



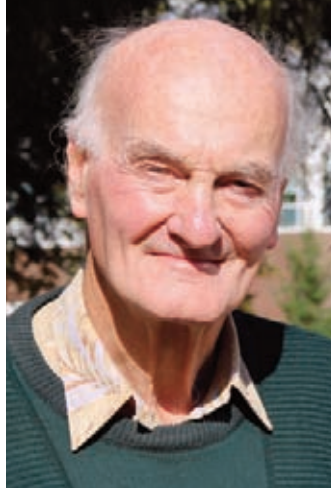
THE UNIVERSITY OF  
**MAINE**

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**College of Engineering**  
Gorman Emeriti Brunch  
honoring

**Douglas M. Ruthven**

Professor Emeritus of  
Chemical Engineering



*Global Legend*

A tribute to the remarkable and dedicated career  
of a true master educator extraordinaire.

Saturday, October 14, 2017

Since 2000, the College of Engineering at the University of Maine began what has become one of our most enjoyable traditions where we celebrate the career of a distinguished emeriti faculty member at the James and Maureen Gorman Emeriti Faculty Brunch – thanks to the generous support from James and Maureen Gorman.

2000	Dick Hill (Pajama Party)	Mechanical Engineering
2001	Waldo Mac Libbey (Showtime)	Electrical Engineering
2002	George Greenwood (Cowboy Roadshow)	Civil Engineering
2003	Bill Ceckler (Confessions of an Outdoorsman)	Chemical Engineering
2004	Jerry Harmon (Physics of Subjective Reality)	Engineering Physics
2005	John Lyman (No Jokes Required)	Mechanical Engineering
2006	Carleton Brown (Three Ringed Circus)	Electrical Engineering
2007	Karl Webster (Super Engineer)	Engineering Technology
2008	Wayne Hamilton (First Associate Dean)	College of Engineering
2009	Kim Mumme (The Renaissance Man)	Chemical Engineering
2010	Paul Camp (World of Ice & Snow)	Engineering Physics
2011	Claude Westfall (Professor Fisherman)	Engineering Technology
2012	Donald Grant (The Cal Ripken of Academia)	Mechanical Engineering
2013	Fred Irons (The Mystery Hour)	Electrical Engineering
2014	John Alexander (Canoe Rules)	Civil Engineering
2015	Charles W. Smith (Numismatic Relativity)	Engineering Physics
2016	Norman Viger (The Art of the Draw)	Engineering Technology
2017	Douglas M. Ruthven (Global Legend)	Chemical Engineering



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economic future*

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Welcome to the 2017  
Gorman Emeriti Brunch  
in honor of

**Douglas M. Ruthven - *Global Legend***

The College of Engineering is delighted to have this opportunity to honor Douglas M. Ruthven, Professor Emeritus of Chemical Engineering.

Dr. Ruthven came to UMaine as a recipient of the prestigious Max Planck Research prize in 1993 and as an elected Fellow of the Royal Society of Canada in 1989. He initially served two terms as Chair of the Chemical Engineering Dept. from 1995 to 2003. During his tenure, he led the transition of the BioResource program into the new Biological Engineering program, when it was merged with the Chemical Engineering Dept., and the eventual renaming of the department to the Chemical & Biological Engineering Dept. in 2002. Doug served as President of the International Adsorption Society from 1998 to 2001. He has been honored with the Century of Achievement Award by the Canadian Society for Chemical Engineering in 1999 as well as the Senior Research Fellowship by the Humboldt Foundation in 2009. He has been an extremely productive scholar and written and edited four books and published over 300 research papers.

Doug is known for his able leadership, the depth and breadth of his perspectives of the profession, and for his no-nonsense spirit of taking principled stands at the Faculty Senate.

As a man of the seasons, Doug was also known to keep his XC skis in a secret closet in the department chair's office in the winter; his convertible ready to roll in the summer; and his sleek high-tech Speedo LZR racer in his back pocket for a quick dip in the Stillwater River in spring.

Thank you all for joining us today to recognize and celebrate Doug for his service and dedication to the University of Maine and to the students of the College of Engineering.

