

Administrative Activities Review (August 6th, 2018)

Dean's Office, College of Polymer Science and Polymer Engineering (CPSPE)

I. Basics Facts and Description of CPSPE

A. Mission and goals

CPSPE is one of the largest and broadest academic and research program of its kind in the United States engaged in teaching, research, and outreach in polymers. The local rubber companies and The University of Akron (UA) has played an important role in the development of rubber. The city of Akron and Northeast Ohio is at the heart of the highest concentration of polymer companies in the nation with 2,440 manufacturing companies and employing around 130,000 people.

The college grants M.S. and Ph.D. degrees in either Polymer Science or Polymer Engineering. CPSPE has recently started the Professional Masters in Polymer Science and Polymer Engineering and an undergraduate polymer minor program.

Currently there are around 300 graduate students, 31 faculty members, and 35 postdoctoral associates in the CPSPE. CPSPE has successfully started the AMP program in collaboration with 11 Universities in China and currently 117 students are pursuing M.S. degree. The AMP program has graduated 249 Masters students since its inception in 2011. More importantly, 73% of these graduates have enrolled in Ph.D. programs in the United States and other countries. CPSPE has 2300 alumni spread over many countries.

In short, the mission of CPSPE is to train students in the field of polymer science and polymer engineering, conduct cutting edge research and innovation, support polymer industries and create impetus for job growth in Northeast Ohio, and increase the pipeline of students interested in STEM related fields.

B. Services

The Dean's office support the various academic activities of two departments (Polymer Science and Polymer Engineering); support infrastructure to conduct sponsored research; provide testing and training services to local industries; support NSF-funded summer programs for students and teachers; and outreach activities to local schools. The detailed services are outlined in the individual reports of each unit.

C. Resources

(i) Personnel: The administrative organization of the College is divided into two main parts (organization chart is provided in Appendix A). The first part consists of academic functions and the second part consists of operations, testing and training services, NPIC, and finances.

(ii) Department of Polymer Science (Chair, Tianbo Liu): The Department of Polymer Science (DPS) employs two contract professionals (Ms. Melissa Bowman and Ms. Jacqui Clark) and one staff (Ms. Lori Yahner). The Chair also teaches graduate classes and has an active research program with federal and industrial funding. The main functions of DPS are outlined below.

1. Provide administrative support to for 200 graduate students, 20 faculty members and 20 postdoctoral associates.
2. Recruitment and admission of graduate and AMP students
3. Manage the offering, scheduling, and evaluation of graduate and undergraduate courses
4. Manage student awards and fellowships.
5. Arrange interviews and employment opportunities for graduate and AMP students
6. Manage alumni relationship.
7. Management of M.S. and Ph.D. thesis submission on timely manner.
8. Execution of teaching and research contracts for around 150 graduate students.
9. Maintaining academic records.

The administrative activity review for DPS is provided in Appendix B.

(iii) Department of Polymer Engineering (Chair, Sadhan Jana): The Department of Polymer Engineering (DPE) has one contract professional (Ms. Sarah Thorley) and two staffs (Ms. Marcinda Jackson and Ms. Deborah Wilhite). The Chair also teaches graduate classes and has an active research program with federal and industrial funding. The functions of both departments are very similar.

1. Provide administrative support to for 100 graduate students, 10 faculty members and 15 postdoctoral associates.
2. Recruitment and admission of graduate and AMP students.
3. Manage the offering, scheduling, and evaluation of graduate and undergraduate courses.
4. Manage student awards and fellowships.
5. Arrange interviews and employment opportunities for graduate and AMP students
6. Manage alumni relationship.
7. Management of M.S. and Ph.D. thesis submission on timely manner.
8. Execution of teaching and research contracts for around 90 graduate students.
9. Maintaining academic records.

The administrative activity review for DPE is provided in Appendix C.

(iv) Associate Dean of Academic Affairs (Kevin Cavicchi): The Associate Dean is in charge of the following program in CPSPE:

1. Akron Masters Program (AMP) with China and Taiwan.
2. The minor in polymer science and polymer engineering.
3. Rules and procedures for Reappointment, Tenure and Promotion, Joint Appointments, Curriculum Development, Elections and Committee Assignments, and Administrative reviews.
4. Administrative reporting and policy implementation (organize standing committees and serve on the University Academic Assessment committee).

Kevin also teaches graduate classes and has an active research group. The administrative activity review for Associate Dean is provided in Appendix D.

(v) The Director of Operations (Dr. Jason Randall): The Director supervises three instrumentation scientists, one machinist, and one glass blower that operate and run various instrumentations required for research. These research infrastructures are available campus wide and used by faculty members in the College of Engineering and the College of Arts and Sciences. Both DPE and DPS house and maintain instruments for the Magnetic Resonance Center (MRC) in

collaboration with the Department of Chemistry. In addition, DPE and DPS maintain and support users for the NCERCAMP instrumentation for corrosion related research on campus. There are hourly rates to use these research instruments and the revenue is used to pay service contracts and maintain the research instruments. No additional funding is used from the General Funds to support and maintain these research instrumentations. 25% of the salary of the NMR manager is paid from the revenue generated from the usage cost paid by internal and external users.

The main functions of the operation unit are as follows:

1. Manage around 100 research instrumentations. This involves maintenance, training graduate students, and running graduate/undergraduate lab testing.
2. This unit test samples for external users and the funds generated using these services are used for service contracts, repairs, and upgrading new instrumentations.
3. Maintain and run fully functional machine and glass shops.
4. Maintain 7 solution and solid-state NMR instrumentation as part of the MRC center in collaboration with Chemistry.
5. Provide a safe work environment for University employees by enforcing all federal, state, and local safety regulations and developing a strong culture of safety in CPSPE.
6. Maintain a commercial FOM (instrument management system) system that allows users from across campus to sign up for training and usage of research instrumentation.
7. Maintain around 12,000 sq. ft. research space for CPSPE.

The detailed activity of this unit is provided in Appendix E.

(vi) The Director of Outreach (Dr. Paula Watt): The Director supervises Akron Polymer Technology Services (APTS) and Akron Global Polymer Academy (AGPA). AGPA is supported by State funding (Mr. Jason Miller and Mr. John Fellenstein). APTS provides testing and training services and Mr. Doug Terry and Ms. Penelope Pinkston are supported on revenue generated by APTS. Dr. Critt Ohlemacher is partially supported by the revenue generated from testing (50%). Ms. Yaohong Pang is paid from general funds and supports student training in addition to testing samples.

The main functions of the outreach unit are as follows:

1. College promotion and communication. Maintain websites, quarterly newsletters, college Facebook account, and promote over 100 news stories per year.
2. Corporate engagement for sponsored research and technology transfer. Organize industry visits. In FY18, Outreach participated in over 50 meetings with companies to showcase faculty research and the capabilities within the college or to advance specific research commercialization efforts. Manage community industrial graduate assistantship contracts (CIGA).
3. Manage alumni relationships. Plan alumni events such as Polymer Appreciation Day. Maintain communication with around 2000 alumni.
4. K-12 STEM Outreach, student recruitment (AGPA) and student program support. AGPA is supported by State funding and organizes rubber band competition, District 5 Science Day, Science Olympiad, and gives tours and demonstration to approximately 1000 high school students every year. This group also helps in running two programs supported by National Science Foundation, research experience for undergraduates and high school teachers during the summer.

5. Provide corporate services. The net revenue for APTS alone was \$110,000 with over 280 industry engagements for 185 different companies. The outreach staff provides database maintenance, quoting and billing services to cores and faculty within the Polymer College as well as other university groups and faculty who do contract services. The APTS staff supports student research in laboratories in ASEC and Olson. In addition undergraduate and graduate students are engaged in training, testing and processing opportunities with industry.

The detailed activity of this unit is provided in Appendix F.

(vii) The Director of National Polymer and Innovation Center (NPIC) (Mr. Randy Marvel) NPIC center is managed by Randy Marvel and Mr. Patrick Thomas. They maintain a world class pilot processing equipment for both internal and external users from multiple industries and national laboratories.

The main functions of the NPIC center are as follows:

1. Support research and training of Polymer Science and Polymer Engineering students on the NPIC Pilot Processing equipment.
2. Increase engagement with industry and national labs for testing utilizing NPIC equipment on a pay-for-use basis. In FY18 this unit has served 31 industrial customers and generated revenue of \$72K. The collaboration with faculty members have resulted in a successful funding from National Science Foundation.

The detailed administrative activity review of this unit is provided in Appendix G.

(viii) Finance: The Financial Administrator (Steve Steele) and two business office specialists (Sue Hoover and Marj Parrish) help with finances of the college, purchasing (research and teaching labs), financial reports for research grants, and submitting p-card and travel expenses.

The main functions of the financial units are as follows:

1. Budget planning and forecasting for both intramural (general, auxiliary, test/service) and extramural (sponsored program) funds.
2. Development and distribution of useful financial reports to College faculty and key personnel to ensure fiscal prudence of accounts.
3. Preserving overall budget and expenditure control for the College and its Departments.
4. Support for procurement of goods and services for the College.
5. Grant and Contract monitoring and fiscal oversight.
6. Maintenance, processing, and tracking of all College invoices and chargebacks.

The detailed administrative activity review of this unit is provided in Appendix H.

D. Financials

The expenses for supporting administrative staffs/contract professionals from General Funds are provided in Table 1. We do not receive any additional funds to maintain or operate research instrumentation. Those funds are supported by using indirect cost returns, user fees, and services provided to industries. As indicated in the report, the staff in AGPA is supported by the State funding.

Table 1: Salary expenses for Staff/CP in different administrative units within the CPSPE.

Units	FY18
DPS, Staff/CP	\$144,667
DPE, Staff/CP	\$135,276
Operations, Staff/CP	\$502,200
Outreach, Staff/CP	\$227,185
NPIC	\$170,000
Finance, Staff/CP	\$155,268
Dean, Staff	\$39,998
Total	\$1,374,594

The research expenditures for FY 15, 16, and 17 are shown in Table 2. The administrative structure supports teaching and training graduate and undergraduate students. In addition it supports users from the College of Engineering and College of Arts and Sciences. The Operations and NPIC instrument specialists support common research and processing equipment worth around \$20M (140 instruments) and annual research expenditure of around \$9M. The Operations group also maintains research facilities spread out in Goodyear Polymer Center, Olson, and NPIC (a total of 12,000 sq. ft. of space).

Table 2: Research expenditure from grants, testing, and sales in CPSPE in FY 15, 16, and 17 (Data collected from Academic Program Review Table 5).

Fiscal Year	FY15	FY16	FY17
Research Expenditure	\$10,613,000	\$8,952,000	\$8,269,000

E. Equipment and Technology

CPSPE diligently maintains research instrumentation and the visualization center. The Operations group supports maintenance and handles usage of 106 different research equipment. The NPIC group supports 8 pilot plant polymer-processing machines. The testing and training group provides support for 27 testing and processing equipment. The detailed reports of instruments and equipment maintained and supervised are provided by individual units (Appendix E, F, and G).

F. Space

CPSPE operates from four main buildings: Goodyear Polymer Center (7,000 sq. ft.), Olson Building (2,500 sq. ft.), Polymer Engineering Academic Center, and National Polymer Innovation Center (2,500 sq. ft.). In addition, APTS occupies space in the renovated space at East Mill and College Streets.

II. Future Plans

A. Potential Changes

We have four faculty positions open this year and we anticipate that our total enrollment of graduate students will go up to around 400 students. We are also expanding our AMP program to

other universities in China, Taiwan, and India. We anticipate that the AMP program will increase its enrollment as we engage and continue the cooperative relationship with other universities.

