MEMORIAL UNIVERSITY OF NEWFOUNDLAND is an inclusive community dedicated to creativity, innovation and excellence in teaching and learning, research and scholarship, and to public engagement and service. We recognize our special obligation to the people of Newfoundland and Labrador. With campuses in St. John’s and Corner Brook, NL, and Harlow, United Kingdom, Memorial welcomes students and scholars from all over the world and contributes knowledge and shares expertise locally, nationally and internationally. With almost 18,000 students and 2,500 permanent faculty and staff from more than 80 countries, Memorial is shaped and changed by the professional and personal stories of its people. You’ll see it in our research and our publications, the way we recruit students and the interesting manner in which we like to tell the story of Memorial, such as through this research report.

To take a closer look at Memorial, visit www.mun.ca.

ABOUT THIS REPORT

This document contains research highlights from Memorial University of Newfoundland and covers the fiscal period between April 2009 and March 2010. We welcome your feedback. To send your comments or to receive a copy of this report, please contact research@mun.ca or call 709 737 2530.

Research Stars 2010 is published by the Division of Marketing and Communications for the Office of the Vice-President (Research), Memorial University of Newfoundland. View the report online at www.mun.ca/research.

Photography: Dave Howells
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Frank Capra—the chemical engineer turned celebrated filmmaker of such classics as It’s a Wonderful Life—said it best: “A hunch is creativity trying to tell you something.” For us, that ‘something’ was a desire to do things a little differently and, in the process, stand out from the crowd.

And so, we hatched the concept for this report: shine the spotlight on the people leading Memorial’s research, showcase their talents and contributions, and wrap their stories around iconic movie titles.

Then that creativity really kicked into high gear. Like a well-crafted puzzle, all the parts came together: writers and editors, photographers and art directors, prop masters and designers, production co-ordinators and marketers.

And then there were the stars. In our case, an A-list cast of characters—world-renowned experts and respected authorities—who proudly call Memorial home as they pursue major opportunities and challenges in and across their disciplines. Here they advance knowledge, inspire new generations and shed light on the unknown. They come from far and wide but share a vision of making Memorial’s research among the best in the world.

First-class research is at the heart of our university.

Over the course of this year, our faculty, students and staff—along with members of the wider community—have been helping to identify research opportunities of strategic importance and defining the conditions for increased success. Their ideas are shaping a new research plan for Memorial which will, in turn, support our future growth. And I’ve got a hunch that research growth means even greater things to come. Stay tuned.
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THE HILLS AND VALLEYS of Newfoundland and Labrador are alive with the sound of music. You’ll hear folk, country, rock, gospel, classical and even punk — and Bev Diamond listens to it all. Canada Research Chair in Traditional Music/Ethnomusicology, and professor of music and folklore, Bev is researching the social history of recorded music in the province and beyond. This opportunity resulted from being named a Trudeau Fellow, one of the most prestigious humanities awards in the country. With $225,000 of support from the Pierre Elliott Trudeau Foundation, Bev will write two books, the culmination of years of research in ethnomusicology. One project has taken her to several countries investigating indigenous modernities as they relate to music, from opera to issues of intellectual property. Bev’s second project, on recording industry research, has taken her all over the province, where she has observed a unique dynamic in the way recordings are created, financed and distributed. Of particular interest are recording session outtakes, which often remain with studio owners. “I’m interested in what people think is good or bad,” she notes. “Do they not like the arrangement? This reveals a lot about how aesthetic judgments are made.” And that’s a theme we can riff on.

