

Curriculum Vita

ROCHEFORT, Willie E. (Skip)

Associate Professor of Chemical Engineering
Executive Director, OSU Precollege Programs

DEGREES

B.S., Chemical Engineering, University of Massachusetts, 1976
M.S., Chemical Engineering, Northwestern University, 1978
Ph.D., Chemical Engineering, University of California at San Diego, 1986

ACADEMIC POSITIONS

Research Assistant, Chemical Engineering Department, University of Massachusetts, 1975-1976
Teaching and Research Assistant, Chemical Engineering Department, Northwestern University, 1976-1978
Teaching and Research Assistant, Applied Mechanics and Engineering Sciences, UC San Diego, 1981-1986
ChE Undergraduate Laboratory Instructor, UC San Diego, 1982-1986
NSF Postdoctoral Research Fellow, Ecole Supérieure de Physique et Chimie (ESPCI), Laboratoire d'Hydrodynamique et Mécanique Physique, Paris, France, 1986-1987
ChE Undergraduate Laboratory Instructor, Chemical Engineering Department, UC Santa Barbara, 1987-1988
Postdoctoral Research Associate, Chemical Engineering Department, UC Santa Barbara, 1988-1989
Staff Research Engineer, Chemical Engineering Department, University of California at Santa Barbara, 1989-1990
Instructor (part-time), Chemistry Department, San Francisco State University, 1992
Associate Professor (tenure track), Department of Chemical Engineering, Oregon State University, 1993-1999
Instructor, University of Oregon, Materials Science Institute, Graduate Internship Polymers Program, 2003-2020
Honors College Faculty, Oregon State University Honors College, 1997-present (*UHC Eminent Professor*, 2012)
Associate Professor (tenured), Department of Chemical Engineering, Oregon State University, 1999
Founder and Director, *Summer Experience in Science and Engineering for Youth (SESEY)*, 1997 – present
Founder and Coordinator, Johnson Scholars and Interns Program (1st Year CBEE students), 1999-present
Director, OSU Precollege Programs 2003 – 2013
Executive Director, OSU Precollege Programs, 2013 – 2019 (*ex officio* and Faculty Liaison 2019)
Founder and Director, *Center for Outreach in Science and Engineering for Youth (COSEY)*, 2005 – 2019
Instructor, University of Oregon Knight Campus Graduate Interhsip Program (Polymers Tract), 2020-present

NON-ACADEMIC POSITIONS

- *Polymer Engineer*, Kodak Apparatus Division, Rochester, New York, 1976 (summer)
- *Member of Technical Staff*, AT&T Bell Laboratories, Murray Hill, NJ, 1979 - 1981
- *Senior Research Engineer*, Dow Chemical Research Center, Walnut Creek, CA, 1990 - 1992
- *Project Leader*, Dow Chemical Research Center, Walnut Creek, CA, 1992 - 1993
- *Expert Witness*, Polymer Science and Engineering, 1993 – present
- *Industry Consultant*, Rheology, Polymer Processing, Biomaterials, 1993-present

FIELDS OF SPECIALIZATION

Polymer and Biomaterials – Rheological, Thermal, and Molecular Characterization
Non-Newtonian Fluid Mechanics (Gels, Colloids and Rheologically Complex Systems)
Polymer Processing (Liquid Crystal Polymers; Composites; Recycled Plastics; Plastics to Fuel)
Undergraduate Engineering Education and K-12 STEM Curriculum Development

Awards and Nominations

2023 OSU Excellence in Undergraduate Research Mentoring by a Faculty Member Award
2023 25 Year Mentor Award Apprenticeships in Science and Engineering (ASE)
2016 College of Engineering Alumni Professor Award
2015 AIChE Career and Education Operating Council (CEOC), Member At-Large
2014 Saturday Academy Creativity in Education Award
2013 Undergraduate Research Mentor of the Year
2012 National AIChE Student Chapter Advisor of the Year
2012 OSU Honors College Eminent Professor Award
2011 Fellow, American Institute of Chemical Engineers

2010 OSU University Outreach and Engagement Award
2009 UHC Outstanding Senior Thesis Mentor
2008 UHC Outstanding Professor - Nomination
2007 OSU Mortar Board Top Professor Award
2005 Loren D. McKinley Science Educator Award
2004 OSU Dar Reese Excellence in Advising Award
2004 College of Engineering Austin-Paul Faculty Advising Award
2002 OSU Honors College Outstanding Faculty – Honorable Mention
1999 ASEE Dean’s Teaching Award (Pacific Northwest Section)
1999 Finalist – Corvallis Chamber of Commerce Outstanding Educator Award
1998 National AIChE Student Chapter Advisor of the Year
1998 ASEE Dow Outstanding New Faculty Award (Pacific Northwest Section)
1998 OSU Greek Community Outstanding Professor Award
1997 University Faculty Advisor of the Year (ASOSU)
1996 Loyd Carter Award – OSU College of Engineering Outstanding Teacher
1996 OSU Nominee for Henry Dreyfus Teacher-Scholar Award Competition
1986 NSF Post-Doctoral Fellowship: U.S.-France Exchange for Scientists and Engineers

Graduate, Undergraduate and High School Student Research and Training

PhD Students

Abigail Kimerling, Ph.D. Chemical Engineering - UMass, Amherst (August, 2006) (co-major with Surita Bhatia, UMass)
Rebecca Bader, Ph.D. Materials Science (December, 2006)
Yili Wang, PhD ChE/WSE (co-major with Kaichang Li, WSE)
Hassan Raheem, PhD ME, August 2018 (co-major with Brian Bay, MIME)
Katrina Donovan, Ph.D. Materials Science, February 2019