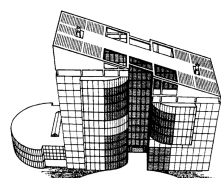
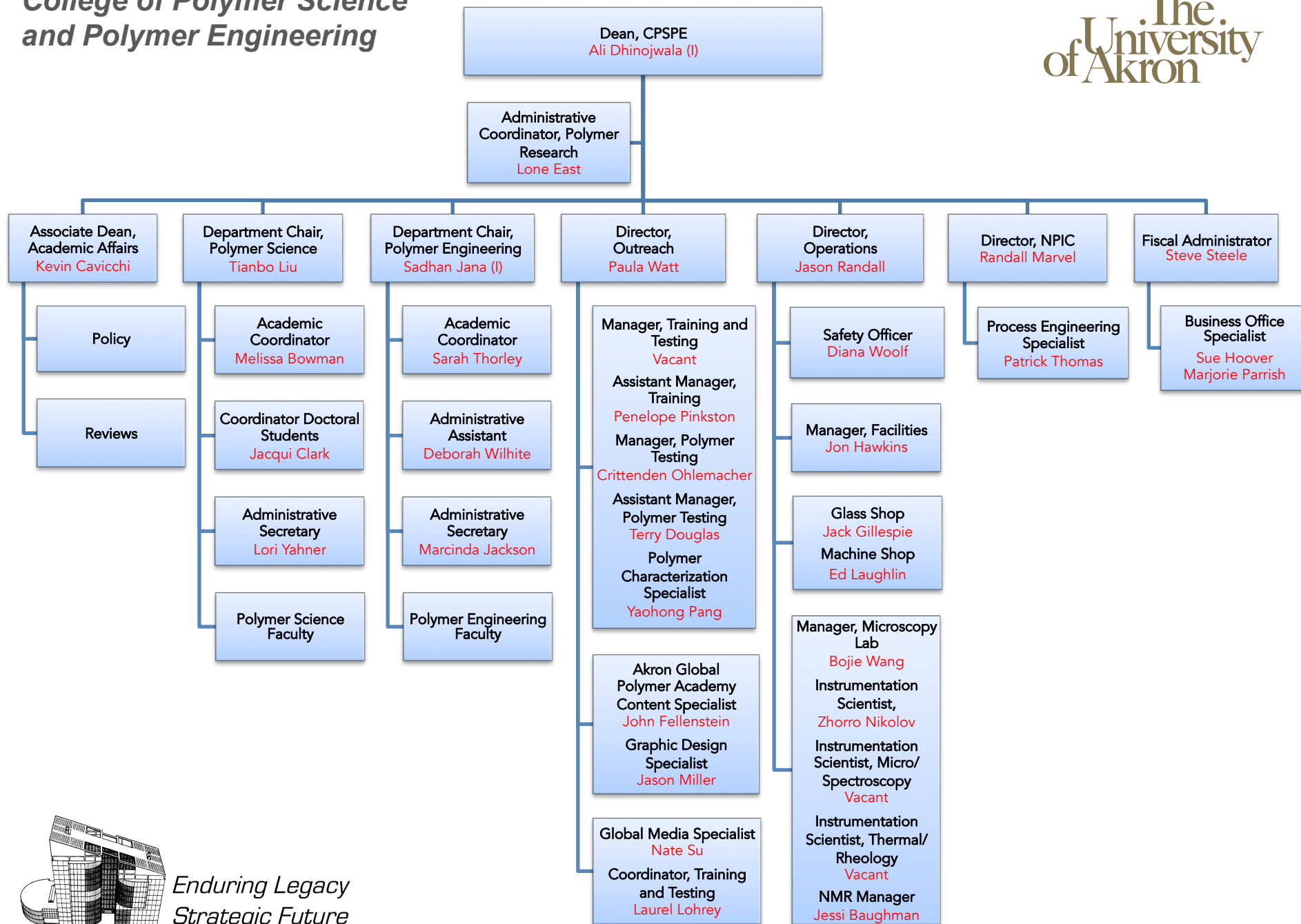
We have an open search for two instrument scientists to help with training and running new instrumentations installed at CPSPE. These instruments are also available for use across campus. Our strategy is to build an infrastructure for world-class polymer research to attract top graduate students and industries. We also plan to enroll more students in our polymer minor program. The administrative organization is designed to help with teaching, research, and outreach activities and we anticipate that we will be able to accommodate this expansion in the next two years.

We have successfully showed the management of research infrastructure by FOM (external software) and this model can be expanded to maintain other instrumentation on campus. This strategy will avoid investing valuable financial resources on duplicating instrumentation on campus. We have in place trained technical staff to maintain and run these research instrumentations and equipment.

B. Trends

Other universities besides UA are also ramping up their Masters' program with China and we need to continue to enhance and market our AMP program. We need more administrative support in traveling to those places for recruitment of foreign students. Currently, we utilize our faculty members to assist the college with recruitment of the AMP students. We also need to address the recent trend of a decrease in applications or enrollment of international students to our Ph.D. program. The academic coordinators in DPS and DPE are working with the admission committee to reach out to colleges in India and China to recruit high quality students. We also anticipate more involvement of staff in DPS and DPE to assist with recruitment of students for our polymer minor program. The detailed trends for different units are covered in the individual reports (Appendix B-F).

College of Polymer Science and Polymer Engineering



*Enduring Legacy
Strategic Future*

Administrative Activities Review (AAR)
Department of Polymer Science

Submitted by Tianbo Liu
July 31, 2018

1 Basic Facts

(a) Mission and goals

The Department of Polymer Science offers three core missions. (1) It trains its students in both the fundamental aspects of polymer science, including traditional polymer synthesis, polymer physics, polymer theory/simulations and important cutting-edge areas such as biomedical engineering, surface and interfacial phenomena, hybrid materials and nanomaterials and electronic materials, thus preparing them to be leaders in polymer research and education. High quality coursework, innovative research problems, modern laboratory facilities, expert faculty, and close interactions with the polymer industry provide a stimulating environment for its students and researchers. Its alumni provide high-quality workforce for employers in academia, industry and government labs from the State of Ohio to many countries in the world. (2) The key curriculum (graduate level) heavily emphasizes state-of-the-art research trainings, which helps to create new fundamental knowledge in the broadly defined macromolecular science and leads the development of multiple leading research directions internationally. The current research projects also generate intellectual properties on environmentally benign processes, materials for energy storage, device fabrication, nanoscale manipulation of surfaces and interfaces, biomedical materials and composite materials. (3) The faculty and students are dedicated to serving the greater polymer community globally with various outreach activities.

(b) Services

Adequate administrative support is essential in fulfilling the above core missions involving more than 200 graduate students (>150 Ph.D. students, ~50 MS students and 8 Professional MS students), ~20 faculty members, and ~20 postdoctoral associates, visiting scholars and scientists typically in residence in the department. The current administrative support personnel – Melissa Bowman, Jaqueline Clark (both contract professional) and Lori Yahner (staff) -- conduct the following critical and essential job functions. The ones designated with asterisks(*) are critical functions.

(1) Recruitment* (Bowman)

- a. Face-to-face contacts are established with approximately 160 interested domestic students at various recruiting fairs every year. Follow-up includes e-mail and phone contact, campus visits, and newsletters.
- b. Participate on Admissions Committee, including pulling credentials from NOLJ, preparing spreadsheet on applicant data, and reviewing >100 graduate admission applications.
- c. Assist faculty members to coordinate NSF-funded REU program to attract students nationwide who are interested in polymer research and are potential applicants for our program.

- d. Meet students and introduce the program at national conferences
- e. Corroborate data from the student AMP coordinator to determine incoming AMP class.
- f. Coordinate a Spring prospective student weekend in order to convert offers to acceptances.
- g. Coordinate New Student Orientation program at the beginning of Fall term including presenting to students on department life, welcome packets, use of PSSO staff, and updates to DPS Student Guidebook.

Critical partners:

Nationally: American Chemical Society (ACS) and Southeast Regional ACS (SERMACS); American Institute of Chemical Engineers (AIChE); American Physical Society (APS)
 Diversity: National Society of Black Engineers (NSBE); Society for Advancement of Chicanos and Native Americans in Science (SACNAS); Society of Women Engineers (SWE); Society of Hispanic Professional Engineers (SHPE)

Locally: Ashland, Baldwin-Wallace, Bowling Green, Hiram College, Kent, Malone, Mount Union, Ohio Wesleyan, Walsh, West Virginia University

Customers: Students pursuing undergraduate degrees in science and engineering

Key performance analysis: Contacts are made with typically ~200 students

Brief assessment: An essential function to attract students from science and engineering to our interdisciplinary program.

(2) Courses* (Bowman)

- a. A set of core and elective courses are scheduled each semester for students pursuing thesis-based MS and PhD degrees, professional MS degree, and polymer minor.
- b. Monitor student enrollment to ensure all students are in compliance with departmental and University rules. Maintain SCH statistics.
- c. Ensure textbooks are entered into the system and ordered
- d. Ensure grades are entered for all classes and course sections.
- e. Translate teaching into appropriate loads for faculty on Term Academic Activity Reports (TAARs).

Critical partners: Scheduling office, Registrar's office, faculty, bookstore

Customers: Current fulltime and part-time graduate students

Key performance analysis: Timely completion of core and elective courses so as to advance students towards timely graduation

Brief assessment: Essential to ensure core courses are offered on a regular basis as well as ample elective courses; essential to ensure that all courses are scheduled properly and do not conflict with other departmental activities.

(3) Student Awards (Bowman)

Coordinate the process for student awards each year, including Eastman Fellowship, Ohio Rubber Group Graduate Student Award, Frank N. Kelley Graduate Student Award, Goodyear

Tire & Rubber Co. Fellowship, The Maria D. Ellul and Jeffrey L. Sain Endowed Fellowship; Victor Montenyohl Scholarship, Lord Corp. Fellowship; Lubrizol Fellowship; Richard L. Waldman Jr. Scholarship, Ronald Ebby Award; Maurice Morton Award; Richard L. Waldman Jr. Scholarship; and Eastman Travel Awards.

Critical partners: Office of Development, donors, Student Financial Aid Office

Customers: Both doctoral and master's students

Key performance analysis: Successful selection of student award recipients

Brief assessment: Notifying students of award opportunities, collecting credentials and working with faculty for selections, following through on making the actual awards

(4) Employment Services (Bowman)

Work with companies and government contacts to distribute job openings to students and alumni, coordinate company visits to CPSPE for interviewing, and maintain updates to Employment section of the DPS website via Nate Su.

Critical partners: Industry, government, and academic units

Customers: Students and alumni

Key performance analysis: Growth in companies coming to CPSPE to recruit and increase in job opportunities sent to department.

Brief assessment: Successful placement of graduates in industry or government sectors or in academic programs for furthering their education.

(5) Alumni (Bowman, Clark)

- a. Maintain relationships with more than 1,704 alumni via e-mail, faculty updates, direct contact, LinkedIn, and exit surveys.
- b. Generate graduation data and add to alumni database.
- c. Coordinate yearly selection of Distinguished Alumni Awardee.

Critical partners: Alumni and faculty

Customers: Master's and doctoral students

Key performance analysis: Increase in students maintaining contact with the department after graduation; more alumni endowments.

Brief assessment: Response rates from alumni, clicks to open college newsletters, and donations.

(6) Execution of plan of studies for thesis-based M.S. and Ph.D. degrees* (Clark)

M.S. and Ph.D. students are assisted to complete on time respectively a minimum of 30 and 96 credits of course and research work including defenses of research proposal and thesis. Schedule formal and research seminars for graduate students.

Critical partners: Graduate School, International Office, Registrar's Office, faculty

Customers: Master's and doctoral students

Key performance analysis: Successful and timely completion of degree, high retention rate.

Brief assessment: Ensuring students are making degree progress, reviewing student Degree Progress Reports (DPRs), manually overriding the DPR system to ensure courses are paired correctly with requirements; monitoring enrollments for correct course and program levels.

(7) Execution of teaching and research assistantship contracts* (Clark)

Some >150 PhD students are supported by TA and RA contracts every year.

Critical partners: Graduate School, International Center, Grant Accounting, Registrar's Office

Customers: Full-time doctoral students

Key performance analysis: Timely submission of graduate assistantship contracts

Brief assessment: Ensuring students are enrolled properly, monitoring account codes and working with Grant Accounting and Graduate School on funding, monitoring TOEFL speaking scores of international students.

(8) Hiring of post-doctoral researchers, visiting scientists, summer interns, and visiting faculty* (Yahner)

Critical partners: Office of International Programs, HR

Customers: International visiting scientists, post-doctoral scholars, high school students.