RECIPIENT OF PIERRE ELLIOTT TRUDEAU FELLOWSHIP

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IT’S A HIGH HONOUR—and richly deserved—for two of Memorial’s finest. The Royal Society of Canada (RSC) named two university research professors as Fellows of the Society this past year. Sean Brosnan, the former head of the Department of Biochemistry in the Faculty of Science, who is cross-appointed with the Faculty of Medicine, and Patrick Parfrey, of the Faculty of Medicine, were inducted in the fall of 2009. It was the first time that professors of biochemistry or medicine at Memorial had been named to the RSC, and a major highlight in the illustrious careers of both researchers—who emphasize that their awards reflect the outstanding contributions of their Memorial colleagues, students and collaborators. Sean’s work has focused largely on how the body digests and absorbs the amino acids in protein, and an early discovery—that amino acids can preserve organs for transplantation—has proved highly influential over the years. Never a ‘trophy collector’, Sean says he was still thrilled on receiving this award. “It really is the one honour I would have wanted,” he adds. “When someone puts the mantle on you, it means something, and this particular one means a lot.” Pat’s early focus—on clinical epidemiology—continues to this day, growing to include patient-related outcomes in nephrology, genetic diseases and health care delivery. He says the honour was totally unexpected. “Being recognized by your peers is quite gratifying, but also unanticipated, as doctors and physicians aren’t commonly recognized as scientists,” he notes. Proof that, sometimes, the good guys do win.

Get the Royal treatment.

Memorial’s Faculty of MEDICINE in conjunction with the Department of Biochemistry
Faculty of SCIENCE presents GOODFELLAS  PAT PARFREY  SEAN BROSnan
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Predicting the political longevity of any given cabinet minister is a mug’s game, about as reliable as next month’s weather forecast. Ah, but Matthew Kerby thinks otherwise. An assistant professor in Memorial’s Political Science department, he has developed a computer model that predicts when cabinet ministers are going to be sacked. He has studied the experience of every cabinet minister in Canadian history, back to 1867, extracting relevant data and adding it to his model. There are factors that can extend—or sharply reduce—the careers of cabinet ministers, Matthew says. Are they close to the prime minister or premier? Are they male or female? Young or old? Is the government a minority or a strong majority? Is it riding high, or plummeting in the polls? Have there been previous calls for a minister’s resignation? Matthew says his model calculates when a minister will be removed with a fair degree of accuracy. “When Prime Minister Harper was elected, my friends said his minority government wouldn’t last long and that his ministers would drop like flies,” Matthew notes. “I told them it was going to be one of the longest-lasting and most stable minority governments in Canadian history, and wouldn’t be surprised if it went to full term.” Hear, hear!

Only Kerby knows when you’re cooked.

Memorial’s Department of POLITICAL SCIENCE Faculty of ARTS presents THE DEPARTED
MATTHEW KERBY Nominated for the 2010 JOHN MCMENEMY PRIZE
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THE EFFECTS OF A STROKE are permanent, right? Wrong, says Dale Corbett of Memorial’s Faculty of Medicine and the Canada Research Chair (CRC) in Stroke and Neuroplasticity. Dale has researched how the brain is affected by — and can recover from — the ravages of a stroke. It’s true that the first few hours are critical in terms of receiving treatment to prevent damage, but only a small percentage of stroke victims are this lucky. Dale’s team is focused on strategies to help the brain repair itself in the weeks following a stroke. Some damage is irreparable, but the brain has shown a remarkable ability to redistribute functions to other brain regions. Physical activity rather than bed rest can help restore motor control, and may even stimulate the growth of new brain cells, while intellectual and sensory stimulation can help with both motor and cognitive recovery. The use of stem cells to enhance growth of brain tissue is also being explored. “In all cases, we’ve found that the timing of therapy is critical,” says Dale, who was renewed as CRC this past year and will receive a total of $1.4 million in CRC funding. “Treatment has to occur in the days and weeks immediately following a stroke, and it has to provide more intense and varied stimulation than daily physiotherapy sessions. There are limits, depending on how much tissue is lost, but the brain has shown a huge capacity for recovery.” Now that’s smart.
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ARTIFACTS OF ANCIENT CULTURES have been interred for millennia. For years, Memorial’s Department of Archaeology has relied on research, a bit of luck and a lot of digging to discover world-class sites in Port au Choix, on the northwest coast of Newfoundland. Now, thanks to almost $1 million in federal and provincial funding, it is relying less on luck and more on groundbreaking technology. In choosing where to dig, archaeologists identify likely locations for settlement—often beach terraces near the ocean. The Great Northern Peninsula is rising due to plate tectonics, so former beaches are now vegetated. Priscilla Renouf works with geographer Trevor Bell to reconstruct the ancient coastal landscape, deducing the best places to send archaeological teams. Aided by precise real-time satellite technology, crews locate the exact elevation. A sophisticated ground-penetrating radar is then used to search for anomalies before even breaking soil. “Using this tool, we found trampled ground and walls of dwellings,” Priscilla notes. “We use a magnetometer to find organic material such as garbage and non-organic matter like walls and hearths.” And frontiers remain, says Priscilla. “There is much left to discover, and we still haven’t identified the earliest archaeological site in the province.” Her team can dig it.

