

Meeting Start: 8:00am

Dr. Vladimir Alvarado shares the meeting agenda with everyone.

Vladimir Alvarado: Teddi will not be joining us today because there was a positive case of COVID at her child's school. Dr. Alvarado will share her information for her.

Marjorie Bedessem: **Looking for a motion to approve the agenda.**

Mike Thomas: **Moves to approve this agenda.**

Mary Shafer-Malicki: **Seconds.**

**All say I. None opposed. Agenda is approved.**

Aaron Reichl: Can we go over the new members for the membership committee?

Marjorie Bedessem: Yes, we'll have time for that.

**I. Department Update**

Vladimir Alvarado:

- a. We are currently in Phase III out of IV, we have brought as many students back to campus as possible. There have been some delays because of outbreaks.
- b. Phase I brought only freshmen to campus for first year seminar, Phase II brought more students to campus, but there have been several pauses with in-person teaching due to an issue in the chain of command and increasing cases.
- c. All tests are saliva tests through Vault Health. Students are tested twice a week. Faculty and staff are tested once a week.
- d. Phase IV will start after Thanksgiving (all online). Faculty will stop teaching Nov. 20, and students do not come back to campus until spring 2021.
- e. Joseph Holles (professor) and Saman Aryana (associate professor) were promoted this year.
- f. *Budget Reductions:*
  - i. Operating budgets of the department will be cut by 10%. Travel and training isn't happening, so won't be a huge impact.
  - ii. There will be no personal (salaries or termination) reductions from CEAS.
  - iii. Positions that were pending hires have gone away.
  - iv. Permanent 10% budget reduction.
  - v. Wyoming government is looking at ways to supplement this cut. President Seidel is in favor of keeping the CEAS budget as in tact as possible.
  - vi. Graduate support will be affected:
    1. Less GA positions.
    2. Research centers.
  - vii. All colleges have been asked to plan program reviews – for minors and majors. No reviewing in the immediate term in CEAS – good news.
  - viii. Possibility of an additional 10% cut. Payroll is 85% of our budget.
  - ix. Support for temporary lecturers will be reduced. We will have to balance teaching in the departments.
- g. *Composition of the department:*
  - i. JT has his picture online, Dr. Holles and Dr. Aryana's titles have been updated.

- ii. We have a high density of full professors in our department. We won't have positions available for the next few years.
  - iii. Dr. Michael Pishko is back in the department. He will be a student recruiter. He meets with students who are interested in CHE, heads promotion and outreach.
  - iv. Teddi has been in touch with us from the UW Foundation. We may receive funding for a visiting faculty member for a semester which would help build bridges with electrical and computer engineering.
- h. Mary Shafer-Malicki: Are Dr. Oakey and Dr. Li-Oakey on sabbatical? Is that pending?
- i. Vladimir Alvarado: That was postponed due to COVID. Should happen next year. We are not short-handed. We've had more people this semester than ever before. We can offer more electives, such as Dr. Pishko's Vaccine Manufacturing course.
- j. *Enrollment:*
  - i. Vladimir Alvarado: reduced enrollment, but not dramatically. We went from 166 in 2019 to 162 undergraduate students in 2020. Distribution changes depending on the semester – this is based on the number of credits being taken. We did have incoming freshmen this year.
  - ii. Graduate program has sustained.
- k. *Undergraduate Recruitment:*
  - i. Vladimir Alvarado: There is a new issue of the Newsletter this semester.
  - ii. Money for recruiting graduate students, we plan to make updates to the graduate websites. We still need more promotion out of state.
- l. *Fundraising Priorities:*
  - i. Professorships
  - ii. Process Fundamentals and Control
    - 1. Engineer/Manager (endowment) we may have a candidate from CHE.
  - iii. Endowed Chair
  - iv. Spreadsheet shows changes for each program between the previous academic year to this academic year. Some programs have taken hits (spreadsheet in drop box file). Overall, the graduate program is doing well, it's stable and in the entire department, we're only down 2%.
- m. *Graduate Program:*
  - i. Vladimir Alvarado: Outcome assessment rubric – allows us to evaluate the program itself.
  - ii. Websites are a work in progress, they are currently very convoluted, so we are focusing on streamlining information and making the website more accessible to current and potential students.
  - iii. Molly uses a graduate student spreadsheet to keep track of student preliminary and final exams and committee meetings and documentation.
  - iv. Program size, has grown by one student. Better than expected. Other departments have a more equal amount of males/females.
  - v. There is a good amount of international students – this semester some have had to work from their home country because of the lock down.
  - vi. In the spring, the admission window was extended until May 2020 so more students could be considered for the program.
  - vii. Marjorie Bedessem: What's our percentage of female students in the undergraduate enrollment right now?
  - viii. Vladimir Alvarado: Close to 25%, we have the highest percentage of female students in the college. Which is not unusual, especially including biomedical studies, which attract more females to CHE.

