TO: Faculty Senate
FROM: Alexander Cohen, Chair; Bill MacKinnon, Vice-Chair; and Mahesh Banavar, Secretary
SUBJECT: Agenda for Faculty Senate Meeting being held on Monday, March 07, 2022
LOCATION: 4pm on Zoom
(https://clarkson.zoom.us/j/96160920770?pwd=cW9YV0ZxK25Na1F0M0g3SzVRMVFyQT09)
Faculty Senate: https://intranet.clarkson.edu/administrative/faculty-senate/
Official Senate submission form (2021-2022): http://tinyurl.com/clarksonsenaterequest
Senate Feedback form: http://tinyurl.com/clarksonsenatefeedback

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I. Approval of the Agenda

II. Approval of (Sen. Doc. #2022-76) Meeting Minutes from February 21, 2022

III. Informational items (Not planning a discussion or vote without an explicit motion to do so)
   A. (Sen. Doc. #2022-77) Memo to Administrative Council re: Senate approvals of items at 02.21.22 meeting.

IV. Committee Reports
   A. Curriculum and Academic Policy (CAP) Committee, Chair David Schelly.
   B. Budget and Long Range Planning Committee, Chair Alex Cohen.

V. Q&A with the Provost

VI. Discussion items
   A. (Sen. Doc. #2022-56.R1) Amendment to the final report of the ad hoc Committee on Tenure and Promotions
   B. (SenDoc2022-78) Proposal to continue recognition of the Institute for a Sustainable Environment as an academic unit at Clarkson University, Susan Powers
   C. (SenDoc2022-79 and SenDoc2022-80) Changes to the Climate and Engagement Committee (with presentation slides), Jen Ball / Bebonchu Atems

VII. Decision Items Requiring a Vote
   A. (Sen. Doc. #2022-74.R1), COVID-19 Tenure Timeline Extension, Robyn Hannigan / Alexander Cohen

VIII. For the Good of the Order

**Faculty Senate Communication**

TO: All Faculty
SUBJECT: Minutes of Faculty Senate Meeting held on Monday, February 21, 2022
LOCATION: Zoom

Attendees: A. Cohen, W. MacKinnon, M. Banavar, A. Stephenson, A. Michalek, K. Fite, S. Melville, D. Schelly, S. Chaudhry, A. Graveline, A. Pickering, & R. Hannigan (ex-officio)

Guests: K. Wallace (senator elect), E. Bollt (senator elect), L. Yazhou Jiang (senator elect), A. Khondker, A. Bellou, A. Ohl, A. Brown, A. Colak, B. Galluzzo, B. Helenbrook, C. Sajna, C. McNamara, C. Robinson, D. Bohl, F. Hussain, F. Ormsbee, G. Towler, I. Mastorakos, J. Schmitt, J. Ball, K. Gregory, K. Kavanagh, K. Chezum, L. Perry, L. Johns, M. Crimi, S. Treptow, S. Wojkiewicz, S. Dhaniyala, T. Langen, & W. Wu

Total Zoom Attendees: 43

Minutes prepared by S. Treptow and M. Banavar.

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4:00 pm meeting called to order by Senate Chair Alex Cohen.

I. Approval of the Agenda
   A. A. Cohen moves to approve the agenda. Approved by unanimous consent.

II. Approval of (Sen. Doc. #2022-72) Meeting Minutes from February 7, 2022
   A. A. Cohen moves to accept. Approved by unanimous consent.

III. Informational Items (Not planning a discussion or vote without an explicit motion to do so).
   A. (Sen. Doc. #2022-73), Memo to Administrative Council re: Senate approvals of items at 01.31.22 meeting.

IV. Committee Reports
   A. Curriculum and Academic Policy (CAP) Committee, Chair David Schelly.
   B. Budget and Long Range Planning Committee, Chair Alex Cohen.

V. Q&A with the Provost

VI. Discussion items

VII. Decision Items Requiring a Vote

A. (Sen. Doc. #2022-56), Final Report of the ad hoc Committee on Tenure and Promotions – Proposing Changes to the Structure of the Tenure and Promotions Committees. Chris Robinson / Brian Helenbrook.
    1. A. Cohen moves to endorse the proposal. Motion carries. (10 yes).

B. (Sen. Doc. #2022-57) Proposed changes to OM 5.7.0 – Clinical Faculty Promotions Criteria. Alisha Ohl.
    1. A. Cohen moves to endorse the proposal. Motion carries. (10 yes).

C. (Sen. Doc. #2022-58.R1), Proposed changes to OM 5.9.0 – Teaching Track Faculty Promotions Criteria. Alexander Cohen / Chris Robinson.
    1. A. Cohen moves to endorse the proposal. Motion carries. (10 yes).

D. (Sen. Doc. #2022-74), COVID-19 Tenure Timeline Extension, Robyn Hannigan / Alexander Cohen.
    1. A. Cohen moves to endorse the proposal.
    2. A. Cohen moves to postpone consideration of the item. Motion carries. (9 yes).
        a) Point of information - postponement is due to language requiring clarification re: dates, not any stated philosophical or practical opposition to the proposal.

E. (Sen. Doc. #2022-75), Proposal to change the current BS in Communication to a BS in Communication, Media & Design, Jason Schmitt.
    1. A. Cohen moves to endorse the proposal. Motion carries. (10 yes).

VIII. For the Good of the Order

IX. Executive Session (Motion by A. Cohen, approved by unanimous consent)

4:58 pm adjournment.

FACULTY SENATE
8 Clarkson Avenue
Potsdam, New York 13699

# MEMO

TO: Amanda Pickering, Executive Director of Academic Affairs and Chair of the Administrative Council

CC: Senate Executive Committee, Bill MacKinnon (Vice-Chair) and Mahesh Banavar (Secretary)

SUBJECT: Senate endorsement of items at February 21st meeting

DATE: 22 February 2022

At its February 22h meeting, the Faculty Senate voted to endorse the following proposals:

- Sen. Doc. #2022-56, changes to the composition of the Tenure and Promotions Committees to make them more inclusive of Schools and ranks.
- Sen. Doc. #2022-57, changes to OM 5.7, which governs the promotion criteria for clinical track faculty.
- Sen. Doc. #2022-81.R1, changes to OM 5.9, which governs the promotion criteria for teaching track faculty.
- Sen. Doc. #2022-75, retitling the BS in Communications to a BS in Communication, Media, and Design.

Sincerely,

Alexander H Cohen
Assistant Professor of Political Science and Chair, Faculty Senate

## Final Report of the ad hoc Committee on Tenure and Promotions

### Background and Charge

The Senate created an *ad hoc* committee on Tenure and Promotions to propose, among other things, reforms to the composition of the Tenure and Promotion Committees. The objective was to make them more inclusive and equitable by altering their composition to account for the Lewis School and the need to better involve clinical and teaching track faculty in the promotions process. It was charged with the following tasks:

**Charge.** The *ad hoc* Committee on Representation on Tenure and Promotion Committees is asked to review the recommendations and rationale of the *ad hoc* Committee on Faculty Governance pertaining to Tenure and Promotions Committee (Recommendations 5.3, 5.4, and 5.5 in that report) and propose alternate ways to:

(1) Equitably increase representation of teaching and clinical track faculty on the Promotions Committee –and–
(2) Equitably incorporate the Lewis School into theTenure Committee.

### Composition and Process

- 1 Department Chair selected from each School, appointed by the Dean of that School. Because Chairs have a vested responsibility in supporting their faculty and have a holistic view of the School, their involvement is crucial.
- 1 faculty member from each School, selected by the Senate
- 1 representative appointed by the Associate Provost for Faculty Achievement.
- Within the categories above, at least 1 faculty member must be teaching track and at least 1 must be clinical track, as the input of these ranks is pertinent to the discussion of the Promotions Committee. The Senate will ensure that this is achieved through its selection process
- In selecting faculty members, the Senate will seek at least some representation from members currently or previously on the Tenure and Promotions committees.
- All faculty seated on the committee must be career-track faculty.
- **Chair -** The Chair of the Committee will be selected by the Senate from among those who have agreed to serve.

The committee members recommended Dr. Brian Helenbrook from the School of Engineering to Chair the Committee. This was approved unanimously by the Senate. Volunteers for Committee services were requested through sitting Senators, Directors, and School Leadership. All faculty were invited to serve. The members and their relevant associations, were:

School of Engineering

- Brian Helenbrook, Chair of Mech. and Aero. Eng., Tenure-track, Potsdam Campus, served on tenure and promotion committees

- Doug Bohl, Professor of Mech. and Aero. Eng., Tenure-track, Potsdam Campus, tenure-track, served on tenure committee

Lewis School of Health Sciences

- Jane Oppenlander, Chair of Bioethics. Assistant Professor, Teaching-track, Capital Region Campus
- Ashleigh Graveline, Occupational Therapy. Assistant Professor, Clinical-track, Potsdam Campus.

Reh School of Business

- Floyd Ormsbee, Associate Dean of Undergraduate Programs and Operations; Assistant Professor, Teaching-track, Potsdam Campus
- Gasper Sekelj, Instructor, Teaching-track, Potsdam Campus

School of Arts and Sciences

- Andreas Wilke, Chair of Psychology, Associate Professor, Tenure-track, Potsdam Campus, served on tenure committee
- Christopher Robinson, Associate Provost for Faculty Achievement, Tenure-track, Potsdam Campus, served on tenure committee

The Graduate School

- Patricia Rand, Assistant Professor, Department of Education, Teaching-track, Capital Region Campus

The Committee met two times in the month of October with meetings lasting between 1 hour and 1.5 hours. Recommendations regarding each Committee, Tenure and Promotions are recorded in the sections below.

It is important to mention this Committee work was derived from a previous ad hoc Committee that was created by the Senate last year and included in this committee was to reform the composition of the Tenure and Promotion Committee. After reflections and discussion, it was clear that the Committee's recommendations did not have universal approval and so the issue was deliberated forward to this committee to discuss the question – altering the composition to account for the Lewis School and the need to better involve clinical and teaching track faculty in the promotion process. Because background information for each Committee was already established, the process began with reviewing the OM requirements and language for the Tenure and Promotions Committee and ensuring all faculty are equitably represented within each Committee.

