

FAREWELL AND THANK YOU TO EDITOR PHIL WANKAT

CEE EDITORIAL STAFF

Though *Chemical Engineering Education (CEE)* has been around for nearly 60 years, there have only been a handful of editors during that entire time. And with the publication of the Fall 2019 issue of the journal a few months ago, we bid a very fond farewell to Professor Phillip C. Wankat in his role of *CEE* Editor. Phil has done almost everything at *CEE*: Separations Area Editor 1991–1995, Editorial Board member 1991–1995, Associate Editor 1995–2013, Co-editor 2014–2015, and Editor 2016–2019, plus several behind-the-scenes efforts this past year. During this time, Phil has also been a prolific contributor to the journal: 1 technical review article, 2 technical book reviews, 16 refereed publications, 12 non-refereed publications, 11 editorials and introductions, and 5 educational book reviews. These submissions span from 1984 to 2019. This does not even include the ChE Educator article on Phil in 1992^[1] or the many articles he has reviewed for the journal. For more information related to honoring Phil, we recommend visiting the AIChE conference proceedings.^[2,3] Before Phil retreats to his boat building workshop, we wish to share comments from some of the many people whom Phil has inspired and mentored through *CEE* and elsewhere. We hope you enjoy reading these fine tributes as much as we enjoyed receiving them.

“I remember well my first meeting with Phil. I was intrigued to encounter an engineer who was interested in discussing JH Newman’s concept of the university, first published back in 1852. Growing up in Ireland where Newman had founded a university, I was familiar with these ideas but hadn’t expected colleagues with a technical background on the other side of the Atlantic to be aware of them.

When some months later I sent some early work we were doing here in Portugal to Phil, he very kindly offered to work with us in developing our scientometric analyses. His collaboration and mentoring over the next 5 years were really important for us as we learnt how to approach the field in a rigorous fashion.

Although Phil is now easing out of research to devote time to other pursuits, I know that his contributions to engineering education research will continue to inspire upcoming researchers, not only in the US but also here in Europe via his SEFI (European Society for Engineering Education) input and through the guidance he has so generously given to us here in Portugal which I now endeavor to share with colleagues in the Portuguese Society for Engineering Education.”

Bill Williams

“Phil, thank you for your outstanding contributions and selfless dedication to *CEE* for all of these years. Your commitment is an inspiration to us all!”

Jennifer Sinclair Curtis

“It was a pleasure to get to know Phil over the past few years. He is truly a legend of chemical engineering!”

Jason Bara

“Phil is the ultimate professor figure—his critique and feedback equip and inspire you to be better, and his praise makes you want to put his words on your refrigerator.”

Lisa Bullard

“In a way, it was natural that Phil and I would become involved with teaching together. Apart from our mutual interest in instructional development, the Myers-Briggs Type Indicator (MBTI), and teaching in general, we were at times mistaken for each other! An early educational article had our photos side by side, both with beards. On top of that, when Phil published an article in the same journal, the photo used was actually of me. One professor huffily asked if we were playing some kind of joke (no!) Even before I met Phil, I was walking down the hall and passed someone who said, “Hi, Phil, how’s it going?” I mumbled something and kept walking. This happened one more time, and then I met Phil and said “Aha!” (I didn’t understand the confusion because, after all, one of us really is more dashing ...but I digress.)

In the early series of articles that we published, I mainly served in the role of communication specialist—I edited the articles and offered substantive suggestions at times. It wasn’t until we developed a graduate course on teaching engineering that I felt I was really contributing. During this time, I also deepened my understanding of the MBTI (and became a certified administrator). I’d had an interest earlier, but it was Phil’s use and understanding that propelled my interest and pursuit. I then introduced the MBTI into the ChE curriculum, not only for the benefit of the individual students but also in forming design teams. It was also a part of this graduate course and became a chapter in the *Teaching Engineering* text.

The writing of *Teaching Engineering* and the graduate course comprised the main part of our collaboration. I can say that it was among the best of my experiences in chemical engineering for 32 years. Watching Phil teach was like watching an old master at the easel. It never seemed difficult. Conducting a class, presenting information, holding discussions, facing controversies, relating to sundry personalities ...it all just flowed naturally. In a way, what makes an encomium difficult is that Phil sneaks excellence by you quietly! Semester after semester, I witnessed the same level of preparation, attention to detail, concern for the student(s) such that excellence became rather ...expected, the norm. You might say ‘nice observation,’ or ‘good approach to resolving that’ ...but it’s when you reflect on the experience that you realize the quality of the individual and the effort. Quiet, unassuming professionalism. Biomedical engineers must immediately find a way to clone him!”

