



**In memory of Gísli Rúnar Hjaltason
24.10.1967-19.6.2003**

Björn Þór Jónsson, editor, Reykjavík University, Iceland

This article is written in memory of my good friend Gísli, a promising database researcher at the start of his career. I have known him for about a decade, ever since he convinced me to join him in the Ph.D. program at the University of Maryland. We immediately became friends, for Gísli's raw charm and kind heart made it hard not to become friends with him. He, and later his wife Bobbi-Jo, were frequent guests in our home and we in theirs, and we have shared many a joy.

I would like to begin by summarizing his career, although more detail is found in the contributions below from his colleagues and faculty. He graduated with a Ph.D. degree from the University of Maryland, College Park in 2000. His thesis topic was "Incremental Algorithms for Proximity Queries," which included algorithms for nearest-neighbor queries and distance join queries, as well as other algorithms. Distance join queries are operations that he defined, which are highly useful in spatial databases. Upon graduation he joined RightOrder, a startup company in California, where he worked on their proprietary indexing technology. Finally, he tried his hand in academia, joining the University of Waterloo in 2002. During this time he did many outstanding things. Some of his work was published in the SIGMOD and VLDB conferences and in ACM TODS. The University of Maryland Computer Science Department nominated his thesis for the ACM Dissertation Award. He was elected outstanding TA in the department in 1993. All of these are very significant accomplishments. I recently read his CV, which modestly claimed that he had "extensive background in software development," while the truth is that he was an amazingly fast and accurate programmer. I know first hand after taking part in an ACM programming competition with him and mostly getting in his way.

All of this I know he was very proud of, although he was hard-pressed to boast about it. What his CV did not say, however, is what a nice person he was. He was a person who went to extraordinary lengths to help out his friends, was constantly working on ways to have fun with them, and was always willing to talk openly about the pains and joys of existence. He was as comfortable playing on the floor with my kid as he was discussing philosophy with his fellow students. He loved classical music, and he found his wife while taking a flute class – he sometimes claimed that he had in fact taken the class exactly for that purpose. The CV did not tell of his sensitive soul and his combat with depression. Neither did it mention his high thresholds for pain, as evidenced by his 10K runs without any real preparation and the fact that he walked around for two whole days with a burst appendix before seeing a doctor.

After I left Maryland, Gísli and I met quite regularly, with or without family. After he joined Waterloo we were in frequent telephone contact to discuss the aches and pains of becoming a faculty member. He was in the process of starting his career, writing proposals, hiring graduate students, and teaching his first classes. He had high hopes and ambitious plans for the future, and was very enthusiastic about the department. Unfortunately, the dormant depression surfaced before he had finished his first year there.

We never worked together, unless building dams on the Santa Barbara beach counts. I was looking forward, however, to a long time of discussions and even potential cooperation with one of my very best friends. But it was not to be.

Gísli, you went too soon. The world misses you. The database community misses you – some of us know it while others may never find out. My wife and I miss you. We hope you have found peace in your heart. We will treasure your memory forever.

Hanan Samet, University of Maryland, College Park

Gísli R. Hjaltason was one of those rare individuals who combined theory with practice. He was a superb systems builder as well as an accomplished researcher in spatial databases, geographic information systems (GIS), data structures, and algorithms. He was also a caring and thoughtful colleague, and, most importantly, a friend. On the system building side, at the University of Maryland, he led the effort in building the SAND Spatial Browser. This is a wonderful piece of software that enables users to browse through spatial data that is interspersed with nonspatial data. The user interface work was built by Gísli and has many innovations. The SAND Browser and system provided Gísli with a test bed and a wealth of research ideas, which he followed with vigor. Gísli was also an outstanding and caring teacher. He was always willing to help students out and make their lives easier. In fact, at the University of Maryland he won an award for being the Teaching Assistant of the Year.