Key performance analysis: Timely completion of paperwork for visa applications, arrival orientation, paperwork, and smooth departure process

Brief assessment: This is a critical function for our international non-student visitors

(9) Maintaining departmental records of faculty meeting* (Clark)

Critical partners: None

Customers: Faculty members, department chair

Key performance analysis: Accurate record keeping to reflect faculty votes, decisions, and curriculum changes

Brief assessment: An integral part of departmental administrative process.

(10) Scheduling departmental symposia and visitors' lectures* (Clark)

Assist the visitors on their flight schedules, local transportations, meals and seminar abstracts. Collect receipts for reimbursements. Prepare and post flyers for internal and external audience. Distribute/collect sign in sheets for graduate students for the seminars.

Critical partners: Faculty, college administration, other campus departments and offices

Key performance analysis: smooth and successful presentations made by eminent scholars, more collaborations.

Brief assessment: An important part of efforts to promote communications and collaborations between DPS researchers and outside colleagues.

(11) Other* (Clark, Bowman and Yahner)

Support faculty search process and facilitate hires; special events such as Polymers Appreciation Day; hiring and supervision of student assistants; maintain room usage and online calendar system; monitor building access; monitor copier access; 3rd floor photo display of all current students; purchasing; room assignments and keys; building maintenance issues

Critical partners: Faculty, college and university administration, other campus departments and offices

Customers: Students, faculty, contract professionals, staff, and student assistants.

Key performance analysis: smooth departmental operation.

Brief assessment: A critical need for proper functioning of the department.

As reflected above, we currently have adequate administrative staff support to maintain our current functions courtesy to the consistently high efficiency of Melissa Bowman and Jacqueline Clark during the past years. For the coming 2018-19 academic year, the enrollment of graduate students at all levels is expected to take a dip to ~180 due to various reasons. I am anticipating that the number will increase again in next 5 years to ~200 – 250, especially at PhD level to about 150 – 180 as the department is recruiting new faculty members and faculty would receive more individual and block grants. We can accommodate such an expansion of the student count if the current administrative staff members are retained.

Administrative Activities Review (AAR)
Department of Polymer Engineering

Submitted by Sadhan C. Jana
July 31, 2018

1 Basic Facts

(a) Mission and goals

The Department of Polymer Engineering offers three core missions. (1) It trains its students in state of the art technologies of polymeric materials, thus preparing them to be leaders in polymer research and education. High quality coursework, innovative research problems, modern laboratory facilities, expert faculty, and close interactions with the polymer industry provide a stimulating environment for its students and researchers. Its graduates, former research scientists, and research collaborators provide well-trained workforce for employers in the State of Ohio and throughout the world. (2) The research based curriculum helps generate new intellectual properties on environmentally benign processes, materials for energy storage, device fabrication, new and novel coatings, materials for water and air purification, nanoscale manipulation of surfaces and interfaces, and composite materials. (3) The faculty and students are dedicated to serving the greater polymer community in Akron and northeast Ohio with various outreach activities.

(b) Services

Adequate administrative support is essential in fulfilling the above core missions involving more than 100 graduate students, 10 faculty members, and 15 visiting scholars and scientists typically in residence in the department. The current administrative support personnel -- Sarah Thorley (contract professional), Deborah Wilhite and Marcinda Jackson (both staff) -- conduct the following critical and essential job functions. The ones designated with asterisks(*) are critical functions.

(1) Recruitment* (Thorley)

- a. Face-to-face contacts are established with approximately 125 interested domestic students at various recruiting fairs every year. Follow-up includes e-mail and phone contact, campus visits, and newsletters.
- b. Participate on Admissions Committee, including pulling credentials from NOLJ, preparing spreadsheet on applicant data, and reviewing 50-80 graduate admission applications.
- c. Corroborate data from the student AMP coordinator to determine incoming AMP class.
- d. Coordinate a Spring prospective student weekend in order to convert offers to acceptances.
- e. Coordinate New Student Orientation program at the beginning of Fall term including presenting to students on department life, welcome packets, use of PESO staff, and updates to DPE Student Guidebook.

Critical partners:

Nationally: American Chemical Society (ACS) and Southeast Regional ACS (SERMACS);
American Institute of Chemical Engineers (AIChE); American Physical Society (APS)

Diversity: National Society of Black Engineers (NSBE); Society for Advancement of
Chicanos and Native Americans in Science (SACNAS); Society of Women Engineers
(SWE); Society of Hispanic Professional Engineers (SHPE)

Locally: Ashland, Baldwin-Wallace, Bowling Green, Hiram College, Kent, Malone, Mount
Union, Ohio Wesleyan, Walsh, West Virginia University

Customers: Students pursuing undergraduate degrees in science and engineering

Key performance analysis: Contacts are made with typically 125-150 students

Brief assessment: An essential function to attract students from science and engineering to
our interdisciplinary program.

(2) Courses* (Thorley)

- a. A set of core and elective courses are scheduled each semester for students pursuing
thesis-based MS and PhD degrees, professional MS degree, and polymer minor.
- b. Monitor student enrollment to ensure all students are in compliance with departmental
rules. Maintain SCH statistics.
- c. Ensure textbooks are entered into the system and ordered
- d. Ensure grades are entered for all classes and course sections.
- e. Translate teaching into appropriate loads for faculty on Term Academic Activity Reports
(TAARs).

Critical partners: Scheduling office, Registrar's office, faculty, bookstore

Customers: Current fulltime and part-time graduate students

Key performance analysis: Timely completion of core and elective courses so as to advance
students towards timely graduation

Brief assessment: Essential to ensure core courses are offered on a regular basis as well as
ample elective courses.

(3) Student Awards (Thorley)

Coordinate the process for student awards each year, including Eastman Fellowship, Ohio
Rubber Group Graduate Student Award, Frank N. Kelley Graduate Student Award, Victor
Montenyohl Scholarship, Richard L. Waldman Jr. Scholarship, and Eastman Travel Awards.

Critical partners: Office of Development, donors, Student Financial Aid Office

Customers: Both doctoral and master's students

Key performance analysis: Successful selection of student award recipients

Brief assessment: Notifying students of award opportunities, collecting credentials and
working with faculty for selections, following through on making the actual awards

(4) Employment Services (Thorley)

Work with companies and government contacts to distribute job openings to students and alumni, coordinate company visits to CPSPE for interviewing, and maintain updates to Employment section of the DPE website via Nate Su.

Critical partners: Industry, government, and academic units

Customers: Students and alumni

Key performance analysis: Growth in companies coming to CPSPE to recruit and increase in job opportunities sent to department.

Brief assessment: Successful placement of graduates in industry or government sectors or in academic programs for furthering their education.

(5) Alumni (Thorley)

- a. Maintain relationships with more than 600 alumni via e-mail, faculty updates, direct contact, LinkedIn, and exit surveys.
- b. Generate graduation data and add to alumni database.
- c. Coordinate yearly selection of Distinguished Alumni Awardee.

Critical partners: Alumni and faculty

Customers: Master's and doctoral students

Key performance analysis: Increase in students maintaining contact with the department after graduation.

Brief assessment: Response rates from alumni, clicks to open college newsletters, and donations.

(6) Execution of plan of studies for thesis-based M.S. and Ph.D. degrees* (Thorley and Wilhite)

M.S. and Ph.D. students are assisted to complete on time respectively a minimum of 30 and 96 credits of course and research work including defenses of research proposal and thesis.

Critical partners: Graduate School, International Office, Registrar's Office, faculty

Customers: Master's and doctoral students

Key performance analysis: Successful and timely completion of degree

Brief assessment: Ensuring students are making degree progress, reviewing student Degree Progress Reports (DPRs), manually overriding the DPR system to ensure courses are paired correctly with requirements; monitoring enrollments for correct course and program levels.

(7) Execution of teaching and research assistantship contracts* (Wilhite)

Some 90 PhD students are supported by TA and RA contracts every year.

Critical partners: Graduate School, International Center, Grant Accounting, Registrar's Office

Customers: Full-time doctoral students

Key performance analysis: Timely submission of graduate assistantship contracts

Brief assessment: Ensuring students are enrolled properly, monitoring account codes and working with Grant Accounting and Graduate School on funding, monitoring TOEFL speaking scores of international students.

- (8) Hiring of post-doctoral researchers, visiting scientists, summer interns, and visiting faculty* (Jackson)

Critical partners: Office of International Programs, HR

Customers: International visiting scientists, post-doctoral scholars, high school students.

Key performance analysis: Timely completion of paperwork for visa applications, arrival orientation, paperwork, and smooth departure process

Brief assessment: This is a critical function for our international non-student visitors

- (9) Maintaining departmental records of faculty meeting* (Jackson)

Critical partners: None

Customers: Faculty members, department chair

Key performance analysis: Accurate record keeping to reflect faculty votes, decisions, and curriculum changes

Brief assessment: An integral part of departmental administrative process.

- (10) Other* (Thorley, Wilhite, Jackson)

Support faculty search process and facilitate hires; special events such as Polymers Appreciation Day; supervision of student assistants; manage use of PEAC by outside departments; maintain room usage and online calendar system; monitor building access; monitor copier access; 4th floor photo display of all current students; purchasing; room assignments and keys; building maintenance issues

Critical partners: Faculty, college and university administration, other campus departments and offices

Customers: Students, faculty, contract professionals, staff, and student assistants.

Key performance analysis:

Brief assessment: A critical need for proper functioning of the department.

As reflected above, we currently have adequate administrative staff support to maintain our current functions courtesy to the high efficiency of Sarah Thorley and nice adjustment of Deborah Wilhite to her new role. I am anticipating an increase of graduate student enrollment, especially at PhD level in next 5 years to about 120 as the department adds new faculty members and some of the center grant and block grant activities pan out. We can accommodate such an expansion of the student count if the current administrative staff members are retained. I anticipate loss of one staff member (Thorley) to a higher salary position elsewhere.

Associate Dean for Academic Affairs, College of Polymer Science and Polymer Engineering

I. Basic Facts and Description of the Unit

a. Mission and goals: The role of the Associate Dean for academic affairs is to oversee the academic affairs of CPSPE. The goals of this office are to work to assist in the offering of academic programs in Polymer Science and Polymer Engineering of values to students from the undergraduate to graduate level that bring positive benefit to the College, the University, and the local and national polymer industry.

b. Services:

i. Academic Programs

While the individual Departments handle their specific degree programs, the Associate Dean is in-charge of administering three programs at the college-level:

Master of Polymer Science and Polymer Engineering

Key partners: Local polymer industry

Akron Masters Program (AMP)

Key partners: Partner Universities in China and Taiwan

Minor in Polymer Science and Polymer Engineering

Key partners: Honors College, College of Engineering, Departments of Chemistry, Physics, and Biology

The details of these programs are included in the academic program review. While the AMP was started in 2011, the other two programs officially started in fall 2017 after significant work with curriculum proposals and approval at the University (minor and Masters) and state (Masters) level. These programs were developed to leverage the strength of the college in polymers to offer tailored academic programs to students outside the traditional research-based graduate degree programs; expanding the academic reach of the College and its benefit to the University and the community. As new programs targeting different student populations there is excellent opportunity for growth. However, there are challenges in recruiting students due to inherent complexity in launching new programs and competition from other Universities.

ii. Rules and Procedures

The Associate Dean serves as a resource to make sure the appropriate rules and procedures are followed for various activities that occur in the College including: Reappointment, Tenure and Promotion; Joint Appointments; Curriculum Development; Elections and Committee Assignments; and Administrative reviews. In this role the Associate Dean has tried to streamline these processes as much as possible to avoid unnecessary errors and encourage full-participation in these faculty-driven processes.

iii. Administrative Reporting and Policy Implementation

The Associate Dean works with the Departments and other Units across the University to provide reports and implement policies. These include both standing committees and ad-hoc work. For example, the Associate Dean serves on the University Academic Assessment committee..

c. Resources

Personnel: One part-time graduate student assists with the execution of the AMP program dealing mainly with guiding students through the admission process from the initial contact to matriculation.

The administrative assistant in the College Dean's office assists the Associate Dean in administering the Master of Polymer Science and Polymer Engineering program and paper work associated with the various responsibilities of the position.

Financials:

Equipment and Technology: The Associate Dean requires an up-to date laptop computer to efficiently complete duties.

Space: The Associate Dean maintains an office in the College offices in the GDYR building in addition to their faculty office in PEAC.

