

Obituary

Thoughts and memories from Bob Boutilier's students and postdoctoral fellows



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Bob Boutilier in his
Cambridge laboratory

Of all of Bob Boutilier's many achievements, there was one group of people that he was proudest of: the students and postdoctoral researchers that he'd trained over 16 years, spent first in Dalhousie and later in Cambridge. Bob inspired his lab of students and postdocs to tackle problems from acid–base regulation through to metabolic regulation, by asking challenging questions with humour and enthusiasm, and this is reflected in the memorials that they have now written, remembering Bob and the profound influence that he had on their lives.

We have made every effort to reach everyone who was either a student or postdoc with Bob and are grateful to everyone who was able to contribute to these recollections about Bob. Their thoughts have captured the essence of Bob and the inspirational role that he played in the lives of so many, and we hope that you will enjoy their recollections of a true scientific giant.

Ralph Ferguson

PhD student, Dalhousie University, 1985–1990

Bob Boutilier was a remarkable and admirable man in many respects. His record in science speaks for itself and I feel very fortunate to have had such a distinguished and skilful mentor throughout the course of my PhD training.

But even more remarkable than his acumen as a researcher were the dimensions to Bob's life beyond science, which was rich with energetic interests and abilities in art, history, sport, music, film, the English language and people. Of all these, I think it was his interest in people and personalities that impressed me most. Bob demonstrated a remarkable patience with the type of personalities that would have frustrated anyone else. After first witnessing Bob interact with such a personality,

in this case a recalcitrant department administrator, I asked him how he managed to stay so cool, even personable, during the exchange. He replied, "It's all part of life's rich tapestry, Ralph". He told me he viewed such people as characters. It was as a character that a difficult person became interesting (and I daresay amusing) to Bob. When viewed in this light, challenging persons were a subject of study to Bob, and challenging circumstances were an opportunity to apply the patience, self-discipline and creative innovation that served him so well in science. This differed entirely from my philosophy at the time, which was to dismiss such people as being flawed characters and not worth my valuable time – in the end this was nothing more than my own rationalization for avoiding conflict. But even as a young and impatient man, it soon became clear to me that, while my approach rarely benefited me, Bob's approach invariably worked to his advantage. On many occasions during those years, I witnessed Bob manage people and predicaments with this characteristic adeptness, and afterwards smile and quietly comment "all part of life's rich tapestry".

I have continued to benefit over the course of my career from the scientific training I received from Bob at Dalhousie. More importantly though, I continue my efforts to apply the philosophy Bob applied towards difficult people and trying circumstances. Inevitably, there has been a growing cumulative frequency of both in the years since I left Dalhousie. Bob's philosophy has proven to be one of the reinforcing threads of my own 'tapestry', serving me well on many occasions, including those occasions when I feared it might begin to unravel. I am deeply grateful to Bob for his enduring gift.

Ralph Ferguson is Assistant Director of Immunology, Fujisawa Canada Inc.

George Iwama

Postdoctoral Fellow, Dalhousie University, 1987

It's odd writing about a Bob who isn't with us anymore. I think it is because he was always there for us. Even if months and years would lapse in communication, when we re-connected he was there, as warm and friendly as if we had just been chatting all along. I can see that smile and hear that chuckle as if he were in the next room.

Bob and I were together in Dave Randall's lab at the University of British Columbia, Vancouver in the early 1980s. We did experiments, drank a lot of coffee and threw a lot of darts. Stories from that chapter in our lives could easily fill a book. Marilyn, my wife, and I played squash with Bob, and we played guitar together. Bob and I crossed oceans going to conferences together and spent much time together on research trips to such places as Ischia, Italy.

Bob and I drove his new Volvo across Canada when he took up his post at Dalhousie University. As his career progressed, you never thought of Bob as the position he held but the person he was. Bob was simply Bob. Bob was kind, generous, funny, smart, and he had a pace of life that was unshakably steady. We were all attracted to him. For me, I always wanted to be like Bob. I miss him dearly.

I can see him now, as I did hundreds of times, saying these words as we parted, "See ya, take care".

George Iwama is the Director General at the National Research Council of Canada, Institute for Marine Biosciences, Halifax

Yong Tang

PhD Student and Research Associate, Dalhousie University, 1985–1992

Among all the teachers I have had in my career, Bob is the one who had the greatest impact on my life. He was, and will continue to be, my model as a scientist and teacher. As a friend, Bob was always positive and supportive; his enthusiasm and pleasant personality were contagious to everyone around him. He had an encyclopaedic resource of stories, jokes and cartoons and was able to describe almost everything in a humorous way. As a scientist, he not only was an excellent planner and organizer but he also had outstanding dexterity, which allowed him to build almost any experimental device that occurred to him and magically fix most pieces of equipment in the lab. Every time Bob did an experiment with me, I knew it was going to work. As a much-loved teacher, Bob turned everyone on to biology, and attending his lectures and seminars was like attending an entertaining, but highly educational, show. I have not seen any other teacher who is able to present the beauty of biology as a piece of art like Bob did.