**Tenure Committee**

Discussion started with the Tenure Committee, which was deemed simpler because the main changes needed were to add representation for the Lewis School. The Committee is aware that currently there are no tenured faculty within the Lewis School of Health Science eligible to serve on this committee. The current language in the OM is the following:

*The "University Tenure Committee" or the "Tenure Committee" consists of six tenured faculty members elected for staggered, three year terms by the tenurable rank faculty, both tenured and non-tenured. Faculty members in the positions of chair, dean or comparable administrative position are not eligible for membership on the Tenure Committee. At least two candidates for the Tenure Committee will be nominated for each position by the Senate. Nominations for candidacy can also be presented by written petition endorsed by fifteen tenurable rank faculty. Positions on the Tenure Committee will be allocated as follows: two from each of the schools of the University.*

To accommodate the Lewis school the language proposed is

*The "University Tenure Committee" or the "Tenure Committee"* ***will be composed from 2 tenured faculty members*** *elected by the tenurable rank faculty (both tenured and non-tenured)* ***of each school*** *for staggered, three year terms. Faculty members in the positions of chair, dean or comparable administrative position are not eligible for membership on the Tenure Committee. At least two candidates for the Tenure Committee will be nominated for each position by the Senate. Nominations for candidacy can also be presented by written petition endorsed by fifteen tenurable rank faculty.* ***Nominees for a particular position do not necessarily have to be a member of the school they are nominated to represent although this is expected to be the norm. Faculty voting on a position can also vote to leave the position empty if they so desire.***

where the bold text is the substantive changes. This new language increases the size of the tenure committee from 6 to 8 with the addition of two representatives from the Lewis school. To overcome the problem of lack of tenured faculty in the Lewis school, schools can choose to nominate someone from outside of the school or leave a seat vacant. ("Leave seat vacant" will be listed as a choice on the ballot)

**Promotions Committee**

The Promotions Committee composition was a bit more difficult to make recommendations for because even the simplest solution would change the composition of the Committee. The main challenge is that the promotions committee decides promotions for teaching-track and clinical-track faculty, but these faculty have no representation on the committee. The Lewis school also needed representation. The current OM language is the following

*The University Promotions Committee consists of four tenured faculty at the rank of Professor elected for three-year, staggered terms by the tenured faculty. Faculty members in the positions of chair, dean or comparable administrative position are not eligible for membership on the Promotions Committee. Nomination of candidates for the Promotions Committee will come from the Faculty Senate. Nominations for candidacy can also be presented by written petition endorsed by ten tenured faculty members. Positions on the Promotions Committee will be allocated as follows: one committee member from each school of the University and one at large, or as otherwise may be recommended by the Faculty Senate, and decided by a vote of the tenurable rank faculty.*

The proposed language is the following

***The University Promotions Committee will be composed of***

- ***1 faculty representative per school elected by the tenurable-rank faculty of that school***
- ***1 faculty representative elected by the university teaching-track faculty***
- ***1 faculty representative elected by the university clinical-track faculty***

***All nominees are intended to have the rank of Professor; however, a faculty of Associate Professor rank can be nominated for a position as a non-voting member of the committee.*** *Faculty members in the positions of chair, dean or comparable administrative position are not eligible for membership on the Promotions Committee. The positions will be staggered, three year terms. Nomination of candidates for the Promotions Committee will come from the Faculty Senate. Nominations for candidacy can also be presented by written petition endorsed by ten faculty members* ***that are eligible to vote for the given position.***

where the bold text is again the substantive changes. This recommendation will increase the number of representatives from 4 to 6. To overcome the challenges associated with the current low number of professor-ranked clinical and teaching track faculty, the committee recommended that an associate professor be allowed to be a representative; however, they would be a non-voting member of the committee. The committee also recommended one tenured representative per school to guarantee equity across the schools.

Approved:

Brian Helenbrook, Floyd Ormsbee, Andreas Wilke, Patricia Rand, Chris Robinson, Ashleigh Graveline, Douglas Bohl, Gasper Sekelj, Jane Oppenlander

# Proposal to continue recognition of the Institute for a Sustainable Environment as an academic unit at Clarkson University

Submitted February 2022

to Provost Hannigan
with copies to the Faculty Senate and Administrative Council

from Susan E. Powers, Director

## Contents

# Preamble and Purpose

The *Institute for a Sustainable Environment* was established in 2010 with Dr. Philip K. Hopke as its founding Director. Dr. Hopke saw the need to transition the previous *Center for the Environment* into a new type of unit that integrates interdisciplinary academic programs, faculty and campus sustainability initiatives into one entity that has elements of a School, but also a broader mission and cross-campus reach.

Clarkson's use of the term "Institute" was also established in 2010 with its integration into the Operations Manual[1] to describe university-wide units that are organized for multiple purposes. These new sections of the OM define that an institute must be reviewed by the University to assess the degree to which it is meeting its objectives and evaluate the continuing need for its operation. The initial ISE proposal defined a five-year review cycle. The first review was conducted in 2016 at the retirement of Dr. Hopke and the appointment of Dr. Susan E. Powers as the interim director. Her position was changed to director in 2017. This report provides an overview of the ISE's accomplishments and directions for review for continued operation for another five-year period.

# Background

## ISE Mission and Scope

As an institute, the scope of the ISE's role on campus is broad and cuts across other academic and operating units. The mission of the ISE was revised during the transition period between the leadership of Drs. Hopke and Powers. This then formed the basis of the ISE's Strategic Plan that is reviewed and revised annually. The key element of the ISE's mission is to serve as a hub across all of Clarkson's campuses:

> *The Institute for a Sustainable Environment is a collaborative and multidisciplinary community that serves as the hub for the University's drive toward a sustainable world. We facilitate high impact learning experiences, foster transformative scholarship, and engage the campus and broader community in order to understand and address environmental and sustainability challenges*.

A current version of the ISE's Strategic Plan and priorities for the next five-year period is included as Attachment A. This will evolve over the next year as the University's Strategic Plan takes shape. Based on the inclusion of sustainability as a key operating principle in the Strategic Framework, the ISE submitted a Winning Idea proposal April 2021 to use the United Nations Sustainable Development Goals (SDGs) as a mindset and ways of operating and communicating what we do to address this key principle. The original proposal was reviewed by a committee of Faculty Senate members, improved and presented by the Provost with other plans of other Schools to the Board of Trustees in October 2021. The concept has received wide-spread support.

The ISE is now moving forward with plans to implement activities to support this initiative (Attachment B). The use of the UN SDGs clearly defines the breadth of sustainability to include many social and economic attributes as key elements, not just environmental impacts. This clarity has helped many Clarkson units to see how their activities already help to achieve *Sustainability in all that we do*.

The broad scope of activities in the ISE are organized to align with ISE Strategic Goals. A few highlights for each of these are included in the following sections of this report.

- Academic Programs
  - Goal 2: Broaden the impact and scope of sustainability education at the University
- Research Activities
  - Goal 3: Develop and maintain assets and a culture supporting sustainability-related research
- Campus Sustainability Initiatives
  - Goal 5: Integrate sustainability into decision processes at all levels of the organization and across all aspects of campus operations.

Goals 1 and 4 are interwoven throughout these other primary activities.

[1] OM 2.6.0 Clarkson University Policies Governing Organized Activity Units

Goal 1: Grow the ISE's internal reputation as valued partner, hub, and facilitator
Goal 4: Build ISE's reputation in scholarship, education and outreach.

## Structure

The ISE operates under a Director, as an equivalent to a School without departments. In addition to the Director, Associate Directors for Education, Research and Sustainability provide leadership in each of these key areas. The Director reports to the Provost and the Assoc. Director for Sustainability acts as an advisor to the President and the President's Cabinet. An Executive Committee, with representatives from the Schools and the ISE, meets regularly to provide broad perspectives on the activities, priorities and progress with ISE initiatives. A few faculty within the ISE have joint appointments with another academic department, many others have a loose affiliation with the ISE. Staff can also be affiliated with the ISE. These affiliates, who have sustainability-related research, teaching, or job function interests, are supported by and are expected to participate in ISE activities. Details of the ISE structure are included in the organization chart provided in Figure 1. Relevant faculty and staff at both the CRC and Beacon Institute are included as ISE affiliates and have been active in some of our education and research initiatives. All of the discussion in this document includes current and future integration of the entire Clarkson University.

As defined in the Operations Manual, Institutes can act as an umbrella for allied research centers. Initially, the ISE included CARES (Center for Air Resources Engineering and Science), the Great Rivers Center (GRC) and the Center for Sustainable Energy Systems (CSES). Based on changes in faculty interests and support for the GRC and the CSES, these centers were dissolved. Aspects of the GRC activities are now integrated into CARES, and CSES activities into the broader ISE activities and the CSoE's Center for Electric Power Systems Research.

With the support of the ISE, CARES has evolved into a campus resource that supports many faculty who need analytical testing of a wide variety of contaminants in many different media (e.g., air, water, soil). That transition included a name change to CAARES (Center for Air & Aquatic Resources Engineering and Science). The university now also provides financial support for some equipment, equipment maintenance and the Lab Director position. New faculty are encouraged to include start-up funds to use CAARES and all of its resources rather than purchasing additional analytical equipment. Attachment C includes a summary report for CAARES

The ISE also helped with the initial concept and garnering support for the current New York Center of Excellence in Healthy Water Solutions (COE HWS) that is operated in partnership with SUNY ESF.

Both CAARES and the COE HWS are considered allied and independently operated research centers that are part of the overall ISE umbrella with many shared resources, interests and affiliates (Figure 1).