II. Future Plans

a. **Potential Changes:** With the successful launch of two new degree programs some of the responsibilities for these programs will be spread-out over the College faculty members to lessen the workload of the Associate Dean, which is unsustainable while teaching the standard course load for a full-time faculty in CPSPE and maintaining a competitive research program at the level expected for a full-time faculty member in CPSPE.

b. **Trends:** Various outside factors will challenge the success of academic programs including increased competition from other Universities; changes to rules and policies both internally and external to the University; and shifts in demand due to economy or demographics. Therefore, the College will continue to monitor and advise on the impact of these trends on our programs and work with the faculty, the administration and outside partners to adapt these programs or develop new initiatives to remain globally competitive and at the academic forefront of Polymer Science and Polymer Engineering.

CPSPE Operations

I. Mission and Goals:

The primary mission of the Operations group of CPSPE is to develop and maintain the facility and research infrastructure capability necessary for a globally recognized academic research and teaching program.

It's short-term goals, which must be constantly maintained, are:

1. To train and assist students in the operation of scientific instrumentation to advance campus research and student learning, and to maintain this instrumentation.
2. To provide a safe working environment in the labs and educate students on safe working habits.
3. To create custom glass and metal components to meet faculty research demands.
4. To manage daily facilities needs and issues.

It's long-term goals, all of which are in partnership with CPSPE faculty, are:

1. To determine the future instrumentation requirements to remain at the forefront of materials science characterization, and to assist in their acquisition.
2. To foster and achieve a pro-active safety culture among faculty, staff, and students.
3. To assist in the design and renovation of laboratories to meet future facility needs.

II. Services:

The primary services are Core Instrument Facilities, the CPSPE Safety Office, a Glassblowing Shop, a Machine Shop, and Facilities Management.

Core Instrument Facilities (40%)

Overview of Function: To facilitate research and education on the characterization and processing techniques associated with the fields of Polymer Science and Polymer Engineering.

Critical Partners: The Core Facilities are vital to the research efforts across campus, with most equipment not duplicated by other units. Core facility personnel also oversee equipment owned by NCERCAMP. CPSPE partners with Chemistry for the personnel in UA's Magnetic Resonance Center (MRC).

Customers: The equipment and services are available to all students and faculty at the University of Akron. Additional customers are external academic and industrial users.

Key Performance Analysis: Greater than 350 individual users have been assisted and trained across 72 pieces of scientific research equipment, with most users trained on multiple instruments. Over 66 research groups have been assisted and advised (DPS (17), DPE (13), Chemical and Biomolecular Engineering (15), Biomedical Engineering (4), Biology (6), Mechanical Engineering (5), Civil Engineering (2), ECE (2), Dietetics (2)). Industrial clients include Goodyear and Omnova. For the SOA facility alone, there are 29 different external industrial customers who have paid for sample analysis, many with repeat visits.

Brief Assessment: The Core Facilities advance the research and educational mission of UA and provides valuable interactions with local and national industry. The instrument load per specialist has been unsustainably high for the past year at approximately 36 pieces of equipment per specialist. The specialists could not keep up with the training and maintenance demands of the equipment. The recent approval of two instrument specialist positions will bring the individual load to roughly 18 instruments per specialist, which is more manageable.

Associated Personnel: 4.2 FTE, including 2 recently approved positions. An additional FTE is supplied to the joint MRC.

Associated Equipment and Technology: Approximately \$9M in instrumentation in CPSPE, plus an additional approximately \$1.5M purchased by NCERCAMP. List in Appendix.

Associated Space: Instrumentation is housed in approximately 12,000 square feet of lab space across Goodyear (2,500), Olson (7,000), and NPIC (2,500).

Safety Office (20%)

Overview of Function: Provide a safe work environment for University employees by enforcing all federal, state, and local safety regulations and developing a strong culture of safety in CPSPE.

Critical Partners: EOHS, Emergency Management Group, UAPD, PFOC and Capital Planning. While there is interaction with all of these groups, the effort by the CPSPE safety office is not a duplication of effort by University units, such as EOHS, but complements their activities.

Customers: CPSPE students, faculty and staff, students in Biomedical Engineering and Chemistry working in CPSPE, EOHS, PFOC, and the UA Administration

Key Performance Analysis: The office was instrumental in reducing the number of CPSPE recordable injuries to zero in 2017, a first for UA. It has orchestrated periodic lab and building cleanup activities, implemented standard laboratory safety rules, and conducts the annual safety training activities for CPSPE students. The office also developed the current Injury Report template used by the University-at-large.

Brief Assessment: Safety is a continuous process that requires constant attention to maintain and is vital to an effective research program. The safety culture in CPSPE has significantly increased. The safety officer willingly absorbed duties due to staff departures including project management, capital asset tracking, building security access, and instrumentation software management. This is now being rebalanced due to hiring of an operations leader.

Associated Personnel: 1.3 FTE

Associated Equipment and Technology: calibration kit for gas monitors

Glassblowing Shop (10%)

Overview of Function: Design and fabricate glassware according to the specifications outlined by research personnel. Performs maintenance and repair of scientific glass apparatuses for academic laboratories.

Critical Partners: This is the only glass shop on the University of Akron and serves the entire University.

Customers: The glass shop primarily serves the research faculty and students of CPSPE, but it also performs work for the College of Engineering and the Department of Chemistry (Figure 1).

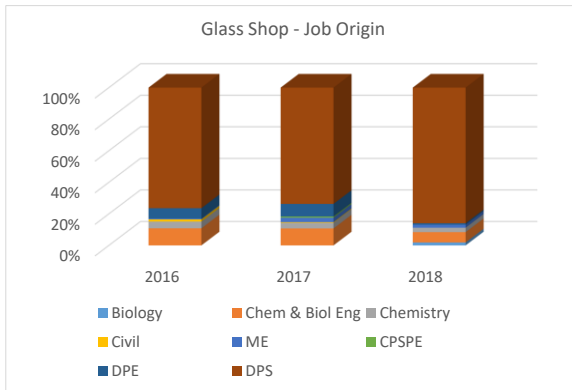


Figure 1. Origin of work requests for the glass shop.

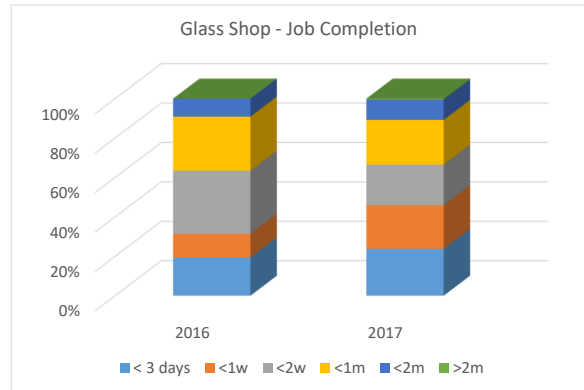


Figure 2. Job completion rate of the glass shop.

Key Performance Analysis: The total number of jobs for the glass shop were 212 in 2016, 251 in 2017, and 107 in 2018 (as of July 17th). The facility is not underutilized and shows a steady workload over the past three years. The job completion rates for 2016 and 2017 are shown in Figure 2. The facility operates efficiently with over 50% of the jobs completed within 2 weeks or less.

Brief Assessment: A glassblowing shop is essential to the research efforts in CPSPE and UA, especially in the area of synthetic chemistry. There are only three commercial glass blowing operations in the Akron and Cleveland area, all of which primarily concentrate on art glass not specialized laboratory glassware.

Associated Personnel: 1.1 FTE

Associated Equipment and Technology: Flame lathe, torches, mounts, and kilns.

Associated Space: GDYR 205, 756 sq ft

Machine Shop (10%)

Overview of Function: Provide mechanical engineering and fabrication of scientific equipment and specialized building systems and machine parts to support the research and teaching effort of the University.

Critical Partners: The machine shop works at full capacity. This reduces the load on other machine shops in different Departments in the College of Engineering.

Customers: The primary customers of the machine shop are the students and faculty of CPSPE, however work has been done for Chem. & Biol. Eng, Biology, Chemistry, and Locking Systems.

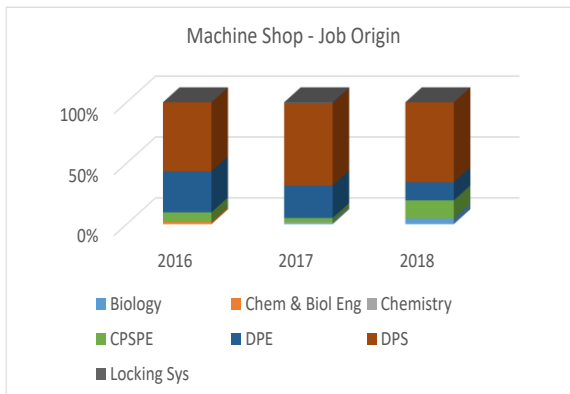


Figure 3. Origin of work requests for the machine shop.

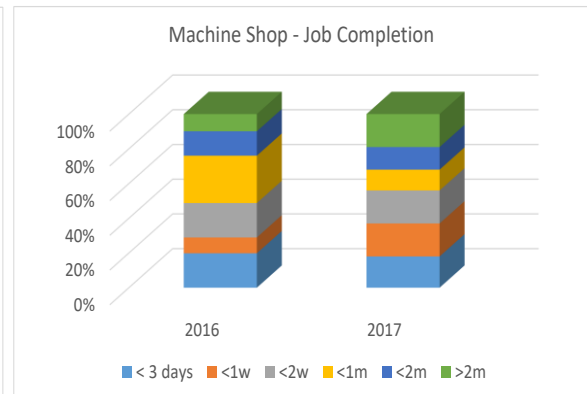


Figure 4. Job completion rate of the machine shop.

Key Performance Analysis: The machine shop had 196 jobs in 2016, 138 in 2017, and 87 in 2018 (as of July 17th). While at capacity, the shop is still efficient with a completion rate of 49% and 56% in 2 weeks or less in 2016 and 2017, respectively.

Brief Assessment: The machine shop is fully utilized and is essential to the research mission of CPSPE. The current Senior Engineering Technician in charge of the shop is a specialist in custom laboratory equipment design and fabrication.

Associated Personnel: 1.1 FTE

Associated Equipment and Technology: 1 Haas Super Mini Mill CNC milling machine, 1 Bridgeport Series II manual milling machine, 1 Clausing Colchester 15 inch chuck lathe, 1 Clausing 13 collet lathe, 1 Lincoln 275 amp AC/DC welder, 2 band saws, 1 drill press, Starrett HD400 optical comparator and other inspection equipment, and a large selection of tooling, fasteners, and fittings.

Associated Space: GDYR 136, 1150 sq ft

Facilities Management (20%)

Overview of Function: Oversee building, maintenance, special services, and grounds operations for CPSPE in conjunction with the University Facilities functions.

Critical Partners: The CPSPE facilities manager works closely with PFOC, locking systems, shipping and receiving, and outside contractors to make sure that any physical facilities issues and preventative maintenance are scheduled and completed. This includes items (compressors, dryers) not overseen or maintained directly by PFOC. Additionally, the role handles compressed gas delivery and return, and ensures packages for the laboratories are delivered when ordered.

Customers: The primary customers are the students and faculty of DPE, DPS and CPSPE. The breakdown of the job requests by unit is shown in Figure 5.

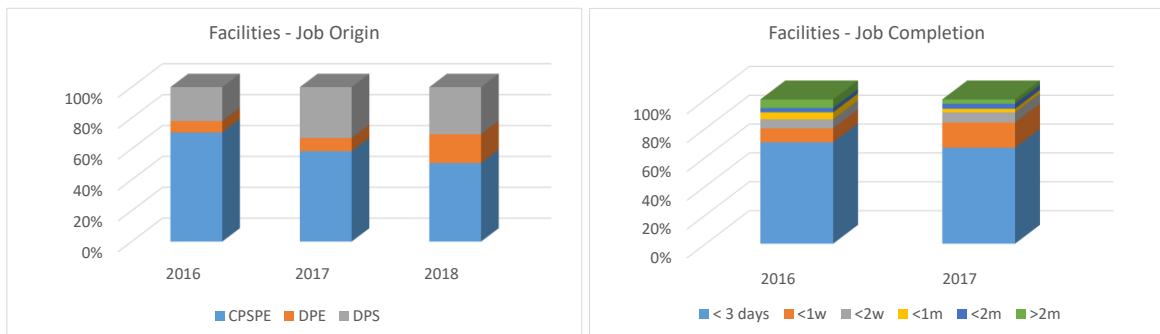


Figure 5. Origin of work requests for the facilities manager. Figure 6. Job completion rate of the facilities manager.

