Dear Members of the Search Committee, 1/31/2025

I am excited to apply for the Open Rank Professor of Materials Engineering position in the Department of Chemical and Materials Engineering at San José State University (SJSU). With a multidisciplinary background in **polymer physics, computational materials design, and chemical engineering**, I am eager to contribute to SJSU's dynamic and diverse academic community. My research vision aligns with the department’s commitment to transformative interdisciplinary research and focuses on **leveraging molecular simulations, polymer physics, and machine learning to design sustainable, high-performance polymer-based materials** for the future. My teaching philosophy is rooted in fostering an inclusive, student-centered learning environment.

**Research Vision: Advancing Materials Innovation Through Computation**

My research focuses on understanding nanoscale polymer heterogeneities and their impact on material performance, with an emphasis on sustainability and advanced manufacturing. During my Ph.D., I developed molecular simulation techniques to explore polymer crystallization mechanisms, which contributed to fundamental insights that supported my advisor's NSF CAREER award. In my postdoctoral work at the University of South Florida (USF), I expanded this expertise to study polymer nanocomposites and copolymers, investigating polymer-filler interactions, mechanical reinforcement, and sequence-dependent effects on the glass transition.

At SJSU, I aim to develop a research program that integrates computational materials engineering with applications in sustainable adaptive polymer systems and AI-driven material design. This work will provide valuable opportunities for undergraduate and master’s students to engage in cutting-edge research, preparing them for careers in California’s high-tech industries and beyond. I also look forward to potential collaborations in the department and across SJSU, such as with **Dr. Richard Chung** on using AI for application-targeted nanocomposite design and with **Dr. Christopher Lew** on modeling interfaces in crystalline nanostructured materials.

**Teaching Philosophy: Inclusive, Engaging, and Impactful**

I am deeply committed to student success and equitable learning experiences. My teaching philosophy centers on active learning, hands-on projects, and culturally responsive instruction. Having taught courses such as Thermodynamics, Transport Phenomena, and Computational Methods to students from around the world at Brigham Young University (BYU) and the American University of Sharjah (AUS), I have learned to adapt my teaching methods to diverse student populations. At SJSU, I would be excited to teach core materials engineering courses and develop new offerings, such as Sustainable Materials Design, which would equip students with skills essential for modern industry and research.

Beyond the classroom, I have extensive experience mentoring students in research, guiding them through computational projects and professional development. At USF, I have mentored undergraduate and graduate researchers, co-authoring publications with two undergraduates and supporting their career trajectories. I am eager to continue this mentorship at SJSU, maintaining a research environment that empowers students from all backgrounds to thrive.

**Commitment to Diversity, Equity, and Inclusion**

As an educator and researcher, I am dedicated to creating an inclusive and supportive academic environment. My leadership in initiatives such as founding the **BYU Graduate Student Council**, leading the **Early Career Researchers in Polymer Physics** community and revitalizing the **USF Postdoctoral Scholar Association** reflects my commitment to building impactful networks. For instance, the **2023 Virtual Polymer Physics Symposium**, an effort that I lead, attracted 150 global attendees and provided opportunities for early-career researchers from underserved communities to showcase their work. As an **IMPACT Fellow** with the **National Postdoctoral Association** (<5% acceptance), I have also developed professional development programs aimed at supporting scholars from underrepresented backgrounds. Given SJSU’s designation as an HSI and AANAPISI, I am particularly enthusiastic about contributing to the university’s mission to serve the student body.

**Conclusion**

SJSU’s emphasis on excellence in teaching, research, and student mentorship aligns seamlessly with my aspirations as a teacher-scholar. I am excited about the prospect of joining a collaborative and innovative academic community, where I can contribute to the advancement of chemical and materials engineering education and research. Thank you for considering my application. I have attached my CV and statements for your review. I look forward to the opportunity to discuss how my expertise, experiences, and vision align with SJSU’s mission and priorities.

Sincerely,



Pierre Kawak, Ph.D.

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**Postdoctoral Scholar**

Chemical, Biological & Materials Engineering

**President**,Postdoctoral Scholar Association

University of South Florida

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**IMPACT Fellow**

National Postdoctoral Association

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**Administrator & Organizer**

[Early Career Researchers in Polymer Physics](http://sites.google.com/view/polymerphysics)

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**Member**

Committee on International Freedom of Scientists

American Physical Society

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