

Department of Bioengineering

October 9, 2023

Song Li, PhD
Chair and Professor
Department of Bioengineering

Re: Professor Jun Chen: 4th Year Appraisal, Renewal of Appointment, and Accelerated Promotion from Assistant Professor, Step IV o/s to Associate Professor, Step I effective July 1, 2024.

Dear Professor Li:

The Faculty *Ad Hoc* Committee of the Department of Bioengineering has considered the 4th Year Appraisal and accelerated merit promotion for Professor Jun Chen from Assistant Professor Step IV to Associate Professor Step I commencing July 1, 2024. In light of Professor Chen's exceptional achievements in establishing a globally recognized research program, coupled with his exemplary contributions to teaching and service within our department and the broader university community, the committee unreservedly and unanimously endorses his 4th-year appraisal and unanimously recommends his renewal of appointment and an accelerated promotion to Associate Professor Step I.

Research

Professor Chen is a rising star and leader in the field of wearable bioelectronics. His group has worked to develop various wearable devices for sensing, power generation, and energy storage as well as to develop novel materials to enable these devices. The sentiments of all external referees are echoed in **Referee #2**: "...Jun has been extremely productive and creative and has made very significant and pioneering contributions to the field of wearable bioelectronics and textile/yarn devices for energy and sensing applications."

A major contribution of his group has been their discovery of the Giant Magnetoelastic Effect in soft materials ("Giant magnetoelastic effect in soft systems for bioelectronics", *Nature Materials* (20) 1670–167, 2021). This was cited by many referees, including **Referee #3**: "In a groundbreaking paper published in *Nature Materials*... Jun and his team have revolutionized our understanding of magnetoelastic effects." In this paper and subsequent work, Prof. Chen suspended magnetic particles in a silicone matrix and showed that the magnetic response of this soft material to human-scale stresses is significantly greater than any previously reported, of great importance for motion-induced power generation and physiological sensing in wearable textiles. He has since published widely on this topic, further exploring new materials and applications. **Referee #5** notes "The impact of this discovery is evident in the extensive interest it has generated across different research areas"

Another significant highlight is his work applying wearable soft sensors to detect finger and hand position and using machine learning to extract sign language symbols from acquired sensor data (“Sign-to-speech translation using machine-learning-assisted stretchable sensor arrays”, *Nature Electronics* (3) 571–578, 2020). **Referee #1** comments: “This project captures Jun’s ability to exploit interesting materials and physical mechanisms in support of devices that have the potential for broad utility and societal value.”

In addition to the specialist scientific and engineering impact of the specific projects cited by the referees, it is also clear that Prof. Chen’s work is of broader interest to the wider community as seen by his large number of publications in high-impact general science journals, including *Nature Materials*, *Nature Communications*, *ACS Nano*, and *Nano Letters*. His published output is prodigious, with 188 papers published or submitted since arriving at UCLA. **Referee #4** notes “**Dr. Chen holds stunning numbers of journal publications of 260, an h-index of 100, and a total citation of over 35,000 times, which are much higher than most of the full professors in the field of soft bioelectronics**” (Ref. #4’s bold)

He has had great success in receiving support from funding agencies. Prof. Chen has raised over \$3.5M in peer-reviewed research funding from the Office of Naval Research, the National Science Foundation, and the National Institutes of Health, among others. Of particular importance is the recently awarded R01 grant from NIH, a significant achievement for any faculty to obtain and especially so for an Assistant Professor. This may be the most significant of the large number of honors and awards he has garnered in his short career as an independent investigator.

It is clear that Prof. Chen has been very productive and successful thus far in his career. His success in getting funding indicates that he will have no problem supporting his group in the future. Regarding setting the direction of his group’s research, **Referee #6** writes “Even at his early career junior stature, Prof. Chen has been able to write a high impact review paper on smart textiles for healthcare, essentially laying out a roadmap for his research and the field in general [our emphasis]. This demonstrates his leadership position in the field based on his research accomplishments” His research and career trajectory is outstanding, as **Referee #6** also notes “I would venture to say that his case is stronger than most full professor promotion files that I have reviewed...” The committee feels that Prof. Chen is a strong asset to bring significant nationwide recognition to the BE department, HSSEAS, and UCLA as a whole.

Teaching

Prof. Chen has demonstrated a strong commitment to teaching excellence, as evidenced by the student evaluations and feedback. His course material appears well-structured, focusing on the working mechanisms and applications of the topics contained in the syllabus. His didactic efforts and approaches are well-received by the students and manifest an ability to render complex topics accessible and relevant.