MS Students

Changyong (Lance) Kim, M.S. ChE, 1995
Abed Al-Amri, M.S.ChE, 1995
Hardeepak (Happy) S. Gill, M.S. ChE, 1996
Charles Lind, M.S., Washington State University, 1996 (co-advisor for thesis work at OSU)
Zafar Malik, M.S. ChE, 1997
Manish Giri, M.S. ChE, 1998
Shih-Wei Ho, M.S. ChE, 1998
Dai-Wei (David) Yu, M.S. ChE, 1998
Bin Xu, M.S. ChE, 1999
Dick Caseli, M.S. Materials Science, 1999
David Gaibler, M.S. ChE, 2001
Brian Jones, M.S. ChE, 2001
Yorick Wauhaus, M.S. ChE, 2001
Brandon Barrett, M.S. ChE, 2001
Diana Djokoto, M.S. ChE, 2003
John Hunt, M.S. ChE, 2003
Cheryl Carbone, M.S. Materials Science, 2004
Danielle Leiske, M.S. ChE, 2004
Jim Kearns, M.S. Materials Science, 2004
Kevin Harris, M.S. ChE (June 2007)
Sara Tracy, M.S. ChE (June, 2008)

Jan Trenkel, M.S. Materials Science (December, 2008)
Dan Foster, M.Eng ChE (June, 2011)
Nathan Kolibaba, M.Eng ChE (March, 2013) (co-advisor)
Nicholas Kraaz, MEng ChE (June 2014)
Britany Swann, MS ChE, August 2017
Prajwal (PJ) Adiga, MS ChE, December 2018
Elliott Clement, MS Materials Science (June 2019) co-major with Brian Bay (MIME)
Monica Heng, MS Materials Science (June 2019) co-major with Brian Bay (MIME)
Kenya Hazell, MS Materials Science (Fall 2019)
Rudresh Mahambre, MEng ChE (Spring 2021)
Cheng-Ting Chen, MS ChE (Winter 2022)
Rustem Faskhutdinow, MEng (1st Year)
Elaine Sim, MEng (1st year)

CBEE Teaching

Introduction to Chemical, Biological, and Environmental Engineering (1995 - 2020)
Material and Energy Balances (with lab 10 years 1993 - 2003)
Senior Lab Sequence (1993 - 2003)
Polymer Engineering and Science (with lab) 1995 – present (>50 offerings)
Transport Lab (2007 - present)
Transport (Heat Transfer 2009 - present)
CBEE 414 Senior Lab (F 2021)

UHC Teaching

Courses CBEE 101H (1999 – 2020), ChE 332H (2015 – present)
Colloquia Plastics for Poets (1999-), Energy IQ (2011-), STEM Outreach (2013-)

Undergraduate Students in Research (Specific Information for Mentor Award)

University Honors College Theses (1999 – present)

Dan Euhus, UHC Senior Thesis (ChE), 1999
Eric Davis, UHC Senior Thesis (ChE), 1999
Dan Braman, 2000 (co-advisor with Goran Jovanovic)
Rick Osburn, 2000 (co-advisor with Goran Jovanovic)
Eric MacKender, UHC Senior Thesis (ChE), 2000 (co-advisor with Milo Koretsky)
Brandon Barrett, UHC Senior Thesis (ChE), 2000 (co-advisor with Moira Dempsey, Writing Center)
Kristi Keefe, UHC Senior Thesis (EnvE), 2002
Eric Mock, UHC Senior Thesis (ChE) 2003
Neil Geisler, UHC Senior Thesis (BioE), 2004
Wyatt Tenhauff, UHC Senior Thesis (ChE), 2004 (co-advisor with Milo Koretsky)
Rachel Hinton, UHC Senior Thesis (EnvE), 2004
Heidi Schmidt, UHC Senior Thesis (BioE), 2005
Katie Wiegandt, UHC Senior Thesis (ChE), 2005
Hannah Tuinstra, UHC Senior Thesis (ChE), 2006
Emily Lahman, UHC Senior Thesis (Ag Economics), 2006 (co-advisor with David Hackleman)
Nick Boehm, UHC Senior Thesis (ChE), 2007
Kelly Perry, UHC Senior Thesis (ChE), 2007
Kari Varin, UHC Senior Thesis (ChE), 2009
Paul Dornath, UHC Senior Thesis (ChE), 2010

Sara Varin, UHC Senior Thesis (ChE), 2011
Audrey Oldenkamp, UHC Senior Thesis (ChE), 2014
Nathan Hinkle, UHC Senior Thesis (ChE), 2015
Shale Flora, UHC Senior Thesis (ChE), 2015
Abby Griffiths, UHC Senior Thesis (BioE), June 2018
Kylee Mockler Martens, International Degree Senior Thesis (ChE), June 2018
Alyssa Swift, UHC Senior Thesis (ChE), June 2018 (co-major with Travis Walker, SDSM&T)
Ryan Cashen, UHC Senior Thesis (ChE), June 2019 (co-major with Travis Walkers, SDSM&T)
Molly Carpenter, UHC Senior Thesis (BioE), June 2019
Marisa Thierheimer, UHC Thesis (ChE), June 2019 (co-major with Owen McCarty, OHSU)
Elizabeth Lofurno, UHC Thesis (BB), Fall 2020 (co-major with Joseph Aslan, OHSU)
Charles Kawasaki, UHC Thesis (ChE), June 2021
Paris Myers, UHC Thesis, Bioengineering and Fine Arts, June 2022 (co-major with Solomon Yim)
Berkeley Skurwatowicz, UHC Thesis ME, March 2023

34 HC Thesis Students graduated

Kayla Carlson, UHC Thesis, ChE, Winter 2024
Brooke Aduviri, UHC Thesis, ME, Spring 2023
Kate Bandetinni, UHC, ChE (Spring 2024)
Nyssa Engebo, Spring 2024
Audrey Davis, UHC, ChE (2nd Year)
Bronte McKinnis, UHC, ChE (2nd Year)

6 HC Thesis Students in progress

Undergraduate Research Students in Polymer Laboratory (1999- 2016)