Yong Tang is an Instructor at Front Range Community College, Colorado, USA

Bruce Tufts

Postdoctoral Fellow, Dalhousie University, 1986–1989

I first met Bob at Acadia in 1982 while I was writing up my

undergraduate thesis for Dan Toews. Bob had already finished at Acadia but he was dropping by for a visit with Toews. I had a few questions for him about the data in my thesis and he was very generous about spending lots of time talking with me about it. After looking over my data, he was quickly able to point out several things about the research that I hadn't considered. I'd already heard many stories about the great intellect of 'Boots' from Toews, but I remember thinking that he was also very kind and extremely funny.

A few years later, I spent 3 years in Bob's lab at Dalhousie University (1986–1989). I was very fortunate because he was still at a relatively early stage in his career and we were able to spend a great deal of time together. This was probably the most important time in my scientific career. I learned many things from Bob during those years. We used to talk for hours about all aspects of science, and his enthusiasm for comparative physiology was infectious. While I was at Dalhousie, we also developed a great friendship that lasted until he passed away.

It is extremely difficult for me to describe the many ways that Bob influenced me. He definitely had the greatest impact on my development as a scientist. He also convinced me that being a university professor was the best job in the world. Perhaps most importantly, he taught me that anything can be achieved if you set your mind to it. Looking back, I can also say that I learned many other valuable life skills from him. Although he became a very important person, it never showed. He was always humble and had a wonderful way of making everyone feel comfortable around him. He also taught me how important it is to have a good sense of humour. No matter how serious things seemed to be at the time, Bob could always make light of the situation and make me laugh. I'll always remember him for these things. I will also try to pass some of his wisdom on to my own students.

Bruce Tufts is a Professor at Queens University, Canada

Nancy McAllister-Irwin

Masters and PhD Student, Dalhousie University, 1989–1995

Dear Bob

I've just realized it's been quite a while since we've spoken – life always has such a funny way of distorting time. One minute you are congratulating me on my successful PhD defence and the next minute....well, the next minute it's years later and I find myself saying goodbye to a picture of you at the front of a chapel.

I don't know if you remember the first time we met, but I certainly remember the first time I saw you! I was an undergrad at Dalhousie, taking your Comparative Animal Physiology class. You strode in, bigger than life, introduced yourself, and launched into a fascinating lecture, interspersed with jokes and tales from personal experience. Your passion for physiology was infectious and the entire class listened intently. I've never forgotten the stories or your ability to engage a student's curiosity and try to emulate that in my own teaching. I've even stolen some of your stories and embellished them a bit. I'm

fairly certain you won't mind as I've come to learn that most of your stories had already been borrowed and embellished.

You launched me into the research phase of my academic career, supervising both my Honour's and graduate work. This was regularly presented at conferences, which was quite a feat considering the number of people you mentored. Do you remember what you dubbed as the 'Irwin Family Vacation'? You left me in charge of travel and living arrangements for seven to a conference in Orlando. I spent days reading tourist brochures and making telephone calls. I finally selected the best package possible. The airline tickets were sent to you and you were to distribute them to us at the airport. The day finally arrived for us to fly out. I was so proud of my efforts, but it came as quite a shock when I was told I couldn't board the plane. You had neglected to give us the cover letters stating the airline's new identification procedure and I needed my birth certificate or a passport. Tears began to well up and I bravely offered to return to the city alone. You wouldn't hear of it, and I'm still not sure how you managed to convince them to hold the flight while you had my son send the identification out by taxi.

I don't believe I ever thanked you for agreeing to be my doctoral supervisor. It was an unforgettable journey, even if we didn't always see eye-to-eye and eventually had to correspond across an ocean and several time zones when Cambridge lured you away. While here, your lab was populated by an eclectic collection of characters pursuing various degrees, along with a couple of post-docs, all of whom wanted your time. I remember coming in one day to find you attached to a cupboard knob by a length of rope, sporting an aluminium foil hat, throat guard and loincloth. Apparently, you were supposed to be assisting with an experiment that included measuring tritiated samples and you kept wandering away to take care of a dozen other tasks. The solution to your inattentiveness was to tie you close to the equipment and provide you with protection from the radiation.

It was never easy for you to escape us. All we ever needed to do was listen for the sound of your laughter. Maybe if we listen closely enough we will still be able to hear it.

It's hard to say goodbye to this picture...

Nancy McAllister-Irwin lectures part-time at Saint Mary's University and Dalhousie University

Guy Claireaux

Postdoctoral Fellow, Dalhousie University, 1990–1993

I first met Bob in 1989 at the Kjell Johansen memorial symposium in Copenhagen. He then became one of the main reference points of my scientific life, an unmistakable feature of the landscape that was helpful simply because it existed. A lighthouse on the cliff.