Frank Oreovicz

“When I first decided I wanted to learn more about teaching, I went to Phil (or Prof. Wankat, as I knew him then) for advice. We had a quick ten minute meeting, in which, to my surprise, he told me to forget about getting one of those graduate teaching certificates, and instead to take the time to take a course on pedagogy in engineering education. His advice was on point: that course was probably the most useful (and fun!) thing I did in grad school. He later let me sit in on his Separations course (a course I now teach), and what I remember is not his lectures, but how he offered to meet with every single student—not to talk about the course material, but to talk about life and careers. I guess that’s what will always stick with me about Phil: in addition to his being a fantastic resource of teaching (and separations) knowledge, he always seemed to understand what really matters—students, and how we teach them to become the next generation of engineers. I’m so happy that I got to meet Phil and learn from him; he’ll always be one of my top teaching role models.”

Janie Brennan

“To me, Phil has been teacher, mentor, and inspirational ‘backboard.’ Once identified by Phil to be his replacement at Purdue University as Director of Undergraduate Programs of Engineering Education, Interdisciplinary Engineering Studies and Multidisciplinary Engineering, I faced the daunting task of filling his shoes, while facing down feelings of inadequacy related to attempting to fill his shoes! I will never forget Phil’s words; he said, ‘You don’t have to know what I know or do what I do—you *just have to do what you know, and do what you do, and you will be just fine.*’ I remember feeling tremendous comfort and relief in these words. Since then, any time I question how best to proceed with leading our program, I recall Phil’s motto of ‘students first,’ and ponder silently, ‘What would Wankat do?’ I will forever feel both indebted and endeared to Prof. Wankat for his grace, wisdom, guidance, mentoring, and support.”

Mary Pilotte

“In 1991 Phil Wankat, Department Head Tim Anderson, Managing Editor Carol Yocum, and I spent a weekend considering the future of *Chemical Engineering Education*. This group was devoted to ensuring the journal’s high standards—a devotion which in 1992 led Phil to a six-month Visiting Professorship at Florida, using pedagogical skills learned in graduate work a decade earlier. That initial effort blossomed into Phil’s Associate Editorship (1995), Co-Editorship (2014), and since 2016, the Editorship of *Chemical Engineering Education*.

Phil’s 28-year devotion to *Chemical Engineering Education* marks him as a continuous professional, almost in a religious sense, living a Life of the Mind and a Life of Service. Retirement to his avocation of boat building is analogous to the editorial vessels Phil captained to transport our profession through pedagogical waters. Thank you, Phil!”

E. Dendy Sloan

“He always listened when I had an idea about how to improve the journal (notification to reviewers on editorial decisions, supplementary files, adding DOIs). I also never really knew if my reviews were helpful to the editors or not. Phil let me know that I was a decider. Often, when he had conflicting reviews on a manuscript, he asked me to review. This was a huge honor.”

Joe Holles

“I have deeply appreciated Phil’s support over the years. Working in the engineering faculty development space as a non-engineer, my contributions were not always recognized. That was never true with Phil. He accepted me as a colleague and always seemed to value what I brought to the table. For that, I’ll be forever grateful.”

Rebecca Brent

“Phil Wankat is a person whose contributions ‘separate’ him from the rest. Phil’s activities have inspired many of us in the educational community to new approaches in the field of separations technology and engineering education. This has positively impacted me in my professional development, and that of numerous other faculty across the country. I first met Phil when I was an Assistant Professor and knew little of how to effectively organize myself in the classroom or how to advance my ideas for curriculum development. Through attending a workshop Phil conducted, I ‘saw the light’ like many others did that day. Phil helped inspire me to promote the introduction of new separation technologies into the curriculum and to teach in a style conducive to effective student learning, all while effectively managing my time. Phil not only influenced me, but all chemical engineering educators, through his textbooks, workshops, numerous presentations at AIChE and ASEE conferences, and papers published in *Chemical Engineering Education*. He has gone ‘into the trenches’ to spend the time to write a book that is the most comprehensive and ‘student-friendly’ text in the separations field.