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ONE LOOKS LIKE A GLIDER; the other resembles a torpedo. They are autonomous underwater vehicles (AUVs) that are being used to push the boundaries of oceanographic research and exploration. Canada Research Chair in Ocean Technology and associate professor in the Faculty of Engineering and Applied Science, Ralf Bachmayr is spearheading research on what he calls the autonomous underwater glider, a much smaller and lighter device that ‘glides’ through the water column, using ballast to ascend and descend, and wings to propel it forward. Because it is largely self-propelled, the glider is capable of research runs lasting up to six months. Ralf won the 2009 Petro-Canada Young Innovator Award to develop a propeller glide that will enable greater thrust when needed and can be retrofitted to existing gliders. Ron Lewis, an engineering PhD candidate and member of the CREATI MERLIN laboratory, is custodian of the MUN Explorer, one of Memorial’s unique pieces of research equipment. The AUV can be preprogrammed to perform deepwater research autonomously, on runs of up to 150 kilometres or 24 hours. The AUV can travel under ice packs — areas that are otherwise inaccessible. It has a payload bay, like an undersea space shuttle, that can carry testing, sampling and measuring equipment, and has already been utilized for research in the Canadian Arctic and harsh North Atlantic. It is hoped it will be used in Antarctica beginning next year. Ron is designing equipment and protocols to ensure the safe recovery of the $2.5 million vehicle after every run — quite a challenge, especially in a polar environment. And that’s pretty cool.
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MARC GLASSMAN, PROFESSOR in Memorial’s Faculty of Education, puts the ‘D’ into R&D. A pioneer in nurturing adult literacy skills among other teachers, Marc believes in walking the talk, as it were, and putting research into action. He is on the leading edge of e-learning, having taught more than 2,500 students through his virtual classrooms at Memorial. Marc rejects the notion that e-learning is a lesser substitute for in-class instruction, pointing out that students prefer the flexible hours, lively online discussions and direct feedback from instructors. “There is no back row in my courses,” he says. “Everyone is engaged and actively participating.” Marc noted that many on-campus courses don’t run at capacity, while he has dozens of students on a wait list for his online courses. Working with St. John’s-based Stella Burry Community Services, he designed the Alternative Literacy Training for the Enhancement of Re-instruction (ALTER) program for low-literacy adult learners seeking an on-ramp into the workforce. To ensure its effectiveness, he delivered the program to students while on sabbatical. “I could have done the research and published a paper, but I wanted to do the development work as well,” Marc says. “I wanted to put theory into practice.” The course has had successful outcomes for students, and last year Marc won the Council of the Federation Literacy Award for it. Now that’s a class act.
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NINE TO FIVE IS NICE WORK if you can get it. Just ask anyone employed in a part-time, non-permanent job with few benefits. Gordon Cooke knows all about it. The assistant professor in the Faculty of Business Administration was co-investigator on an in-depth study of labour market information published in Statistics Canada’s Perspectives on Labour and Income. Gordon and his colleagues at McMaster University and the University of Guelph mined StatsCan’s national Workplace and Employee Survey database to learn more about people employed in non-standard work arrangements. He said it was no surprise to learn that these people earn less per hour, have fewer benefits and are less likely to receive a pension. As well, lower-paid workers are less likely than higher-paid workers to receive employer-provided training. Again, not a surprise. Within this lower-paid, lower-educated group, however, the study found that females have less access to training than comparable males. This does not imply that employers are plainly discriminating, Gordon says. Rather, it indicates that females are over-represented in poor-quality employment, where employers are least likely to provide training. Is there a solution to this societal ill? “We don’t think employers should be forced into a quota system,” he says. “However, if public policy measures were introduced that contained incentives for training, such as tax credits, women would automatically benefit from the resulting increase in training because they are already over-represented in poor-quality work.” That’s an idea worthy of promotion.