1. He asked Dr. Pishko and Dr. Oakey to accelerate things with the biomedical engineering minor. There have been delays with everything since March.
2. We were having faculty meetings every week, but we had to take a break for a while. The next meeting will be for a tenure and promotion case, and possibly another before Thanksgiving for updates and a brief check-in.

*n. Teaching During a Pandemic:*

- i. John Tatarko: What will be the teaching status for the spring semester? Online vs. face-to-face?
- ii. Vladimir Alvarado: The plan was to be in class face-to-face, but he's not sure if that's been affected by the rise in cases. Administration is saturated with working on budget cuts and the transition to online...we will probably start online in the spring – that's his take on it.
  1. The supply chain consumes a lot of time from the administration. Compliance among faculty and staff is very high, but many student are not compliant. They had to "tighten the screws" a bit to help curb the spread.
  2. Students are still allowed to take their classes online, but some have been prohibited from coming to campus because of exposure.
  3. Being tested every week is somewhat interrupting, but it's fairly easy to take the tests.
  4. Contact with students is invigorating, and it's hard when we can't have them in the building. Faculty have done well continuing to engage with students.
- iii. Katie Li-Oakey: She teaches polymer chemistry, this semester we have the teaching capacity to teach the cross listed graduate and undergraduate section for the first time in three years. She teaches synchronous, but makes students give a presentation weekly. She spends time with them (2 hours) one-on-one to prepare them for that.
  1. In the summer she took a Canvas training session, learning how to create polling questions, etc. tools to help students stay engaged.
- iv. John Oakey: He was the most in favor about choosing "one lane", to make a decision to go online or teach in-person. Trying to teach in person inevitably lead to the flex model (some students still on Zoom, some in class) trying to teach to two locations is difficult. He teaches entirely online.
  1. Students are feeling Zoom fatigue, but they understand that it's the best way to learn at this moment. He checks in frequently to evaluate his teaching approach. Students don't like the high-flex classes. They prefer the class to be entirely in person or entirely online, not both.
  2. Those on Zoom feel forgotten about. If a professor mutes the zoom, the students cannot get their attention after.
  3. It's important to cater to students who are online, as well as in class.
  4. Late in the semester, everyone is weary. For the most part, things are going smoothly.
- v. Vladimir Alvarado: He teaches one computing class, he works with students and shows them how to solve a problem. Then they compare notes, but it's hard to do this online. Especially synchronously, so they can see what's happening online. He's tried several ventures, but many programs are expensive.
  1. They're not necessarily wanting more screen time either.
- vi. Katie Li-Oakey: She uses a reverse class technique, giving students class notes a week in advance. Then undergrads do group learning, which helps engage them - even if the presentations are online. Evaluations are done by her and the whole class. They put in the effort because a grade is involved.

- vii. Vladimir Alvarado: Everyone gets fatigue, many Zoom meetings, etc. it also takes longer to prepare for online teaching, not being able to improvise during class. There are still students who never say anything, but there needs to be pauses and times to interact. Try to slow down at critical junctures. Everyone is trying to find a solution that matches their own style.
- o. John Tatarko: Half of his class does in-person, the other half does online. Looking at homework and simulation exercises, the class he has for 4092, they are doing well. They will cover almost the entire book. Students are Zoom fatigued. They would rather have face-to-face instruction, but he's lucky to have very good students.
- p. Saman Aryana: It does take twice as much time to get all the materials together to teach. Some students seem to have anxiety issues attending in person, so having the Zoom option is a positive change.
- q. John Tatarko: He also posts lectures in advance so they can follow along and make their own notes on the lecture itself.
- r. Katie Li-Oakey: She leaves blanks in the notes she sends to students so they are required to participate. If they don't participate frequently, they won't have important information for exams.
  - i. Participation can be challenging – trying to find a creative solution to address that.
  - ii. She uses participation credits/effort to upgrade borderline grades. Gives them incentive. Still searching for more tips and tricks.
- s. Vladimir Alvarado: Here's an email from Ann Jones:
  - i. There was an issue with student participation, there weren't a lot of applications for Winterships.
  - ii. Ann Jones did what she could to get people engaged. Students register but not many show up for the event. She can't work any harder to get people to sign up.
  - iii. Careers and jobs are available, there are many resources. Find ways to get students to participate more. He will forward along this email.
- t. Marjorie Bedessem: Program Review
  - i. CEAS won't be doing program reviews this year, is that because the different colleges are rotating? It's not CEAS's turn? Why is that?
- u. Vladimir Alvarado: Our programs are very organic, so there's an intention to avoid affecting engineering because we are needed in the state. We may need to merge departments if there are additional budget cuts. Something we don't want.
- v. Marjorie Bedessem: What year did we split off from PETE?
- w. Vladimir Alvarado: 2015. There's a consequence of the way faculty move across the two departments. PETE has some faculty that emphasize in petroleum, but most of them are chemical engineers.
- x. Marjorie Bedessem: If the program was to survive any type of review, it needs to be bolstered. She's wondering when the reviews will be happening so we can look at the joint (MS environmental and civil) department and whether that's viable or not.
- y. Vladimir Alvarado: He was thinking about that program, there's a weakness based on enrollment. Dave and Karen hadn't received anything from Michael. So it appears that committee is not meeting. They need some motivation.