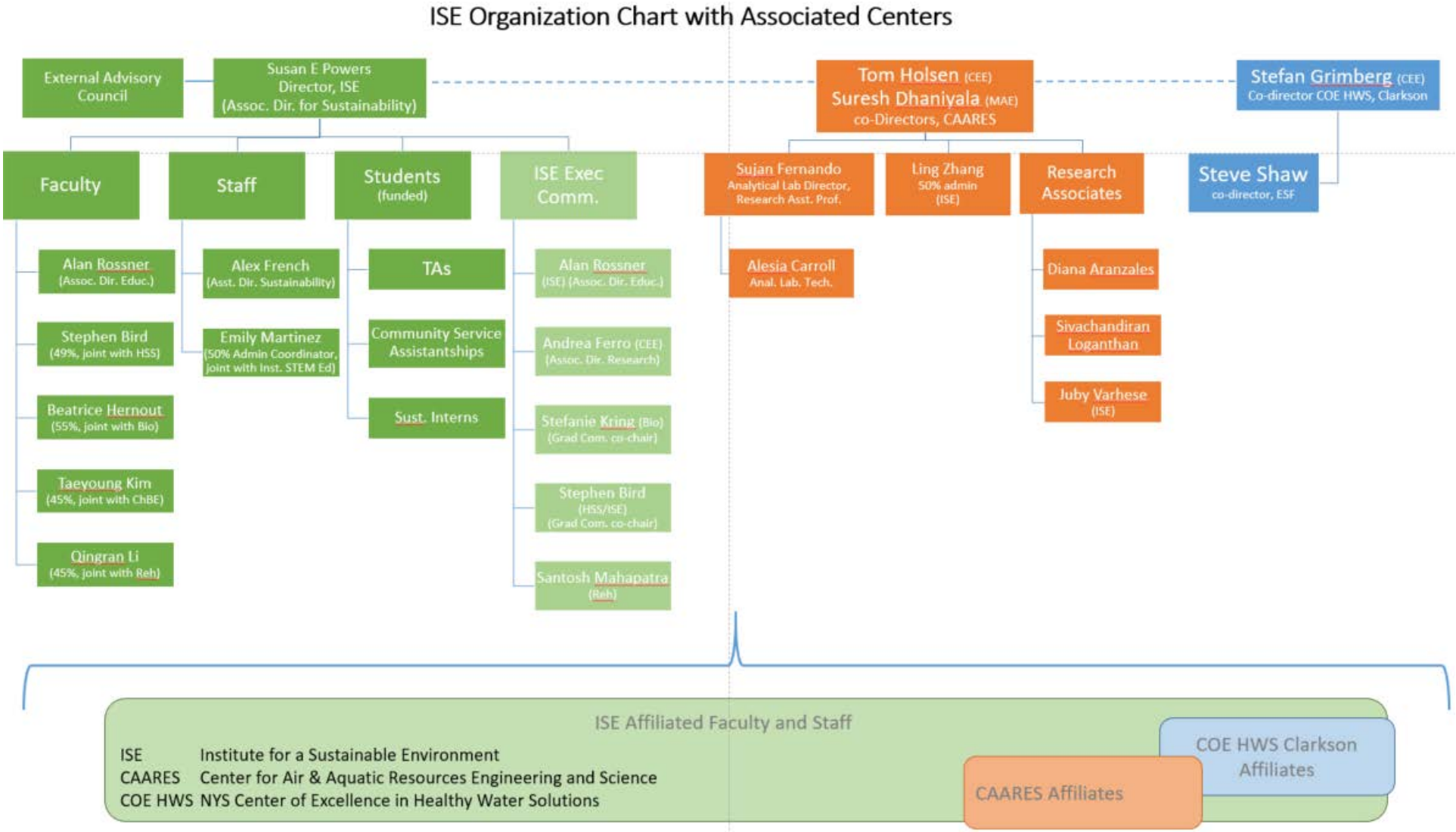


Figure 1. Organization of ISE and allied research centers

## Academic Programs

The ISE supports both its own graduate and undergraduate degree programs as well as minors and the Adirondack Semester to allow students from across campus to integrate aspects of sustainability into their own educational goals (Tables 1-2). The undergraduate degree programs are led by Dr. Alan Rossner, Assoc. Director for Education, and graduate degree programs are supported by a committee with leadership of ISE Executive Committee members Drs. Stefanie Kring (Bio) and Stephen Bird (HSS/ISE). Active and on-going assessment has led to recent curricular and a name change from Environmental Politics and Governance to Environmental Policy to help market this program and meet all relevant learning objectives. ISE affiliated faculty from several departments support these programs through classes and mentoring research and project work required for all degrees. In the past five years the MSEP, and MS and PhD in ESE graduate programs have maintained or increased applications and students

Students in the ES&P and EHS programs are achieving a high level of success. The size of the ES&P program (headcount) is on par with many of the degree programs in the School of A&S. The EHS program is small but stable, and may benefit from a rebranding and improved recruiting. Students who successfully graduate from the EHS program are receiving multiple job offers. The ES&P program has many of the most engaged and committed students on campus with an extraordinarily high level of involvement in student sports, clubs, and overall activity on campus.

The Adirondack Semester has stabilized as an important program critical to recruiting, retention, and marketing students, maintaining Clarkson's community linkages and reputation across the North Country, and enhancing experiential research opportunities for our students. Students have been engaged on research issues such as mercury accumulation, LEED for Communities in the New York Olympic Region, trail overuse problems in the Adirondacks, and Ecosystem fragmentation. Several of these issues have resulted in published research, ongoing research collaborations and partnerships with Adirondack Communities and agencies.

**Table 1. ISE Degree programs**

| Degree Program | Headcount | | Comments |
|---|---|---|---|
| | FY22 | 5-y Avg. | |
| BS Env. Science & Policy (ES&P) | 32 | 22 | Internal transfers into ES&P help to retain students at Clarkson |
| BS Env. Health Science (EHS) | 4 | 7 | Great job placement opportunities.<br>Some struggles with marketing a unique degree |
| MS Environ. Policy (EP) | 9 | 3 | Recent name change from Env. Policy & Governance to EP.<br>Options for joint MS EP/ MBA or MS EP/MS DS are popular |
| MS/PhD Env. Sci. & Engrg. (ESE) | 16 | 18 | Attracts interdisciplinary mix of students |

**Table 2. ISE Minors and Immersion Programs**

| Program / Minor | Headcount | | Comments |
|---|---|---|---|
| | FY22 | 5-y prior Avg. | |
| ADK Semester | 14 | 11 | 15-credit program related to ADK sustainability challenges while in residence at Paul Smiths College.<br>A transformative experience for many students |
| Env. Sci. / Env. Pol. minor | 15 | 14 | Many ADK Sem. students pursue one of these |
| EHS minor | 5 | 5 | |
| Sustainable Energy Sys. Engrg. & Sustainable Solutions for the Developing World minors | 32 | 37 | A CSoE minor, managed through the ISE.<br>Attracts students from all Engrg majors<br>/ Developed by a committee of faculty who are no longer able to be involved with this minor.<br>Needs a new champion for recruiting and sustaining this minor |

The graduate ESE degree program (MS+PhD) is on par with the headcount of smaller programs in A&S and CSoE. The MS EP program has been growing, especially with students in dual degree programs. Graduate students in ISE degree programs are funded by research, teaching and graduate assistantships through the ISE, Shipley, Ignite and athletics funding sources. A new Community Service Assistantship has been established to support students whose thesis or project contributes to campus or community sustainability initiatives. Very few ISE graduate students are self-paying. ISE Masters Degrees are clearly functioning as an important Human Resource recruiting benefit as several coaches and staff are pursuing Masters Degrees. This provides benefits across the board as these student/staff are generally strong students and contribute to Clarkson's broader research reputation. At the same time, this benefit is likely improving the quality of staff Clarkson can recruit, and improving retention.

Any ISE affiliated faculty can advisor ISE graduate students. However, faculty in other schools and departments sometimes lack institutional incentives to work with graduate students outside of their department, and in some cases are actively discouraged from doing so. Professors Kring and Bird have focused on increasing communication to faculty across the university, focusing on the range of potential benefits of doing so (increasing research output with quality graduate students, access to graduate students in situations where no dept. graduate program exists, and improving faculty reputation), and working to establish linkages between potential grad students and faculty. ISE is actively working with the Graduate School and Chairs to improve this situation, and to lessen disciplinary silos across the university, in accordance with the University's broader strategic goals.

## Research Activities

Dr. Andrea Ferro is serving on her second 3-y term as the Associate Director for Research. Research activities include organizing a variety of networking and research brainstorming activities, workshops and review to support newer faculty in their proposal writing efforts, and coordinating major ISE Lectures to promote further understanding of transdisciplinary research. These efforts are well aligned with the current Strategic Framework, which acknowledges the importance of transdisciplinary efforts required to solve the world's wicked problems. She coordinates her ISE activities with university-wide efforts and serves on the Committee on Faculty Development and Programming, chaired by Vice Provost Christopher Robinson, and the Research Advisory Committee, chaired by Dean Michelle Crimi.

Dr. Ferro developed a university-wide, weeklong proposal writing retreat with Dr. Trish Lowney, and they have hosted the retreat each spring since 2019. The retreat allows participants to work without distraction and obtain advice and feedback from experts and peers on components of their application to a federal or non-federal sponsor. During the week, successful researchers, administrators, and research staff meet with the retreat participants to provide guidance, information and resources. The retreat has been well attended and appreciated, especially by early career faculty. In 2019, 2020, and 2021, retreat participants numbered 15, 17, and 20 faculty, respectively, from Engineering, Arts & Sciences, Business, and Health Sciences. Participants consistently rate the retreat highly. Following the retreat, Dr. Ferro remains in contact with the participants and often reviews their proposals prior to submission. Dr. Ferro also pulls together multi-disciplinary research teams in response to various funding opportunities. Depending on the solicitation, she may or may not remain on the proposal team. She initiates or contributes to several of these team science efforts per year.

To celebrate the successes of the Clarkson faculty in ISE-related research and initiate new on campus collaborations, Dr. Ferro initiated and hosts the annual ISE Clarkson Keynote lecture series. The invited faculty modify a keynote or plenary lecture that they delivered at an international conference for a general Clarkson audience of approximately 50-100 people. The speaker also meets with an invited group of Clarkson researchers who may have collaboration potential with or benefit from the experiences of the speaker. The previous and current ISE Clarkson Keynote distinguished lecturers are: Dr. Kathleen Kavanagh (2019), Dr. Stephen Bird (2020), Dr. Silvana Andreescu (2021) and Dr. Selma Mededovich (2022).

Because of the ISE's fuzzy boundaries with affiliated faculty, it is difficult to quantify directly "ISE" research productivity. Review of research groups, papers written by Clarkson faculty and research grants funded though provides a sense of ISE related research activities. There are many direct ways that the ISE supports these efforts, including support of groups and proposal writing efforts, ISE graduate students, and access to CAARES facility. Many of the research successes highlighted here though are the result of more indirect efforts to promote interdisciplinary research, attract influential speakers, and a consistent campus-wide messaging about the importance of the wicked nature of many sustainability

challenges that warrant research, especially from interdisciplinary or transdisciplinary teams. This messaging through the ISE has been influential in attracting many of our newer faculty who are drawn to these problems and approaches.

Tables 3-5 highlight some of the key areas and faculty involved in research grants[2] (FY21) and papers[3] (2020). Complete lists associated with Tables 4 and 5 are included as Attachment D. The funding, papers and research groups identified here include faculty from all departments in CSoE and A&S, and faculty from the Reh School.