Gísli also had other interests and talents. His command of English and its proper usage in writing was amazing. He was an accomplished musician with diverse musical tastes, usually listening to something in his office, which did not always please the less-musically enamored students in adjacent offices. I remember always delivering packages of CDs addressed to him that I found in the mailroom. He loved to cook and was also a voracious eater, which was amazing considering how slim he was. I will never forget my first encounter with him in my data structures class in fall 1991. He usually came a few minutes late with a gigantic sandwich from the Food Coop and always proceeded to sit in the middle of the second or third row and start eating the sandwich while smiling. The class was at 2 p.m., so in retrospect, it was not surprising. I still have the image in my mind. It never goes away. It was one of the few occasions that I recall him smiling, as he rarely showed any emotion. It is funny what remains with us about people.

As we know, Gísli accomplished much in his short career. However, most importantly, Gísli was a wonderful human being who was always willing to help a friend whether it was a professional matter, babysitting, driving to the doctor, going to the airport, etc. He could never say no, no matter how busy he was. Gísli was shy and modest and would have shrugged off these tributes but this is not surprising given his roots and background. However, his determination to do his best in his own quiet and unassuming way are what enabled him to stand tall quietly where others tend to scream to be heard. His work did his talking, and his research accomplishments were where he really shone. It is indeed tragic that such a bright light has been extinguished, and so soon. We have all lost a promising young researcher and friend.

When I think of his short but productive career, I am reminded of the following lines from the poem “Wisdom” in Dark of the Moon by the poet Sara Teasdale written in 1926 which I came across at approximately the last time that I saw Gísli, which was in Quebec City. To me, it seems a fitting way to remember Gísli’s brief professional career, and most importantly his human potential.

It was a spring that never came,
But we have lived enough to know
What we have never had, remains;
It is the things we have that go.

Moshe Shadmon, RightOrder, Inc., San Jose, California

I had the privilege to be a friend of Gísli and work with Gísli. This was during 2001 and 2002 in RightOrder. Back then we needed someone that would help to explain complicated ideas and later would transform these ideas to a simple and working implementation. Gísli was the one to deliver. Gísli started to work in RightOrder as a member of the CTO group doing research but very soon and because of his extraordinary coding skills was “pulled” to the development group. With the CTO group, Gísli was part of the team that wrote the paper “A Fast Index for Semistructured Data” published in VLDB 2001. During 2002 Gísli gave a talk representing RightOrder in the Dagstuhl Seminar on Data Structures.

With the engineers, he was the principal developer of the core of RightOrder’s database/indexing engine. There, Gísli created a brilliant work resulting in a complete and “bug free” implementation. Gísli was a person loved by all of us. I will always remember his patience in explaining complicated ideas again and again, always willing to extend his help and enlightening those in need. I will remember his care and devotion, working on the little details until late at night. I will also remember Gísli as a Mac fanatic. Walking one morning in the office noticing that he replaced his

Windows workstation to Apple, the only Apple computer in our Windows-Linux environment. Gísli will always be part of what we accomplished here.

Gísli was a real friend. I will always miss him.

Levy Cohen, RightOrder, Inc., San Jose, California

The staff of RightOrder remembers Gísli for his many contributions; not only to our company, but also in the friendships we shared with him. His sense of humor, dedication and boundless ideas are just some of the many qualities we will remember. Gísli made many friends at RightOrder. He was equally comfortable talking about complex algorithms, database technology – or his cats. He often shared personal stories about his wife Bobbi, her music, their latest cat “addition” and their adventures. He had many interests outside of technology and used those interests, along with his sense of humor, to create connections with many of his co-workers – turning them into friends.

RightOrder pioneered a new extended indexing engine based on the Index Fabric Technology, internally referred to as IFX. Gísli was the first member of the IFX group, and participated simultaneously in the CTO team. Gísli was very demanding of his personal performance and held himself to high standards. The first major project that Gísli volunteered to do was conducting and experimenting the benchmarks for the VLDB 2001 paper. It was a complex project with aggressive deadlines. Gísli spent many hours, days and nights, to accomplish everything on time. He did make it on time, with excellent quality, and the paper was ready for “prime time.” Months later Gísli came to me, and, in a private conversation, said he wanted to apologize for disappointing me with the quality of the outcomes. I was very surprised, since I was very pleased with the paper and the work results. It took me a while to convince Gísli that I was honest in my response and even showed Gísli that we were proudly using some of the results in our marketing collateral.