## II. Process Control & Instrumentation Minor:

- a. John Tatarko: He misses interactions with students. He has a hard time reading students for when they're confused. His "zoomers" are not hesitant to speak up if they're confused.
- b. Laboratory equipment for the minor, two labs that will hold the equipment for PC&I. We purchased three big pieces through Gund Engineering. They are up and running and he is using them this semester for instruction in the CHE 4092 course which is the classical course that all CHE students are required to take, Process Dynamics and Control.

- c. They picked up some innovative software for students to use for simulation of chemical processes and their controls.
- d. Aspen Dynamics, is very frustrating, very high learning curve. We got a different type of software through PI that is much easier to use. Students can change controller settings, cascade control, it's been helpful.
- e. He went through some modules himself, and the highest grade he could get was 75%, and some students are getting 96-97%. He's very proud.
- f. Solid curriculum, wants to offer an online certificate for PC&I so people all over the world can take it.
- g. Preparations for another plague, budget cuts, etc. through the winter.
- h. Doing upgrades to the Unit Operations Lab, adding some controls onto some of the lab experiments we have there. We still have a real distillation column, but it lacks instrumentation and controls. He's approached the University of Texas to help us with the engineering of the column.
- i. Curriculum upgrades, current courses: finish first cycle next semester (ending with CHE4092) – control system design finishes in the spring. Some students (15) will graduate with this minor in the spring.
- j. He doesn't know how many people are going to sign up for CHE2090 in the spring. This is a course for sophomores and juniors that teach fundamentals of process controls.
- k. CHE4090 is the simulation course being taught currently – some of that information will be moved into CHE2090. Teddi Freedman is working on infinity controls to see if they can provide us a PLC trainer.
  - i. Facilities that will be second to none in the U.S.
- l. Seminar in process control and instrumentation. Possibility of a visiting professor from Shell in Houston, Texas. She is putting together a syllabus for a series of two hour lectures once a week. She can bring some PC experience.
- m. We are also getting a heat exchanger. Full DCS/SCADA system. Students can operate and simulate what's happening in the real world.
- n. Siemens S7 PLC Trainer. Questions?
- o. Aaron Reichl: What's the distribution of people in the minor from the different CEAS departments?
- p. John Tatarko: There are 15 total, 12 CHE, 2 PETE and one electrical. It's a new program, things may change in the future. Would like to get more electrical students involved in this. Micro systems, has to do with control of motors and systems. Petroleum is involved, and mechanical has dropped control as a requirement, so there may be a pull there. He was one graduate student in the program who is finishing his second degree in mechanical engineering and a MBA, taking courses in the minor now.
  - i. CHE4990, we've added laboratories. He has good students, but he makes them work very hard.

### III. **Dean Wright Presentation and Q&A**

- a. Mary Shafer-Malicki: What's the timeline for the recruitment for the new dean of the college?
- b. Cam Wright: Search is being reactivated. Using the same recruitment company as the search for the provost. They are finalizing the job description and get it running ASAP. They want someone they can hire by July 1. Doing it parallel with the provost, and the same for dean of education. He is co-chair for the committee to search for the provost. Actively soliciting for these positions.
- c. Vladimir Alvarado: He is on the search committee and he was waiting for them to tell the chair and the firm to share info with the college. They are moving forward and creating a job description. The president is involved in the process.
- d. John Tatarko: Dean Wright has been especially supportive of the PC&I minor, amidst budget cuts, they found the money to buy all this equipment that will be coming in January. Thank you very much.
- e. Cam Wright: It was some financial wizardry, he gives credit to Megan Barber, she knows how to make it work.
- f. Aaron Reichl: Will this budget cut affect faculty (jobs)? What's the outlook?