**Table 3. Examples of current interdisciplinary research groups**

| Interdisciplinary Project Groups | #faculty / staff | #depts/ units | Status | Include non-sci/engrg? |
|---|---|---|---|---|
| NYPA Climate Change Education* | 11 | 9 | Funded | Y |
| OUTSTEPs (intercampus effort, led by UB)* | 6 | 5 | Proposals written | N |
| COVID Aerosols* | 4 | 2 | Funded | N |
| Low Cost Air Monitors | 2 | 2 | Funded | N |
| EPA Fish in GL | 3 | 3 | Funded | N |
| Sust. Holistic Planning Systems | 5 | 5 | Working group - papers | Y |
| Smart Housing | 3 | 3 | Working group - papers | Y |
| Solar Adoption | 5 | 4 | Working group – papers | Y |
| Treatment of emerging contaminants (PFAS) | 5 | 3 | Funded | N |
| Food waste* | 4 | 3 | Funded | Y |

* new activities in FY21

**Table 4. Research grants related to ISE**

| Research Area | FY21 funding (1000s) | Faculty involved |
|---|---|---|
| Healthy Waters related research | $1,682 (dominated by Dr. Holsen's EPA Great Lakes Fish Monitoring grant) | Grimberg, Baki, Fernando, Krishnan, Wriedt, Wu, Yang, Holsen, Twiss, David, Christian, Darie |
| PFAS Treatment (not included above) | $800 | Mededovic, Holsen, Crimi |
| Aerosols / Air Quality | $287 | Dhaniyala, Holsen, Ahmadi, Ferro, Erath |
| Miscellaneous | $2,497 (dominated by Dr. Rogers' COVID testing of wastewater in the region) | Merret, Powers, DeWaters, Johnson-Woods, French, Rogers |

[2] Research award information extracted from detailed review of the SRS data dashboard (https://datadigest.clarkson.edu/ ). Awards for which ISE had a direct and obvious connection are highlighted (ISE faculty, CAARES lab use, support with proposal development, etc.). Others have looser ties to ISE in terms of the immediate connection to the award

[3] Journal papers and other outputs from Google Scholar and Web of Science searches (affiliation=Clarkson; year=2020; https://www.webofscience.com/wos/woscc/summary/efe11233-365d-4866-86a9-492d5be981d9-0b3df8c9/relevance/6 ). Apologies for omissions through these imprecise methods!

**Table 5. Papers related to sustainability topics (calendar year 2020)**

| Research Area | # Publications | Faculty involved |
|---|---|---|
| Aerosols and Air Quality | 14 (+23 additional from PKHopke w/o CU faculty) | Holsen, Rossner, Ahmadi, Ferro, Dhaniyala, Hopke, Mondal, Nakao, Stein, Priyamvada |
| Materials for Env. Applications (overlaps with CAMP) | 15 | Liguori, Y Yang, Peethamparan, Andreescu, Trivedi, Mitlin, Wriedt, Podlaha, Katz, McCrum, Bahrololoomi |
| Energy Systems | 14 | Visser, Bohl, Ahmadi, Q Li, Legault, Bird, Powers, Janoyan, Vu, J Li, Zhang, Liguori, Bomberg |
| Eco/Geo Systems | 12 | Hernout, David, Langen, Knack, Huang, HT Shen, Parshad, Bailey, Christian, Yoo, Hannigan |
| Healthy Waters | 12 | Skufca, Twiss, Baki, Knack, T Smith, Wu, HT Shen, |
| Env. Contam., Treat, Remediation | 8 | Fernando, Hopke, Holsen, Crimi, S Wang, Y Yang |
| PFAS treatment | 7 | Mededovic, Holsen, Crimi, Y Yang |
| Sustainable Products / Systems | 6 | Mahapatra, Powers, Atems, Paul, Ahmadi, XL Yang |
| Equality | 6 | Staiger, Atems, Echazu, Nocetti, Stephenson, Mahmoodi |

## Campus Sustainability Initiatives

Dr. Powers (as Assoc. Dir for Sustainability) and Alex French (Asst. Director for Sustainability) lead campus sustainability activities, along with the support of a handful of committees, close work with other operating units, some enthusiastic student clubs and a variety of class project. Collectively, they work to achieve two major presidential goals:

1. Meet the expectations of the Second Nature Presidential Climate Commitment signed in 2015
    a. Reduce greenhouse gas emissions to net zero by 2025
    b. Work with the broader community to identify vulnerabilities expected with a changing climate and prepare an adaptation plan to increase our resilience to these changes.
2. Achieve and retain a GOLD rating in the university sustainability rating system (STARS)[4]

The ISE tracks GHG emissions each year to identify critical areas for reduction. Changing our Hill campus (and almost all of the Potsdam campus) to renewable electricity and increasing the efficiency of HVAC systems substantially reduced our emissions. These efforts resulted in a 50% reduction thus far from our highest emissions in 2010. Our current priorities are heating fuel and carbon sequestration to offset the balance of our emissions. Current work with Facilities Director Michael Tremper and the CFO focuses on renewable natural gas as a heating fuel. Alex French is leading the effort to identify and quantify carbon sequestration through three forest projects to offset air travel and commuting emissions.

The high-level goal for STARS aligns with our "*Sustainability in all we do*" tag line and the recent adoption of the UN SDGs to advance this strategic focus. Table 6 includes the key areas that are included in STARS. Our Gold rating is dominated by strength in our education and research activities across most of our academic programs, though we have also made improvements in many other areas. STARS is a tool that provides opportunities for discussion with many units across campus to engage them with the concept of sustainability in their own activities.

**Table 6. Breadth of coverage of STARS assessment**

| Academics and Student Life | Operations - Infrastructure | Operations - Other |
|---|---|---|
| Curriculum | Air & Climate | Food & Dining |
| Research | Buildings | Purchasing |
| Campus Engagement | Energy | Coordination & Planning |
| Public Engagement | Grounds | Diversity & Affordability |
| | Transportation | Investment & Finance |
| | Waste, Water | Wellbeing & Work |

Students, faculty and staff have been integrally involved in all of ISE's sustainability initiatives. Recent examples include –

- Honors thesis projects focusing on the Potsdam Vulnerability Assessment that helped Potsdam's Bronze rating in the NYSDEC Climate Smart Communities Program. This helps meet the adaptation climate commitment.
- Math modeling class work to optimize ways to buy renewable electricity or place EV charging stations around campus
- CFO and faculty work with our new endowment investment firm to integrate ESG (environment, social, governance) considerations in the statement of investment philosophy
- The Science Center renovation planning team and designers embraced aggressive building energy standards as defined by NY for the SUNY system
- The Sustainability Fund project focusing on *Valuing our Natural Resources* has integrated hundreds of student volunteers for trail and trail head work; the Outing Club for lean-to concept, design and construction; the First year Biology class and an ES&P capstone project to identify and measure trees in the Clarkson Woods, which is essential to quantify carbon sequestration; and the grounds crew for a fabulous job redesigning the trailhead area and establishing meadow restoration projects to replace lawns.

[4] Sustainability Tracking, Assessment and Rating System developed by the Assoc. for the Advancement of Sustainability in Higher Education (AASHE)

## Looking Ahead – ISE for the next 5 years

Over the next five years, the ISE will have played a major role in supporting the campus' strategic operating principle for *Sustainability in all we do*. Courses, research projects and operating unit functions will be known based on what SDGs they truly support. Key one and five-year initiatives detailed in our annual review of our strategic plan (Attachment A) will grow ISE's support and service to the campus to achieve this strategic operating principle. Key priorities in this timeframe can be summarized as the following:

- Grow student numbers and success of ISE's degree programs
- Grow opportunities for other students to integrate sustainability into their education through
    - Updates to the Clarkson Common Experience
    - Support of faculty to integrate SDGs into new courses or content of existing courses
    - Increase opportunities for high impact, immersion learning like the ADK Semester and travel classes
    - Increase opportunities for badges for sustainability skills and accomplishments
- Provide professional development opportunities for faculty and staff to support their capacity to integrate sustainability in all they do through the SDG lens.
- Work with faculty groups to support their development transdisciplinary research teams to tackle wicked sustainability challenges. This includes evaluating and updating how we value scholarly work of all kinds as integral components of faculty workloads.
- Communicate! To share opportunities for all to be engaged in these activities and continued accomplishments
- Finalize and implement plans to reach net zero GHG emission goal
- Continue to use STARS as the overall assessment of our progress and accomplishments

Accomplishing this will take human and financial resources that are beyond our current capacity. The SDG initiative is a major step forward and, as a component of the University's strategic plan, will require provide the basis for fund raising activities. The ISE will work with the Provost and Development office to seek funding to provide the resources for this plan.

For FY23

- increase Alex's appointment from 10-12 months
- add a full time sustainability coordinator
- add one more community service assistantship (like Ignite Fellows), (~$27k stipend+tuition scholarship)
- add two interns to operating budget (~$8k)
- establish Climate Action Endowment ($5-10M)

For FY24

- 2 joint appts established (could be new lines or targeted hire that is already planned)
- add additional community service assistantship (~$28k stipend+tuition scholarship)
- add one additional UG intern (~$4k/y)

Financial request beyond two years are difficult to predict at this time given the continued evolution of the University's Strategic Plan and priorities of a new President and CFO.

The Climate Action Endowment will target non-infrastructure components of the Climate Action plan, including training and incentives for faculty and staff, programs for student engagement and credentialing, carbon offset projects, and student projects to evaluate and promote our efforts towards adaptation and mitigation.

The current space within the TAC is, in many ways, ideal for the ISE. It is a potentially high visibility area and is close to the TAC display area that we are considering updating to more thoroughly illustrate sustainability initiatives. It is hard though to add a Sustainability Coordinator, more graduate students and an additional faculty (joint) member within the confines of the existing space. As the ERC/TAC renovation continues, if additional space (~3 rooms) became available, it could help to meet the expansion needs.

Future administrative leadership of the ISE will also need to be considered. Both Drs. Powers and Rossner will be approaching potential retirement in the next five years. Succession planning will be an important aspect of the ISE planning over this time.

# Attachment A – ISE Strategic Plan update (for FY22 and 5 year)

**Mission statement**

The Institute for a Sustainable Environment is a collaborative and multidisciplinary community that **serves as the hub for the University's drive toward a sustainable world**. We facilitate high impact learning experiences, foster transformative scholarship, and engage the campus and broader community in order to understand and address environmental and sustainability challenges.

**Vision, the ISE will:**

1. Serve as a valued partner and resource to support schools, departments, faculty and staff from across campus to achieve the university's vision for sustainability.
2. Support the development of graduates who will view problems with a broad systems perspective and use their knowledge, skills, and innovations to develop sustainable solutions for a rapidly changing world.
3. Generate the knowledge and tools necessary to develop and implement sustainable solutions for regional and global environmental problems.
4. Explore and develop philosophies, policies, processes, and products to preserve the environment and serve humanity for generations to come.
5. Work within the region to improve quality of life through sustainable and just economic development and environmental protection.

**ISE Goals:**

1. Grow the ISE's internal reputation as valued partner, hub, and facilitator.
2. Broaden the impact and scope of sustainability education at the University.
3. Develop and maintain assets and an environment supporting sustainability-related research (staff, labs, admin support, excellent graduate students)
4. Build ISE's reputation in scholarship, education and outreach.
5. Integrate sustainability into decision processes at all levels of the organization and across all aspects of campus operations.