Dana N. Humprey, Ph.D., P.E.  
Dean, College of Engineering  
University of Maine



THE UNIVERSITY OF  
**MAINE**

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## College of Engineering

Gorman Emeriti Brunch

in honor of

**Douglas M. Ruthven**

*Global Legend*

Agenda

Brunch

Welcome

Dana N. Humphrey

Dean, College of Engineering

Susan J. Hunter

President

Joseph M. Genco

Professor Emeritus

Chemical Engineering

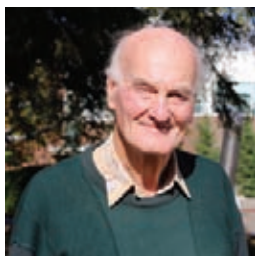
Douglas M. Ruthven

Professor Emeritus

Chemical Engineering

*Others are welcome to say  
a few words at this time.*

## Random Thoughts and Reminiscences



In contrast to the majority of Gorman Brunch Honorees, my time at U Maine comprises only the last third of my academic career, so my perspective is somewhat limited. On reading the comments from previous honorees I was impressed by the variety of interesting thoughts and the educational philosophy presented in a lighthearted way. I am honored to be included in such august company but I am afraid that I cannot offer any such insights.

Following graduation in chemical engineering (1961) I worked for two years as a junior engineer with a design and construction company in England (Davy - Power Gas Corporation). Looking back on this period it provided great general engineering experience, including process design, economics and cost estimation, troubleshooting and plant start-ups. A highlight was six months spent at Örebro (Sweden) as part of the team supervising the start-up of a new ammonia synthesis plant. Although I enjoyed the work, I could not see this as a long-term career so, in September 1963, I was delighted to be offered a full scholarship to return to Cambridge as a Ph.D. student, under a new program to encourage junior engineers with some industrial experience to pursue doctoral studies. I thoroughly enjoyed my time as a graduate student.

As an undergraduate one had to focus more or less exclusively on one's own subject but as a graduate student the pressure was less intense and one had the freedom to take advantage of the many excellent lectures offered by the University on a wide range of different subjects. The lectures on astronomy by Fred Hoyle and on the burgeoning science of radio-astronomy by Martin Ryle and John Ratcliffe (my undergraduate supervisor) were especially memorable. The CHE graduate students came mainly from the former British colonies; Australia, Canada, South Africa, India and even the United States! This made for an interesting cross-cultural experience. We even sported an intra-mural ice hockey team - almost entirely U.S. and Canadian students.

On completing my Ph.D. in 1966 I was offered a position as assistant professor in a new CHE department at the University of New Brunswick in Fredericton. I was happy to accept this offer, assuming that it would provide a new and interesting experience for a few years. However, I liked Canada and I enjoyed UNB and life in Fredericton. I met my wife Patricia there and we were married in 1968. Consequently “a few years” quickly evolved to almost three decades! During our time at UNB, we took full advantage of the generous sabbatical policy to accept visiting appointments in Australia (University of Queensland), Singapore (National University of Singapore), U.S.A (Exxon-Mobil Research) and Germany (University of Leipzig). This provided interesting insights into university education in other countries as well as leading to several productive long-term research collaborations.

In 1995, in response to an advertisement in Chemical Engineering Progress, I was delighted to be offered the post of Chair of CHE at U. Maine. There was probably not much competition (I recall that Joe Genco asked me why anyone would want the job!) but I also suspect that the easy relationship with Dean Norman Smith, who was also an ex-pat Brit, may have been helpful!

I served for eight years as Chair followed by seven years as a regular professor. The chairmanship was challenging and stimulating but the bureaucracy was heavy and often unproductive. I hope that has changed but I fear it has not! In New Brunswick, the Higher Education Commission stands between the university and the legislature and handles all questions raised by elected representatives. I was therefore surprised when, shortly after I arrived in Maine, I received an irate call from a member of the Maine House saying that she had heard that the CHE department was admitting graduate students from out of state and that they were receiving financial support. She seemed unaware that the funds used to support graduate students come almost exclusively from out of state sources and she was not impressed by the reciprocity argument for Maine students studying out of state or the educational value of mixing students from different backgrounds. In her view, it was a scandal that the University of Maine should admit anyone from outside the State of Maine.

In 1995 the Department had its challenges. Norman Smith jokingly described the Faculty as a “bunch of prima donnas who don’t even talk to each other”. Of course, that was an exaggeration but there was some truth behind it! Fortunately, that situation was resolved within a few years with some retirements and the addition of talented and energetic new junior faculty. For the last fourteen years, the department has thrived cohesively under Hemant’s leadership with minimal interpersonal friction.

From 1995 to 1998 budget “clawbacks” occurred with depressing regularity, making longer-term planning almost impossible. During this period the support provided by Jake Ward and DIC was critical to establishing additional sources of funds to maintain our program. On a more positive note the Soderberg Center, which opened in 1997, has proved to be a valuable addition to Jenness Hall and the Soderberg lobby has become invaluable as a meeting area and a venue for student activities.