- g. Cam Wright: Megan and he got votes and feedback from the whole college, they sat down to find a way to reach the target they had given us without affecting anyone's jobs. They had a plan but within two days, they doubled the cut, and claimed that we agreed to cut 8 positions. He's pushing back hard on that.
  - i. He said if this is the path they want to take, we should prepare a press release that says we won't have an accredited engineering program in the state of Wyoming anymore. He copied that to the financial people too who made last minute changes to the budget cut.
  - ii. Many one on one conversations with the president. The university depends on a strong and vibrant college of engineering, he has to let us grow. He is walking a fine line with the board of trustees. He can guide it to where he wants to go, we just have to play it carefully.
- h. Katie Li-Oakey: Thank you for your hard work. Everyone knows he wants us to grow and diversify. There's no other way than to let engineering lead. She's comforted to know that.
  - i. Since you have a direct line to the president, maybe mention that during a crisis is the best time to snap up very talented faculty. Not many faculty positions, but this is the time to grow.
  - ii. Clean energy is happening – the next decade is very important for Wyoming.
- i. Mary Shafer-Malicki: We've been talking about expanding CHE to be chemical and biomedical engineering, this could attract another group of students to come to UW. Until we get a new department head/post pandemic is this something that's been put on hold?
- j. Cam Wright: He hates to keep waiting, we don't know when the pandemic is going to end. Next semester we'll start to hear input from the department about the new department head. We should be talking about the biomedical side of things. John and Katie are going on sabbatical, so do we want to try to get it in before they leave, or wait until after they return? They are key people in that process.
- k. Katie Li-Oakey: They can still zoom in even if they leave during this time on some of those efforts.
- l. Cam Wright: He could help too.
- m. Aaron Reichl: Thank you for supporting the PC&I minor, it will be beneficial to the Wyoming industry. Anything else new/interesting the college is looking at for the future in Wyoming, fossil fuels, etc. that's happening in the other departments?
- n. Cam Wright: Trying to collaborate with the college of business, entrepreneurship etc.
  - i. Technology and applications associated with block chain. Wyoming is unique to these opportunities. Digital and crypto currency at these companies, two banks approved for the state.
    - 1. Founder is the daughter of a founding ECE.
  - ii. Block Chain & Digital innovation. College of Ag, business and CEAS (3 founding colleges) We had four different companies signing up to join like IBM, Golden State Foods.
  - iii. Trying to get the ability to build an indoor drone research park. Drone use is good for agriculture use – one project with Sim Block, flying a drone inside a warehouse getting precise measurements of inventory.
    - 1. Highway across the country for drones, where they can land, be refueled. The way the air space is, Laramie is a sweet spot for that. Would also work with GIS people.
  - iv. They want to build a cyber-range in Laramie, a secure facility, company pays for the privilege of bringing their systems in and people from UW find vulnerabilities and ways it can be compromised. These are things that could bring revenue.
- o. Katie Li-Oakey: She has a startup, TOS materials focusing on energy material for hydrogen fuel cells and super capacitor made from coal, use electro spinning to create a carbon matte. Entrepreneurship opportunities. Seek money and grow.

- i. College of business students help her with website design, etc. how would you market such a device? In addition to working with college of business professors.
- p. Cam Wright: We have to start doing new things, not just what we're used to.
- q. Vladimir Alvarado: We want to be more in touch with Old Main, changes have an upside. Where do you see things in the other programs moving? He said in his update that we will not have program reviews just yet but other colleges will.
- r. Cam Wright: Possible merger of computer science and electrical and computer engineering. President has talked about that so many times. Less suggestion, more of a directive. Investigate it to see if it makes sense. Saves no money, but could be positive.
  - i. cursory level review for the college. Every one of our programs need to grow.
- s. John Tatarko: Having a strong co-op or internship program, in most places is a requirement. You have to be able to provide almost every single course every semester. How can we have a co-op program if we don't have enough faculty to teach the required courses?
- t. Cam Wright: Being able to do these online classes opens up some opportunities for co-ops. Several advisory board members have companies in state who want internships for longer than just a summer. Now that things are online, someone could intern and finish their courses at the same time.
- u. Mike Basden: Any concern that the program reviews will remove any programs that contain prerequisites for current courses?
- v. Cam Wright: They look at those details and which programs support courses that provide to other colleges. They're safe in that regard.