Jason Hower ('99-'02), Kevin Harris ('99-02), Erik Meuhlenkamp ('99-01), Kwame Adom ('99-'02), Szabolcs Farkas ('00-'02), Raz Ali ('01), Neil Geisler ('01, HHMI), Cory Rogers ('01), Janelle Mangini ('01-'02), Asrar Mohammed ('02), Tarek Fadel ('02), Danielle Leiske ('02, HHMI), Sara Tracy ('04-'05, HHMI and URISC), Chandra Corley, ('04), Virginia McMakin ('04), Julie Meloy ('04), Alex Cook ('05), Beth Beaudry ('05), Tesia Dobrydnia ('05), Paul Pierogovski ('05), Elizabeth Spencer ('05, HHMI), Matthew Crews ('05), Katherine Volmert (Cornell, '05), Kari Varin ('06), Colette Griffith ('06), Staci Van Norman ('06-'10, Intel WME '08, Native American '09), Kelsey Childress ('07), Trevor Chart ('07), Kayla Pierson ('06, '07 Johnson), Paul Dornath ('06-'10, HHMI '08, SBI '09), Alia Mulder-Rosi ('07), Nikki Buck (UC-Berkeley HHMI '08), Haley Thompson (Princeton HHMI '08), Brian Mahoney (SBI '09), Ian Braly (Johnson '08), Birdie Cicarelli ('08), Mike Knapp ('08), TJ McDonald (BEST '08), Nikole Wilkins (MIME '08), Coralie Backlund ('08), Christa Rose (UC-Davis '08), Nick Kraaz ('09-'12, SBI '11), Jenny Lauder ('09-'10), Marsha Lampi (URISC and HHMI 2009), Marshall Lake (Johnson '10, '11), Elyssa Trejoe (Johnson, '10-'12), Shannon Cahill-Weisner (HHMI 2010), Audrey Oldenkamp ('10-'12), Tara Krishnan ('09-'11), Jessica McKiernan ('10), Rose Felber ('10), Stephanie Silliman (CMU, SBI '10), Alex Vian ('11), Monica Kolinska (URISC and HHMI 2011), Camille Violet (HHMI and Johnson 2011), Nick Agalzoff (Johnson 2012), Kaylee Duchateau (Johnson 2012), Kayla Al-Khaledy (Johnson 2012), Vanessa Kung (UHC, 2012), Mikayla Koeltzow (2012), Audrey Oldenkamp (UHC, 2012), Nathan Hinkle (URISC, 2012), Stephanie Walker (URISC 2013), Curran Gahan (2013), Regan Cronin (2013 Intel WME), Allison Lind (ASU, 2014), Claire Rodman (Boston U. 2014), Albert Cai (UPenn, 2014), Amanda Reiter (Johnson 2014), Kylee Mockler-Martin (Johnson 2014), Michaela Mockler Martens (Johnson 2014), Helen Ann Haun (Johnson 2014), Nick Jursik (OSU Sustainability Grant, 2014, 2015), Marisa Thierheimer (OSU, 2014), Amanda Reiter (Johnson 2nd Yr 2015), Helen Ann Haun (Johnson 2nd Year, 2015), Amy Roluffs (Johnson 2nd Year 2015), Cody Rucker (2015, 2016), Claire

Rodman (2015), Raquel Sanchez (Johnson 2015, 2016), Rachel Johnson (Johnson 2015), Aileen Murphy (2015, 2016), Kylee Mockler Martens (2016), Sydney Quinton-Cox (2016), Libby Williams (2016), Mari Domingo (Johnson 2016), Heidi Oldekamp (2016), Yadi Kumbo (2016), Kirsty Ocansy (2015, 2016), Talal Al-Shamrani (2016), Jolynn Meza Wynkoop (2016),

Total UG Student Researchers 1999 – 2016 = 95 students

Last Six Years 2017 - 2023

Davis Jacobs (2016- 17), Kaylee Duchateau (2016-17), Ranya Al-Khaledy (ChE, 2016-2018), Bailey Puetz (Jonson 2017), Parker Busch (Johnson 2017), Claire Niemet (ChE, 2018-2021), Cindy Wong (OSU ChE, 2018), Emma Lingle (OSU EnvE, 2018), Charlie Kawasaki (OSU ChE, 2018-2021), Zavi Kaul (OSU ChE, 2018), Kyra Kadhim (OSU BioE, 2018), Conor Harris (OSU ChE, 2018), Kelly Hollenbeck (OSU ChE, 2018), Aaron Nibler (OSU ChE, 2018), Davis Jacob (OSU ChE, 2018), Michelle Sanchez (OSU BioE, 2019), Matteo Liserre (OSU ChE, 2019), Garrett Dubow (OSU ME, 2019 - 2021), Claire Niemet (OSU ChE, 2019 -2021), Alyssa Rogers (OSU BioE, 2019-2021), Maria Politi (OSU ChE, 2019), Evan Komp (OSU ChE, 2019), Brandon Liebe (OSU ChE, 2019), Jackie Nguyen (OSU ChE, 2019), Morgan Mayer (OSU ChE, 2019), Tyler Kuykendall (OSU ChE, 2019), Aaron Nibler (OSU ChE, 2019), Claire Niemet (OSU ChE, 2019-2021), Martha Brasted-Maki (OSU ChE 2019-2020), Lillian Nomie (ChE 2019 -), Brooke Aduviri (ME 2019-), Nicholas Cruz (ME 2019-), Bianca Hanson (ME 2019-), Asa Yunker (ChE 2019-), Riley Schweizer (ChE 2019 -2020), Kayla Carlson (ChE 2019 -), Matthew Graves (ChE 2019 - 2020), Kamryn Smith (EnvE 2020-2021), Shelby Surprenant (2020 -2022), Madeline Paasch (ChE 2021 -), Annika Czeck (ChE 2021 -), Brisa Sabel (ChE 2021 -), Animesh Patel (ChE 2021 -), Alex Zhen (ChE 2021-), Hannah Briggs (BHS 2021), Kate Bandettini (BioE 2021-), Nyssa Engebo (BioE 2021 -), Anna Sosnovske (EnvE 2021 -), Annelise Norkitis (BioE 2021), Willow Peterson (BioE 2021-), Teagan Rocheville-Higgins (UESP 2021-), Austin Lenoue (ChE 2021), Ajay Ratty (ChE 2021), Hannah Gedde (ChE 2021-), Bronte McKinnis (STEM Leaders 2021-), Audrey Davis (STEM Leaders 2021-), Claire Lee (ChE Sr 2022), Luke Wiebe (ChE Sr 2023), Evan Davis (Sr ChE 2023), Jessica Ralph (Jr ChE 2023-),