Pulp & Paper Foundation, 1996

The founding head of CHE at UNB (Les Shemilt) established a strong tradition of friendly and open relations between students, staff, and faculty. This was buttressed by numerous social events such as summer picnics and an annual Christmas party at his home. We tried to introduce some of these activities at Maine. For several years we held annual Christmas parties for faculty staff, and final year and post-grad students and a graduation party in May. During the fall term, John Hwalek organized hiking trips on Sundays as well as activities such as the CHE car competition and the paper canoe. I think that all these had a beneficial effect in making the department more cohesive and breaking down the inevitable barrier between faculty and students. Unfortunately, increasing student numbers have made it difficult to continue such activities in recent years.

It has been a pleasure and a privilege to be part of the CHE department at U. Maine. I am grateful to my faculty colleagues for their support and to the students who have enriched our lives with their energy, enthusiasm and searching questions. The cheerful and unstinting support provided by Cathy Dunn and Angel Hildreth over many years is greatly appreciated. Finally, I would like to offer special thanks to the late Stan Marshall (Director of the Pulp and Paper Foundation) and Professor Joe Genco for all their help, friendship and sage advice, especially when I first arrived here.

~Douglas Ruthven Oct 5th, 2017





Just a brief note to express the affection that my wife Helen and I have for Doug and Pat Ruthven; especially at the time he is being honored at the 2017 Gorman Emeriti Brunch.

Doug compiled a stellar academic career at the University of Maine as a teacher, scholar, and administrator. I look back fondly at the 15 years that I worked with Doug and the excellent job that he did leading the faculty as its Chair. Under Doug's leadership, the Department was harmonious, prosperous and an enjoyable place to work. Notable among his many achievements was his leadership during the transition to the new Chemical and Biological Engineering Department.

On a personal note, Doug is a scholar and engineering practitioner of the highest degree. He possesses numerous fine attributes, but the attributes that I most admired were his critical thinking and mature judgment. Doug demonstrated the ability to dissect complex problems and implement practical solutions in a timely manner.

Both Helen and I value deeply our friendship with Doug and Pat Ruthven. We appreciate greatly the thoughtfulness and kindness that they have shown us during the years that we have known them.

I like these pictures because Dick Hill is in both. Both pictures were taken at a picnic at our cottage in Otis Maine about 3 or 4 years ago. The first is a picture of Doug and his lovely wife Pat discussing the affairs of the world with Dick Hill, one of the truly great philosophers of the UM College of Engineering.

The second picture is one of Dick and Doug, together with a sleepy looking fellow staring off into space!

Kindest regards  
Joseph M. Genco  
Professor Emeritus  
Chemical Engineering



One of the stories I have about Doug relates back to one of these hiking trips. We were hiking up Tumbledown and stopper for a break about halfway up. Doug pulled out his water bottle to take a drink. He was using recycled plastic gin bottle with the label still on it to carry his water. When I saw Doug gulping down the water I said to him that it was a bit early to start drinking like that. The students all looked quite shocked thinking he was actually drinking gin. Of course, I told the students that I was joking and they were quite relieved.

I was on another hike at a conference in Utah with some junior faculty a few years back. When they asked me what school I was from, I told them UMaine. They excitedly asked me if I knew Doug Ruthven. I said, of course, he was my department chair. Their response was “he’s the man!”, just as if he were a rock star. Apparently, they were doing research related to what Doug was well known for. Up until then, I knew that Doug was quite brilliant but I had no idea how well respected and even revered he was for the research work he had done.

This is not a story but more of a recollection. I will never forget the Christmas parties Doug hosted at his house when he was department chair. He always invited all of the faculty and staff along with the grad students and seniors. There was plenty of food and drink and all had a great time. His party was always one of the best of the season and has been much missed ever since.

Best,  
John Hwalek  
Associate Professor  
Chemical Engineering



Student Party, 2001



Cadillac, 2006



Katahdin, 2007

Not many people who know Doug Ruthven realize the great contributions he has made over the years to the Chemical Engineering literature. In fact, with his down-to-earth discussions, noticing him drive around in his very small sports car, and seeing him out on the cross-country ski trails, it is a shock that he is well known for his research and publications on adsorption processes. Not long after Doug moved from the University of New Brunswick to Maine, to become our new department chair, I got an email from a guy who was a graduate student with me at UC Berkeley; it went something to the effect “When did Doug Ruthven join your department? He is legendary!”. Likely his fame comes from the book he published in 1984 Principles of adsorption and adsorption processes that have been cited over 6,000 times. He also published a text related to pressure swing adsorption as well as numerous papers related to adsorption. He was the editor for Chemical Engineering Science for a number of years.