## General Metrics for ISE success

- Enrollment in ISE majors, minors, special programs; including diversity (major, gender, POC)
- Participation in ISE events, clubs (faculty, staff, students)
- Interdisciplinary research teams (activity, proposals, successes, students engaged)
- Sustainability integrated into academic programs (# classes, # with program-level LOs)
- Sustainability integrated into student co-curricular activities (# activities and participation - clubs, res. Life, OSL, SF projects)
- Sustainability integrated into operations (endowment, energy purchases/systems, job descriptions/review, purchasing, etc.)
- STARS / Net zero GHG

## Goal 1: Grow the ISE's internal reputation as valued partner, hub, and facilitator.

Aspiration Statements: The ISE hub is a…

- resource to provide critical mass, expertise and connections to increase faculty and student success
- resource to train, reward and otherwise incentivize increased sustainability integrated into all that we do on campus (build capacity) through the UN SDGs as a lens for identifying sustainability

Maintain Current Assets/On-going Activities:

- High # ISE affiliates across campus – lots of expertise and interest
- Several annual ISE events and support/co-sponsor for department events
- Newsletter for communication and connection
- Sustainability Fund projects, RAPS sustainability prize
- Affiliates participation in governance (committees, ExComm)

| Priorities FY22 | Expectations for 5 Y (FY27) |
|---|---|
| Grow the core of very actively engaged faculty in ISE/sustainability activities | Advisory board fully engaged and committed to supporting our success through their expertise – on going dynamic relationship and dialogue with EAC |
| Sustainability training for integrating/evaluating in jobs and strategic plans within units (SDGs) | ISE support has facilitated SDGs to be used by most units to integrate sustainability thinking into their strategic plans |
| Continue current communication strategies (e.g., weekly newsletter) and expand additional modes of communication, especially for SDGs | |

## Goal 2: Broaden the impact and scope of sustainability education at the University

Aspiration Statements:

- UN Sustainable Development Goals mapped onto all courses work and co/extra-curricular activities
- Sustainability literacy is expected for all students (Grad and UG)
- Through interdisciplinary projects and classes, graduates and undergraduate students will have a greater opportunity to participate in sustainability based service learning (both on campus and off campus)
- Our students are sought for jobs due to their experiential activities and ability to bring sustainability thinking into problem solving (would need to better maintain communication with grads; active linked in; exit interviews)

Maintain and Enhance Current Assets / On-going activities:

- Majors (ES&P, EHS, EPG, ESE, EnvE) and minors (ES, EP, EHS, SESE, SSDW)
- Sustainability Fund projects, RAPS sustainability prize
- Student clubs (EIS, Synergy, Garden, Bee, CUOC….); ISE internships
- High impact learning experiences (ADK semester, capstone projects, travel opportunities, UG research)
- High STARS rating for courses w/ sustainability content across programs
- Vague statements in current CCE expecting sustainability experiences

| Priorities FY22 | Expectations for 5 Y (FY27) |
|---|---|
| Evaluate-Sustainability classes in each program w/ SDGs | Increased # sustainability focused classes across curricula |
| Develop plan to grow # students in ISE majors – include dual major partnerships, marketing/branding strategies | look closer at the new Lewis School of Health Science for sustainability collaborations |
| Define “stability” and right size of ADK program to increase participation | Sustainability learning outcomes explicitly integrated into common experience |
| Students are engaged with faculty and/or staff to support sustainability initiatives in the “local” community (municipalities and businesses) | Suite of sustainability badges offered to engage more students with sustainability in their extra and co-curricular activities |
| Identifying and support other high impact education and co-curricular activities that immerse students in sustainability activities | Establish two additional high impact, immersion education experiences |
| Establish two new sustainability oriented badges | Endowment established ($5-10M) to support these initiatives |
| Provide training opportunities and incentives for faculty to add sustainability content to new or existing courses or curricular requirements. | |

## Goal 3: Develop and maintain assets and a culture supporting sustainability-related research (staff, labs, admin support, excellent grad students)

Current Assets:

- World-class analytical lab facilities – CAARES (mostly through Tom H and EPA)
- New CoE Healthy Waters Solutions initiated

Aspirations:

- Have and maintain world-class facilities to support faculty and their successful research
- We value research that spans the dimensions of sustainability
- Faculty are effective at working in transdisciplinary groups leading to successful

| Priorities FY22 | Expectations for 5 Y (FY27) |
|---|---|
| Two new teams of faculty are supported in their efforts to develop research ideas and submit proposals for funding to tackle TD research challenges. | Have a committed budget for graduate fellowships to support a vibrant cohort of grad students |
| Create a culture of effective advising and development of faculty and students to support interdisciplinary sustainability w/ SDG lens in their research | Campus-wide and centralized approach to purchasing, using and maintaining functional and up-to-date analytical equipment established and functioning (CAARES and Sci Center facilities) |
| | |

## Goal 4: Build ISE's reputation in scholarship, education and outreach.

Maintain and enhance Current Assets:

- New CoE Healthy Water Solutions initiated
- Healthy Global Solutions among university research themes
- CAARES world class analytical facility
- National/ international reputation – esp. aerosols, PFAS treatment and detection, power engineering
- AASHE STARS gold rating plus other state and nationally recognized sustainability accolades
- Aggressive net zero GHG by 2025 presidential goal
- Numerous partnerships already established for tech development and community sustainability (LfC-ORDA; Potsdam CSC; Uganda-EIS, Shipley, MACNC)

Aspirations: (5-Y)

- Be home to a national-level funded research center that builds on existing reputation
- Research caliber graduate students select Clarkson as a top choice for its research opportunities and relevant degree programs
- ISE partners with local and global communities to share expertise through research, education and outreach
- The outcomes of ISE activities effectively change technology, its implementation, policies and behaviors to increase sustainability on campus and in our broader communities

| Priorities FY22 | Expectations for 5 Y (FY27) |
|---|---|
| significant interdisciplinary research proposals submitted in two new areas | Have a committed budget for graduate fellowships to support a vibrant cohort of grad students |
| Web site upgrade | ISE faculty are engaged in high level state and national committees to increase reputation |
| Encourage more Conversation articles | |
| Encourage more case study type articles – e.g., ADK semester, partnerships with energy providers | Clarkson faculty and students routinely support sustainability initiatives in the local community (municipalities and businesses) |
| Focus & build – research priorities (Energy/Power, HWS, aerosols/low cost sensors, circular economy) <w/ Env Just throughout> | |
| | |

## Goal 5: Integrate sustainability into decision processes at all levels of the organization and across all aspects of campus operations.

Current Assets:

- ISE staff, sustainability committee, champions in many units across campus
- AASHE STARS gold rating plus other nationally recognized labels
- Sustainability Fund projects
- Aggressive net zero GHG by 2025 presidential goal

Aspirations:

- Sustainability is integrated into everything we do on campus (AGC, April 2010)
- All of campus understands sustainability activities – better communication, including details of what we do to get there, not just final high level goals (could be part of getting this into classes)

| Priorities FY22 | Expectations for 5 Y (FY27) |
|---|---|
| Sustainability is integral to strategic plan, master plan and common learning outcomes (through SDGs) | Net zero GHG emissions achieved |
| Impact of ESG endowment philosophies assessed and encouraged | Increase STARS points by at least 8 (out of 100 → still gold but close to platinum) |
| Sustainability integrated into HR (job descriptions, annual reviews) through SDGs | Another sustainability professional needed to support range of activities (2-year plan) |
| Progress made on reducing GHG emissions associated with heating | Sustainability considered in all procurement from paper to new bldgs. (sust + risk assessment) |
| Complete triannual STARS reporting | |

# Attachment B - Initial Plan for the Use of UN SDGs to Support Sustainability

Based on the inclusion of sustainability as a key operating principle in the Strategic Framework, the ISE submitted a Winning Idea proposal last Spring semester to use the United Nations Sustainable Development goals as a way communicate and share what we do to address this key principle. The original proposal was reviewed by a committee of Faculty Senate members, improved and presented by the Provost with other plans of other schools to the Board of Trustees in October. Robyn reported that the BoT was enthusiastic about the proposal.

The UN Sustainable Development Goals (SDGs) were developed in 2015 with the intent that significant progress be made to achieve a more equitable common standard of living across the globe by 2030. The same goals though can also apply locally. The 17 goals include elements that address society, our economy and the environment. Details about the goals are available at https://sdgs.un.org/goals.

The attached pages illustrate the connections between the plan to use the SDGs, the Strategic Framework, and our activities, many of which are already highly connected to the SDGs. It is our vision to use the SDGs to better document what we are already doing and to help all units think more deeply about what they could do in their own functions to meet the intent of the Strategic Framework. This plan also aligns well with our triannual Sustainability Reporting (STARS) to AASHE (Assoc. for the Advancement of Sustainability in Higher Education). We are working to maintain our Gold rating in our next submission for the STARS rating that is due in Feb. 2022.

Our next steps to initiate this campaign include the following:

| | |
|---|---|
| Nov-Jan 2022 | Socialize the concept and plan through university announcements, meetings and presentations to various units |
| Jan 2022 | Host a faculty-student workshop to explore how to integrate more sustainability into the curriculum through changes in existing classes and potentially new classes or curricular requirements. Funds will be available as incentives for faculty participation. |
| Dec – Jan 2022 | Inventory inclusion of sustainability concepts into current classes and faculty scholarly work<br>(this has been previously, but will include more emphasis on SDGs this year) |
| Jan-May 2022 | Marketing/ visibility campaign with Marketing Dept.<br>(ideas include posters, concerto messages, SDG treasure hunt, presentations, pick your SDG etc.) |
| Feb 2022 | Submit triannual STARS sustainability report (access to current report) |
| Nov–May 2022 | Work with the Common Experience Committee to explore the integration of SDGs into knowledge areas or other mechanisms. A UNESCO report on identifies many learning objectives that align with the SDGs. |
| Jan-May 2022 | Support units in their exploration of how they can integrate SDGs in their operations |
| May 2023 | Summary report submitted to identify successes, challenges and next steps. |

# Attachment C – Summary Report – CAARES

Thomas M. Holsen and Suresh Dhaniyala
Directors, Center for Air and Aquatic Resources Engineering and Science
315-268-3851
holsen@clarkson.edu

TO: Sue Powers

FROM: T. Holsen and S. Dhaniyala

SUBJECT: CAARES update

DATE: September 17, 2021

Per your request in Table 1 we have summarized the users of CAARES analytical services over the last year. Most are Clarkson faculty however, we have also had several outside users and the numbers are growing. We have significantly increased sample throughput and we expect sample numbers will continue to grow next year.

CAARES is now an accredited lab for per- and polyfluoroalkyl substances (PFAS) analysis through the Department of Defense Environmental Laboratory Accreditation Program (DoD ELAP). Accreditation gives us a significant advantage when competing for DoD PFAS related funding as researchers are being required to analyze samples at DoD ELAP accredited laboratories. Analyzing PFAS samples for outside collaborators is also an additional income stream.