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IT EXISTS, ALMOST A SEPARATE REALITY, within the hard drives and processors of a roomful of computers. It is computational power that when harnessed by a few good mathematicians, can offer solutions to a myriad of problems. Challenges that seem insurmountable can often be solved through applied mathematics, says Ronald Haynes, an associate professor in the Department of Mathematics and Statistics. Ronald wants to demonstrate that mathematical techniques can be applied to solve real-world problems in a way that is fast, cost-effective and reliable. Before joining Memorial, Ronald was part of a team that explored the potential of harnessing Bay of Fundy tides for power generation. Equations and algorithms were written to describe the water depth, bottom topography and coastline. When the accuracy of the model was confirmed using known tidal data as the control, a series of turbines was introduced into the model. The feasibility of the project is still under review, but the model provided data that would have taken many years—and possibly millions of dollars—to collect through conventional engineering techniques. “I think mathematicians have something extra to bring to the table,” says Ronald, who is currently applying this strategy to the problem of optimal oil well placement in the Newfoundland and Labrador offshore area. “There are so many technological achievements that have math under the hood. Man wouldn’t have walked on the moon without mathematicians.” And that’s not a calculated guess.
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THE CODE OF HANDSOME LAKE is the morale code of conduct for the Iroquoian First Nations. The code is best preserved in the Cayuga language, says Carrie Dyck, associate professor in Memorial’s Department of Linguistics. “The code is special and sacred,” adds Carrie, who was recently awarded nearly $1 million to preserve and maintain the Cayuga language. She has written a dictionary of the language, documented the grammar and transcribed many important recordings. With fewer than 100 fluent speakers of Cayuga left, mostly elders, the language is in danger of disappearing. “The funding will be used to keep the language vibrant and alive through immersion courses for adults and language daycare for children,” says Carrie, who points out that all languages are worth preserving. “There is great diversity in the world’s 5,000 languages, but if you look carefully you will find unifying principles. If we know more languages, we can better understand language in the global sense.” With Cayuga, her efforts are bearing fruit. “Not long ago, I heard a little girl speaking Cayuga at a language daycare. It was lovely to hear.” That translates well into any language.
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KRIS PODUSKA SWEATS THE SMALL STUFF. And we mean really small. She works with atoms and cells, researching how they can be manipulated to achieve desired outcomes. An assistant professor in the Department of Physics and Physical Oceanography, Kris is the recipient of a 2009 Petro-Canada Young Innovator Award, supporting research into how synthesized biologic materials can enhance healing of broken bones. In cases of severe fracture, stainless steel pins are often used to join bones together. Working with colleagues at Memorial and the University of Prince Edward Island, Kris is developing an experimental synthesis of calcium phosphate and collagen, which would be applied as a coating to these pins to speed bone healing, prevent infection and inhibit rejection of the implant. If successful, use of the synthetic compound could be expanded to include treatment for many kinds of bone fractures, and may even have veterinary applications for broken bones in horses. Kris says the technique has already passed its first hurdle. “Off the top, we had to make sure that the cells didn’t die when we placed them on the coating, and it’s passed that test,” she says. “So we know that the cells don’t die, but how active are they? Are they making a difference in the healing process? That’s what we are in the process of assessing right now.” Here’s hoping they catch a lucky break.
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CLAUDE DALEY KNOWS HIS WAY around a cold ocean. The professor in the Faculty of Engineering and Applied Science—and chair of the faculty’s Ocean and Naval Architectural Engineering program—can also navigate the corridors of power and build enduring relationships. An example of the latter is the association developed with the American Bureau of Shipping (ABS), an international classification society that sets standards and regulates safety for ships and offshore structures, and with other companies and organizations interested in his research in ice engineering. ABS has had a long-running relationship with Memorial, co-operating in various projects and routinely hiring Memorial students for work terms and other positions. The relationship was cemented recently when Claude and others worked to establish the ABS Harsh Environment Technology Centre at Memorial. It will conduct ocean engineering research with a focus on arctic, cold ocean and harsh environments, building on Memorial’s world-class cold ocean expertise and infrastructure. Through collaboration with Transport Canada and BMT Fleet Technology, Claude is also working with the International Association of Classification Societies (IACS)—which includes ABS in its ranks—to create a new global standard for polar shipping rules. “It’s an approach to ship design that is new, and different from conventional regulations, which focus on strength and capacity,” Claude says. “The polar shipping rules are based on scenarios, and designing vessels that can withstand the full gamut of cold ocean situations.” True north, strong and free.
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OUR BOREAL FORESTS don’t get no respect. And it’s time we understood their importance in the global scheme of things, says Ian Warkentin. A conservation biologist and associate professor in the Environmental Science program at Memorial’s Grenfell campus in Corner Brook, Ian has co-written a paper that sounds the alarm about the declining state of boreal areas, the world over.