Gísli was a senior and the only principal software engineer at the IFX team; he was recently remembered fondly by his group members: “We cannot forget Gísli, our former team member and good friend. We do remember the days, the hours and the minutes, which we spent with him during the “IFX training” time. We sat with him for days and weeks, playing the role of his first students. He was a person with such a sense of humor and made the “training” time full of fun. We laughed at jokes and had fun together with him. We also had to think hard, trying to understand the sophisticated new algorithms, which he invented and which enabled our software to achieve such good results later on. He was so talented and we are still amazed by the speed of his coding; how fast he got new ideas; how fast he wrote new software! He was also a person with great passion for his work and was always trying to improve his work (document and code) to be perfect. On the day he left RightOrder, we could feel his unwillingness to leave his work behind. We do remember the great time we had with him.”

Ken Salem, University of Waterloo, Canada

Although I first met Gísli more than ten years ago, while he was still a graduate student, it was not until his recent move to Waterloo that I got to know him better. He was here for only a few terms, but he got involved and made friends quickly. Gísli and Bobbi-Jo liked to invite people to their place for dinner. This allowed them to show off their growing collection of cats. They were also regulars at Friday beer, which is something of a tradition here. Gísli was a pleasure to be around, and he enjoyed the company of others. He lacked pretense and could joke about himself. He had a dry, deadpan sense of humour that I liked. A favorite subject was his remarkable appetite, which I saw in action on more than one occasion.

Gísli was off to a good start in his academic career. He fit in well with the database group, he had attracted funding for his research, and he had started to accept graduate students of his own. All of us were looking forward to what was to come. I will miss him.

Richard Trefler, University of Waterloo, Canada

I met Gísli at the first orientation session for new faculty, and we were friends from then on. We had offices across the hall from each other, and together, we negotiated the bewildering array of procedures involved in getting equipment, graduate students, writing grants, teaching, and so on. We shared our respective lists of projects and goals with each other. Though we were in different fields, our trajectory was the same. For stress relief, we played racquetball together. We discovered that we had both traveled many miles to new and strange lives to study in the United States. We had both graduated with Ph.D.s and gotten married far from home. In short, we bonded as people do when they go through a tough, sometimes grueling experience together.

He and his wife Bobbi-Jo came to our house often. I recall one night at our home, listening as he told us incredible stories of his brushes with disaster. When he was six, a fall left him in a deep coma for many weeks. His awakening, and eventual recovery without any impairment was considered a medical miracle. Later, as a young man in despair, he had come near death, and he spoke movingly of his long struggle back from the brink. And still later, in Maryland, he had managed somehow to walk into an emergency room under his own power with an appendix that had ruptured days before. Doctors shook their heads, and said his case was astonishing. He told each of his stories with his signature dry, self-deprecating humor. We laughed as he joked about his incredible talent for calamity, but I remember my growing amazement that night, sitting in the circle of our friendship at his phoenix-like survival against incredible odds. That night, I felt a deep wonder at how overwhelmingly fragile and rich and strange our lives are. That is what my friend shared with me, and that is what I keep of him.

Frank Tompa, University of Waterloo, Canada

As the Director of the School of Computer Science at the time, I was extremely pleased to hear from Gísli that he would accept our offer to come to Waterloo. Being in the database area myself, I was particularly pleased that such a promising scholar and teacher was to join us as a colleague. We all knew that Gísli would add considerable strength to our work in spatial database systems, algorithm design, and computational geometry.

My wife Helen and I were pleased to drive Bobbi-Jo and Gísli around Waterloo when they first came house hunting. In this first social meeting, we learned of their love for music, and of some of their hopes and ambitions. We looked forward to their arrival in September.

