviewer for some international journals including IEEE UFFC, Optics Letters, Optics Express, Applied Physics Letters, Physical Review Applied, etc. R. Boudot has published over 75 papers in refereed journals, 102 contributions to international conferences, has given several invited talks and has been awarded five patents.

*R. Boudot and E. Rubiola, IEEE Trans. UFFC, 59, 12, 2613-26424 (2012).
Google Scholar: https://scholar.google.fr/citations?user=xAyvfXEAAAAJ&hl=fr
Research Gate: https://www.researchgate.net/profile/R_Boudot

Curriculum Vitae (< 150 words)

Rodolphe Boudot received his Ph.D. degree in engineering sciences, in 2006, from Université de Franche-Comté, Besançon, France. From 2007 to 2009, R. Boudot was a post-doctoral researcher at SYRTE, Paris. Since October 2008, R. Boudot has been a permanent CNRS researcher at FEMTO-ST. His research interests mainly include compact and miniaturized cell atomic clocks, oscillators, frequency synthesizers, phase noise metrology, low noise electronics, and laser spectroscopy. Since 2017, R. Boudot has been the leader of the ~30-person OHMS Group at Time-Frequency department in FEMTO-ST. From April 2018 to July 2019, R. Boudot has worked as a NIST Guest Researcher, in Atomic Devices and Instrumentation (ADI) Group, on laser cooling experiments in micro-fabricated cells. R. Boudot has been involved in valorization projects that led to the first industrial chip-scale atomic clock in France. R. Boudot was the recipient of the 2020 EFTF Young Scientist Award.

IEEE accomplishments and activities

Rodolphe Boudot has served as a member of the EFTF Technical Committee in 2012 in Göteborg (Sweden), Group 2 “Oscillators, synthesizers, noise and circuit techniques”, and of the IFCS-EFTF Joint Technical Program Committee (JTPC), Group 2 in 2011 (San Francisco, USA), and Group 3 “Microwave frequency standards, in 2019 (Orlando, USA). R. Boudot has served as a Group 3 co-chair of the IFCS-EFTF 2022 JTPC (Paris, France) and will also serve at this position for IFCS-EFTF 2023 in Toyama, Japan. IFCS-EFTF conferences constitute an exquisite opportunity for R. Boudot and his group to present scientific results, with the motivation to highlight the interest of compact and miniaturized atomic clocks and devices. In addition, R. Boudot is a regular reviewer for manuscripts submitted to IEEE Transactions on UFFC.

Candidate statement

Rodolphe Boudot is available and motivated to make available his expertise and experience for serving AdCom, for strengthening the representation of Europe and reinforcing the close ties between EFTF and IFCS. He will keep in mind to diffuse the importance to support greatly the development of next-generation ultra-precise integrated quantum devices (clocks, sensors or instruments) for a wide spectrum of field-deployable applications, science, society and for the benefit of the Community.

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