Fire has always been an important agent of change in boreal areas, but satellite imagery from the past 15 years suggests that climate change and human activity — such as logging and mining — are increasing the risk of fire and the release of stored carbon. Forest insects also respond to changing climate: mountain pine beetle outbreaks in Canada, for instance, added more carbon to the atmosphere than the transportation industry and forest fires combined. With all these changes, boreal forests are also becoming more fragmented, and an increasing proportion of their 20,000+ species are threatened with extinction.

We need to care about this matter, and not just because of endangered species, Ian says. The Amazon rainforest has been dubbed the ‘lungs of the planet’, but boreal forests are also important, comprising a third of the world’s forested area. “The boreal forests may breathe much more slowly than the Amazon, but they contain 30 per cent of the terrestrial carbon stored on Earth,” Ian explains. “As we perturb that system, more and more carbon will be released into the atmosphere.” Time, perhaps, to see the forest for the trees.
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THE OCEAN SCIENCES CENTRE (OSC) of Memorial University was awarded more than $16 million in federal-provincial funding to expand and enhance its facility, located on the ocean’s edge at spectacular Logy Bay. A new research facility will be constructed, complete with the latest equipment, laboratories and coldwater holding tanks, for the specialized study of invasive species, deepwater organisms and marine diseases. “We will research everything from green crabs to bacteria that afflict aquaculture operations and the marine environment in general, to develop means of countering their negative effects,” says Ian Fleming of the OSC. “We will also have pressurized tanks that enable the live study of deepwater species.” As well, they will drill 300 metres from the OSC facilities through solid rock to a deepwater location for the intake of stable cold water. “It’s quite an undertaking,” says Kurt Gamperl of the OSC. “We will use directional drilling techniques to place a water intake at a depth of 35 metres. We have shore intakes now, but the water temperature near the surface is too warm for many deepwater species.” This infrastructure will make the OSC, already a leading-edge facility, unique in the world. “We will be capable of studying living organisms from deepwater and arctic environments,” adds Ian. “This will attract students and scientists from around the world.” A friendly invasion, if you will.
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“It’s a great way to begin your research, whether you’re a student just starting out or a PhD doing scholarly work,” says Librarian Pat Warner. Rare volumes include a book of hours, from around 1500; one of the earliest printed pocket books, from 1502; the first English translation of Sir Isaac Newton’s *The Mathematical Principles of Natural Philosophy*, from 1729; and a first edition of Samuel Taylor Coleridge’s *Sibylline Leaves*, from 1817. Special Collections also houses the Herbert Halpert Collection, one of the best private folklore collections anywhere, along with outstanding collections of Pre-Raphaelite literature, Victorian illustrated books, theological and ecclesiastical literature, and much more. “Every book is there because it is special,” Pat says, adding that some have been scanned for reading online. “But you can also come visit us, touch the books, inhale their scent and spend some time with them in the reading room. They are artefacts that speak to us; primary documents for people who work in the humanities. They carry with them much more than the words inside. People are gobsmacked when they see how beautiful these old volumes are.” Knocked back in time, you might say.
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AS THE NEWLY-APPOINTED Wood Group Chair in Arctic and Cold Region Engineering, Shawn Kenny is facing some daunting challenges. The work of his team could go a long way toward enabling development of oil and gas resources off Newfoundland and Labrador. The Wood Group and the Research & Development Corporation (RDC) are investing $1 million in funding the position, which is based in the Ocean Engineering Research Centre at the Faculty of Engineering and Applied Science at Memorial. There are significant challenges that must be overcome to advance the development of natural resources in arctic and northern cold regions. A cornerstone in this endeavour is a collaborative research and development program that brings together academia and industry to reduce technical risks and uncertainties. Shawn’s team will explore how geohazards in these environments, such as permafrost and ice gouging, influence pipeline structural behaviour and integrity. Pipelines provide an efficient and economic way to transport hydrocarbons over long distances. For offshore pipelines, a significant issue is bottom-scouring icebergs off Labrador and Newfoundland, where the pipeline will need to be buried in trenches on the seabed. Shawn will build numerical models that try to simulate and thus predict how icebergs will interact with the seabed. These models will then be tested and calibrated through physical testing and comparison with field data. Once their accuracy is confirmed, the models can be applied to solve a broader range of problems. And the stakes—the feasibility of subsea pipelines in ice environments—are very high. “It’s an exciting and important time to be performing cold ocean research,” says Shawn. “We anticipate our work will be a catalyst for new research opportunities and help facilitate industrial growth.” And that’s no pipe dream.