A lighthouse never tells the seaman what to do. Likewise, Bob never gave orders to the young mariners that sailed Dalhousie Bay in the early nineties. Nor did he ever stop anyone from following the breeze of their imagination. He was just that tall sentinel, lighting up the scene, and it was always

our decision where to steer. This was almost 15 years ago and, in those days, fog and heavy sea were enjoyable challenges. We never spent too much time discussing career strategy or reading the weather forecast. We were having fun, thinking we were brave. We were fortunate that somebody was on watch, kindly pointing out the sandbanks. Now I sail my own boat on different seas, but I am very sad that somewhere, on a rugged and yet hospitable coast, a lighthouse has been extinguished.

My favourite memory of Bob's ability to capture our imagination was when he and colleagues from Dal were invited to a workshop in Saint-Pierre & Miquelon in 1993. This workshop was organised by the islands' Chamber of Commerce and its goal was to present an overview of the research conducted in connection with the collapse of the cod stocks in the western Atlantic. At that time, the only large room available was a *Saturday Night Fever*-type disco, Le Joinville. During his talk, Bob was so enthusiastic that the owner of the place caught the fever. Bob ended his presentation with the mirror ball turning and the illuminated floor flashing in sync with his voice. That evening, the lighthouse had turned into an incandescent semaphore.

Guy Claireaux is Chargé de Recherche at CNRS, France

Kurt Gamperl

PhD Student, Dalhousie University, 1990–1994

In 1989, I finished a MSc with Dr Don Stevens at the University of Guelph and was looking for a PhD supervisor to continue my interest in fish physiology. Bob was recommended by a number of people, and I flew out to Halifax to meet him. I was immediately impressed by his easygoing personality, wit, love of science and gift for telling stories. I joined Bob's lab that January, and over the next 4 years learned first-hand why he was so beloved and highly regarded as a scientist.

Bob saw the positive in everyone and found humour even in difficult circumstances. To Bob, the 'glass was always more than half full'. This positive attitude and sense of humour were displayed, for example, when learning that our flight was fogged in and that the only accommodation left in Boston for the seven of us was in a first-class hotel (to which he exclaimed "just think of the airmiles"!!). However, even more important than his positive attitude and outlook, was his innate ability to encourage the development of all the students and post-docs who worked with him. Bob was a superb mentor and a wonderful teacher. He could explain the most difficult theoretical or biological problem, immediately put his finger on why someone was struggling with a concept or experimental procedure, hold an undergraduate class spellbound with his energetic and humour-filled explanations about 'how animals work', and easily motivate us to continue when we had a setback in our research.

He inspired all of us with his love for solving biological questions, his creativity, the excellence that he displayed in all aspects of his academic life and his unwavering support for us as scientists and individuals. Bob had a brilliant mind, saw no

problems (only ‘challenges’) and was always humble about his personal and academic achievements, which were many. Bob created a challenging and nurturing environment where his students and post-docs thrived, and he motivated many of us to follow in his footsteps as comparative biologists. We are all indebted to him and, in some way, he is a part of us.

I was extremely saddened when I learned of his illness and subsequent passing, and it is very unfortunate that our paths crossed so little over recent years. I would have loved to have shared a laugh with him or heard him tell one of his great stories one more time. Bob was one-of-a-kind and will be sorely missed by all who had the pleasure of knowing him. I know that the next time that I am back at Dalhousie University, or at a scientific conference, I will be listening down the hallway for his characteristic laugh; but he will not be there. However, I will take great pleasure in my memories of good times and lessons learned. Thank you, Bob.

Kurt Gamperl is an Assistant Professor at Memorial University of Newfoundland, Canada

Ione Hunt von Herbing

PhD Student, Dalhousie University, 1990–1994

“What do you mean you can’t just pick up the phone and order live Atlantic cod? I always order live salmon over the phone!”... I was at the beginning of my PhD and Bob sat across from me in the lab. I was an oceanographer trying to morph into a physiologist, and Bob (primo comparative physiologist who rarely flinched when faced with a new challenge) found it hard to believe that we would have to venture out onto the winter tossed seas of the Atlantic Ocean to get adult cod for experimental work and to provide eggs and larvae for my PhD. But all of us in the Dalhousie Fish Physiology lab would do crazy things for Bob and comparative physiology; like putting ourselves on the icy deck of a trawler to jig or scoop up cod fish from the depths and bring them back to the lab for groundbreaking work, which resulted in all of us moving into lifelong careers in biology.

Bob inspired all of us in the lab to ‘reach beyond our grasp’ so that when I grew up and became a faculty member at the University of Maine, I secretly hoped, and still believe, that if I could be half as good a supervisor/advisor/mentor as Bob Boutilier, I would be well satisfied. He taught me patience and perseverance. He inspired me to think creatively as well as analytically and, above all else, taught me to always strive for excellence, going beyond the ‘status quo’, past the 2nd level of assumptions and onto the third, which he did effortlessly, often leaving me panting behind. A quicker mind, I have not yet met.

Perhaps I have missed Bob’s most important attribute: his kindness. I was an oceanographer seeking a home and Bob welcomed me into his lab “synoptic ideas and all”. He was always eager to hear new thoughts from his students and post-docs, always giving equal time to everyone.

