Dear Colleagues,

**Citation: For sustained impact and cross-disciplinary breakthroughs in diverse phenomena of space-time travel, temporal paradox, and Exo-Biology.**

We are honored to nominate Dr. John Smith for the honor of Union Fellow of the AGU. John and I both attended the Legion Academy in the 1970s where it was clear John lead the class. I have since been able to continue to collaborate and it has been a pleasure to see him succeed. In my nomination letter I will provide a broad overview of John’s work and highlight where the supporting letters, CV, and bibliography will provide more information.

John is one of the foremost contributors working towards establishing the link between Space-Time Travel and exobiology in our era. Through his numerous cross disciplinary collaborations, John has been able to show how his work has made important implications in the subfield Time Travel, as well as in other subfields such as Space travel. While his research is primarily theoretical, he has always emphasized the connection of basic physics with observations. John is amply deserving of the Society Fellowship on the basis of both the depth and breadth of his sustained contribution to Physics and the research interests of the Society Fellowship Committee. The results of his research have far-reaching implications in multiple disciplines and each of the submitted letters will reflect on these areas. The supporting letter by Dr, Emitt Brown will highlight their work on flux capacitors and their initial attempts at time (sans space) travel. Dr. Eleanor Arroway will then discuss their work on the necessary interconnectedness of space-time travel and the success of their experimental work. This will be followed by the letter from Dr. Jadzia Dax focusing on Johns enthusiasm to embrace new science and collaborations which are unexpected, highlighting him as a role model of how to be a supportive collaborator building a team to enable translational science and their work on exobiology and exo-archaeology.

As John’s always pointing out, his extensive body of work is in part due to the large and diverse collaborations he has. However, John is at times too humble to acknowledge his own role in creating the team environment and his own involvement which enables these discoveries and innovations. His collaboration with Emitt Brown resulted in a seminal series of papers, in which John revealed the physics of flux capacitors [see bibliography section Time-travel and specifically Brown and Smith 2020 reviews in dimensional paradox]. These are the essential building blocks of our understanding of such diverse phenomena as time travel [e.g. Smith et al 800], temporal paradox [e.g. Dax et al 3050], and ionized hydrogen and helium of interstellar origin [Parker and Smith 2018]. This work led to new collaborations with Dr. Arroway to merge his work on time travel and her work with space travel [e.g. Smith and Arroway 2021 Space Physics Reviews and in the bibliography under section Space-Time Travel]. With Dr. Arroway, they literally "wrote the book" on *The Physics of Space-Time Travel*, which has become the essential textbook for graduate students everywhere.  This work and John’s enthusiasm and continual curiosity led him to reach out to Dr. Dax to explore more fully the implication of the new fields that his work with Dr. Arroway had opened up [e.g. Journal of Exo-Biology 2000 and the Bibliography section Cross-Disciplinary work]. Perhaps one of the themes throughout John’s research is his love of learning, his continual interest in working with diverse colleagues who will challenge him, and his support of their many endeavors. John has shown a fearlessness to tackle any new area of research which his studies may lead him. Many of the ideas developed by John have implications that stretch from the state-of-the-art observations to deeper theoretical processes, bridging communities from experimentalists to theorists, and involving dozens of research groups and many authors [see CV section Collaborations and Service activities].

John has also made many other important contributions in fundamental physics of his research field. He is the world’s foremost authority on the physical properties of specific processes in his field [e.g. Smith, Bohr, and Who 1930 On the Constitution of time particles]. The breakthroughs he made in this area provide the science foundation for the revolutionary studies expected with a number of upcoming Big Missions [e.g. Bill and Ted’s Phone Booth]. Another science area that John has pioneered is the study of Exo-Archiology. He, along with his team on another Big Mission [Blue Box], performed the first measurements of its kind. These measurements opened up a whole new area of study and has spawned a host of investigations by the outside community. However, as important as these measurements are, their impact would have been trivial without John.  He developed the infrastructure at Pacific Tech to allow the entire research community to access the Blue Box and Phone Booth data.

John’s service contribution to the community truly deserves recognition: John’s commitment to, and promotion of, diversity. John has always been highly proactive in establishing diversity in his research team. He advocates relentlessly for his collaborators and works tirelessly towards building an inclusive and safe environment for all to work in.  John is a role model in how to make sure to give credit where credit is due. While he is often one of the more recognizable names on papers, he routinely calls out the work done by his collaborators and tries to ensure that they get the credit they deserve, and that he is not unduly given more credit than he deserves [See CV section Presentations – “How Using Team Science Ensured Safe Space-Time Travel” Plenary at the AGU meeting 1920, and 2020]. John is a true role model of how to be a good Collaborator.

In summary, Dr. Smith embodies the best ideals of the Society Fellowship: contributions to science with a broad impact, unparalleled and humble science and community leadership, and continued service to the field. His research through his collaborations continues to elevate the Physics disciplines and influences and leads the international science community. He is an exceptional candidate for the Society Fellowship and embodies the qualities which AGU looks to uphold. His career and character are the type that we hope all young scientists will aspire to.

Sincerely,

Diana R. Who

Prof. D. R. Who, PhD