Key Performance Analysis: Facilities had 269 job requests in 2016, 200 in 2017, and 59 in 2018 (as of July 17th). More than 60% of requests are completed in three days or less in 2017 and 2018.

Brief Assessment: Facilities management is essential to efficient operation and upkeep of the facilities in CPSPE.

Associated Personnel: 1.3 FTE

Associated Equipment and Technology: building compressors and dryers for lab and shop air in GDYR, Olson, NPIC, APTC; assortment of hand and power tools

Associated Space: Entire GDYR, PEAC, NPIC, APTC buildings, and basement through 2nd floor of Olson Research Center.

III. Resources

Personnel

The list of associated personnel and their service area is found below in Table 1. There are 8 direct reports and 1 dotted relationship.

Title	Name	Related Service
Director of Operations	Jason Randall	Core Instruments, Safety, Facilities
Manager, Microscopy	Bojie Wang	Core Instruments
Instrumentation Scientist	Zhorro Nikolov	Core Instruments
Instrumentation Scientist	<i>Recently Approved, Vacant</i>	Core Instruments
Instrumentation Scientist	<i>Recently Approved, Vacant</i>	Core Instruments
Safety Officer	Diana Woolf	Safety
Laboratory Glassblower	Jack Gilespie	Glassblowing Shop
Sr Engineering Technician	Ed Laughlin	Machine Shop
Manager, Facilities	Jon Hawkins	Facilities Management
Manager, MRC*	Jessi Baughman	Contribution to MRC

Table 1. Personnel list for CPSPE Operations

The structure is given in Figure 7.

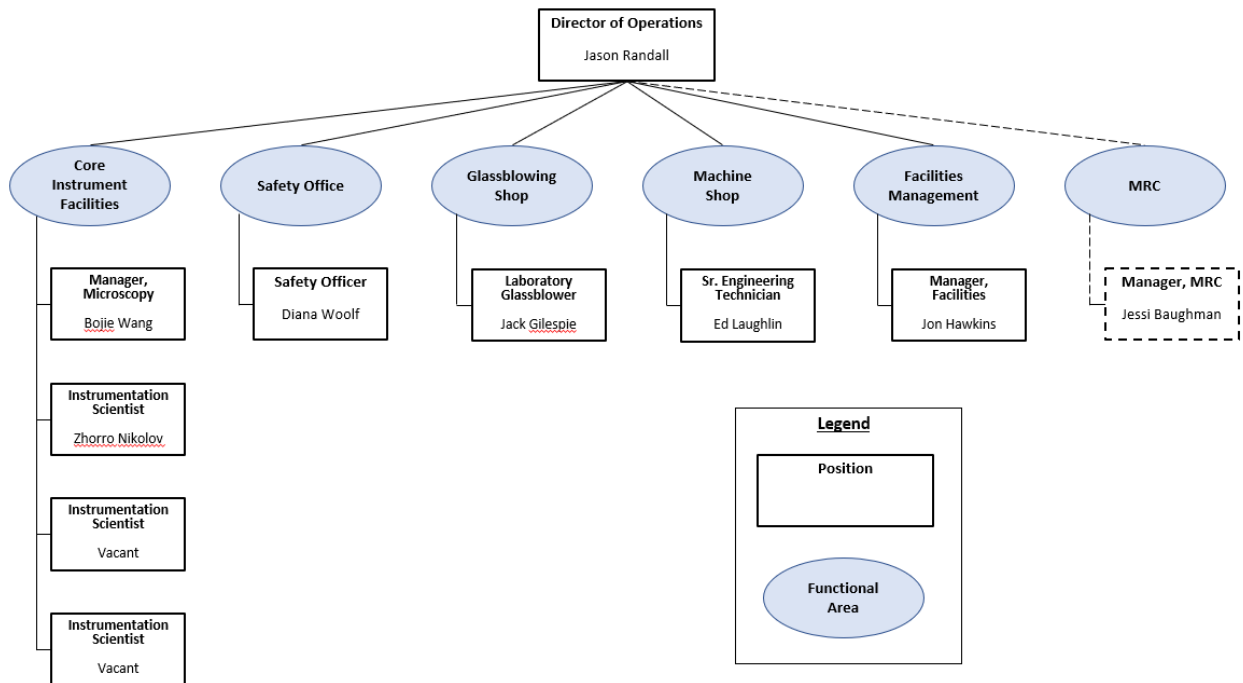


Figure 7. Structure of CPSPE Operations

Financials

Equipment and Technology: When relevant, provided in section II, Services.

Space: When relevant, provided in section II, Services.

IV. Future Plans

Potential Changes

Core Instrumentation: The recent approval of two Instrumentation Scientists will help prevent further equipment breakdowns and eliminate the backlog of training requests on the instruments.

Possible new instrument purchase options include: FTIR with advanced accessories, Optical profilometer, UV-VIS-NIR instrument, cryo-high resolution TEM. High-dollar-value items will be acquired using grants.

Safety: Training students in and implementing another round of 5S in the laboratories is anticipated, pending faculty support.

Facilities: Laboratories in GDYR and Olson will be beginning renovations within the next few months as part of a project conducted by Capital Planning. Operations will provide local support.

Trends

IT resources across campus to support laboratories remain backlogged. Director of Operations will act as a second source of local support as time allows.

Nationwide, the safety of laboratory spaces on university campuses is being increasingly scrutinized due to being behind best practices in industry. Safety regulations are continuously revised, most often upwards towards increased strictness. The Safety Office's role is to make sure CPSPE keeps pace with these trends.

New instruments and techniques continue to evolve with advances in science and engineering. The Core Instrument service will work with the faculty to identify where new investment should be made in instrumentation to keep the facility at the forefront of polymer research.

Buildings and facility systems are constantly undergoing the effects of aging. Resources must be devoted to facilities upkeep to prevent failures and lost research time, as well as maintain a sufficient aesthetic necessary to assist in the recruitment of new students.

V. Appendix

Equipment list

Instrument	Core	Building	Room
Bruker ICON AFM	Microscopy	NPIC	105A
FEI Scanning Transmission Electron Microscope	Microscopy	Goodyear	108
Hommel T500 Surface Profiler	Microscopy	Olson	201E
JOEL Scanning Electron Microscope	Microscopy	Goodyear	109
JOEL Transmission Electron Microscope	Microscopy	Goodyear	107
LEICA EM UC7 Ultramicrotome	Microscopy	Goodyear	118
Leitz Laborlux 12 Polarized Optical Microscope	Microscopy	Olson	201E
Messer C Knifemaker	Microscopy	Goodyear	109
Olympus BX51 Optical Microscope - Research	Microscopy	Goodyear	106
Olympus Fluoview 1000 MPI Multiphoton Microscope	Microscopy	NPIC	210
Optical Microscope Olympus BX-51	Microscopy	Olson	201E
RMC Powertome Microtome	Microscopy	Olson	201E
SPI Sputter Coater	Microscopy	Goodyear	105
Sputter Coater	Microscopy	Olson	25
Veeco AFM	Microscopy	Olson	25
Zeiss Laser Scanning Confocal Microscope	Microscopy	NPIC	105
Contact Angle Goniometer	Molecular Characterization	Goodyear	1011
Kruss DSA100 Contact Angle Goniometer	Molecular Characterization	Goodyear	425
EcoSEC HLC-8320GPC	Molecular Characterization	Goodyear	127
EcoSEC HLC-8320GPC	Molecular Characterization	Goodyear	127
EcoSEC HLC-8320GPC	Molecular Characterization	Goodyear	127
EcoSEC HLC-8320GPC	Molecular Characterization	Goodyear	127
EcoSEC HLC-8320GPC	Molecular Characterization	Goodyear	127
EcoSEC HLC-8321GPC/HT	Molecular Characterization	Goodyear	127
Malvern Zetasizer Zeta Potential Instrument	Molecular Characterization	Goodyear	228
Oxygen Permeation Analyzer 8001	Molecular Characterization	Olson	201C
500 MHz Varian NMR Liquids	NMR	Goodyear	103A
500 MHz Varian NMR Solids Only	NMR	Goodyear	103A
Advance III 300WB High Performance Digital NMR	NMR	Goodyear	103A
Barwell IM260 Injection Rubber Molding	Processing	Olson	102
Battenfeld BA 800 CDC Injection Molder	Processing	Olson	107

Beringer Jet Cleaner JCP-1724	Processing	Olson	107
Brabender Plasticorder Mixer	Processing	Olson	102
Brabender Plasti-corder Mixer REE6	Processing	Olson	102
Brabender Plastigraph CEE6	Processing	Olson	102
Carver Press	Processing	Goodyear	228
Carver Press	Processing	Olson	102
Compression Molding Machine	Processing	Olson	102
Dvis Standard Single Screw Extruder	Processing	Olson	107
Grieve-Hendry Oven	Processing	Olson	107
Lab Pelletizer	Processing	Olson	107
Leistritz AG Twin Screw Extruder	Processing	Olson	107
Maxi-Blast Plastic Blast Cleaner	Processing	Olson	107
Microtruder Film Extruder	Processing	Olson	107
Milacron S-Pak 100 Single Screw Extruder	Processing	Olson	107
Mini Injection Molder	Processing	Olson	25
MINILAB MICRO COMPOUNDER S R#1200300707001	Processing	Olson	25
Novatec Novadriers (2)	Processing	Olson	107
Rotating Double Gallon Mixer IMS	Processing	Olson	107
Rotating Drum Mixer	Processing	Olson	107
TMP 35 Ton Vacuum Molding Press	Processing	Olson	102
Vacuum Ovens (10)	Processing	Olson	107
Van Dorn 55 Injection Molder	Processing	Olson	102
W&P ZSK-30 Twin Screw Co-rotating Extruder	Processing	Olson	107
Wayne Blown Film Line	Processing	Olson	107
TA ARES G-2 Rheometer	Rheology	Olson	230A
Brookfield Viscometer	Rheology	Olson	230A
Brookfield Viscometer	Rheology	Olson	230A
Bruckner Biaxial Stretcher	Rheology	NPIC	120
Instron 9050 Impact Tester	Rheology	Olson	25
Instron Model 3345 Tabletop Tensile Tester	Rheology	Olson	201F
Instron Model 4204 Tensile Tester	Rheology	Olson	25
Instron Model 5567 Tensile Tester	Rheology	Olson	25
RMS 800 Rheometer	Rheology	Olson	25
Rosand RH7 Capillary Rheometer	Rheology	Olson	25
TA DHR-II Rheometer	Rheology	Olson	115A
Visctech Mooney Viscometer	Rheology	Olson	25
Bruker SKYSCAN 1172 Micro Tomography Scanner	Spectroscopy	NPIC	212A
Bruker Tensor 27 FT-IR	Spectroscopy	NPIC	105
Bruker X-ray	Spectroscopy	Olson	16
Circular Dichroism Spectrometer - Model J-1500-150	Spectroscopy	NPIC	210
Excalibur FTS 3000 FT-IR Spectrometer	Spectroscopy	Goodyear	228
GE X-ray	Spectroscopy	Olson	16
Horiba LABRAM HR800 Raman Spectrometer	Spectroscopy	NPIC	210