But I wish he had given more time to his golf. I still smile when I think of him coming back from a game, getting out of

his worn, but well-loved, silver Volvo, beaming after a great round. For not only was Bob Boutilier an accomplished and brilliant comparative physiologist, he was also a superb golfer and a gifted guitarist. I wanted so much to see him tee off on the lawn of Sidney Sussex College in Cambridge and maybe make a hole in one. After all, nothing was impossible for a man who will always be for me a man who taught me to reach beyond my grasp and never settle for less than excellence. I miss you, Bob.

Ione Hunt von Herbing is an Associate Professor at University of Maine, currently serving a term as Program Director at the National Science Foundation in Washington, DC

Jay A. Nelson

Postdoctoral Fellow, 1990–1993

One look at those big hands performing some delicate task, and you knew he could have been a gifted surgeon. If you talked about him to people familiar with the club scene in Nova Scotia, they expressed surprise that Bob hadn’t continued on with his music; they thought he was one of those who would ‘make it’. Anyone who was fortunate enough to have witnessed Bob ‘holding court’ at a scientific meeting or giving an informal talk knows that he could have been a stand-up comic. But here he was, a comparative physiologist, and I feel fortunate that he chose as he did and that I had the chance to work with him and learn from him.

I first met Bob when I was a graduate student attending the IUPS satellite symposium he organized in Banff, Alberta in 1986. Bob was gracious enough to let me present my work there, despite not knowing me from Adam; with typical Bob wit, he’d refer to me years later as “the guy who crashed my meeting”. The motivation behind this 1986 meeting was also typical of Bob: getting individuals from different disciplinary traditions (medical vs comparative physiology) together in the same place to better understand ion transport and acid–base balance. I’m not sure how successful the meeting was at fostering collaboration between the two camps, but it was vintage Bob to try and get people to look at the world through the eyes of others.

When I next hooked up with Bob, we were both becoming interested in moving fish physiology out of the laboratory and applying it to questions of ecological import. We both thought that, given the right resources, we could apply some of the exciting ideas coming from ecological physiology to economically important pelagic fish species. Again, Bob was thinking outside the ‘fish physiology box’, and I wanted to come along for the ride. Bob garnered generous funding and I was awarded a NATO post-doc.

Thus, we began our working relationship in 1990 at a time of extreme change for him. His funding level had multiplied more than 20-fold, the size of his lab had tripled, he was moving in different research directions and he assumed the Chairmanship of Biology at Dalhousie. Despite all this, I remember him always being affable and collegial, making time

for his students and post-docs when needed. How did he do it? He worked extremely hard.

I have many memories from Bob's 'cod' days at Dal, but I feel this example best describes his commitment to us. When the Ocean Production Enhancement Network (OPEN) project unfortunately sunk deep into debt, through no fault of Bob's, the decision was made to cut projects rather than compromise the whole enterprise. Bob had to go before the OPEN meeting to 'sing for his supper' and defend the project. I had never seen Bob more nervous, as he knew that he had a lab full of people and their families depending on him. Of course, he gave his usual incredible talk and we didn't lose a dime. Probably my favourite memories of Bob from these times were the occasions I would catch him in the Chair's office late in the evening after everyone else had gone home and the two of us could just sit and talk science.

I last saw Bob at the Vancouver Fish Congress in 2002 and feel very fortunate that I had a chance to have dinner with him and catch up. Bob's main concern at the time was Peter Hochachka's failing health. How tragic that they should both be taken from us so soon. Bob was a mentor and a friend and the world is a poorer place without him.

Jay Nelson is an Associate Professor at Towson University, USA

David Harper

Postdoctoral Fellow, University of Cambridge, 1992–1994

I knew Bob Boutilier as 'Boots', which was his nickname as long as I can recall. Boots was an instantly likable fellow: he liked to laugh and usually did so first, often and loudest. He was someone you just wanted to be around. He and I first met when he was a Postdoctoral Fellow with Dave Randall and I was a graduate student with Bob Blake in the University of British Columbia Zoology Department in the 1980s.

One of the highlights of my life was having an opportunity to work with Boots as a Postdoctoral Fellow in his lab at University of Cambridge from 1992 to 1994. I bore witness to his keen scientific mind and his ability to address challenging biological problems with clarity, alacrity and determination. He was a great experimental biologist. I have heard many refer to him as the greatest comparative physiologist of his time. He would probably scoff at that and blush, but I have no doubt it is true.

I was also fortunate to know the personal side of Boots. He was a lover of music and an accomplished guitar player. He was a kind, gentle, supportive and loyal friend. He had a great understanding and concern for world events and politics and was one of the best conversationalists I have known. As I write, I recall the countless times he had me in stitches as he assumed the character of one of his fictitious Cambridge College colleagues over a pint or two – or three – at the local pub.

Boots – Bob – was a great human being, in all its vast possibilities. He was an inspiration. I will miss him.