Gísli's start at Waterloo reaffirmed his academic strengths as well as his sociability. Within the first month he accepted the role of being the primary author of a proposal to the Canada Foundation for Innovation to obtain infrastructure funding for ten new faculty members in mathematical and computer sciences at Waterloo. In large part because of his efforts, the substantial grant was awarded, but ironically its announcement coincided with his death. Gísli also began to make significant contributions in supervising graduate students during his short time at Waterloo, and he started his teaching of undergraduates.

Computer Science at Waterloo benefited from Gísli's brief presence, and we shall all miss him greatly.

Graduate Student Memories of Gísli Rúnar Hjaltason

Ron Sivan, IBM Research Lab, Haifa, Israel

I left UMD for Israel in 1995, when Gísli was still working towards his degree (rewriting every line of code I had ever written in the process...) so perhaps I am the one who had not spoken to him the longest. But as unlikely as it seemed at the time, Gísli and Bobbi-Jo paid us a visit when they were here in 1996, I think. We spent a lovely day touring the city of Haifa (to which we ourselves had moved not too long before). Back at our place they met our daughters, who generally find the company we keep rather boring. But then, just to be polite, one of them asked Gísli about the only other Icelander she had heard of... Gísli was instantly transformed into an idol as it was discovered that he and Björk were cousins, and that she had actually baby-sat him when he was a kid. Even less likely, it turned out they both brought their instruments with them. After lunch they pulled out theirs and we ours, and spent the afternoon playing (mostly listening to Gísli play...)

And now unlikeliest has actually materialized. For me, Gísli has been and will remain that able musician Björk had baby-sat, of that enchanted day seven years ago. יהי זכרו ברוך.

Erik Hoel, Environmental Systems Research Institute, Redlands, California

I will always remember Gísli's sense of humor; he particularly enjoyed irony and sarcasm as well as good-natured teasing. I used to refer to him in jest as my Icelandic friend No. 5 – collecting Icelandic friends was a subject we used to joke over quite a bit (there are few countries where you can know a somewhat significant fraction of the entire population). Another ongoing subject for heated debate was whether I could play the radio better than he could play the flute.

I was never quite able to convince Gísli to join me at the company for which I currently work once he completed his dissertation under Hanan Samet; a person with Gísli's academic research as well as programming talents is a rare gem indeed. However, even more rare is a person such as Gísli who couples these professional abilities with a kind heart and a terrifically fun personality.

Gísli, við munum ætíð minnst þín sem náins vinar. Ég vona að þú hafir fundið endanlega friðinn sem þú svo þráðir.

Claudio Esperança, Federal University of Rio de Janeiro, Brazil

It's hard to enumerate the traits that made Gísli such a unique person. He was brilliant, charming, sensitive, generous and fun to be with, but these are qualities I have found in many people. Perhaps it would be more illuminating to remark that he was a fan of Shostakovich. This at least would help us understand the intense fellow he was underneath his shy countenance.

We worked together in the SAND project for three years, until I had to return to Brazil. Since we were both foreign students in the U.S., sometimes we talked about the various problems we had in common. When asked, my advice to him was almost always something like: "don't worry so much, man." In retrospect, I think I did not quite understand the depth of his worries.

There are many moments with Gísli that will stay in my memory forever. I have a very vivid recollection of that night, just before I came back to Brazil, when my wife and I had Gísli and Bobbi-Jo for dinner. We talked a lot, and, as a parting gift, we were given a wonderful flute concerto.

Safe journey, Gísli, wherever you are.

Aya Soffer, IBM Research Lab, Haifa, Israel

I too spent several years with Gísli at Maryland, quite a few of these years I was already a post-graduate. In many of our conversations we jointly deliberated about industry versus academia and where saw ourselves when we "grew up." In retrospect, it seems like Gísli never really resolved this dilemma.