CAARES continues to upgrade and expand analytical capabilities. We just received a new LC-MS for expanded PFAS analytical capabilities, are replacing our multidimensional GC with the newest model giving us much greater sensitivity for emerging contaminant work and are in the process of obtaining a new GC-MS instrument capable of analyzing for dioxin/furan at very low levels. Both of these purchases are part of our renewed Great Lakes Fish Monitoring and Surveillance Project (U.S. EPA, ~$6,000,000, 2020-2025). These acquisitions further our mission of being a centralized analytical facility for all Clarkson faculty.

**Table 1.** Sample numbers analyzed in CAARES in the past year not part of the GLFMSP project. All external users and most internal users paid for CAARES services however some work supported unfunded projects to help generate publications and new proposals.

| Name | Number of samples |
|---|---|
| Wriedt | >100 |
| Hernout | >200 |
| Crimi | >200 |
| Ferro | >50 |
| Holsen | >500 |
| Kim | >100 |
| Mededovic | >500 |
| Hannigan | >800 |
| Rossner | >200 |
| Peethamparan | <50 |
| Twiss | >100 |
| Yang | >100 |
| DMAX Plasma | >300 |
| U of Alaska (external) | >300 |
| ECT2 (external) | >100 |
| New York State Pollution Prevention Institute (NYSP2I)(external) | >300 |

It should be noted that the disadvantage of the pricing structure we have adopted is that without significant investment, either by new research grants, directed savings from start-up packages due to centralizing analytical services, return on overhead, or income from analyzing samples from outside collaborators, the current start-of-the-art equipment will become obsolete in the not too distant future. Based on an optimistic 7-year life span with no inflation, an investment of approx. $360K/year ($2,500K in equipment/7 years) is required to maintain our state-of-the-art facilities.

If you would like additional details about our budget or our successes over the last year please let us know.

# Attachment D – Details of Research Grants and Papers

ISE Annual Report, AY21: Research productivity and outputs for ISE related research[5]

## Research Awards (total - $5,165,518)

| **PFAS Related Research** | | **$799,682** |
|---|---|---|
| Demonstration and Validation of the Horizontal Reactive Media Treatment (HRX) Well for Managing Contaminant Plumes in Complex Geological Environment (Arcadis) | Crimi, Holsen | $35,657 |
| An Innovative Plasma Technology for Treatment of PFAS Impacted Waters (Battelle Mem. Inst.) | Crimi, Holsen | $75,411 |
| Further Development of Plasma Reactor for PFAS Destruction (DMAX Plasa LLC) | Crimi | 8,261 |
| Insitu and Exsitu Remediation of Per and Polyfluoroalkyl Substance n Groundwater (Strategic Env. Research & Dev.) | Mededovic, Holsen, Crimi | 172,312 |
| ESTCP (Wood Env & Infrastructure) | Mededovic, Holsen, Crimi | 156,388 |
| Novel Electrical Discharge Plasma-Based Processes for the Treatment of Fab Wastewater (Univ AZ) | Mededovic, Holsen | 88,973 |
| PFAS analysis, reduction and treatment evaluations (Global Foundries) | Mededovic, Holsen, Fernando | 97,100 |
| Analytical Services (NYSP2I) | Fernando | 28,580 |
| Center for Low Temperature Plasma Interactions with Complex Interfaces (Univ Mich) | Mededovic | 137,000 |
| | | |
| **Healthy Waters related research** | | **$1,682,231** |
| Center of Excellence – Healthy Waters Solutions (NYS Econ Dev) | Grimberg, Baki, Fernando, Krishnan, Wriedt, Wu | 131,341 |
| Electrochemical treatment of Azoles in SCD (Global Foundries) | Yang, Holsen | 100,000 |
| Development of Reactive Electrochemical Membranes for Toilet Wastewater Treatment (Cal Tech) | Yang | 130,000 |
| Electrochemical Oxidation of Cyanobacteria and Cytotoxin (ESF (CoE)) | Yang | 22,561 |
| ElectroChemical oxidation to mitigate harmful Algal Blooms (ReSet Water LLC) | Holsen | 20,000 |
| SLR – Nearshore water quality and composition for ecosystem management (St Law River Inst. Env Sci) | Twiss | 7,421 |
| The REASON Project: Understanding Ecosystem Change on the St. Lawrence River Kaniatarowanenneh (St. Lawrence River Research and Education) | Twiss | 14,894 |
| REU Site: Aquatic Sciences, Engrg and Tech. (ASET REU) (NSF) | David, Christian | 107,220 |
| The Great Lakes Fish Monitoring and Surveillance Program (EPA | Holsen, Darie, Fernando | 1,148,794 |
| | | |

[5] Research award information extracted from detailed review of the SRS data dashboard (https://datadigest.clarkson.edu/ ). Awards for which ISE had a direct and obvious connection are highlighted (ISE faculty, CAARES lab use, support with proposal development, etc.). Others have looser ties to ISE in terms of the immediate connection to the award

Journal papers and other outputs from Google Scholar and Web of Science searches (affiliation=Clarkson; year=2020; https://www.webofscience.com/wos/woscc/summary/efe11233-365d-4866-86a9-492d5be981d9-0b3df8c9/relevance/6 ). Apologies for omissions through these imprecise methods.

| | | |
|---|---|---|
| **Aerosols/Air Quality related Research** | | **$287,000** |
| Characterizing particle sampling using alternative substrates in passive air samplers (Env. Canada) | Dhaniyala, Holsen | 100,000 |
| CFD Modeling of Particle Transport and Dispersion in an Office Room – Developing Mitigation Measures for Protection against COVID 19 (EPA) | Ahmadi, Ferro | 87,020 |
| RAPID: Speech as a modality for airborne transport of virus laden droplets in the COVID-19 pandemic | Erath, Ahmadi, Ferro | 99,685 |
| | | |
| **Miscellaneous** | | **$2,496,585** |
| Follow on- Development of a Viable Ducted Turbine Assembly (Ducted Wind Turbines) | Merrett | 104,826 |
| Clarkson Ice Jam operational model (NYPA) | HT Shen, Huang | 394,766 |
| CU/ESF-NYPA Climate science training program for all employees (NYPA) | Powers, DeWaters, Johnson-Woods | 306,295 |
| Potsdam Community Food Waste Education, Engagement and Planning (NYSP2I) | Powers, DeWaters, French | 19,663 |
| COVD Testing in wastewater (CIA, SUNY Canton, SLU, Camp Treetops, Mariest College) | Rogers | 1,671,035 |

## Papers related to ISE (calendar year 2020)

***PFAS***

Removal of Poly- and Per-Fluorinated Compounds from Ion Exchange Regenerant Still Bottom Samples in a Plasma Reactor, Raj Kamal Singh, Nicholas Multari, Chase Nau-Hix, Steven Woodard, Michael Nickelsen, Selma **Mededovic** Thagard, and Thomas M. **Holsen**, *Environmental Science & Technology* 2020 54 (21), 13973-13980, DOI: 10.1021/acs.est.0c02158

Evaluation of PFAS treatment technology: Alkaline ozonation. Ryan Thomas, Kristen Jenkins, Beth Landale, Grant Trigger, Thomas M. **Holsen**, Sophia Dore, Donald Pope Jr., Jennifer Wasielewski, *Remediation* 30(2), 27-37 https://onlinelibrary.wiley.com/doi/full/10.1002/rem.21654, 2020

A sustainability assessment of an in situ ultrasonic reactor for remediation of PFAS-contaminated groundwater, F Laramay, M **Crimi**, *Remediation Journal* 31 (1), 59-72, 2020

Theoretical evaluation of chemical and physical feasibility of an in situ ultrasonic reactor for remediation of groundwater contaminated with per-and polyfluoroalkyl substances, F Laramay, M **Crimi**, *Remediation Journal* 31 (1), 45-58, 2020

Field Demonstration of the Horizontal Treatment Well (HRX Well®) for Passive In Situ Remediation, CE Divine, J Wright, M **Crimi**, JF Devlin, M Lubrecht, J Wang, ..., *Groundwater Monitoring & Remediation* 40 (3), 42-54, 2020

Hydraulic performance of the horizontal reactive media treatment well: Pilot and numerical study, BN Nzeribe, W Li, M **Crimi**, G Yao, CE Divine, J McDonough, J Wang, *Groundwater Monitoring & Remediation* 40 (3), 30-41, 2020

Electrochemical oxidation of perfluorooctane sulfonate (PFOS) substitute by modified boron doped diamond (BDD) anodes, Q Zhuo, J Wang, J Niu, B Yang, Y **Yang**, *Chemical Engineering Journal* 379, 122280, 2020

***Env. Contamination, Treatment/Remediation***

Decadal Differences in Emerging Halogenated Contaminant Profiles in Great Lakes Top Predator Fish, Sadjad Fakouri Baygi, Sujan **Fernando**, Philip K. **Hopke**, Thomas M. **Holsen**, and Bernard S. Crimmins, *Environmental Science & Technology* 2020 54 (22), 14352-14360, DOI: 10.1021/acs.est.0c03825

Nontargeted Screening of Halogenated Organic Compounds in Fish Fillet Tissues from the Great Lakes, Aikebaier Renaguli, Sujan **Fernando**, Philip K. **Hopke**, Thomas M. **Holsen**, and Bernard S. Crimmins, *Environmental Science & Technology* 2020 54 (23), 15035-15045, DOI: 10.1021/acs.est.0c05078

Concentrations and Long-Term Temporal Trends of Hexabromocyclododecanes (HBCDD) in Lake Trout and Walleye from the Great Lakes, Bita Alipour Parvizian, Chuanlong Zhou, Sujan **Fernando**, Bernard S. Crimmins, Philip K. **Hopke**, and Thomas M. **Holsen**, *Environmental Science & Technology* 2020 54 (10), 6134-6141, DOI: 10.1021/acs.est.0c00605

Evaluation of South African Sand/Zero-Valent Iron Combinations for the Treatment of Nitrate-Contaminated Water: Kinetic and Effect of Competitive Ions, AE Zorgani, M **Crimi**, A Cibati, C Trois, *Water, Air, & Soil Pollution* 231, 1-9, 2020

Stepwise ammonium enrichment using selective battery electrodes, M Son, E Kolvek, T **Kim**, W Yang, JS Vrouwenvelder, CA Gorski, et al., *Environmental Science: Water Research & Technology* 6 (6), 1649-1657, 2020

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# Memorandum

**DATE:** Feb 25, 2022

**TO:** Administrative Council and Faculty Senate

**FROM:** Bebonchu Atems and Jen Ball, Co-chairs, Climate and Engagement Committee Members

**SUBJECT:** Changes to the Climate and Engagement Committee

We are recommending several changes to the Climate and Engagement Committee. These changes are proposed to address concerns and calls for greater systemic representation and inclusion for underrepresented identity groups within the student, staff, and faculty bodies.