David Harper is a Professor at the University College of the Fraser Valley, Canada

Grant Pogson and Kathryn Mesa

Research Associate, Research Assistant, University of Cambridge, 1992–1994

We first met Bob at the University of British Columbia but really got to know him at Dalhousie University in Halifax, where we were charmed by his smile and easy-going nature. When Bob asked us to join him in Cambridge it was one of our easier life decisions to say yes. We had a memorable time, setting up his new lab in the depths of the Austin building and familiarizing ourselves with the ways of the University and life in Britain, which, of course, was very different from Nova Scotia. Over lunches of sandwiches and odd-flavoured crisps from the lunch truck, we'd laugh over sundry *faux pas* made in the course of daily tasks such as mastering the intricacies of ordering supplies (do not bypass your group leader), casual interaction with colleagues (save it for teatime) and the etiquette of shopping in the market (do not touch the produce!). We particularly enjoyed sharing all of our discoveries of a gastronomic nature, from the pleasures of the local bakery, Fitzbillies, to a daily recital of what was on the menu at his college. Bob had a special gift when it came to deconstructing a day over a pint and turning ordinary events into the stuff of legend to be laughed over time and again.

Bob was very attuned to other people's feelings and cares and we were always comfortable talking with him about our lives. He always knew when to bring flowers to brighten a rainy day in the lab or to supply champagne for a celebration. Bob was like family to us and we will dearly miss his laugh and generous spirit.

Grant Pogson and Kate Mesa are both at the University of California at Santa Cruz, where Grant is an Associate Professor and Kathryn is a Postgraduate Research Associate

Paul Donohoe

PhD Student, 1993–1997, and Postdoctoral Fellow, University of Cambridge, 2000–2002

I had the pleasure of being a PhD student in Bob's lab in Cambridge for nearly 4 years and I was fortunate enough to return later as a post-doc in his lab for a further 3 years. A measure of Bob's generosity of spirit is that he employed me at all, as I managed to fall down two flights of stairs and a landing during my initial interview with him. He would gently rib me about this for the next 10 years.

Bob was, and is, an inspiration to me and I miss not only his scholarly input but his ability to share his joy for life. I'm sure I will not be the only person to have enjoyed, in equal measure, Bob's ability to capture the humour in everyday life and his ability to distil a complex idea into an easily understood concept.

Both of us shared a love of Mob movies, and Bob was an exceptionally good mimic of Marlon Brando playing Don Vito Corleone in *The Godfather*. Some of my best memories of Bob are when he would give up his increasingly limited free time to analyse the plot developments of the HBO series *The*

Sopranos. He often said that, if it wasn't for the fact that he was enjoying his current career so much, he would pursue another career as a Professor of Film Studies.

The Journal of Experimental Biology was very important to him and he was truly committed to whatever was best for the journal in his time as Editor. He did comment that editing hundreds of manuscripts a year had had an effect on him, and his students will know that he could not resist the urge to edit any written work that came across his desk. He would laugh when handing back his written notes and comment that he would have edited the Ten Commandments!

Bob thought it was one of the privileges of his position that he had spent time in some of the more far-flung parts of the world such as Tahiti and Papua New Guinea. However, despite feeling welcomed wherever he travelled, he was exceptionally proud to be a Canadian, and the happiest I ever saw him was when he discovered that he was to be made a Fellow of the Royal Society Of Canada.

I miss Bob and his laughter and I hope the above gives some small measure of what an extraordinary human being he was.

Paul Donohoe is a lecturer at Otago University, New Zealand

Glenn Tattersall

PhD Student, University of Cambridge, 1994–1998

I arrived in Cambridge in 1994, straight out of a Canadian undergraduate degree, having never met Bob before in my life. Back then, as now, he was highly respected and loved by all who knew him, but I was not privy to this knowledge. I knew of him only as a fellow Canadian who had gone abroad to study frogs, as I was about to do! I was to spend the next four and a half years getting to know Bob as so much more than an amphibian researcher. His reputation and impact on the fields of comparative biochemistry and physiology were to become larger than life for me.

I remember my first correspondence with Bob when I was applying for a PhD to work with him in Cambridge. When I first spoke to him about coming to work with him, he had gone to great lengths to give me as much information about Cambridge and his research as he could; however, what had impressed me most at the time was that he had taken time to hand-write much of his correspondence. As I was too embarrassed to inquire at the time, his ornate hand-writing left me with the impression that Cambridge Dons had their own personal scribes. It was not until I arrived in his lab that I realized, of course, that he had no such scribe. I remember that he found these naïve impressions amusing, and I do believe he went out of his way to perpetuate certain Cambridge myths!

Most people who knew Bob will remember him as a remarkable storyteller. His sometimes tall tales, which became better with every telling, were a staple of life in the lab. Indeed, they made the working environment an enriching, rewarding and often envious place to be! His ability to entertain and enlighten was also borne out in his science, though only with respect to communicating science in an interesting and informed way. I remember Bob telling me that a scientific

paper had to tell a story, otherwise it was not worth writing. He did not believe that doing science should be like stamp collecting. He emphasized clarity and originality in his scientific methods and his writing and put an enormous amount of effort and thought into everything he wrote. This is how I knew that science was as much a pursuit of joy to him as was playing the guitar. He also had an uncanny gift for seeing the good in every experimental result, whether it confirmed or contradicted hypotheses! I will remember him most for that, as it was the greatest way to encourage a struggling student to persevere through the thick and thin of research.