MIME Capstone Project Group (2021-2022) Plastics To Fuels (Emma Lingle, Keirnan Kilkenny, Andrew Eyere, Avrie Van Tilburg, Adam Osovsky)

URSA Engage 2022 Tiffany Trinh (ChE) , Mitchell Willhite (ME), Hayden Wierman (ME), Isabelle Howard (ChE), Sydney Nash (ChE),

URSA Engage 2023 Abigail Marshall (ChE), Heather Seldomridge (ChE), Jacob Walsh (ChE), Johanna Peeters Weem (EcoE), Stephen Eno (ChE), Maia Monsour (ChE), Laura Osborne (ChE), Kaitlin Barrios (EnvE), Eloise Thoreson (ChE So),

Total UG Student Researchers 1997-2023 = 76

UHC Senior Thesis Committees

Yosuke Yamamoto, 2003; Warren Gray, 2009; Anna Putnam, 2009; Marsha Lampi, 2012; Josh Breen, 2013; Sage DeLuna, 2015; Omar Sheik, 2015; Nick Silva, 2015; Heidi Oldenkamp, 2017; Kala Kopechek, 2018; Jenna Schardt, 2018

Senior Research Projects

Josh Ellis, BioE Senior project, 2003; Ryan Kubota, BioE Senior Project, 2004; Sara Tracy, ChE Senior Project, 2006; Staci Van Norman, Senior Project, 2010

Senior Project Teams

2019 Plastics To Fuel (PTF)

1) *Design of a Bench-Scale Pyrolysis Plastics-To-Fuel Reactor with Catalysis*

2) *Design of a Small-Scale Reactor for Tandem Polymer Gasification and Fisher-Tropsch Synthesis*

2018 3D Printing *Design of low volume chemical reactors for in a Senior Lab Chemical Reaction experiment*, Kaylee Duchateau, Bryce Beatie, Kendra Connell

2017 3D Printing Justin Gauvin, Ellis Hammond-Perreira, Waleed Al Zakwani

2016 PLA Recycling for 3D Printing Wyatt Self, Jonathan Hesseltine, Colin Marshall
(*HP Award Winner for Best Project at Engineering Expo*)

Johnson Scholars and Interns Program – Founder and Coordinator (1999-2021)

- Research summer program for 1st Year CBEE students after completing one-year in CBEE.
- Coordinate academic internships for 25 CBEE students per year at Oregon Universities (OSU, UO, PSU, OHSU, Eastern Oregon, Southern Oregon)
- Total = 432 internships (1999-2021)

K-20 Outreach Activities

- Executive Director, OSU Precollege Programs (2013 – 2020)
- Director, OSU Precollege Programs (2003 – 2013)
- OSU Precollege Programs web site - <https://precollege.oregonstate.edu/>
- Director, Center for Outreach in Science and Engineering for Youth (COSEY), (2005 – 2018)

HS Student Research: Jason Hower ('98-'99), Adam Welander ('99-'01), Jamie Bergen ('99), Annie Gai ('00-'01), Hai Le ('01-'02), Meghaan Smith ('01-'02), Kira Elsasser ('01-'02), Erica Zaworski ('04), Neil Lakin (Oregon Episcopal '04), Paul Dornath (Benson HS '05), Kyle McVay (McKay HS '07), Christa Rose (CVHS '07), Coralie Backlund (CHS '07), Alia Mulder-Rosi (PHS '09), Tara Krishnan (CHS '08, '09), Laura Beaudry (CVHS '08, '09), Marshall Falk (PHS, '09), Jenna Browning-Kamins (PHS '09), Jessica McKiernan (PHS '09), Talia Helman (Silverton HS, '12), Jolynn Meza Wynkoop (West Albany HS '12), Alisson Lind (CVHS '13), Heidi Oldenkamp (Canby HS, '13), Claire Rodman (CHS, '14), Gabby Fief (West Albany, '13), Emma Molitor (CHS, '15), Leah Hanen (CVHS, 2015), Nate Haslam (Philomath HS, 2016), Ben Templeton (CHS, 2016), Elena Meza Wynkoop (West Albany HS, 2017), Renuka Bhatt (CHS, 2017), Khana Bhatt (CHS, 2017), Claire Niemet (CVHS, 2017, 2018), Martha Brasted-Maki (Sheldon HS, 2018)

Apprenticeships in Science and Engineering (ASE) for High School Students (8 week research program)

- **1997**- \$2500 from *NYPRO Oregon* to fund high school student (Jason Hower, Corvallis High School)
- **1998** - \$2500 from *NASA Space Grant Program* (Adam Welander, Central High School, Independence, OR)
- **1999** - \$2500 from *NASA Space Grant Program* (Annie Gai, Sheldon High School, Eugene, OR)
- **2000** - \$2500 from *NASA Space Grant Program* (Hai Le, McKay High School, OR)
- **2001** - \$5400 from *NASA Space Grant Program* and *Amtek LLC* (Stephanie King, Newport HS & Tim Cook)
- **2002** – Six (6) High School students; HHMI, Space Grant, ETIC funding
- **2003** – Seven (7) High School Students; HHMI, Space Grant, ETIC, Hewlett Foundation
- **2004** – Eleven (11) High School Students; HHMI, Space Grant, ETIC, Hewlett Foundation
- **2005** – Seven (7) High School Students; HHMI, Space Grant, ETIC, Hewlett Foundation
- **2006** – Two (2) High School Students; ETIC
- **2007** – One (1) High School Student; ETIC