HP UV-Vis Spectrometer	Spectroscopy	Olson	201C
Cary 60 UV-Vis Spectrometer	Spectroscopy	Goodyear	126
* Hysitron Nanomechanical Test System	Spectroscopy	NPIC	105B
LSPAR Surface Plasmon Resonance Device	Spectroscopy	NPIC	210A
Multiangle Static Dynamic Light Scattering Device	Spectroscopy	Goodyear	1011
* Nexdep Deposition Chamber	Spectroscopy	NPIC	210A
* PHI 710 Scanning Auger Nanoprobe	Spectroscopy	NPIC	105
Rigaku X-Ray Machine S-MAX 3000	Spectroscopy	NPIC	212
* Rigaku SmartLab XRD with Environmental Chamber	Spectroscopy	NPIC	212
* Spectroscopic ellipsometer	Spectroscopy	NPIC	210
SPR Spectrophotometer	Spectroscopy	NPIC	210A
Thermo Nicolet FT-IR 380	Spectroscopy	Olson	201F
XPS Spectrometer PHI 5000 Versa Probe II	Spectroscopy	NPIC	212
Bohlin Rosand RH2100 Capillary Rheometer	Teaching	Olson	103
FILM LINE BLOWN	Teaching	Olson	103
GEMINI ADVANCED RHEOMETER	Teaching	Olson	103
Haake Rotovisco 1 Rheometer	Teaching	Goodyear	206
HYDRAULIC LAB PRESS MODEL 25-12 HC	Teaching	Olson	103
OLYMPUS BX51 OPTICAL MICROSCOPE	Teaching	Olson	103
Rigaku Miniflex 11 Desktop X-Ray Diffraction System	Teaching	Goodyear	228
Single Screw Extruder	Teaching	Olson	103
Waters GPC with RI and Dual WL Absorbance	Teaching	Goodyear	206
TA DMA Q800	Thermal	Goodyear	228
TA DMA Q800	Thermal	Olson	201F
TA DMA Q800	Thermal	Olson	230A
TA DSC 2920	Thermal	Olson	201D
TA DSC Q10	Thermal	Goodyear	228
TA DSC Q200	Thermal	Olson	201D
TA DSC Q2000	Thermal	Goodyear	228
TA TGA 2950	Thermal	Olson	201D
TA TGA Q50	Thermal	Olson	201D
TA TGA Q500	Thermal	Goodyear	228

* Indicates purchase was by NCERCAMP

Administrative Activities Review 2018 CPSPE Outreach

1. Basic facts and Description of the Unit

a. Mission and Goals

The Outreach organization within the College of Polymer Science and Polymer Engineering (CPSPE) was created in 2015 as a means to enhance the capabilities and efficiency of the outreach activities of the college. Prior to this, Outreach was led primarily by individual faculty members leveraging administrative assistants or at the department level leveraging office staff and administrative assistants. This resulted in inefficiencies, unnecessary redundancies and a lack of cohesive and strategic reach for the college.

The mission of the Outreach organization is to support the mission of the university and the college by drawing resources in, communicating capabilities and forging relationships that lead to student recruitment, research dollars, philanthropic giving, government support and industrial collaborations.

Referencing the Board of Trustees Rule document 3359-20-01 last updated in 2008, The University of Akron mission statement is: "The University of Akron, a publicly assisted metropolitan institution, strives to develop enlightened members of society. It offers comprehensive programs of instruction from associate through doctoral levels; pursues a vigorous agenda of research in the arts, sciences, and professions; and provides service to the community. The university pursues excellence in undergraduate education and distinction in selected areas of graduate instruction, inquiry, and creative activity."

In 2012 the stated mission in Vision 2020 was: "To ensure student success and leverage our region's unique assets in the creation of knowledge and application of research that benefits humankind."

Both missions and stated goals of these documents include the critical elements of student enrollment and success along with research excellence, with a secondary commitment to the local community and region.

The Outreach organization supports the university missions by providing opportunity to students to interact with industry professionals, through recruitment of undergraduate and graduate students, by providing support for university and college programs such as REU, RET, AMP, CIGA and I-corp, through the website and communications from the college, by promoting faculty research, by connecting faculty to companies interested in collaborative research and engaging alumni for both industrial interaction and philanthropic giving.

Near-term and long-term goals will be outlined u in the Future Plans section.

b. Services

Prioritization of services is based on input from the College administration, department chairs and faculty, along with student requests, with College-wide initiatives typically having top priority, followed by department and then individual faculty and students.

i. College promotion and communication

The college websites, social media and building video boards are used to communicate ongoing information and news stories and to promote lecture series, training courses and special events. E-mail distributions are sent out to alumni and industry to highlight opportunities for college interactions and an electronic e-news is published quarterly featuring faculty research news, alumni successes and student profiles. News stories and films are developed and produced for training purposes and to feature students, faculty and programs.

Key partners include Communications and IT Services within UA and economic development, press and government agencies externally. Customers include faculty, students, alumni, industry and the regional community. Over 100 news stories per year are published. In the first half of CY2018 the College website logged 68,750 sessions. The college Facebook following has grown to 559 from 0 at the beginning of 2016 with the top post logging almost 2000 viewers.

ii. Corporate engagement for sponsored research and technology transfer

The Outreach group proactively engages with company scientists and technical management to arrange visits and develop agendas for pertinent interaction with faculty regarding their research and IP licensing. Marketing materials highlighting the faculty profiles and research clusters are developed and disseminated at industry events and conferences. A library of quad charts outlining individual projects has been developed and is maintained for use in highlighting specific faculty research. Corporate letters of support and partnerships are developed for research proposals. College startups are supported by making connections with companies who have interest in partnering in scale-up and commercialization endeavors. Assistance with proposals involving corporate engagement is provided. Outreach initiates and supports implementation of Community Industry Graduate Assistantships. Participation in the Ohio Innovation Exchange was spearheaded by College Outreach and the faculty and resource profiles are maintained. Industry event logistics are supported by the team as well. Professional Masters students are recruited from companies.

Key partners within UA include The Office of Research Administration, the Technology Transfer Office, UARF and Development. Externally economic development organizations and government entities are engaged for collaboration and support. Customers include industry, faculty, students and contract service groups throughout the University. In FY2018 Outreach participated in over 50 meetings with companies to showcase faculty research and the capabilities within the college or to advance specific research commercialization efforts.

iii. Alumni relations

Regular communications in the form of an e-newsletter and seasonal giving asks are developed and sent to our Alumni by the Outreach group in collaboration with the College, the Departments and Development. Alumni event planning and logistics support

are provided by Outreach. Alumni contact connections are leveraged to draw in corporate support and engagement.

Key partners include the Departments, Development, UA Catering and Communications. Externally our alumni base is a critical resource leveraged. Customers include College faculty, students and contract service groups. Our communications reach over 2000 alumni.

iv. K-12 STEM Outreach, student recruitment (AGPA) and student program support

The Akron Global Polymer Academy (AGPA) originated and operates from State of Ohio funds earmarked, originally for workforce and K-12 polymer education. These seed funds were to support these initiatives until they reach sustainability. The workforce element, originally the Akron Polymer Training Center has become self-sustainable and is approaching sufficient net revenue to continue support of the K-12 mission within 6 years when the State funds will be expired.

The AGPA staff works closely with the Associate Dean and Admissions on promoting the undergraduate polymer minor program and UA STEM programs in general, as well as recruitment of both high school students and Professional Masters students. The Outreach group supports the Research Experience for Teachers (RET), the Research Experience for Undergraduates (REU) and the Akron Masters (AMP) programs. The AGPA maintains a website to disseminate lesson plans, educational videos and other STEM and polymer content and runs a Rubber Band design and art contest which in 2017 had entries from 35 states and one US territory with over 500 entries per year.

Other key partners are the State of Ohio, UA School of Education, regional STEM schools, the Akron Public Schools, the Polymer Science and Polymer Engineering Student Organizations (PSSO and PESO) and the Society of Plastic Engineers. Customers include faculty, students, k-12 educators and program administrators. The group is instrumental in bringing over 1000 high achieving high school students to our campus for two very large high school science events, the Western Reserve Science Day and the Science Olympiad. They are responsible for additional University and College exposure to another 20,000+ students and community citizens via student visits and participation in STEM initiatives, events and fairs, other university outreach groups, the Great Lakes Science Center and many others. In the first half of CY2018 the AGPA website logged 19,600 sessions.

v. Corporate services (APTS)

The Akron Polymer Technology Services (APTS) organization was formed from a merger of the Akron Polymer Training Center and the Akron Polymer Research Center in 2015. The Akron Polymer Research Center has been operating for over three decades providing contract testing services to industry. The combination and co-location of the two organizations has streamlined staffing and enhanced efficiencies in management and

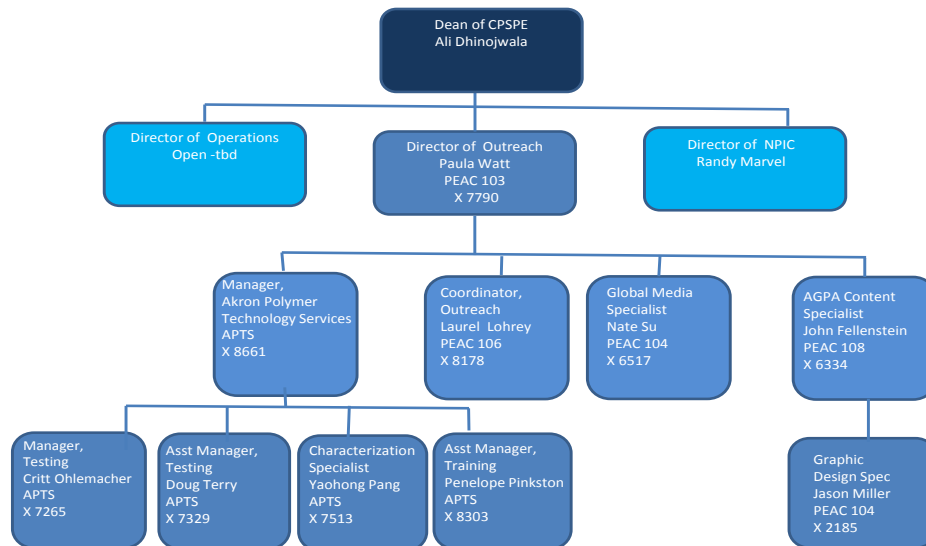
support functions. In recent years a focus on processing as a service has also been increased with enhancements of capabilities underway. The APTS is a net revenue generator for the College allowing for reinvestment to expand the research and teaching tools for our faculty and students. The APTS staff supports student research in laboratories in ASEC and Olson. In addition undergraduate and graduate students are engaged in training, testing and processing opportunities with industry. This exposure not only gives our students direct interaction with industry scientists and engineers, but also access to highly industry-relevant equipment and processes. In addition to training, testing and processing services done directly by APTS, the organization provides database maintenance, quoting and billing services to cores and faculty within the Polymer College as well as other university groups and faculty who do contract services.

Key collaborators are faculty, students, the National Polymer Innovation Center, Olson Processing Labs, the Microscopy and Surface and Optical Analysis labs, the TOSOH Molecular Characterization lab, the Polymer Modeling and Visualization Center and the National Corrosion Education and Research Center. Externally collaborations with regional economic develop groups, trade groups and government institutions are leveraged. Clients include industry, faculty, other service groups and students. In FY2018 net revenues for APTS alone were \$110,000 with over 280 industry engagements for 185 different companies. With each engagement, the University and College resources and capabilities are communicated leading to further engagement with students and faculty.

c. Resources

i. Personnel

While the following organizational chart outlines the general distinction between sub-units in the Outreach organization, the reality is that Outreach personnel cross boundaries to serve where the most use of their talents can be targeted and the need is most urgent. This agile approach allows for application of resources as needed to best serve the College and University mission.



Since the 2015 centralization of support functions for the College the Director of Outreach is one of three directors (originally there were four but the Finance position is not slated to be filled). The directors, along with the academic leadership of the College, report to the Dean.

Paula Watt, the Director of Outreach, oversees the overall outreach activities with an eye towards integration and strategic reach. In addition to this, she is the principle contact for non-service industry interactions and College alumni relations. She engages with industry to cultivate collaborations and sponsored research and with alumni as industry connections and for giving. She coordinates visits by industry to learn about the College. When time allows, she works with individual faculty to make specific connections. She seeks out opportunities for funding and finds partners for letters of support and collaborative work. She has been working with the global media specialist, communications and development on seasonal communications and asks for giving from alumni and friends of the College.

Direct reports to the Director of Outreach are the Global Media Specialist, the Outreach Coordinator, the APTS Manager of Training and Testing and the AGPA Content Specialist. Reporting to the APTS Manager is a Manager of Testing, an Assistant Manager of Testing, a Characterization Specialist and an Assistant Manager of Training. Reporting to the AGPA Content Specialist is a Graphic Design Specialist.