To me, Bob was a number of people. He was both mentor and supervisor, a role model for a young scientist, an endless source of both scientific knowledge and pop culture and, above all, a sympathetic friend. He was a vigilant defender of his students and his post-docs and an eloquent speaker on all topics related to zoology, physiology and the broader field of biology. He will be sorely missed by all of those who were touched by his friendship, his kindness and his eloquent ideas.

Glenn Tattersall is an Assistant Professor at Brock University, Canada

Tim G. West

Postdoctoral Fellow, University of Cambridge, 1994–1998

I met Bob at the Canadian Society of Zoologists meeting at Acadia University in 1984. The CSZ meeting is always good-natured and sociable, so in a sense it is appropriate that this is where I was initially introduced to Boots. As I got to know him better at Dalhousie University, and later while working with him in Cambridge, it became clear that Bob's own informal attitude was not only a channel to his great humour and wit but also an effective route to serious and productive research.

Indeed, Bob's entirely sociable approach to lab-life was vital for his interactions with students and post-docs because it invited a terrific atmosphere of individuality, open idea-exchanges and constructive criticism. Remarkably, apart from insisting on frequent two-way discussions, it never really seemed that Bob had any more formal views of how top-down or hands-on management might apply to independent scientific minds. Mentoring seemed to me to be wholly instinctive for Bob – much more a gift than any definable or transferable skill. I recall that when I went to work with Bob in Cambridge, he ended our first discussion about what I hoped to achieve with his group and through my own personal research ambitions by saying 'I want what you want'. Responding with, 'a Ferrari', suited Bob fine but he instead insisted on handing over the keys to the lab. His research umbrella could easily accommodate tangents away from the mainstream, and I believe it was highly motivational for everyone in Bob's group to have, up-front, such a priceless declaration of trust and support for our own research decisions. Of course, we did naturally lean on Bob's breadth of interest and experience in so many different fields. It was often his lateral insights that helped reveal the true surprises in our newest observations or in a recent publication. For Bob, the key paybacks were that he enjoyed feedback on

his own plans and that he clearly thrived on every spark of individualism and enthusiasm generated from our many long group discussions.

There are some parallels with the way others, including Bob himself, have thought and written recently about the virtues in Peter Hochachka's approach to science and mentoring. Those who worked with both Bob and Peter would agree that they shared an innate ability to nurture intellectual independence while at the same time provide overt, permanent support. Peter liked to tell us that we could 'check-out, but never leave' upon graduating from his research group. Bob's sentiments were similar. We just knew, from the moment of checking-in, that Boots' door and mind and heart were always open.

Tim G. West is a Research Associate at Imperial College, London

Graham Askew

Postdoctoral Fellow, University of Cambridge, 1997–1998

The first time I met Bob was in the *JEB* office in Cambridge: it was the start of a 9 month postdoc, although I was to spend a further 3 years in Cambridge so I got to know Bob pretty well. It was a fortunate crossing of our paths – I had what appeared to be a gap looming between postdocs and Bob luckily had some money left over on a grant and was looking for someone to carry out a pilot study on the physiology of frog muscles. Bob's enthusiasm for the research soon had me gripped on the project and his inspiring approach was instrumental in broadening my own research interests into environmental physiology. Bob was incredibly generous with his time and would readily offer advice on writing a grant or a job application or take the trouble to explain some aspect of physiology. His generosity of spirit could be seen in the way that he was always willing to help others succeed in their careers, and I will never forget his reaction to the news that I had a new job in Leeds, as he literally jumped out of his chair, grabbed my hand and said "way to go, Graham"!

Bob was a great guy to work with. He was fun to be around – there was always laughter coming from his lab or the *JEB* office. He was someone that you were always pleased to meet up with at a conference. His commitment and enthusiasm for science were infectious. Bob was a captivating man who will be missed by those who knew him.

Graham Askew is a lecturer at Leeds University, UK

Suzie Currie

Postdoctoral Fellow, University of Cambridge, 1997–2000

Bob was something of a legend to me, years before we actually met. As an Honours student with Dan Toews at Acadia University, I heard many a tale of Bob; his brilliance as a scientist and of the many exploits he and Dan had in various parts of the world! During my graduate school days, Bob was synonymous with the gales of laughter I would hear ringing through the lab of my supervisor, Bruce Tufts, whilst he was on the telephone with Bob in Cambridge. I could often hear Bob laughing on the other line from my desk outside Bruce's

office! I was thrilled when a few years later I had the opportunity to do my postdoctoral research with Bob in Cambridge.

The three years I spent in Bob's lab were probably the happiest and the most intellectually stimulating of my life. Bob created an atmosphere in the group that was inspiring, buoyant and fun. He was incredibly loyal and supportive and generous with advice and encouragement long after you left his lab. Bob's creativity and enthusiasm were consummate. He saw the 'big picture' in science, thinking outside the box and encouraging his students to do the same by asking novel and interesting questions. All this he accomplished with extraordinary warmth, wit, laughter and side-splitting stories. I hope I remember them all...