- **2007** – Three (3) High School Students, PCP Funds
- **2008** – Three (3) High School Students, PCP Funds
- **2009** – Three (3) High School Students, PCP Funds
- **2010** – Three (3) High School Students, Saturday Academy Portland ETIC Funds
- **2011** – Four (4) High School Students, Saturday Academy Portland ETIC Funds and PCP Funds
- **2012** – Three (3) High School Students, Saturday Academy Portland ETIC Funds and PCP Funds
- **2013** – Three (3) High School Students, Saturday Academy Portland ETIC Funds and PCP Funds
- **2014** – Three (3) High School Students, Saturday Academy Portland ETIC Funds and PCP Funds
- **2015** – Three (3) High School Students, Saturday Academy Portland Funds and PCP Funds
- **2016** – Two (2) High School Students, Saturday Academy Portland Funds and PCP Funds
- **2017** – Two (2) High School Students, Saturday Academy Portland Funds and PCP Funds
- **2018** – Two (2) High School Students, Saturday Academy Portland Funds and PCP Funds
- **2019** – Three (3) High School Students, Saturday Academy Portland Funds and PCP Funds
- **2022** – Three (3) High School Students, Research Funds
- **2023** – Three (3) High School Students, Research Funds

Total = 62 High School Students through Saturday Academy ASE Program

Dr. Skip Rochefort - 25 Year Mentor Award - *Apprenticeships in Science and Engineering (ASE)*

ASE HS Students: 1997- 2019

Jason Hower ('97), Adam Welander ('98), Annie Gai ('99), Hai Le ('00), Tim Cooke ('01), Stephanie Hobbs ('01); six High School students in summer 2002; seven HS students in summer 2003; eleven HS students in summer 2004; seven HS students in summer 2005; Sara Varin (Thurston HS '06), Megan Blass (CVHS '06), Tara Krishnan (CHS '07), Jessica McKiernan (PHS '08), Monique Handloser (PHS '08), Jamie Clark (CHS '08), Audrey Oldenkamp (Canby HS '09), Rose Felber (PHS '09), Shannon Cahill-Weisner (Home School, '09), Talia Helman (Silverton HS '10), Alejandra Gonzalaz (Corvallis HS '10), Jolyn Meza-Wynkoop (West Albany HS '10), Katherine Banowitz (CVHS, '11), Neda Kazerouni (CVHS, '11), Courtney Fisher (CVHS, '11), Molli Trejo (CVHS, '14), Heidi Oldenkamp (Canby HS, '12), Allison Lind (CVHS, '12), Emma Brazell (CVHS, '15), Marisa Thierheimer (CVHS, '14), Risha Prasad (CVHS, '14), Dylan Wirth (West Albany HS, '15), Kayla Crossan (Lebanon HS, '15), Nicole Meads (Lebanon HS, '14), Justine Fiest (CHS, '15), Karly Vial (CHS, 2015), Emily Meulshagan (CHS, 2015), Billi Jean Herring (Jefferson HS, 2015), Claire Niemet (CHS, 2016), Emily Harding (West Albany HS, 2016), Cindy Wong (West Albany HS, 2017), Kira Ward (Sheldon HS, 2017), Martha Brasted-Maki (Sheldon HS, 2018), Zoey Mikalotas (Columbia River HS, Vancouver, WA 2018), Dara Coon (Philomath HS, 2019), Hiral Patel (Philomath HS, 2019), Audrey Davis (Philomath HS, 2019), Molly McNulty (Harrisburg HS, 2022), Emma Holden (Philomath HS, 2022), Celia H'Almeida (Corvallis HS, 2022), Jack Kurth (Crescent Valley HS, 2023), Ingrid Celis (Corvallis HS, 2023), Lucas Mierisch (Corvallis HS, 2023)

Summer Experience in Science and Engineering for Youth (SESEY)

- **Director and Founder of the program.**
- **\$31,000** funding from *Dreyfus Foundation* and *OSU Pre-College Programs*
- Summer research program for women and minorities underrepresented in science and engineering.
- **1997** - 24 High School participants (19 girls, 5 boys) and one HS science teacher.
- **1998** - 21 High School participants (19 girls, 2 boys).
- **1999** - 25 High School participants (19 girls, 6 boys)
- **2000** - 24 High School participants (19 girls, 5 boys)
- **2001** – 26 High School Participants (21 girls, 5 boys)
- **2002** – 35 High School Participants (29 girls, 6 boys)
- **2003** – 26 High School Students (19 girls, 7 boys) and one HS math teacher

- **2004** – 40 High School Students (34 girls, 6 boys)
- **2005** – 36 High School Students (28 girls, 8 boys)
- **2006** – 46 High School Students (38 girls, 8 boys)
- **2007** – 53 High School Students (42 girls, 11 boys)
- **2008** – 47 High School Students (36 girls, 12 boys)
- **2009** – 61 High School Students (48 girls, 13 boys)
- **2010** – 61 High School Students (49 girls, 12 boys)
- **2011** – 41 High School Students (31 girls, 10 boys)
- **2012** – 52 High School Students (41 girls, 11 boys)
- **2013** – 63 High School Students (52 girls, 11 boys)
- **2014** – 58 High School Students (45 girls, 13 boys)
- **2015** – 61 High School Students (55 girls, 6 boys)
- **2016** – 60 High School Students (44 girls, 16 boys)
- **2017** – 60 High School Students (42 girls, 18 boys)
- **2018** – 55 High School Students (35 girls, 20 boys)
- **2019** – 50 High School Students (35 girls, 15 boys)
- **2022** – 36 High School Students (22 girls, 14 boys)
- **2023** – 44 High School Students (32 girls, 13 boys)

Demographics 853 girls, 252 boys (77% girls)

Total Participants = 1105 HS Students

Family Science and Engineering Nights (FSEN) (2001 – present)