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CAN YOU IMAGINE how a single brain cell looks in a car accident? John Weber can. A neuroscientist in Memorial’s School of Pharmacy, who is cross-appointed to the Faculty of Medicine, John uses a small mechanical device to subject cells to injuries equivalent to those caused by a head-on collision. It’s part of his research into how powerful antioxidants in local blueberries might make brain cells more resilient to traumatic brain injury. The human body produces oxidative molecules that can damage cells, hastening the aging process. Antioxidants seem to protect the body from these harmful effects. John takes it to a new level by studying how antioxidants may bind to brain cells to prevent the onset of aging-related diseases, such as Alzheimer’s and dementia. Even more intriguing is his research into traumatic brain injury and stroke, both of which unleash a flash flood of oxidative molecules that are associated with lasting brain damage. Would brain cells be more resilient if they were fortified with antioxidants prior to trauma or stroke? “Initial indications are that the cells treated with berry extracts are healthier after this trauma,” John says. “There is still work to be done, but lab testing suggests that a diet high in blueberries offers protection from the effects of a stroke.” Fasten your seat belts—this could be an interesting ride.
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CHILDREN EXPERIENCING psychological difficulties often have another problem: they have trouble making and keeping friends. The problem persists even after underlying issues are resolved. Enter KidClub, created by Christine Arlett, a children’s clinical psychologist in Memorial’s Department of Psychology, in collaboration with the Janeway Children’s Health and Rehabilitation Centre in St. John’s. KidClub was formed more than 10 years ago to help isolated children aged 9 to 13 learn social skills, build self-esteem, form friendships and experience a sense of belonging. More than 100 children have since gone through the program. “One of the challenges of child clinical psychology is the divide between academic psychology and actual practice,” Christine says. “I’ve always tried to bridge that.” KidClub strikes that balance. Children meet, mingle and play in an informal environment, supported by therapists and university student volunteers. They learn how to play together, resolve conflicts and manage the give-and-take of stable friendships. KidClub was designed based on feedback from children, Christine explains. “And one thing we heard was, ‘Don’t stop the program after six weeks.’ They wanted continuity.” So children can stay in KidClub for as long as they find it helpful or until they reach the age of 14. It’s clear that the opportunity to form friendships has an impact on the rest of their lives. After all, everyone needs a friend.
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THINK OF IT AS A WIND TUNNEL under the water, where fishing nets are tested instead of car bodies, and the operative term is ‘hydrodynamic’ rather than ‘aerodynamic’. Come immerse yourself in the work of Paul Winger, director of the Centre for Sustainable Aquatic Resources at Memorial’s Fisheries and Marine Institute. The centre’s research revolves around its massive flume tank, the largest in the world at 22 metres long, eight metres wide and four metres deep. About 1.7 million litres of water are circulated through the tank by three massive impeller blades, creating a steady current that simulates the movement of a fishing net through the ocean. The centre is client-focused, working with industry partners and other institutions to design better fishing gear. Their priorities reflect the changing needs of industry, including gear design that is more fuel-efficient, with maximum yield and minimal bycatch. Recently, Paul’s team won $1.8 million in federal funding to design, with a local trawl manufacturer, a bottom trawl that does not harm the seabed. “A lot of fishing is done by dragging the net across the seabed,” says Paul. “The world doesn’t want that anymore. So we are developing a smart net that will trawl near the bottom, without touching the bottom, reducing seabed impact.” And that’s a good net result.