I have also been greatly influenced by Phil through my association with *Chemical Engineering Education*. When I was elected to join the Publications Board, Phil welcomed me into the group and made me feel like a valuable member, although at that time, I had the least experience of any member. He encouraged me to become more involved, and mentored me as I took on successive leadership roles on the Board. He also provided invaluable advice to me when I undertook the Founding Chair’s job at Rowan University, by guiding me to effectively mentor new faculty. Phil is someone who selflessly gives of his time to help others, and always has a calm demeanor when talking with you. It is rare to find someone who is dedicated to the advancement of chemical engineering education through significant pedagogical scholarship that has caused substantial change affecting the teaching of engineering education. Phil Wankat is indeed an exceptional individual who has established himself as an excellent educator and leader and has given of his talents to help students and other educators advance chemical engineering education.”

C. Stewart Slater

“I loved teaching from the first time I ever stood in front of a class and got more satisfaction from it than I ever did from my research. About 15 years after joining the faculty, I decided to make teaching, faculty development, and educational research the focus of the rest of my career. Luckily for me, I met Phil Wankat at about the same time, discovered that he and I had similar interests, and started to learn from him. I read his books and papers on effective teaching and attended his teaching workshops at national conferences, and learned that teaching methods should rest on as solid a base of scholarship as disciplinary research does and that teaching well doesn’t have to take much more time than teaching poorly. I got dozens of practical ideas from him about how I could become a better teacher, discovering along the way that how much students learn generally depends more on how an instructor treats them than on the content the instructor covers. Phil showed me and everyone else in our field how an effective freshman engineering program can be designed for an enormous group of students, and he taught me how—and why—to teach future faculty members (graduate students and postdocs) something about how to teach before they get their first faculty position. And finally, I learned from him how valuable faculty members can be to one another by watching how he encouraged and supported his colleagues all over the country and helped them get awards and other recognitions when he thought they deserved them. (I learned the last of those lessons as one of the many beneficiaries of that support.)

Given the academic incentive and reward system most research universities live under—research vs. teaching—the area that usually loses out is teaching. There are some rare individuals, however, who manage to excel at every aspect of the academic profession—research, teaching, and service—while being valued role models, mentors, and friends to legions of their professional colleagues. Phil Wankat is my poster child for that elite group.”

Rich Felder

“Phil Wankat is a natural mentor. Since he’ll likely deny that, I’ll state that at least he does a tremendous impression of one because I’ve never known him not to step up and contribute to a meaningful project if he believed the outcome would benefit the profession and raise up new leaders in the people he advised in leading the effort. His efforts behind the scenes (and occasionally out front if it was necessary) contributed so much that it is the new normal in chemical engineering education—Teaching Workshops at the AIChE Annual Meeting, the Active Learning workshops opening the Summer School for Chemical Engineering Faculty, the AIChE Education Division, and, of course, the current profile of *Chemical Engineering Education*.”

David Silverstein

“Phil provided a perfect example of a researcher AND educator—a leader in separation science AND engineering education—and, more importantly, he gave the gravitas that research and learning in both fields are vital and important. As one of his Purdue Chemical Engineering graduate students, Phil was one of the first engineers to believe in me and mentor me, and he was always very generous with his time and advice. I recall entering his office on a very busy day—phones ringing, mounds of paperwork on his desk as he was also an Associate Dean, and an assistant walking in multiple times. He dropped everything to talk with me. He had this quiet, calm personality with the unique ability to make you feel that your issue or question was most important.”

Mark Byrne

“Phil Wankat served as a dedicated mentor on the editorial process while I served as a co-editor for the Diversity Special Issue of *CEE*. During this time, he helped me better understand how to set a vision for a special issue, how to lay out recruitment documents, assemble a core set of reviewers to assist with timely reviews of the special issue submissions, and then how to finalize the special issue. The Diversity Special Issue wouldn’t have been as successful as it was without his continued dedication and assistance throughout the process. The confidence he gave me through this process has led me to be able to take on additional editorial roles for special issues in other journals. Thank you, Phil, for the time and effort. You really made a difference in my professional development.”

Cheryl Bodnar

“I realize this tribute is honoring Phil for 28 years with *CEE*, but what led to those contributions started well before his involvement with the journal. In the late 1970’s we Purdue graduate students were stressing out over PhD qualifiers, slowly progressing thesis work, and disco music. I believe Phil did not set out to purposefully add to our stress, nor we were aware of any disco music he may have written. However, his new and non-traditional teaching methods were unintended contributors. How about this format: class on Tuesday, quiz on Thursday,—fail the quiz and he’ll see you on Saturday morning for the make-up! And on football weekends, no less, and he was there! I also recall trying to solve some horrendous separations problems using computers where one typed out the Fortran code on cards, schlepped your trays of cards to a basement somewhere on campus, and returned the next day for the output. Forget your typos, the snow, and the turnaround time, the real challenge was that Phil required answers that duplicated his out to 27 significant figures (OK, so maybe it was just 10 decimal places). I know, he was tough in the old days!