Nate Su, the Global Media Specialist, has primary responsibility for College promotion and communication. He manages our College web site and Facebook page. He develops news stories, takes photos and produces videos for website, video boards and social media content. He creates promotional content and fliers for department seminars, service organizations, College events and alumni communications. He develops stories for and publishes the e-news and he manages email communications with industry lists. He produces training videos for students and staff on test methods, operation of equipment and processes.

Laurel Lohrey, the Outreach Coordinator, is the lead logistics manager for the College Outreach functions. She has developed extensive checklists for managing recurring activities. She implements systems including programmed databases, maintaining them and continuously improving their functions. These include the APTS training and the APTS testing databases, the OIEx database, faculty quad chart database, the summer PAF database, and several registration databases. She is the logistics lead for Science Olympiad, Science Day and the REU program and supports the RET and AMP programs. She provides financial oversight for APTS, manages the Technical Service Agreement system including quoting, invoicing and collections for the cores and faculty testing. She provides logistical support for events and manages the College operations request system.

John Fellenstein, the AGPA Content Specialist, leads the K-12 outreach initiatives including school visits, teacher workshops and events. Working with admissions he works on recruiting students to the university and into STEM fields. Working with the

Associate Dean, he promotes the Polymer Minor and Professional Masters programs to current and prospective students. John co-manages the Science Olympiad and Science Day events and the RET program. He is working with the Akron Public School system to bring 3DP capabilities into high school classrooms. He contributes to STEM events in other Colleges at the University as well.

Jason Miller, Graphic Design Specialist maintains the AGPA website and promotional materials. He runs the annual Rubber Band Contest and supports other K-12 outreach activities. He produces training videos for students and staff on test methods, operation of equipment and processes. He is responsible for the APTS website and promotional materials.

The currently open APTS Manager of Testing and Training is responsible for the strategic leadership, marketing and management of the APTS. He or she will develop and manage the staff, budgets and facilities with responsibility for oversight of external promotion, service contracts and facilities and equipment maintenance. He is charges with improving efficiencies, expanding capabilities and increasing revenues in the operations as well as developing creative means to best support faculty and students.

Critt Ohlemacher, Manager of Testing is a rubber and elastomer expert and Doug Terry, the Assistant Manager of Testing, is a thermoplastics expert. Their roles are as project managers who market, quote, execute testing, issue reports, invoice and collect payments for the client jobs. Yaohong Pang, the Characterization Specialist, performs analytical testing and provides student support in the Olson labs. The testing staff also supports students in the ASEC lab.

Penelope Pinkston, Assistant Manager of Training, manages training staff and facilities, contracts with and schedules instructors, expands course offerings, develops custom courses, oversee dissemination of course advertisement, promotional media and communication, oversees courses, produces course materials, registers students, processes payments, provides hospitality for classes and assures effective use of the organizational database and assessment.

ii. Financials

APTS

		Training and Testing	
	FY	Revenues	Net
	15	\$508,977	\$37,259
	16	\$642,064	\$30,578
	17	\$576,984	(\$92,829)
9 mo	18Q1-Q3	\$537,349	\$80,454

Since 2015 when the testing and training operations were brought under common management, they have consistently generated net revenues with the exception of FY17. In FY17 a large investment was made in renovations preparing the APTS facilities for a move of the testing laboratory.

Line item budgets are attached.



Microsoft Excel
97-2003 Worksheet



Microsoft Excel
97-2003 Worksheet

AGPA

The line item spending projections based on the annual run rate for AGPA follows:



Microsoft Excel
97-2003 Worksheet

Outreach staff not reflected in the AGPA and APTS budgets are part of the Dean's office budget.

iii. Equipment and Technology

ICI INSTRUMENTED IMPACT LOG 7609 SR#SPGB/19211
WILSON ROCKWELL DIGITAL TW INTESTER SR#97374512
MODEL QUV-SPRAY ACCELERATE D SR#96-9126-54
TENSILE, LOAD CELL, WEDGE GRIPS
2003 FORD ECONOLINE 15PASS SR#1FBSS31L43HA59964
RUBBER CITY MACHINERY CORP . COMPUTER OPERATED MIXER
P-1G1 HOPPER DRYER LOG 725 3 SR#P161763994
CLARK FORKLIFT SR#35504425 272FA
GRANUTEC MODEL TFG810 PRES S SIDE
80CFM W/BIN, 2 RECEIVERS LOG 7774
PIPE EXTRUSION ASSEMBLY FOR 2" PIPE
GOODRICH FLEXOMETER, LOG 8 399
FTX-80 TWIN SCREW EXTRUDER LOG #8853
MILACRON SR#2227295
MVIC-II H.323 MOBILE VIDEO INTERACTIVE COMPANION
1997 85 TON VAN DORN INJECTION
1997 170 TON VAN DORN INJECTION
APA2000 ADVANCED POLYMER
INSTRON MOD5567
VIDEO EXTENSOMETER
Ferry Industries Heat Buildup
Waters GPC Model 2414

Thermo Elect Nicolet 4700 FTIR
 HIGH PRESSURE LIQ CHROMATO GRAPHY
 FOCUSDSQII-115LTWMS110-532 5
 DYNAMIC MECHANICAL ANALYZE RSA3R
 MELT FLOW INDEXER MODEL D4 003

iv. Space

The University of Akron's 18,500-square-foot Akron Polymer Technology Services building is a teaching and testing facility that serves the region's academic and industrial needs by offering a wide variety of non-credit polymer training courses and testing services. The renovated structure, at East Mill and College streets, contains three classrooms, two polymer processing laboratories and a laboratory devoted to analytical instrumentation.

The remaining Outreach staff is housed in the first floor offices of the Polymer Engineering Academic Center.

2. Future Plans

a. Short Term Goals

1. Hire a APTS Manager (position is currently posted)
2. Develop extrusion capabilities and hands-on course
3. Increase course offering to 4.6/month avg FY19 up from 3.8/month avg FY18
4. Provide all data for the College into the OIEx for the July 31 launch
5. Investigate ways to improve the user interface for the testing database
6. Redesign the College and AGPA websites with a focus on recruitment
7. Develop aggressive polymer minor and professional masters promotional plans
8. Maintain support of Science Olympiad, Science Day, REU, RET, AMP, OIEx, PAFs, TSAs, and operations service requests
9. Facilitate five industry – faculty collaboration connections by calendar year end
10. Develop a plan to integrate student and faculty involvement with the APTS staff and resources

b. Long Term Goals

1. Sustain a minimum of 15% revenue increases annually
2. Increase courses to 80% capacity, roughly 14-15 courses per month
3. Within 5 years be in a position to cover AGPA costs from APTS revenues

AGPA cost	APTS revenues	
w 5% inflation	15% sales growth	
175000	120000	0
183750	138000	1
192938	158700	2
202584	182505	3
212714	209881	4
223349	241363	5

4. Secure funding for state of the art process equipment for training and service
5. Develop or modify DPE courses utilizing APTS equipment
6. Develop a centralized Customer Relationship Management (CRM) database
7. Develop stackable credentials for High School to Career workforce development that can create a pathway for students into CAST, COE and CAS with a focus on the polymer minor

c. Potential Changes

The current staffing for support of college programs is spread very thin. In 2015 there were two additional positions in Outreach, one focused on student programs (REU, AMP, CIGA, PESO/PSSO, support, diversity, etc.) and one focused on alumni and development. These activities have either been absorbed by current staff such that some of their focus is diverted or simply not getting a lot of attention. As a result it is critical to prioritize through the tight budget period until staffing can be further addressed. It would accelerate the CRM database development if we could free more of Laurel's time to focus on that. One additional staff to take on some of her coordination activities would make a significant impact. It would also free up more of my time allowing for more aggressive collaboration activity and joint proposal development with industry.

As APTS becomes more profitable it will need to add staff to support the needed effort, particularly in training where the growth targets are very aggressive. In testing it is critical to stay fully staffed, as net revenue generation is very dependent on the volume of work accepted. Over time we will work towards higher value-added services to displace low margin work and eventually more staff will allow for growth in the testing and processing services.

Over the next several years, the College, the AGPA and APTS will become more integrated. The idea is to develop a pipeline of future students, as well as to provide opportunities for current students. We will explore faculty interest in teaching workforce courses for industry and to have students continue to sit in and help out in courses offered by industry experts.

d. Trends

There is a large federal government focus on workforce development. In particular high school to career, manufacturing job skills and apprenticeships. With the new APTS manager in place, we will continue to explore opportunities for funding and collaboration with industry, CAST and the other colleges.

With the Shell cracker and PE plant installation and PTTGC considering another regional site, there is a lot of buzz around shale and downstream processes. This could be a great opportunity for corporate sponsorship of research into new and improved processes to convert shale products into useable chemicals, monomers and polymers. Materials for downhole and membranes and other separation technologies could also be of high interest.

Additive manufacturing continues to take off exponentially and there are many regional companies working in the field. Likewise flexible electronics and energy storage are ripe for advancement with regional focus. Biomedical applications continue to be of high value and more collaborations with the local hospital systems would be beneficial. Carbon fiber composites are touted as the next great automotive materials with which we have given limited attention. Then, of course, plastics, rubbers/elastomers and coatings continue to be well represented in the region offering many opportunities for collaboration.

Mission and goals:

NPIC provides solutions to emerging challenges in health, energy, and sustainability using leading edge polymer advanced manufacturing pilot scale equipment. The main goal is to increase utilization of the world class pilot processing equipment both internally for faculty research and training of students, as well as externally with industry and national labs outreach.

Services:

Internal – Support research and training of Polymer Science and Polymer Engineering students on the NPIC Pilot Processing equipment.

External – Increase engagement with industry and national labs for testing utilizing NPIC equipment on a pay-for-use basis.

Critical Partners:

Polymer Science Faculty
Polymer Engineering Faculty
Director of outreach
Tech Connect
Safety
PFOC
Information Technology

Customers or end users:

Polymer Science Students and Faculty
Polymer Engineering Students and Faculty
Industry
NASA / National Labs / Other Universities

Key performance analysis:

The only external measurement comparison over the last 8 years is the number of times external customers used the NPIC high bay equipment:

FY 2011: 0

FY 2012: 1

FY 2013: 1

FY 2014: 1

FY 2015: 7

FY 2016: 2

FY 2017: 11 Note: No activity the first 5 months of the FY

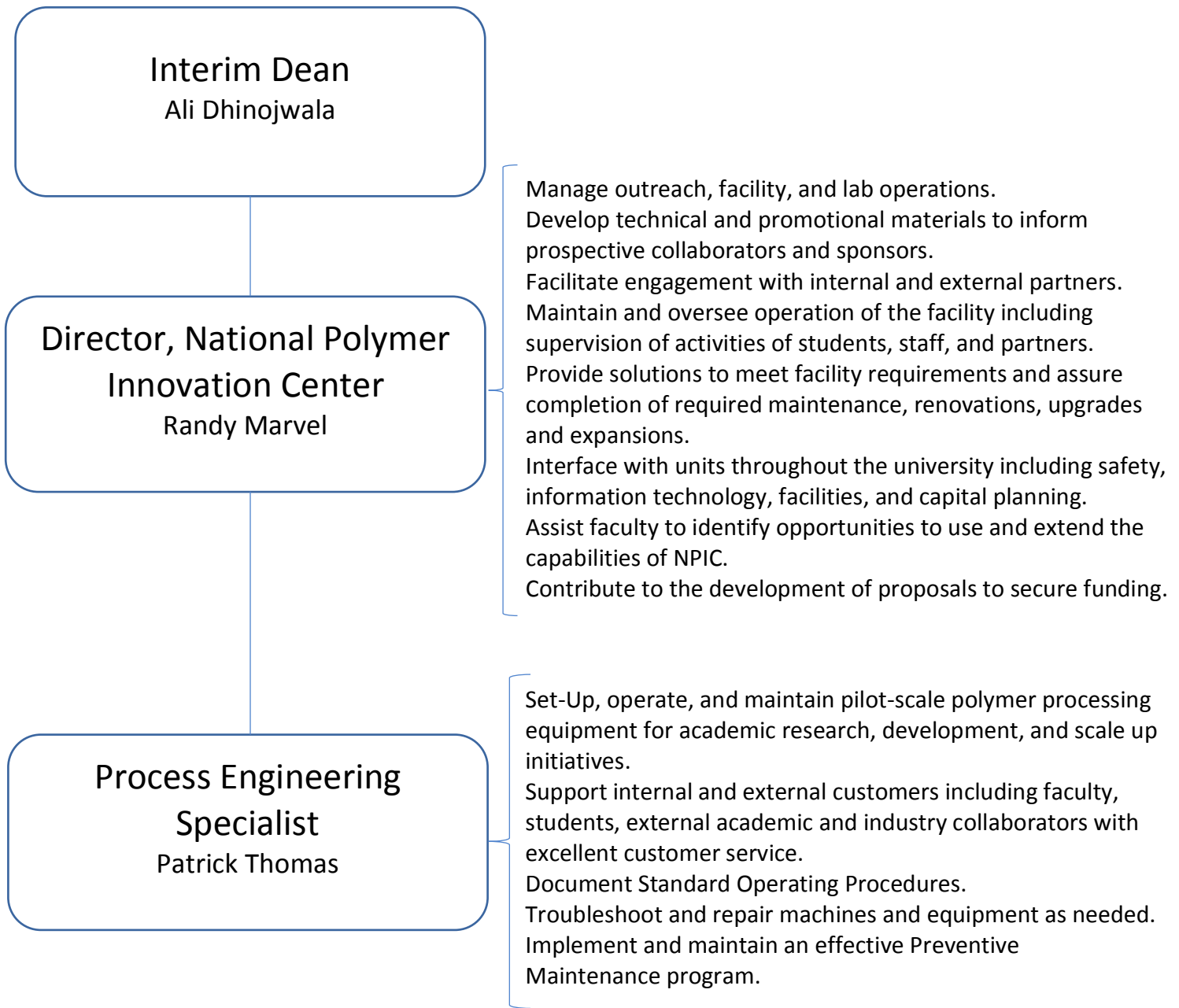
FY 2018: 31 Majority of customers have returned multiple times