- *co-founder with Margie Haak (Chemistry)*

- 18-20 per academic year community STEM events @ Oregon Elementary Schools

Saturday Academy E-Camp – Middle School Engineering Camp (2003 – 2017)

- *co-founder (with Ellen Ford) and Director (with Cathy Law)*

- One week summer camp for 25-30 middle school students

STEM Academy E-Camp – Middle School Engineering Camp (2017 – present)

- *Director (with Catherine Law)*

- One week summer day camp for 25-30 middle school students

SKIES – Spirited Kids in Engineering and Science (2003 – 2013)

- *co-founder (with Karen Swanger, KidSpirit) and Director*

- 10 week K-5 summer camp for 40 students per week

Saturday Academy (currently housed at the University of Portland)

- *Midsummer Conference* -- Workshop on "Plastics in Daily Life" (July 1996 through 2018)
- *Midsummer Conference* Plenary Lecture “*The What, Where, How, and Why of Choosing a College*” and Workshop “*Pathways in Engineering*” (2005 – 2009, 2012 - 2021)
- *Year-End Conference* -- Chairperson of Technical Sessions (August 1996 - 2018)

Intel Science and Engineering Fair (ISEF)

- *Intel Northwest High School Science Expo* (1997, 2001 – 2011, Head Judge, Engineering)
- *Intel International Science and Engineering Fair (ISEF)* (Head Judge, Engineering, 2004 - 09)
- *Intel International Science and Engineering Fair (ISEF)* (OSU Special Awards Judge, 2004-09)

Service Activities – Oregon State University

School of CBEE

- Johnson Scholars and Interns, Founder and Program Coordinator, 1999 – 2021 (429 students)
- Undergraduate Curriculum Committee (1994 - present)
- CBEE DEI Committee, 2021 -
- AIChE Student Chapter (CBEE Student Club) Advisor (1993 – present)
- AIChE ChemE Car Team Advisor (1993 – 2019)
- CBEE Scholarship Committee (1994 - 2017)
- Head Academic Advisor, March 2003 – September 2005
- First Year Student Advisor, September 2005 – 2013
- CBEE High School Outreach Coordinator (1994 - present)
- Beaver Open House (1993 - 2010); Kaleidoscope Minorities Program (1996 - 2005)
- Graduate Admissions Committee (9/93 - 6/95)
- Coordinator of Undergraduate Laboratory Improvement Funding Campaign (1996-98)

College of Engineering

- Task force for the revision of *Introduction to Engineering Curriculum* (summer, 1995)
- Initiator and coordinator of *COE Freshman Poster Competition* (1995)
- COE Awards and Recognition Committee ('97, '98)
- COE Diversity Committee (2004-06)
- COE Women and Minorities in Engineering Ambassadors (Faculty Advisor 2004 - 2017)
- Director, Center for Outreach in Science and Engineering for Youth (COSEY 2005- 2018)
- Louis Stokes Alliance for Minority Participation (LSAMP Faculty Mentor 2011-2017)
- LSAMP Summer Scholars Bridge Program – presenter (2011 – 2019)
- COE Recruitment (Faculty Representative 2018 – 2020)
- COE Outreach Committee (2019 - 2020)
- COE Honors College Review Committee (Spring 2021)

University

- Director, OSU Precollege Programs (2003- 2013)
- Executive Director, OSU Precollege Programs (2013-2019) (*ex officio* and Faculty Liaison 2019 -)
- URISC Review Committee (2009 – 2016)
- URSA Engage Faculty Mentor (2016 – 2021)
- STEM Leaders Program (2016 - 2021)
- Honors College Faculty (1997 – present) (UHC Eminent Professor 2012)
- University Student Awards and Recognition Committee (1996 – 1998, 2007-2009, 2011-2013)
- Chairperson - '96, '97, '98, '09 Waldo-Cummings Sophomore Academic Excellence Award
- Honors College Recruitment Events (2012 – present)
- OSU Going Back To Campus Committee (Winter/Spring 2021)

Professional Societies

American Institute of Chemical Engineers (AIChE)

- ***AIChE Fellow, Fall 2011***
- **OSU AIChE Student Chapter Advisor, 1993 – present (28 years)**
- **AIChE National Student Chem-E Car Competition – Chair, Rules Committee ('97- present)**
- AIChE Pacific Northwest Regional Liaison and Regional ChemE Car Coordinator (1997- present)
- Student Chapters Committee (SCC) -- AIChE National ('97 – present)

- SCC Executive Committee 2007-2011, Chair 2009-10
- AIChE Career and Education Operating Council (CEOC), 2015- 2017, 2020 – present
 - CEOC Subcommittee – Diversity, Equity, and Inclusion – 2020 - present
 - CEOC – Student Chapters Executive Committee Liaison
- AIChE Blue Ribbon Membership Committee (Sept. 2018 – present)
- Oregon Section AIChE -- Executive Committee ('93 – '03), Chair '03-'08

Technical Association of the Pulp and Paper Industry (TAPPI)

- OSU TAPPI Student Chapter Advisor, 1993 - 2010
- Pacific Section TAPPI-- OSU Representative on Executive Committee, 1993 – 2010

American Society of Engineering Education (ASEE), 1993 - present

- Chemical Engineering Division; Freshman Engineering Programs

American Chemical Society (ACS), 1993 – 2013

Society of Rheology, 1976 – present ; 2007- 2010 *AIP Liaison Committee on Underrepresented Minorities*

Journal Reviewer: AIChE Journal; Journal of Rheology; Macromolecules; Polymer; Journal of Polymer Science;

NSF Course and Curriculum Development Review Panel June '95, July '96, July '97 (Panel Chairperson)

NSF SBIR Review Panel – Sustainable Energy and Materials (2006, 2007, 2009, 2010)

PUBLICATIONS (*indicates principle author(s))