As a teacher, he has several notable strengths. He is very good at engaging students. Student feedback praises him for his openness and kindness, and for inviting students for further discussions and making himself available beyond the classroom. This approach fosters a positive learning environment that is appreciated by the students. Dominant threads in student comments include his effectiveness in explaining the working mechanisms and real-world applications of the subject matter, thus making his courses both informative and practical. Notable are Prof. Chen’s exceptional efforts to be available to students, not just during office hours but also through other forms of communication, thereby enhancing his overall impact as an instructor and mentor.

There appear to be some minor areas for improvement. Some students note that the lectures can be repetitive. This is an area where Prof. Chen could introduce more variety or delve deeper into advanced topics. Also, while his lectures are informative and extremely well-received, incorporating more active learning strategies such as collaborative discussions and critical thinking problems could enhance student engagement and understanding.

In addition to his teaching excellence, Prof. Chen leads a large, active research group that includes a significant number of Ph.D. students, postdocs, and undergraduates. Notably, he extends a welcoming environment to undergraduates, actively involving them in his research endeavors. This inclusive approach not only enriches the educational experience for these students but also fosters a culture of mentorship and collaboration within the department. Furthermore, he serves on numerous thesis and dissertation committees, contributing his expertise to the academic development of graduate students. His commitment to teaching and mentorship is further underscored by the laudatory letters and comments provided by both current and former students, attesting to his impactful role in their academic journeys.

In summary, Prof. Chen has demonstrated exceptional teaching excellence, complemented by a strong commitment to student engagement and mentorship. His well-structured courses, inclusive research group, and active participation in academic committees showcase a holistic approach to education. The overwhelmingly positive feedback from students, both current and former, attests to his impactful role in their academic and research journeys. He meets, and exceeds, the expectations of teaching scholarship for advancement to Associate Professor.

Professional and University Service

Prof. Chen's service contributions to the department, university, and field have been outstanding and received well-deserved compliments from the evaluators. His most significant service contributions have been in advancing his field, where he has been remarkably prolific in journal editing, conference organizing, and invited talks. He has also sought out service opportunities to enhance the diversity of UCLA, by serving continuously on the UCLA Diversity Fellowships Faculty Review Committee and the Faculty Review Committee for the Eugene V. Cota Robles Fellowship.

He has been an active and positive contributor to the expansion and growth of the Department. Prof. Chen has been actively involved in several committees, handling subjects including space, graduate fellowships, and admissions. He has always been careful and considerate in the advice he provides while being eager to help with issues that arise. Beyond the Department, Prof. Chen has volunteered his time on a variety of committees, including several fellowship selection committees such as the Graduate Division's Diversity Fellowship and the Eugene V. Cota-Robles Fellowship.

Outside of UCLA, Prof. Chen has contributed to his field by organizing, serving as session chair, and serving as symposium chair for many conferences. His service as a reviewer for a wide variety of national funding agencies, including the Department of Defense, National Institutes of Health, and National Science Foundation, demonstrates that his expertise is recognized and valued.

An area of outstanding activity by Prof. Chen is service as an associate editor, editorial board member, or guest editor for a wide range of well-respected journals. **Referee #3** commented, "*Jun's editorial roles, especially his association with top-tier journals and handling over 530 submissions, are something that I have never seen for scholars in his career stage.*" When added

to reviewing over 1,000 manuscripts as an independent reviewer, Prof. Chen's level of productivity is remarkable.

In conclusion, given Professor Chen's unparalleled accomplishments over the past four years - marked by prestigious honors, groundbreaking research, prolific academic output, and exemplary teaching and service - it is clear that he serves as a luminary not just within our department, but also across UCLA and the national academic landscape. The Faculty Ad Hoc Committee is unanimous in its unqualified endorsement for Professor Chen's 4th Year Appraisal, and we strongly advocate for his accelerated promotion from Assistant Professor, Step IV o/s to Associate Professor, Step I o/s, effective July 1, 2024. The accelerated promotion will be more than a well-earned acknowledgment of his extraordinary contributions; it is also a proactive step for retaining a faculty member of his caliber, thereby safeguarding him from recruitment by other leading institutions. We are unequivocally confident that Professor Chen's continued affiliation with our university will serve as a catalyst for elevating our academic and research prestige to newer heights.