#### IV. Student Chapter Updates

- a. *SWE (Society for Women Engineers)*
- b. Alma Burwell: The president of SWE.
  - i. Right now, the national conference is going on, an all virtual event. They've been attending career fairs. Normally they have a women engineering conference, which will not be happening this year.
  - ii. They've been brainstorming other ideas: send a kit to the girls who would have gone to the conference and have them do things from home. Chili's fundraiser may happen, but maybe not.
- c. Dave Bagley: How many students in the chapter?
- d. Alma Burwell: Last year they struggled to get people to stay consistently. Right now they have 20 members who are heavily active. 5-6 additional people that show up, but 25-30 is a good estimate.
- e. Mary Shafer-Malicki: Job fair - how many signed up vs. showed up. Is there a reason students may not be showing up?
- f. Alma Burwell: She was probably talking about the career fair for the entirety of the University of Wyoming. This is a national conference - 12,000 people went last year. With regard to the Wyoming career fair, going to a career fair in a virtual environment is more intimidating. It's very different than being able to attend in person, you have to force it more in a virtual environment.
- g. Vladimir Alvarado: Have you or any of your peers shared this with Ann? She's having a hard time figuring out why this is happening from a student perspective.
- h. Alma Burwell: She hasn't personally reached out to her, but she could easily do that. Better if the company presents a talk that people can attend, rather than a career fair – provides a one-on-one scenario.
- i. Marjorie Bedessem: Interesting to hear about companies whether they host a talk or do one-on-one. We've discussed before about mentoring from the private business/industry. Is that something that the chapter would be interested in?



- j. Alma Burwell: People are usually split. Madison, previous president tried to get people into mentoring, but it was a half and half whether people want to do it or not. She mentored with General Electric, it's helpful for someone who's a professional tell you their experiences and advice. Irreplaceable and comforting.
- k. Marjorie Bedessem: Was that set up through SWE?
- l. Alma Burwell: Companies support it, widely known. Through SWE website. It'd be good to have more local companies reach out for those who want to stay in Wyoming. She found it helpful. Good to get advice from someone who is farther down the road in their career.
- m. *AICHE*
- n. Amanda Christensen: President of AIChE.
  - i. They have 15 active students, strong showing of upperclassmen, struggling to engage underclassmen. Virtual environment is hard to put time into virtual meetings outside of course work. Recently, faculty shared what electives are available. UW research program director came to present. Meeting every other week.
- o. Vladimir Alvarado: Very grateful for the work that has been put in. There is energy there and that's important. Good representation of females.
- p. Mary Shafer-Malicki: What can we do to increase the number of underclassmen to get involved? Seems to be a trend.
- q. Amanda Christensen:
  - i. This semester, the focus in meetings has been about things on campus and opportunities here, there hasn't been a huge focus on the opportunities in industry. She joined as a freshman because her brother was in it, but he went because he got extra credit if he joined a society.
  - ii. She didn't consider herself a chemical engineer her freshman year because she was taking foundational courses (not in CHE), perhaps this is why younger students don't attend. CHE2005 was the kick off for chemical engineering, but that should still draw sophomore students. She's not sure.
- r. David Bagley: CHE2005 has been a strange experience this fall. He has to take all his lectures to once a week in-person. Not as much bonding happening as there used to be. Students are struggling, just in comparison to the past.
- s. Maribeth Plocek: How would you like an industry representative coming to a meeting every now and then? She would like to attend a meeting.
- t. Amanda Christensen: Next meeting is 6-7pm, November 10<sup>th</sup>.
- u. Marjorie Bedessem: Prospects for mentoring linkages?
- v. Amanda Christensen: AIChE doesn't have a history of offering mentoring, so she has not given much thought to it. She thinks it's a great idea, sometimes better to have someone that isn't a parent, can be good to talk to someone who is in the same career path.
- w. Vladimir Alvarado: What other activities do you pursue other than CHE?
- x. Amanda Christensen:
  - i. She's part of the Wyoming Research Scholars program, which funds undergraduate research. They pair undergraduates with a faculty member or graduate student.
  - ii. She works in a physiology lab and investigates how reproductive hormones influence different protein structures and interactions by injecting mice.
  - iii. Emphasizes scientific outreach, speaking with grade school children, with the Wyoming legislature about what's happening in these labs.
  - iv. She is the vice president of Tau Beta Pi. In-person banquet in the works to honor and recognize freshmen who have done well during this time.



- v. She coaches 4-H meat judging team, kids 8-18. How to identify beef, pork and lamb cuts and quality of meat. National contest in Denver and several local contests.
- y. Alma Burwell:
  - i. She used to work three jobs before COVID. Fitness instructor, undergraduate researcher and also working for facilities on campus. This year, she's stepped back from in-person fitness and is focusing on the online format.
  - ii. She works at an architectural engineering firm in town. Has one job now and has more time to commit to SWE and others.
  - iii. Avid skier and started snowboarding, knitting, outdoors person, not mountain biking.