I count myself as one of the lucky ones for being part of those learning experiences. They were challenging and frustrating but so much better than the lecture-based methods common to every other course. From Phil, I learned about motivation, precision, grit, time management, and how an instructor can support struggling students. I didn’t realize until later in my career how important those lessons were, nor how innovative his teaching was. So, congratulations Phil, for bringing all that and much more to a whole generation of engineering educators!”

David DiBiasio

“I don’t remember who taught my first chemical engineering (CE) course, but it was uninspiring to the point that I decided I would change majors unless my next course was outstanding. Phil Wankat taught my second CE course (stagewise separations); it is no exaggeration to say that I am a chemical engineer because of Phil Wankat. He proved to be the best teacher I had in college. When I became a professor myself, Phil became a role model whose balanced excellence in teaching and scholarship I tried to emulate. Thanks, Phil!”

Carl Lund

“It has been a pleasure to have Phil as a friend and professional colleague for many, many years. I first entered academics because I wanted to teach. But I did not know how. Fortunately I met Phil early on in my career and he was very helpful in guiding me onto a path that was successful. And then, again, fortunately I started to do research in the chemical separations area, and Phil has been a leader and provided similar guidance. I have also enjoyed my personal interactions with Phil over the years. It has been great, and I expect it to continue to do so.”

Richard D. Noble

“Back in 1975, Phil Wankat was one of very few profs who made chemical engineering come alive for me. Over the years, our relationship has grown to colleagues, and I am grateful that Phil has shared his expertise in engineering education with the world! He connected with me first because he was young. However, once I was planted in his class, I realized he IS smart and even to this day, he remains as irreverent as hell! Phil pushes the boundaries every day, and his departure as editor will truly be a ‘loss to the Force’.”

Deborah Grubbe

“I met Phil when as a new faculty member, I attended an AIChE session he offered in the early 90’s that outlined his Teaching Engineering course at Purdue. The idea of a Teaching Engineering class was very exciting to me, and Phil was tremendously generous, sharing his syllabus with me as I offered my first Teaching Engineering class in 1995. I have taught this class 21 times now, serving over 530 students, using his textbook of course. On a more personal note, through all the twists and turns of my career, Phil has been there for me, ready to spend the time at conferences listening, really listening, and giving me sound advice that has helped me tremendously. I will be forever grateful for his support and his friendship.”

Susan G. Montgomery

“Phil Wankat’s book *Teaching Engineering* had a profound impact on my career focus. Its scholarly approach to how engineering knowledge is transmitted to the next generation was a revelation to me as a new assistant professor and strongly influenced my career focus on ensuring engineers receive the best possible professional preparation.”

Norman L. Fortenberry

“Phil Wankat has been a steadfast supporter of chemical engineering through the ChE Division of ASEE since I have known him. He has also been supportive of chemical engineering professors, including me. Plus, he is a gentleman.”

Jim Stice

“The word ‘legend’ is utilized too frequently, but for me Phil Wankat is a legend within the field of chemical engineering education. He has directly impacted chemical engineering students for several decades in the classroom, and indirectly through his manuscripts, books and leadership of *CEE*. He has made an indelible mark on the field of chemical engineering education.

For several years and at different institutions I have run workshops for newly hired engineering faculty or for those Ph. D. candidates who want to be a faculty member someday. My book of choice has always been *Teaching Engineering* (first and second edition), which Phil and Frank Oreovicz have authored. Whenever I have a thought about something related to instruction, I reach for that book (it is literally an arm’s length away).

I could not have had a better mentor during this past year to prepare me for the job of editor of *CEE*. His perspective is well-valued now and I know I will rely on it in the future.”

Don Visco

REFERENCES

1. Oreovicz F (1992) Phillip C. Wankat of Purdue University. *Chem. Eng. Ed* 26(3):120-123,159.
2. (2013) *AICHE Annual Conference*, available at <https://www.aiche.org/conferences/aiche-annual-meeting/2013/proceeding/paper/183a-session-honoring-phil-wankat-1>.
3. (2017) *AICHE Annual Conference*, available at <https://www.aiche.org/conferences/aiche-annual-meeting/2017/proceeding/session/honor-phil-wankat-2016-recipient-warren-k-lewis-award-invited-talks>. □