Technical Journals

- W.E. Rochefort*, G.G. Smith, H. Rachapudy, V.R. Raju, and W.W. Graessley, “Properties of Amorphous and Crystallizable Hydrocarbon Polymers, II. Rheology of Linear and Star-Branched Polybutadiene,” *J. Polymer Science: Polymer Physics Ed.*, **17**, 1197 (1979)
- C.M. Vrentas*, W.E. Rochefort*, G.G. Smith, and W.W. Graessley, “Comparison of Eccentric Rotating Disk and Oscillatory Measurements of Dynamic Moduli in Polymer Liquids,” *Polymer Eng. and Science*, **21** (5), 285 (1981)
- Dale S. Pearson*, Ann Mera, and Willie E. Rochefort, “Concentration Dependence of the Viscosity of Polyisoprene Solutions,” *ACS Polymer Preprints*, **22** (1), 102 (1981)
- Dale S. Pearson* and Willie E. Rochefort*, “Behavior of Concentrated Polystyrene Solutions in Large-Amplitude Oscillatory Shear Fields,” *J. Polymer Science: Polymer Physics Ed.*, **20**, 83 (1982)
- W.E. Rochefort*, S. Middleman, and P.C. Chau*, “An Innovative Chemical Engineering Process Laboratory,” *Chemical Engineering Education*, **19** (3), 150 (1985)
- Willie E. Rochefort* and Stanley Middleman, “Effect of Molecular Configuration on Xanthan Gum Drag Reduction” *AIP Proc: Polymer-Flow Interactions*, Y. Rabin, Ed., **137**, 117 (1985)
- W.E. Rochefort*, T. Rehg, and P.C. Chau, “Trivalent Cation Stabilization of Alginate Gel for Cell Immobilization,” *Biotechnology Letters*, **8**, 115 (1986)
- Willie E. Rochefort* and Stanley Middleman, “Rheology of Xanthan Gum: Salt, Temperature, and Strain Effects in Oscillatory and Steady Shear Experiments,” *J. Rheology*, **31** (4), 337 (1987)
- Willie E. Rochefort* and Stanley Middleman, “Relationship Between Rheological Behavior and Drag Reduction for Dilute Xanthan Gum Solutions,” *Drag Reduction in Fluid Flows: Techniques for Friction Control*, Sellin and Moses, Ed., p. 69, Ellis Horwood Publishers (1989)
- W.E. Rochefort*, R. McHugh, and S. Middleman, “Xanthan Gum Drag Reduction in a Recirculating Flow Loop: Multiple Pass Stability Studies,” *Drag Reduction in Fluid Flows: Techniques for Friction Control*, Sellin and Moses, Ed., p.319, Ellis Horwood Publishers (1989)
- W.E. Rochefort*, G.W. Heffner, D.S. Pearson, R.D. Miller, and P. Cotts, “Rheological and Rheoptical Studies of Poly (alkylsilanes),” *Macromolecules*, **24**, 4861 (1991).

- B. Ernst*, M. M. Denn, P. E. Pierini, and W. E. Rochefort, "Rheological Properties of Liquid Crystalline Solutions of cis-poly(p-phenylenebenzobisoxazole) in Polyphosphoric Acid (PBO/PPA)," *J. Rheology*, **36** (2), 289 (1992)
- A. Greiner*, W.E. Rochefort, K. Greiner, H-W Schmidt, and D.S. Pearson, "Formation of Thermoreversible Gels from Liquid Crystalline Polyesters," *Makromol. Chem., Rapid Commun.*, **13**, 25 (1992)
- M.-R. Fuh and W.E. Rochefort*, "Analysis of Residual Phosphorous in PBO Film by X-Ray Fluorescence Spectroscopy," *TALANTA*, **41** (12), 2087-2090 (1994)
- P. Mather*, N. Grizzuti, G. Heffner, M. Ricker, W.E. Rochefort, M. Seitz, H.-W. Schmidt, and D.S. Pearson, "Synthesis and Characterization of a Semiflexible Liquid Crystalline Polyester with a Broad Nematic Region," *Liquid Crystals*, **17** (6), 811-826 (1995)
- G.W. Heffner*, W.E. Rochefort*, and D.S. Pearson, "Characterization of Poly(3-octylthiophene) II. Melt Rheological Characterization," *Polymer Engineering and Science*, **35**, 868 (1995)
- D. Roitman*, R. Janek, J. McAlister, R. Wessling, W.E. Rochefort*, "Rigid Rods or Semiflexible Chains? A Comparative Study of the Solution Behavior of cis-PBO and trans-PBT in Methanesulonic Acid (MSA)," *Bulletin of the American Physical Society*, **40**, 289 (1995)
- Andreas Greiner* and Willie E. Rochefort*, "Thermoreversible Gelation of Rigid Rod-Like and Semirigid Polymers," *Mechanical and Thermophysical Properties of Polymer Liquid Crystals*, Chapter 14, W. Brostow, ed., Chapman and Hall Publishers (1996)
- Bin Xu*, John Simonsen, and W.E. Skip Rochefort, "Mechanical Properties and Creep Resistance in Polystyrene/High Density Polyethylene Blends," *Journal of Applied Polymer Science*, **76**, 1100-1108 (2000)
- Bin Xu*, John Simonsen, and W.E. Skip Rochefort, "Creep Resistance of Wood-filled Polystyrene/High Density Polyethylene Blends," *Journal of Applied Polymer Science* (accepted December, 1999)
- Manish Giri*, John Simonsen, and W.E. Skip Rochefort, "Dispersion of Pulp Slurries Using Carboxy Methyl Cellulose," *TAPPI Journal* (accepted, December 1999)
- Chang*, Koretsky, Kimura, Hackleman, Rochefort, "Microelectronics Processing in the Undergraduate ChE Laboratory", Chemical Engineering Education (summer 2003).
- Rebecca Bader* and W.E. Rochefort, "Rheological Characterization of Photopolymerized Poly(vinyl alcohols) for use in nucleus pulposus replacement," *Journal of Biomedical Materials Research, Part A*, Vol.86, pp. 494-501, 2008
- Valmikanathan P. Onbattuvelli, Willie E. Rochefort, John Simonsen, Seong-Jin Park, Randall M. German, and Sundar V. Atre, "Studies on the Thermal Stability and Degradation Kinetics of Pd/PC Nanocomposites", *J. Applied Polymer Sci.*, vol.118, issue 6, pg. 3602-3611, 2010
- Andrew Freeman, Glenn Buttermann, Brian Beaubien, and Willie Rochefort, "Compressive Properties of Nucleus, Annulus, and Fibrous Repair Tissue", *J. Biomechanics 2013*
- Hassan Raheem, Brian Bay, and Skip Rochefort, "Rheological Characterization of Novel Hydrogel Composites for use in nucleus pulposus replacement," to be submitted August 2018
- Hassan Raheem, Skip Rochefort, and Brian Bay, "3D Printed Functional Disc Emulator to Mimic the Mechanical Response of Spinal Column Motion Segments," accepted, ASME International Mechanical Engineering Congress and Exposition (IMECE) 2018 Conference Proceedings, November, 2018
- Hassan Raheem, Brian Bay, and Skip Rochefort, "Viscoelastic properties of a novel hydrogel/foam composites for nucleus pulposus replacement" Springer Nature Applied Sciences (2019) 1:809 <https://rdcu.be/bIi7N>
- Hassan Raheem, Skip Rochefort, and Brian Bay, "Digital Image Correlation approach in