**V. UW Foundation (Teddi Freedman):**

- a. Vladimir Alvarado: Annual Giving Day –Nov 12-13th, noon-noon. Matching money toward the gift.
- b. Fall 2021-Spring 2022: Teddi has been working on the visiting professor of practice to begin in the PC&I program. It's Renee who is retired from Shell.
- c. December 2020: In-Kind equipment donation to complete process control labs (through Siemens). Hope they bring training with them.
- d. 2019-2020: CEAS and science initiative secured matching funds by the state in excess of \$2 million to support programs within the college.
- e. Mary Shafer-Malicki: With the cuts that are coming up, pulling matching funds, things the president has put out, Tier I funding, not sure how the initiative will be impacted. Hasn't heard anything specifically on this program.
- f. Vladimir Alvarado: Leftover money FY 2020 significant realized estate.
  - i. Ken Boilsen – HT Person Endowment – strong vein of teaching and also the support side.
  - ii. Mary Carole Baker: Incorporated UW in her estate plan and created several funds including student excellence fund aimed at building connections between art, engineering and entrepreneurship.
  - iii. George Wilson: A UW engineering alumni, provided a substantial gift to supplement scholarships.
- g. *CHE Excellence Funds*
  - i. Vladimir Alvarado: \$9,080.01 – variety of scholarship's providing support for our students. Good to see continued support. Wish we could make use of these funds to go experience things... but we'll keep it going as best we can (COVID).
- h. *Fundraising Priorities:*
  - i. Process Control program scholarships
  - ii. Graduate assistantships
  - iii. Professorships
  - iv. Planned gifts
- i. David Bagley: There is a list of laboratories that can still be named. In the old building and EERB. There will be opportunities for folks to donate and get a lab named after them.
- j. Vladimir Alvarado: The Associate Dean of Graduate Education and Research (Bagley), we have been approached by companies from different levels to work with us in the college. Senior or process design projects for CHE but also for other programs. Interest in internships.
- k. David Bagley: One of the companies that contacted Vladimir was concerned with what our program can do for them? From the college standpoint, we're trying to facilitate the needs of companies who will help us out. Additional projects can be added, once the umbrella has been placed (when a company wants to do a variety of things). Project (umbrella) agreements can be put in place.

- l. Vladimir Alvarado: It's a model we can use to combine with companies in the state. There have been some very responsive companies, as long as we get a jump on things. Learned to communicate the ideas.
- m. Marjorie Bedessem: It's something similar to what we're doing with Master Service Agreements and individual work orders, as things progress you don't have to go back to all the legalize and makes the relationship with the company comfortable.
- n. Vladimir Alvarado: This allows us to get other people involved other than CHE.
  - i. Joseph Holles has been working very steadily in the ABET process. There are many deadlines. We will produce a very good sub-study.
  - ii. David Bagley: Joe is doing a great job. It's a long, tedious process.

## VI. Committees

- a. *Membership:*
- b. Aaron Reichl: Wyatt and Billy Lew said they will not have time to continue participating on the board.
- c. Marjorie Bedessem: The goal was 16-18 people. Not necessary to have that many. We could fill two spots.
- d. Aaron Reichl: Kevin did not release the CV of the new potential member to the group yet. Kevin was going to speak to Katie for more information.
- e. Marjorie Bedessem: We are trying to get some sort of spread in our industry group.
- f. Aaron Reichl: We want to replace the previous Ciner representative. Are there certain industries that are underrepresented that we want to focus on getting more membership? Groups like pharmaceuticals?
- g. Marjorie Bedessem:
  - i. Thanks to Molly for sending out the roster to update information, and to everyone that did respond. If you haven't, please do! We were trying to add committee memberships.
  - ii. The membership committee is short active members as of right now. It will help to get the roster filled out so everyone is on at least one sub-committee.
  - iii. We should add the year that people started on the board. Any year before 2010 should be changed to 2015 as the start date.
  - iv. We have 14 IAB members, not including Molly and Vladimir. We could go as high as 4 more.
- h. Aaron Reichl: One of our angles was working with the career center. We try to get folks on the board that are heavy recruiters, but the information isn't readily available.
- i. Marjorie Bedessem: Could be related to donors. Maybe Mary has input on that.
- j. Mary Shafer-Malicki: She has spoken with Teddi Freedman at the foundation. There should be a couple of names coming out soon.
- k. Marjorie Bedessem: Kevin will be sending us a CV for the replacement candidate and potentially others.
- l. Marjorie Bedessem: Add at least two more members for consideration at the spring 2021 meeting.
- m. Tom Findlow: He's wondering about the coal companies in the Gillette area, an area of the state we don't really have.
- n. Vladimir Alvarado: **He invited the director of SER, Holly, who is a chemical engineer. She may know someone to recommend. He will reach out to her. He'll send whatever comes up to Kevin.**
- o. Aaron Reichl: Cam Wright was talking about clean mining and data centers, there may be something specific with that. Katie was talking about advanced storage. We have some biotech, not sure if we have biomedical represented as much. Not clear about a strong link, but an idea.
- p. Marjorie Bedessem: The membership sub-committee met as part of the charter. 50% are UW grads. That's something we have to bear in mind when recruiting. Might be more connections even out of state. But we're doing okay on numbers.