Technically, Gísli never ceased to amaze me. He was as bright as they get, and had a rare gift of excelling both in Computer Science theory and practice. His extraordinary work on incremental nearest neighbor algorithms, which originated from issues I encountered in my thesis, was not only very useful for me, but also became one of the influential papers in this area.

On the lighter side, I will always remember Gísli and Bobbi-Jo's flute performance at my son's Brit Mila. They performed a Jewish folk song, which they had learned for the occasion – another example of Gísli's warm heart and consideration.

Cenk Sahinalp, Case Western Reserve University, Cleveland, Ohio

I remember the day I met Gísli; it was the same day I met most of my fellow graduate students starting at Maryland in fall '91. It was truly an international set of people, particularly because of Gísli: a guy from Iceland? Sounds cool!

I learned to respect Gísli before becoming friends. We were taking graduate algorithms together and I noticed that he truly understood and never faked. And Gísli was a really good hacker; oddly he never made a big deal out of it. You know, hackers talk big and usually don't care for theory. Gísli was an exception.

I remember the day I suggested him that he move in with my friend Tevfik who was also going to start his Ph.D. in Maryland. I told him that Tevfik played the bass and looked a little like Eric Clapton. I guess that grabbed Gísli's attention... You know, Gísli was an accomplished flutist. That was the beginning of the friendship between us that lasted through the years.

Gísli, what we shared through our friendship is too much to fit in this short note. But at least I can tell that I enjoyed the lava-covered plains around Reykjavik or Sultan Suleyman's walls in old town Jerusalem (not to mention soccer games between Iceland and Turkey) because of you. Thanks Gísli; thanks for being cool, being straightforward, being simply good. Thanks for your brennivín, for your homemade beer and for your company.

Tevfik Bultan, University of California, Santa Barbara

I met Gísli in August 1993, a couple of days after I came to the U.S. to start the Ph.D. program that he was in at the University of Maryland. We were roommates for the next two years and remained close friends afterwards. I enjoyed the years I spent at College Park because of friends like Gísli. I remember the hours we spent at the breakfast/lunch table discussing mathematics, computers, religion, music – anything that was interesting to talk about.

One thing that always amazed me about Gísli was his honesty; he would always say what was on his mind. Most of us say what other people like to hear a lot of times, rather than what we really think. Gísli was different. He was an idealist and a perfectionist, and possibly the best programmer I ever met. I believe those were the traits that made him an excellent computer scientist. Gísli loved music and he was a talented flute player. When good musicians play, you can hear their emotions in the music and that is what I heard when he played.

I am very sad that the long life together I wished for Bobbi-Jo and Gísli at their wedding did not come true. I was lucky to be a friend of Gísli and I will miss him very much.

Stefano Coraluppi, NATO Undersea Research Centre, La Spezia, Italy

I met Gísli in 1991, when he arrived in the States for Graduate School at the University of Maryland. We shared an apartment for three years at Maryland, and we spent a lot of time together then and later, talking about science and about life, arguing, laughing, traveling, playing sports, eating and drinking, having fun. Gísli was a friend, and his presence touched my life. The Italian saying really is true: *chi trova un amico, trova un tesoro*. (That is, *he who finds a friend, finds a treasure*.)

Gísli had many passions in life. He spoke fondly and vividly of his native Iceland, which I looked forward to visiting in a future reunion with our Maryland friends. He specifically wanted to take us hiking there, to see the beauty of the landscape. He was fearless, on his bike, on roller blades, and on skis. Perhaps his greatest passion was classical music. He and his wife Bobbi-Jo brought their flutes to my wedding in Italy, and during the reception they stood up and, without speaking, they started to play. This is an example of Gísli's way of doing things: a little different from the rest of us, and brilliant.

Gísli did not believe in God, but as a good scientist he refrained from definitive statements on matters that elude proof. He once confided to me, though, that listening to a Bach organ Mass provoked such strong emotion in him as to bring him to the verge of belief. He searched for answers and thought through problems in his own unique way. Gísli, you will be dearly missed.