- measuring the out of plane displacement in a Disc Emulator: Case Study on an Artificial Intervertebral Disc,” to be submitted August 2019
- Conor G Harris, Nicholas JS Jursik, Willie E Rochefort, Travis William Walker, “Additive Manufacturing with Soft TPU -- Adhesion Strength in Multimaterial Flexible Joints”, *Frontiers in Mechanical Engineering: Computer-Aided and Digital Manufacturing Technologies*. *Front. Mech. Eng.*, 03 July 2019 | <https://doi.org/10.3389/fmech.2019.00037>
- Nicole Mehr; Clément Roques; Yves Méheust; Skip Rochefort; John Selker, “Mixing and Finger Morphologies in Miscible Non-Newtonian Fluid Displacement” *Experiment in Fluids*, (2020) 61:96 <https://rdcu.be/b22qN>
- K.J. Donovan, J. Stasiak, W.E. Rochefort. The development of novel 3D printing materials and processes using combinatorial materials science methods. (In Preparation)
- K.J. Donovan, J. Stasiak, W.E. Rochefort, T.W. Walker. Measurements of Capillary Flow via a Hand Held Device. (In Preparation)
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- Ines Cadena Cabezas, Connor Harris, Hannah Gedde, Audrey Davis, Skip Rochefort, Kaitlin Fogg, *Journal of Biomaterials Science, Part A. Polymers* (accepted), February 2023
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- W.E. Skip Rochefort* and Michelle Bothwell, “Recruitment and Advising of High School Students for Non-Traditional” Groups,” *Proceedings of the ASEE National Meeting*, Seattle, WA, Session 3213, June 1998
- ASEE National Meeting (Nashville, June 2003)*
- “Microelectronics Processing in the Undergraduate ChE Laboratory” Koretsky (presenter), Chang, Kimura, Hackleman, Rochefort,
 - “OSU GK-12 Program for the Delivery of Science Content to Oregon Schools” Rochefort (presenter), Arp. Haak, Lytton
- AIChE National Meeting (San Francisco, November, 2003)*
- “Microelectronics Processing in the Undergraduate ChE Laboratory”, Chang (presenter), Koretsky, Kimura, Hackleman, Rochefort
- ASEE National (Salt Lake City, Utah June 2004)*
- “ Everything I know I learned in Kindergarten: Synergisms between K-12 Outreach and Recruitment and Retention of Women in Engineering”, Rochefort (presenter), Levien, Momsen and Ford
 - K-12 Outreach Initiatives, K-12 Division (Session Moderator)

ASEE National (Portland, OR June 2005)

- “Use of Wireless Laptops to Enhance a First-Year Engineering Orientation Course”,
Rocheffort (presenter) and Levien

ASEE National (Vancouver, Canada, June 2011)

- ***Special Session: New and Evolving Cultures in Chemical Engineering Departments***
“The Integration of Chemical, Biological, and Environmental Engineering B.S. Degree Programs into a Cohesive School”, Rocheffort and Levien (accepted)
- ***Special Session: What Works to Retain Students in Chemical Engineering Programs***
“Recruiting and Retaining Students in Chemical Engineering Through First Year Experience Courses, First Year Student Research Experiences, and K-12 Outreach Activities”, Rocheffort and Levien (accepted)
- ***Special Session: The Impact of the Gulf Coast Oil Spill on Chemical Engineering Education***
“Gulf Coast Oil Spill Clean-up Technologies Using Absorbent Materials”
Stephanie E. Silliman, Audrey G. Oldenkamp, and Dr. Skip Rocheffort (accepted)

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"Compressive Properties of Nucleus, Annulus, and Fibrous Repair Tissue"

Andrew Freeman (1); Glenn Buttermann (2); Brian Beaubien (3); Willie Rocheffort (4)

Institutions: 1. Biomechanics, Excelen, Minneapolis, MN, USA. 2. Surgery, Midwest Spine Institute, Stillwater, MN, USA. 3. Development, Zyga Spine, Minneapolis, MN, USA. 4. Chemical Engineering Department, Oregon State University, Corvallis, OR, USA.

K. Donovan, J. Stasiak, S. Rocheffort. *The Development of Novel 3D Printing Materials and Processes Using Combinatorial Materials Science Methods*, Paper presented at the 2017 Printing for Fabrication Conference, Nov. 5-9, 2017, Denver, CO, USA.

K. Donovan, J. Stasiak, S. Rocheffort. *Novel 3D Printing Materials and Processes Using Combinatorial Materials Science Methods*, Poster presented at the 2018 OSU Graduate Research Symposium, Feb. 8, 2018, Corvallis, OR, USA.

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