with PAUL WINGER

Nice catch!
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THERE’S A LABOUR CRUNCH LOOMING in Newfoundland and Labrador. With the birth rate down and baby boomers retiring, more people are leaving the workforce than entering it. On the other hand, Lan Giem, a professor in the School of Nursing, has observed that our aging population is staying healthier and living longer. One way to forestall this labour shortage, she says, is for people to extend their working lives. Lan is the principal investigator on a three-year research project to identify why people retire by interviewing older workers all over the province. Is the work too strenuous? Are there family obligations at home? Are retirement policies nudging them out? Lan believes many people would choose to work longer if such roadblocks were identified and removed. And working longer has benefits, she adds, such as more exercise, a better social life and enhanced self-esteem. The findings will be shared with an advisory committee that includes the provincial government, the Workplace Health, Safety & Compensation Commission, the Canadian Association of Retired Persons and other seniors advocacy groups, who will work to create change where it is needed. “Many people with a wealth of knowledge and experience are retiring in their fifties,” says Lan. “By extending their careers, people will enjoy longer, more fulfilled lives, while helping to alleviate the impending labour shortage.” That works for us.
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Ross Klein, a professor in the School of Social Work, was a cruise enthusiast until he observed events that gave him pause—and inspired him to research the cruise industry. His findings? Based on analysis of data from the FBI and a major cruise line, Ross concluded that the risk of sexual assault is 50 per cent higher on cruise ships than on dry land, and that children are especially vulnerable. He also concluded that roughly 30 per cent of those who go missing on cruises disappear under mysterious circumstances. And, according to a report Ross produced this past year for the group Friends of the Earth, some cruise lines are not environmentally responsible operators. Since 2001, Ross has written four books; testified as an expert witness in trials involving cruise ship crime; helped influence federal cruise legislation in the U.S., in part by testifying before the U.S. House of Representatives and Senate; and given roughly 500 media interviews. While Ross is persona non grata to some, his research has led to better practices and processes related to the cruise industry. “It is particularly gratifying to know one’s work has positively impacted an international industry, has informed public policy in several countries and has aided ports in Canada, the U.S., the Caribbean, Australia and elsewhere,” notes Ross. Proof that David really can take on Goliath.
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THE COLOUR OF MONEY

EXTERNAL RESEARCH SUPPORT BY TYPE 2009/10*

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† Other includes conferences/workshops/symposia, equipment, general support grants, publications, travel and other. Together, these total less than $1 million.
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RESEARCH SUPPORT BY FEDERAL GRANTING COUNCILS
2005/06 TO 2009/10*

- Natural Sciences and Engineering Research Council of Canada
- Canadian Institutes of Health Research
- Social Sciences and Humanities Research Council
- Other†

2009/10* TOTAL: $29,130,999

EXTERNAL RESEARCH SUPPORT 2005/06 TO 2009/10*

- Federal Govt. (includes Granting Councils)
- Provincial Govt. (NL)
- Business
- Non-Profit
- Other†

2009/10* TOTAL: $90,378,045

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TOTAL RESEARCH SUPPORT 2000/01 TO 2009/10*

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