My only complaint is his zero length adsorption column concept [1]. How can you tell anything from a column that has zero length? How can you do experiments with a column of zero length? In reality, it was a great concept that helps us understand various issues in adsorption columns.

Congratulations on a career that was legendary. Doug Bousfield

1. Brandani, S., Cavalcante, C., Guimarães, A., & Ruthven, D. (1998). Heat effects in ZLC experiments. *Adsorption*, 4(3-4), 275-285.

I always enjoyed interacting with Doug when I was a student at UMaine. My first recollection of meeting him was on a hike shortly after I'd come to the university. John Hwalek had arranged a series of weekend hikes that Doug and a few of the first-year students attended. He was immediately disarming and welcoming, and he helped make me feel at home in the department. Doug also taught the chemical thermodynamics course that I took during the summer course between my 2nd and 3rd years at UMaine. While that particular subject matter is challenging, Doug made it interesting and accessible for us, and it is partially because of his influence that I remain interested in thermodynamically non-ideal systems in my research today.

Perhaps one of the fondest memories I have is from my last year at UMaine. For one evening every year, Doug would open his house to the faculty, graduate students, and senior undergraduates for a department holiday party. The atmosphere was relaxed and provided an opportunity for us, as students, to get to know our professor a little better. In retrospect, I think Doug had a lot to do with fostering that kind of collegial environment, and it pervaded the department throughout my time as a student. That environment and the memories associated with it was part of what motivated me to return to UMaine to pursue my own academic career.

Thomas J. Schwartz  
Asst. Prof. of Chemical Engineering  
UMaine CHB Class of 2010



Boundary Waters, May 2013





Student Party, 2009



Doug & Pat, Dec 1995



Close to graduation of my senior year in May of 2007, my roommate Aimee (Patterson) Faranda and I hosted a keg party at our apartment on Canal St in Orono. As the party was in full swing, Professor Ruthven drives up in his Mazda Miata to join the fun. We didn't expect a professor to show up to our keg party, but he added a great deal of merriment and good cheer to the party.

I really appreciated having Professor Ruthven teach our classes. I had considered staying on to do a Ph.D. with him but ultimately went to the University of Colorado. I would like to extend my warmest wishes and congratulations on his well-earned retirement.

The photos are from a Chemical Engineering group hike up Tumbledown Mountain, in fall 2006, my senior year. Professor Ruthven whipped out a gin bottle and took a few pulls from the bottle, much to everyone's surprise. Later, we found out that it was full of water, not gin, and he preferred the size of the bottle for hiking. My friend Codi (Slike) Eremita recalls him saying at the summit, "This is why I work at UMaine, and not Cambridge!" It really was a wonderful fall hike in Maine.

Katie Rice  
ChE '07



I had the pleasure of taking advanced thermodynamics with Dr. Ruthven and was so pleased to have the chance to learn from such a generous and kind-hearted man. I truly appreciated his approach to tests where he said: "setting up the equations is hard enough; if you can do that then I'll trust the computers would give you the right answer!" In this way all you needed was paper a pen and come to class ready to learn; I liked that. Most important was Dr. Ruthven's Christmas parties which were quite simply EPIC!!! At his holiday party, we would get a chance to interact and learn more about colleagues perhaps we didn't work much with. The fun atmosphere (and generous beverage policy) made for one of the annual highlights for the ChemE group.

Thank you for putting on this special recognition for Dr. Ruthven.

Sincerely,

Andrew Doyle, Ph.D.

ChemE and Functional Genomics – 2008

I spent hours the night before and brought to him what felt like a half a ream of notebook paper trying to answer my homework. I hung back after one class and couldn't figure out one question. It was about the extent of separation as you were to calculate the point where there would be bleed-through in a filter. He looked at my work, which I replicated in triplicate and got the same (correct as it turned out) answer. He looked at my work, which came out in units of inverse seconds, and I couldn't figure out what was wrong because the answer was supposed to be unitless. He agreed with my math and my answer. When I asked about the inverse seconds, he looked at me briefly, blinked once and without missing a beat chuckled "oh that's right! YOU are the chemist!! We use the unit-less time here!"

Tamra O Shelly M.S. 2012 CHE

Chemistry Instructor

College of Science and Humanities

Husson University