I feel incredibly privileged to have worked with Bob and to have had him enrich my life, my thinking and my science. Those who knew Bob are better people for it; I know I live and think better because of him – I hope I can pass even a small bit of his spirit on to others who did not have the fortune to know him. I will miss him dearly.

Suzie Currie is an Assistant Professor at Mount Allison University, Canada

Julie St Pierre

PhD Student, University of Cambridge, 1997–2000

Bob always had a way with words. A kind word to support you through a series of tough experiments, a motivational speech to help you build the self-confidence required for an important talk, the perfect title for your recent paper and always, always, plenty of congratulations and celebratory drinks when success came your way. Bob was the PhD mentor who was always there for you. He had an open mind and gave you plenty of space to play. But, like a father, he watched you from the sideline to make sure that you did not get hurt. Bob also taught me the most valuable lesson in life: to keep things in perspective. He showed me that to have a vision is what counts and what keeps you going. His philosophy on life and his vision of science were truly inspiring. I guess that this is what people say when you become, like Bob, a giant in a field. But Bob was more than that. He had the very unique quality of making science fun. He had plenty of young scientists wanting to join his team, to get inspired by him and to follow in his footsteps. Indeed, this is what I did, this is what I miss, and this is what I will always cherish about Bob.

Julie St Pierre is a postdoctoral fellow at the Dana Farber Cancer Institute and Harvard Medical School, USA

Jim Staples

Postdoctoral fellow, University of Cambridge, 1997–1999

As a graduate student working with Peter Hochachka at the University of British Columbia I shared an office with several other students, separated from Peter's office by a fairly thin wall. Occasionally, very early in the morning, we heard great

gales of laughter coming through that wall. Being new on the scene, I asked a senior student what was going on. He replied, "He must be talking to Boots again." Shortly thereafter, the same student went to work with Bob at Cambridge. After a particularly intense evening of welcome and celebration, Bob sent a fax to Peter that read simply, "The first post-doc died of a hangover. Please send another." A few years later, I received a call from Bob inviting me to work with him – I don't know anyone who didn't feel better after a phone call from Bob! At Cambridge, my office was next to Bob's, and occasionally, in the evenings, Bob could be heard laughing on the other side of the wall, and I knew he was speaking with Peter.

Although Bob was a truly gifted scientist, I believe his greatest skill was finding the right people, inspiring their ideas and redoubling their enthusiasm. When approaching biological questions, his goal was always to get the most complete answer over the long term. This vision was truly integrative and allowed him to recruit people with expertise in diverse fields, all working towards a common goal from different directions. As a result, I can honestly say that more ideas were exchanged around our basement lunch table than at any conference I have ever attended. His ability to inspire came partly from the remarkable serenity he managed to maintain despite the demands of his multi-faceted career as University Reader, College Fellow and Editor of one of the finest journals in the field. It was difficult to be dispirited by my own workload when I saw how enthusiastically Bob tackled the ever-growing mountains of paper on his desk.

When I reflect on my time with Bob, I think of how lucky I was. The scientific atmosphere continues to inspire me today. The friends that I made through him I will have forever. All of this was due to the vision and love of Robert Graeme Boutilier. Hopefully, I can impart some of what he left me throughout my life and career. In that way, I can keep a part of Bob with me forever.

Jim Staples is an Assistant Professor at University of Western Ontario

Dale Webber

PhD Student, University of Cambridge, 1997–2000

I first met Dr Bob Boutilier in 1989 while I was employed as a Research Associate in the Biology Dept at Dalhousie University where Bob held a tenure track faculty position as an animal physiologist. My first impressions were accurate. Bob was a young, enthusiastic and ambitious new faculty member. He was a breath of fresh air in a department saturated with geneticists and microbiologists. He quickly became everyone's friend and became known as Bob or 'Boots', a nickname carried on from his Acadia student days. Bob and I immediately became friends; we collaborated and assisted one another in our own endeavours. In just a few short years, Bob was catapulted up the ranks and became a highly respected acid–base physiologist, as well as accepting the Chair of the Biology Department. Soon after, the Zoology Department at

University of Cambridge came in search of his talents and, in 1992, he left his mom, family and friends for Cambridge.

In 1994, I also left Canada for Cambridge to become a PhD student in Bob's lab. I was an outsider investigating fish cardiac physiology immersed in a lab of frog lovers. Bob was a busy man wearing two hats as a supervisor and chief editor of *JEB*; however, he always found the time to listen to our 'wild' theories and ideas, telling jokes in the lab and at the pub.

Ah, the jokes! I have never met anyone like him. He could spin a yarn like no other, always leaving us wanting more. There were days when I just wanted to sit and listen all afternoon. My PhD days at Cambridge with Bob, Tim West, Glen, Paul and Julie were the best times of my academic life.