- q. Aaron Reichl: We should keep in mind where Wyoming is headed in the future. He'll send an email to Kevin.
- r. Vladimir Alvarado: People like Katie know students who may want to participate. It needs to be a balance between those who are great workers, but balance with industry. We could collect names from faculty, have more to choose from.
- s. *Fundraising:*
- t. Mary Shafer-Malicki: She's working closely with Teddi to see where our opportunities are to fundraise. She probably has some leads out there. We need a decent donation if we are to do an endowed chair.
- u. Marjorie Bedessem: Do you have a list of IAB members that are on your committee? Did you lose any? Billy Lew.
- v. Mary Shafer-Malicki: Billy Lew was on it. So now they're down to two, Mary and Mike Thomas.
- w. *Curriculum Continuous Improvement Committee (CCIC)*
- x. Tom Findlow: The purpose will be to meet regularly with the curriculum and ABET committee to continuously improve the education of students to better prepare them for industry.
  - i. Continuous improvement along with ABET. Their group feels weird providing critique. This isn't their wheelhouse. An industry look at curriculum and what might be added.
  - ii. Agenda: Pre-requisites, syllabi, one class at a time. Overall review. Current curriculum content, additional things from Joe Holles.
  - iii. Recommendations to add to the curriculum. Professor, Joe or Vladimir can decide whether it should be added or not. It's just an outside perspective. Regularly review agenda and refine.
  - iv. Start with core classes, then move to electives.
    - 1. There were potential needs/tasks discussed that do not belong to current groups. Common themes heard over time. Not this group's job to force the university to continue sending emails for communication purposes. As we try to keep in contact with the graduates, it's a barrier.
    - v. He needs to survey data from students that have graduated in the past two years
    - vi. Freshmen and sophomores data as to why they chose CHE.
    - vii. Next meeting they will provide industry recommendations.
- y. Vladimir Alvarado: It felt like a sparring match at the meeting. We want fresh eyes to decide what's useful. Reactions from others were somewhat defensive.
- z. Tom Findlow: We're going to have to break the water and see what would be a good addition, at least to the ABET process.
- aa. Vladimir Alvarado: Shows us how we carefully move things around and still be ABET compliant. If we don't do this, it can become stale. Every change we make needs to stay for a while so we can assess.
- bb. Marjorie Bedessem: What's the timeline for when you need to provide these recommendations so Joe can fold it into what he's preparing?
- cc. Tom Findlow: Review 1-2 classes per meeting. Start with easier ones as we ease into it. Hopefully get to the point where we're doing close to two classes per session.
- dd. Marjorie Bedessem: Is the committee meeting monthly?
- ee. Tom Findlow: They've only met once since our last meeting. They will get to it at the next meeting, hopefully winter break. Professors get tied up with finals and holidays. If not winter, early in the year.
- ff. Marjorie Bedessem: Who is currently on the curriculum committee?
- gg. Tom Findlow: Wayne Buck, Jessica, Vladimir, Joe, David Bell, Steve and Michael Basden.
- hh. Marjorie Bedessem: Total of 4 IAB members on the committee.

VII. **Board Administrative Business**

- a. Marjorie Bedessem: Updating committee roster.

- b. Vladimir Alvarado: He received something from Ravi. Still in the Colorado area, he was going to ask him if he'd like to reactivate. He's possibly with a chemical company. (3:40:52)