Internally started tracking student training. Began with 2 students on the matrix and now have 26 that are in various stages of training on NPIC pilot processing equipment (see attached).

Brief assessment:

Customer satisfaction is a key strength as evidenced by the high percentage of repeat external customers. State-of-the-art pilot processing equipment is an advantage. Ongoing challenges include equipment maintenance, use of the FOM system internally, and external promotion / awareness of NPIC capabilities. Opportunities include increasing student and faculty engagement for research as well as increasing external utilization by industry.

Personnel:



Financials:

	Revenue		Expense	
	<u>Budgeted</u>	<u>Actual</u>	<u>Budgeted</u>	<u>Actual</u>
FY 2014:	\$12,000	\$ 5,000	\$12,120	\$21,097
FY 2015:	12,000	39,664	12,000	33,460
FY 2016:	40,000	11,111	39,200	19,605
FY 2017:**	25,000	18,633	20,682	30,529
FY 2018:	50,000	72,309	46,125	39,964

** FY2017 Note: No activity the first 5 months of the FY (prior to RWM on board); Took 2 months after RWM start to get equipment to run on a basic level, develop promotional materials, and update the NPIC web site. Also, note that the credit to actual is when funds are paid not when services are rendered. So, there would have been \$24K more in top line external revenue (before IDC deductions) in FY2017 based on actual work done. Additionally, there were no FOM credits prior to May 2017.

Equipment and Technology:

See attached NPIC Pilot Processing Flyer

Space:

Space is adequate for current operations and allows flexibility for future equipment / technology.

Future Plans:

- Focus on significantly increasing student usage of NPIC pilot processing equipment. No polymer science or polymer engineering student who targets a career in industry should graduate without hands-on experience and knowledge of NPIC processing equipment.
- Increase in Faculty research utilizing NPIC processing equipment
- Expand Industry use of NPIC processing equipment
- Identify the next technology platform to install in NPIC
 - Faculty ideas for platform to support research and industry interests



CAST FILM COEXTRUSION LINE WITH MDO

- Single layer extrusion cast film or up to three different co-extruded polymers
- Machine direction orientation with stretching and annealing zones
- Has a let off for laminating an additional layer of film
- Two extruders and feed block for multilayer coextrusions plus a third sidearm extruder for skin layers
- 12" die extrusion ready for pilot scale operation and scale up/commercialization
- Online metrology for uniformity of extruded films
- Custom built film processing line



ELECTROMAGNETIC PROCESSING LINE (EMP)

- Field assisted alignment of nanoparticles and suspendable materials
- Novel film formation process where through thickness "Z-direction" properties of films / membranes are substantially enhanced through preferential orientation of functional nanoparticles and polymer phases using external electric, magnetic and thermal gradient fields
- Mercury and lead UV for on demand cure after alignment
- Thermal annealing capabilities post processing
- Custom built film processing line



HYBRID SOLUTION CASTING LINE

- Hybrid electrospinning/casting system that can produce transparent conductive films by embedding conductive nanowires using up to 36 spinsets in the cast solution/monomers and solidifies through evaporation and/or thermal/UV curing
- Films exhibit high transparency and flexibility and stretchability (up to 2x) without loss of electrical conductivity
- Films also remain conductive when folded and creased
- Hybrid process developed for this purpose is a continuous roll to roll process that can produce up to 24" wide films for pilot scale operation, therefore, it is ready for scale up/commercialization stages
- Custom built film processing line



BIO-HYBRID CASTING / COATING LINE

- Hybrid casting / electrospinning / dip coating roll to roll system that can produce nanofiber embedded substrates and gels including transparent conductive films by embedding conductive nanowires using up to 9 spinsets in the cast solution / monomers and solidifies through evaporation and / or thermal / UV curing
- Capable of making nanofiber nanomats with up to 9 different compositions and subsequently "wet" processing using up to 6 dipping tanks that are particularly useful for biofunctionalization
- Custom built film processing line



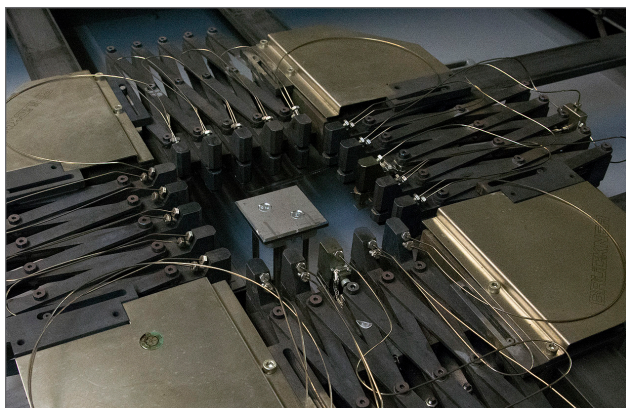
ELECTRIC INJECTION MOLDER

- Film insert capability
- Milacron Roboshot S2000i110B electric injection molding machine
- Real time pressure transducer and thermocouple reading station
- Allows inserts in the part using vacuum / air system for insert hold and final part ejection
- Valve gate hot runner pin controlling system
- Injection / Compression mode capability for delicate insert survival (displays)



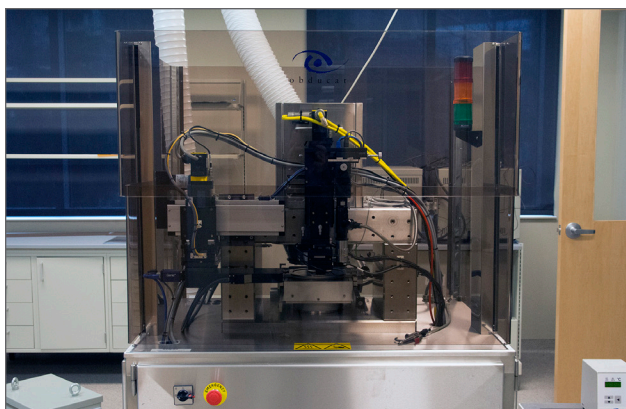
UV / IR CURING LINE

- Processing of UV curable coatings (Water based UV, High Solids Liquid Based UV, UV Powders)
- Dual cure UV + IR coatings
- Thermal processing of coatings – IR (IR Pre-Heat, Flow out powder)
- IR Temperature Range up to 750C
- UV Lamps (Mercury – Clearer coatings: 200 – 320 nm, Gallium – Pigmented coatings: 400 – 450 nm)
- Line speed up to 600 mm/min
- Max sample size 150mm x 150mm x 150 mm



BIAXIAL STRETCHER

- Laboratory stretching machine for monoaxial & biaxial film orientation
- Test films and sheets in a very simple manner
- Sequential and simultaneous stretching modes
- Fully automated for complex deformations
- Stress and strain recorded



NANOIMPRINT LITHOGRAPHY

- Flexible and cost efficient lithography
- Nanopattern replication of surfaces down to 10 nm for surface functionalization
- Thermal or UV NIL with controlled wetting
- Hot embossing
- Simultaneous Thermal and UV (STU®) imprint process
- Uses the patented Soft Press® technology
- Uniform heating and a wide range of temperature settings
- Use of wide range of imprint polymer

CONTACT US

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College of Polymer Science and Polymer Engineering at The University of Akron



Administrative Activities Review (Finances)

Mission and Goals

The mission of the Office of Finance & Budget at CPSPE is to provide direction, coordination, and oversight of all fiscal activities and procedures of the College. Specific functional areas include:

1. Budget planning and forecasting for both intramural (general, auxiliary, test/service) and extramural (sponsored program) funds.
2. Development and distribution of useful financial reports to College faculty and key personnel to ensure fiscal prudence of accounts
3. Preserving overall budget and expenditure control for the College and its Departments
4. Support for procurement of goods and services for the College
 - o Procurement card (visa) record keeping, monitoring, and charge assignment
 - o Direct PeopleSoft requisition entry and purchase order follow up
 - o ESM ordering
 - o Travel/Reimbursement processing
5. Grant and Contract monitoring and fiscal oversight
6. Maintenance, processing, and tracking of all College invoices and chargebacks

Personnel:

a. Fiscal Administrator (Steve Steele)

Manage financial operations for the College of Polymer Science and Polymer Engineering while supporting the strategic plan under the direction of the Dean of the College in concert with the policies and procedures of the University. Manage the operating and supported grants budgets for the CPSPE and assist with the administrative decision making, compliance issues and/or audit requirements. Develop budgets for proposed and current projects. Provides financial information to both internal and external individuals, develop cost estimates, perform financial studies, budget projections, advise on the financial feasibility of proposed programs and recommending how such programs can best be carried out within existing budgetary limitations.

Provides detailed analytical support for the fiscal operations for CPSPE to include the creation of new accounts and monitoring of budgets. Develops new budgets and creates budget projections for new proposals, continuations and operating accounts.

Maintains the unit/project/college's accounting system. Performs monthly reconciliation's of the university's accounting system and calculations to the department's accounting system. Monitor financial transactions to ensure college/project/unit's financial stability and to ensure adherence to proper fiscal practices.

Monitors the expenditures and budgets and accounts for accuracy and budgetary problems. Notifies individuals regarding budgetary issues/problems when necessary. Generates monthly financial reports for the operating and grant accounts.

Provides assistance to other departments while responding to outside inquiries regarding operations and fiscal management. Send invoices to internal and external customers. Serve as the unit/project/college's principal contact for fiscal matters.

Assists the Business Office Specialist regarding purchasing issues. Oversee College's travel processes.

b. Business Office Specialists (Marj Parrish and Sue Hoover)

Assist faculty, staff and students in the procurement of goods and services.

Review, enter data and maintain purchasing systems and files.

Assist with maintaining, monitoring and reviewing the unit/project/College's accounting system.

Respond to questions and problems from faculty, staff, students and vendors.

Compile, maintain and audit information and records to prepare and track purchase orders and/or requisitions.

Obtain information from University departments and vendors to expedite purchase orders.

Assist Buyers with the management of purchase orders in the system.

Review and input purchase orders/requisitions into the system.

Place orders for cylinder gases through Praxair.

Review information and input orders to on-line vendors via the internet.

Monitor financial transactions to ensure college/project/unit's financial stability and to ensure adherence to proper fiscal practices.

Monitor and assign P card transactions for the College.

Oversee the purchasing process.

Monitor the expenditures and budgets and accounts for accuracy and budgetary problems.

Notify individuals as directed, regarding budgetary issues/problems when necessary.

Review and process all travel reimbursements for the college.