The proposed changes make Climate and Engagement an independent third body of Clarkson's Shared Governance. The Safety Committee and the ADA/504 Committee would be moved under the C&E Committee. This would move all three out from under the Administrative Council.

All would retain their current missions with the following changes noted to the Climate and Engagement Committee. It would retain its current mission to serve as the campus advisory body on diversity and inclusion and climate and engagement, while formally adding equity, belonging, and intersectionality to its mission. It would retain its authority to recommend actions and review strategic initiatives for the institution. It would continue to report to the president as appropriate.

Under the new structure the C&E Committee would join in the shared governance process of the university in an advisory capacity.

There would be two co-chairs with the Chief Inclusion Officer remaining as ex-officio and the new co-Chair would be nominated by the C&E Committee and appointed by the President.

The Committee would retain its current representative members from the university employees and students and add representatives from Caucus groups being formed to give greater institutional input for underrepresented and underserved populations. Finally, it would add an ex-offico representative of each of the current shared

governance bodies to the Committee and add an ex-officio, non-voting representative to the Faculty Senate and Administrative Council.

The Committee would meet twice during the fall and spring semesters and once during the summer. Similar to the Faculty Senate and the Administrative Council, it would review all proposed policy changes and propose policy changes, as appropriate, through an online asynchronous process. If needed, it would call special meetings to review proposed policy changes or address emergent issues. The flow of information would be to send agenda packet from the Faculty Senate and Administrative Council to the C&E co-chairs to distribute to the committee. The members would give input back to the co-chairs to share with the appropriate shared governance body either by the chairs giving comment during the body's meeting or by emailsubmitted to the body secretary.

**Operations Manual Language Table of Contents Update**

**Current**

- **OM 2.7.0 Operational Procedures for the Administrative Council**
- **OM 2.8.0 Faculty Senate Constitution**
- **OM 2.9.0 Paperflow for Senate and Administrative Council Actions**
- **OM 2.10.0 Committees of the University**
- **OM 2.11.0 Support Staff Policies and Procedures**
- **OM 2.12.0 Professional and Supervisory Staff Policies and Procedures**

**Change**

- **OM 2.7.0 Operational Procedures for the Administrative Council**
- **OM 2.8.0 Faculty Senate Constitution**
- **OM 2.9.0 Climate and Engagement Committee**
- **OM 2.10.0 Paperflow for Senate and Administrative Council Actions**
- **OM 2.11.0 Committees of the University**
- **OM 2.12.0 Support Staff Policies and Procedures**
- **OM 2.13.0 Professional and Supervisory Staff Policies and Procedures**

Current

- OM 2.10.1 Committees of the Faculty Senate
- OM 2.10.2 Standing Administrative Committees
- OM 2.10.3 University Committee Procedures

Change

- OM 2.10.1 Committees of the Faculty Senate

- OM 2.10.2 Standing Administrative Committees
- OM 2.10.3 Standing Committees of the Climate and Engagement Committees
- OM 2.10.3 University Committee Procedures

Current
OM 2.10.2 Standing Administrative Committees

**I. Standing Committees of the Administrative Council**

D. Climate and Engagement

D. Campus Climate & Engagement Committee (Chief Inclusion Officer)
Serves as the campus advisory body on diversity and inclusion and climate and engagement. Recommends actions and reviews strategic initiatives for the institution. Reports to the president as appropriate.

...

**III. Standing Mandated Committees**

A. Campus Safety[129a]
(1 female and 2 male faculty members; 2 female and 1 male undergraduate students; 3 female and 2 male staff members and the director of Campus Safety as convener -- the Committee must be comprised of at least 50% female members). **Annual nominations from Faculty Senate and Student Senate submitted to the President no later than September 30.**

1 The committee shall ensure that all requirements specified by legislation pertaining to Section 6450 of the education law subdivision 1-a, in its entirety, and subdivision 4c are addressed.

2 Concerns itself with a broad sense of campus safety which will include but need not be limited to: staffing and program implementation of the campus Safety Office; campus lighting; incidents reported; types and frequency; housing; intra/inter campus transportation; emergency communication.

3 Submits an annual report to the Dean of Students not later than April 15 of each year.

B. 504/ADA Compliance Committee
504/ADA Compliance Committee (ADA/504 Coordinator) Serves as an advisory group to the ADA/504 Coordinator on institutional matters of accessibility related to ability and ADA/504 concerns.

Change

Comprehensive Change

OM 2.9.0 Climate and Engagement Committee Operational Procedures

Membership

The members of the Committee shall be:

1. Representative members from the university employees and students Academic deans or their associates;
2. Representatives from the recognized Caucuses
3. Representatives of each of the current student shared governance bodies
4. Ex-officio, non-voting representatives from the Faculty Senate and Administrative Council;

Purpose

Serves as the campus advisory body on diversity, equity, inclusion, and belonging and climate and engagement. Recommends actions and reviews strategic initiatives for the institution. Reports to the president as appropriate.

Oversight and Reporting

-Produces an annual DEIB report
-Holds Biannual DEIB Forums for Clarkson Community
-Meets with the President quarterly
-Reviews DEIB strategic plan

The Climate and Engageent Committee shall provide cross-departmental and cross-functional review of new policies as well as rules, regulations, standards, and like matters within the framework of existing policies, including all additions to, deletions from, and revisions of the Operations Manual and the Clarkson Regulations. Recommendations based on these reviews shall be made to the president of the University. The minutes of the Council will be distributed to the members as soon as practical after each meeting. The wording of actions taken by the Council shall be reviewed by the executive committee of the Administrative Council and then sent promptly to the president of the University.

Items for the proposed agenda shall normally be presented by committee members to the Co-Chairs. Faculty and staff who are not members of the Committee may request any representative to place an item on the agenda. Items not placed on the agenda may be added as "other business" at the discretion of the chairs and/or the membership at any meeting.

Officers

The officers of the Climate and Engagement Committee will be the Co-Chairs. The Chief Inclusion Officer will be an ex-officio chair and the non-ex-officio Co-Chair would be nominated by the C&E Committee and appointed by the President.

Duties of the Co-Chairs

The Co-Chairs shall:

1. Act as the nominating committee for all committees of the Committee, and all members of each committee shall be administrative council members;
2. Review for possible editing all actions of the Committee prior to the to the president; and
3. Refer, when appropriate and desirable, items to the Senate and Council for its consideration, advice, and possible action prior to, or after, consideration by the Committee.
4. Make reports to Cabinet and other bodies with co-chair

General Procedures

The Committee shall meet twice each Fall and Spring semester and once during the summer. Special meetings may be held by majority vote or be called by the executive committee. The committee may meet online or conduct business between meetings through online review.

A quorum for a meeting of Committee shall be a simple majority of the membership.

For voting purposes, a majority will refer to the number of members voting, not including abstentions. In the event that a member of the Committee cannot attend a meeting, they may designate an appropriate replacement representative for the meeting who may vote on any matter coming before the Committee at that meeting.

History
Last Changed 2019

<u>OM 2.10.3 Standing Committees of the Climate and Engagement Committees</u>

Standing Mandated Committees of the Climate and Engagement Committee
This section describes the standing committees that the University has established in order to conduct general university operations or to conduct specific types of research activities in compliance with *legislated or regulatory requirements* of appropriate governmental authorities.

A. Campus Safety

(1 female and 2 male faculty members; 2 female and 1 male undergraduate students; 3 female and 2 male staff members and the director of Campus Safety as convener -- the Committee must be comprised of at least 50% female members). **Annual nominations from Faculty Senate and Student Senate submitted to the President no later than September 30.**

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History

Last Change 2019

# CLARKSON UNIVERSITY CAUCUSES

# WHAT IS A CAUCUS?

- A group of people in an organization who have *similar interests* (Cambridge Dictionary).
- A meeting of members of a group to address their specific/common issues and how to best accomplish their interests.
- A sub grouping of individuals with *shared affinities* or *ethnicities* who convene, often but not always to lobby, advocate, or agitate, collectively to advance a *common agenda*.
- *Independent group* of self-selected individuals that acts as *representational voice* to shared governance and the university administration/leadership, and recognizes, supports, and celebrates group *identity and culture*.

❖ Nonexclusive: Welcomes anyone *genuinely* intent on advancing the goals/interests/agenda of the group

# WHAT DOES IT MEAN TO BE UNDERREPRESENTED OR UNDERSERVED?

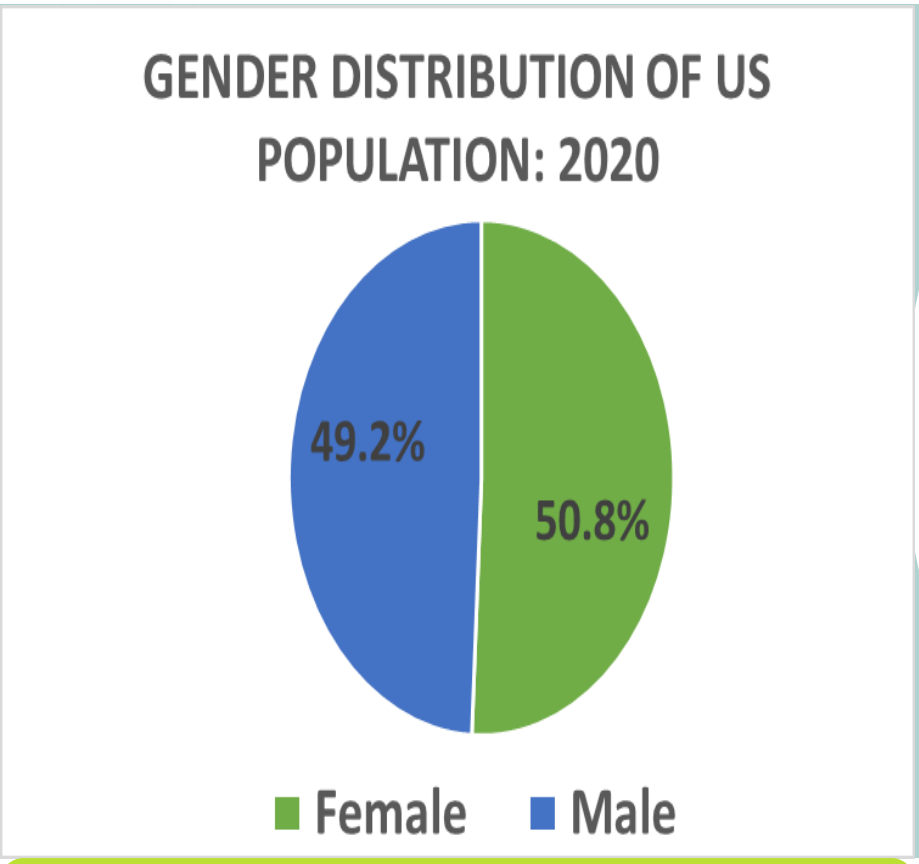
***Underrepresented*:** Subset of a population that holds a smaller percentage in a significant subgroup than the subset holds in the general population