#### **VIII. Feedback & Wrap-Up**

- a. Marjorie Bedessem: Anything we didn't get through today? Any comments?
- b. Vladimir Alvarado: The schedule for this meeting is very loose. We more casually address things in this sort of meeting.
  - i. The faculty asked how Dean Wright was going to select the next department head. Hiring someone external is out of the question. Cam is only an interim Dean so he cannot appoint anyone. We're waiting for the situation with the new Dean as well. Cam is doing a great job, so people have suggested he be appointed to Dean.
  - ii. A discussion that was delayed, there are other matters more urgent. We can ask him later.
  - iii. The Dean will have to come from the ranks or someone from a different department, although that is not his preference.
- c. Marjorie Bedessem: We appreciate your staying through the COVID mess. We will deal with the transition after July 1.
  - i. Vladimir talked about being on the committee for the job description for the Dean. Since there is a new job description, has the description changed dramatically from Cam's position or from previous Deans?
- d. Vladimir Alvarado: Not really. These head hunter firms phrase things in a way to make them sound appealing. The idea is more of a façade. Wording is similar.
- e. Marjorie Bedessem: The description hasn't changed, the packaging and marketing effort is different?
- f. Vladimir Alvarado:
  - i. Yes. But the president is really involved in this. Computer information related technology is being incorporated more. It's a chair game, the seating is only available for so many.
  - ii. President Seidel comes with great ideas, but he comes from a larger university. There is more involved, like timing it correctly, for those with higher morale. He doesn't know how much incorporation and influence from the president will affect attracting candidates.
  - iii. Faculty has been asked to try to talk to people about hiring a provost. It's a tight timeline, not many applicants. Something like that might happen with the Dean.
- g. Marjorie Bedessem: The meeting went very well, no technical difficulties and quite smooth. Any more feedback?
- h. Maribeth Plocek: Sinclair blocks Drop Box so she cannot access the materials. There must be another method. Possibly Google Drive.
- i. Vladimir Alvarado: He is more optimistic than he may appear. Things are still moving in the right direction. We have amazing students, we want to make sure we don't lose anyone.
- j. Marjorie Bedessem: She enjoyed having the students interact in the meeting, and it seemed quite seamless. The virtual meeting format went fine, we may need to find an alternative to Drop Box. As long as there's communication, it all goes smoothly.
- k. Vladimir Alvarado:
  - i. Molly is an asset to us, she sits quietly, listens and takes many notes. Unfortunately, she hasn't experienced much face-to-face activity, but department is still operating well. Be sure to utilize her if you need anything.
  - ii. What would you like to see in the spring for this meeting? More of what the faculty are doing? More student interaction? We could have a faculty talk.
- l. Aaron Reichl: He's interested in the faculty research focus.

- m. Marjorie Bedessem: It would be good to have a review of projects the faculty are doing. Not detailed about research, just an overview. If there's a particular topic, we'll know who to contact. Figuring out how the IAB can help the department and what you need so they can make sure they're doing that.
- n. David Dandy: He's seen department heads hold town hall meetings with just the students so the DH can explain what's going on in the department and the students can talk about their concerns directly. Students can feel more like the department cares about them. Shows them we're interested and concerned about them.
  - i. Their development team suggested 'visiting hours', 3-one hour sessions talking about different questions they're getting, since they're not out visiting people like normal.
  - ii. Outside of the newsletter, students weren't hearing much.
- o. Vladimir Alvarado: He wanted to have something like that at the end of the semester to encourage students. Record some messages. He can confirm that this is something that could work.
- p. Marjorie Bedessem: You could make the message more personal instead of one message from the whole college would be more meaningful for the students.
- q. Aaron Reichl:
  - i. Since recruitment numbers for CHE students are down from last year, before the pandemic we planned to bring people from the career advising office, show facilities and talk about careers available in our industry. They were set up to do it, but haven't done it yet.
  - ii. Are you feeling good about recruitment or is there something we can do to help recruit CHE students? The aim was at the advising office so they can tell students what a chemical engineer does (more informative).
- r. Vladimir Alvarado:
  - i. There are several things we and the college are doing. A 360 virtual tour, with some messages and videos of the facilities. We produce the script, Dr. Michael Pishko is also recording a message.
  - ii. We are choosing someone to record for the virtual tour, he immediately thought of Amanda Christensen, but there are other students and faculty do it too. If we had some recordings from professional engineers, that would also be helpful with recruiting.
  - iii. We could also organize something to share with high school students or K-12. Give examples of CHE and what it actually is.
- s. Aaron Reichl: He thinks this is a good idea.
- t. Marjorie Bedessem: It would be good to have a variety of different backgrounds, not just focused on one person or business, have a multitude of people to show off CHE.
- u. Mike Basden: In control systems and with new equipment, how you're guaranteeing the safety of the equipment and how the students are going to be using it? He would be happy to volunteer to help with that, if needed. He wants to be sure we avoid accidents.
- v. Vladimir Alvarado: He tries not to burden the faculty with teaching safety procedures, but John Ackerman volunteered. Also JT, they are both safety officers. JT will be in the labs a lot and John Ackerman has an industrial background, so they will make a good combo.
- w. Marjorie Bedessem: As part of recruitment, people are concerned about COVID safety, but there are other kinds too. Universities tend to not have the best reputation for focusing on safety compared to the business environment.
  - i. She knew a student working on a project who had completely fried his eyes from issues with welding. Not appropriate making and eye protection. It's concerning to a lot of parents and so for recruitment, it'd be helpful to be able to explain the safety protocols in the lab for their kids.

- x. Vladimir Alvarado: When he taught Unit Operations Lab with Dr. Bagley, they told the students they'd be working with benign fluids. You can learn concepts with other materials that are not necessary to use for learning/teaching purposes.

Marjorie Bedessem: Is there a motion to adjourn today's meeting?

Mary Shafer-Malicki: Firsts.

Mike Basden Seconds.

All say I. None opposed.

Thank you all!

Meeting Adjourned: 12:02pm