After returning to Canada, I maintained a close relationship with Bob. We frequently met, discussing the latest gossip in scientific circles, our personal issues and we also found time to plan the world's 'greatest' telemetry experiments. Finally, in 1999, Jim Staples, Bob and I managed to come together and collaborate in a highly successful *Nautilus* experiment, incorporating telemetry to study the movements and oxygen preference of *Nautilus* in hypoxic conditions. As a colleague, he was a wonderful sounding board and ideas man.

Throughout the years, I have experienced the evolution of Bob Boutilier from a scientist with a reductionist view of complex biological systems to one with a holistic view. I know that he had much more to offer and it is truly a tragedy that he left us so early. Bob was one of the most scientifically gifted and caring individuals that I have ever met. His scientific exploits are well known but it is my memories of his wonderful personality that I will always cherish.

Dale Webber is a Biologist at VEMCO Ltd, Canada

Emma Court

PhD Student, 2000–present

I will never forget the first time I met Bob; I was scared as anything. So, knees knocking, I braved it and walked down the corridor only to be greeted by a man with the most infectious smile you've ever seen. I relaxed instantly, and from then on in it was as if we had known each other for ages. I knew I had made a friend for life. No matter whether I was talking about the weather, my family, rowing (that's another story) or, most importantly, my work, Bob had this real knack of making me feel at ease. Everything I said had a purpose and meaning to him and he taught me to say what I was thinking; no matter how stupid or pointless I thought it was, it all meant something to him. I would come out of discussions with Bob feeling as if I could take on the science world and that I was going to rock its very foundations; all this when just minutes before the meeting I was panicking about how dismal my results looked! To me, this is a rare talent that few people have been able to embrace and is something I will always remember. Bob developed my confidence and way of thinking in such a dramatic way that sometimes I don't recognise myself from the person I was before I met him.

But, first and foremost, Bob was a dear friend, and I suppose

this is the hardest part for me to write. Bob always supported me in anything I sought to achieve, the most taxing of which was my decision to trial for the University Rowing Team in the final year of my PhD. I was in turmoil. When I talked to Bob about this, his only words were “GO FOR IT”...so I did, made the team and rowed with the lightweight crew against Oxford in March 2004. Without his backing and support I don't think I could have achieved this. Bob fell ill at the beginning of my trialling period but always continued to show his belief in me. In fact, the day the crews were picked, Bob was having one of his bad spells. I went to the hospital to tell him the good news and, even though he wasn't communicating well at that point, he managed a round of applause for me. That made it all worthwhile, so Bob, this one's for you!

Although Bob is gone, he is very much still part of my life and I know he is looking out for me. I will never forget what a great person he was and how he has made me a better person. He wasn't just my supervisor and mentor; he was my friend.

Emma Court is about to submit her PhD thesis and graduate

Jill Aitken

PhD Student, University of Cambridge, 2002–present

I was nervous to meet Bob Boutillier for the first time. His reputation was known to me, even as an undergraduate at Dalhousie. Sitting with him in Le Bistro Restaurant in Halifax – one of his favourites – my initial shyness proved unnecessary; Bob revealed himself immediately as a kind, humble and friendly man. He was not in Canada for a research trip or a conference; he had come from England to visit his mother.

As one of the last group of students that Bob took on at Cambridge, I only knew him for a short while before his death. During those months, I was always baffled about how little we ever spoke about science. Bob delighted in people and in conversation. It seemed reasonable to wonder how any of his work was ever accomplished. It wasn't until after he died that I learned that he had secured a grant to cover every aspect of my research proposal.

Bob tackled science with energy and vision. He was a man of ideas who knew how to turn ideas into action. Yet, in his presence, each of us was not just a scientist but a source of delight for a man who delighted first in people. This is the paradox that would no doubt have marked years of learning under Bob if I had had the chance. His lesson to us is that no amount of time, however short, will be wasted, if we make each other our first priority.

Jill Aitken is continuing her PhD in Cambridge

Marvin Braun

PhD Student, University of Cambridge, 2002–present

Upon arriving in Cambridge, I was very eager to meet the famous ‘Boots’, so I went to Bob's flat to introduce myself. Unfortunately, he responded to my knock at his door by turning off the TV and pretending he wasn't home. I soon came to realize that the combination of a world-class mind and a world-class personality makes for a very popular (and busy) person. Sometimes, he just needed to hide.

Bob was a true raconteur, with a wealth of entertaining stories. However, for someone blessed with a prodigious memory, he seemed to forget just whom he had told particular stories to, and I would often end up hearing the same, increasingly impressive story. But, instead of Bob being absent-minded, I think he was teaching me by demonstrating evolution as his stories morphed in strange and unexpected ways. A man of diverse interests, our many chats would invariably drift from science to movies to the quirks of life in England and, despite the illness, he remained upbeat and kept his sense of humour. Even while on the respirator, he would mimic Darth Vader and try to choke me using the Force.

I didn't realize how much his enthusiasm and interest helped my research until it was gone. He made it exciting to bring in results and guided me without ever seeming to. His absence is keenly felt in my work but it is his loss as a person that is harder to accept. Bob was my friend and I miss him.

Marvin Braun is continuing his PhD in Cambridge