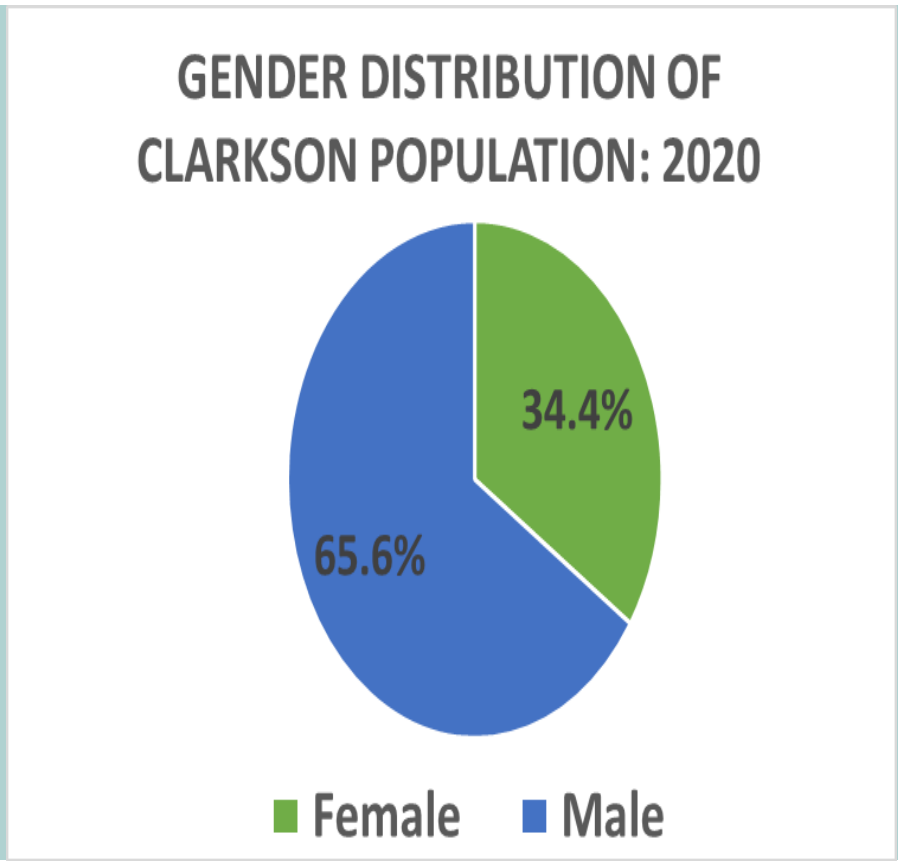
***In Academia***: A group or groups that have a smaller percentage in higher education relative to their percentage in the general U.S. population

***Underserved:*** Groups that are disadvantaged in relation to other groups because of structural and/or societal obstacles and disparities

***In Academia:*** Groups that have been disadvantaged in higher education & continues to face negative stereotypes, discrimination, or lack of support within the institution

# UNDERREPRESENTATION AT CLARKSON

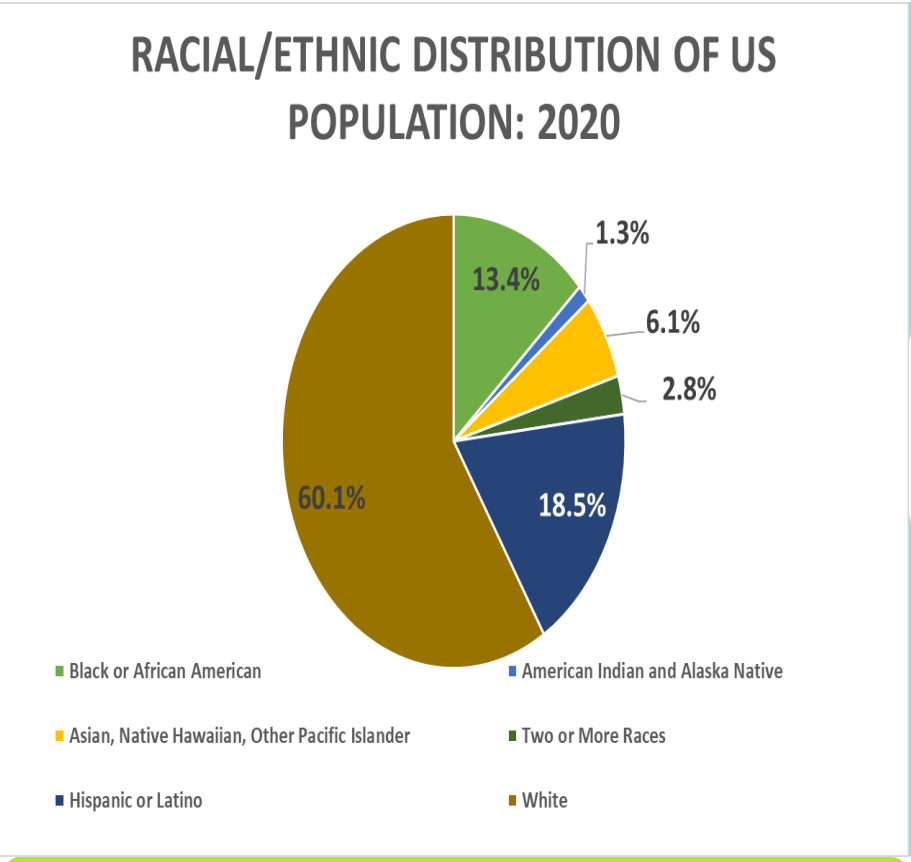


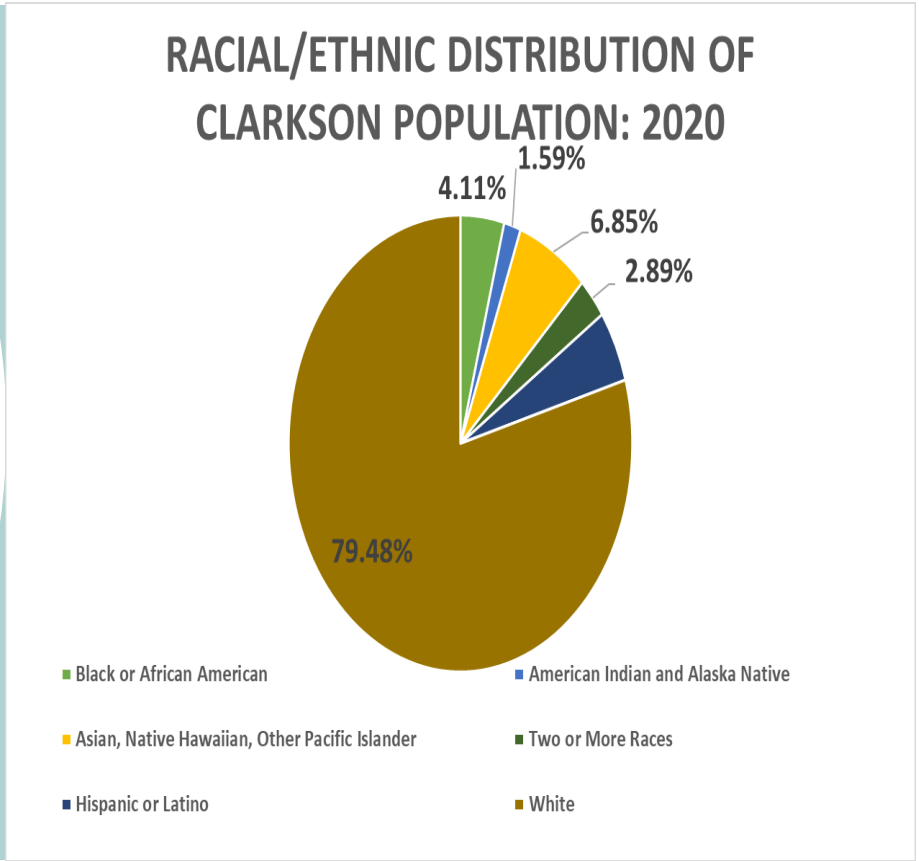




***Source***: U.S. Census Bureau

***Source***: Clarkson University Minority Report

# UNDERREPRESENTATION AT CLARKSON




***Source***: U.S. Census Bureau

***Source***: Clarkson University Minority Report

# HOW DO WE IMPROVE REPRESENTATION OF THE UNDERREPRESNTED AT CLARKSON?

## CAUCUSES

- Representational
- Deliberative
- Community
- Feedback

## Current Caucuses at Clarkson

- Black/African American
  - BLAC
- Indigenous
  - Indigenous Community and Outreach coordinator
- LGBTQQA
  - Gender sexuality Alliance, CIO
- Women
  - STEM LEAF ADVANCE
- Staff
  - Patrice Cole
- Hispanic
  - SHPE/CIO
- Asian
  - SASE, CIO

## Clarkson Specific Caucus Guidelines

- Representatives part of the Climate and Engagement Committee
- Focus on Issues of Identity Representing - can incorporate other elements
- Must have a regular meeting
- Develop a set of bylaws - explore structural model and decide on one for group


Questions
?

OFFICE OF THE PROVOST

Clarkson

8 Clarkson Avenue
Potsdam, New York 13699
315-268-6544
clarkson.edu

**Memorandum**

To: Faculty Senate
From: Robyn Hannigan, Provost
Re: COVID-19 Tenure Timeline Extension
Date: 21February 2022

In Spring 2020, as a result of COVID and anticipated interruptions in research, teaching, and service, I authorized a one-year automatic extension of the tenure clock for pre-tenure faculty. In the academic year 20-21 the senate approved extending the opportunity to allow pre-tenure faculty to request the extension for those who did not do so in Spring 2020.

As we move through this academic year there are indications that faculty hired over the past few years, but are currently pre-third year review, who did not take advantage of prior extensions or who were hired to begin their positions in their current academic year, have experienced interruptions in their progress towards a successful tenure decision that they did not anticipate.

I am requesting that the senate authorize an opportunity for impacted faculty to request a one-year extension of their tenure clock for those faculty who began their work at Clarkson University as full-time tenure track faculty in academic years 2019-20, 2020-21, and 2021-22 who did not avail themselves of prior extensions, are pre-third year review, but who have been impacted by COVID-19 disruptions whether personal or professional.