

Richard Martin Timoney, 1953-2019

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I first met Richard in 1972 when, at his father's suggestion, I drove my struggling Ford Anglia to their house in Stillorgan Grove for some badly needed repairs. Richard and his brother David did the repairs while I chatted in the house with his father. Richard's father Dick was, at that time, Professor of Mathematical Analysis and head of the Department of Mathematics at University College Dublin (UCD) and I was a first year lecturer in the same department. A few years later, Richard attended my masters degree course on analysis at UCD. In 1980 Richard joined the staff at Trinity College Dublin (TCD) as a lecturer and we jointly organised the TCD-UCD weekly Analysis Seminar for the next thirty plus years. In 1982 we began a research collaboration, which continued for almost fifteen years, on different aspects of infinite dimensional holomorphy. Over the years our paths, both personal and professional, criss-crossed: we met at conferences in Ireland and abroad, in our various roles with the Irish Mathematical Society, as members of the National Committee for Mathematics, on assessment boards, as external examiners, etc., and in 1987 I became god-father to Richard's youngest son Kevin. These interactions continued right up until Richard's death on January 1, 2019. Still, until relatively recently I never expected to be writing Richard's obituary.



Richard was a quiet person with a wry sense of humour and he was very self-effacing. He was not verbose nor given to self-advertisement but a good listener who rarely bothered to fill a silence with small talk. I have heard it said that Richard was shy, but this is not my opinion. Whenever our seminar had an unforeseen gap, Richard would

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volunteer. His carefully structured seminars, his style of lecturing, and his reaction to questions showed a personality with a confident style who enjoyed what he was doing and not those of someone who was shy. It was easy, however, especially for the impatient, to misinterpret Richard's sparse conversations as aloofness. Generally, appreciations of Richard's personality developed over time and could not be rushed. However, such generalisations are never universally true and I was rather surprised recently to receive an email from John P. D'Angelo, who had a very different experience on first meeting Richard. I include here D'Angelo's self-explanatory letter.

I am saddened to hear of Richards passing. I cannot come to Dublin for the fest¹, but I have a story I wish to share.

In Spring 1978 I was a Postdoc at MIT and I gave a job talk at Illinois. There was a party for me, at which a senior faculty member was pontificating about investments.

I wasn't interested so instead I chatted at length with the only graduate student there, Richard Timoney. He told me a bit about his work on Bloch functions in several complex variables.

He asked me a few questions about strongly pseudoconvex domains; I was impressed with his questions and his interests.. I took the job, and I have been at Illinois ever since.

He gave me a very positive impression of the quality of the graduate program, which was a decisive reason for me to accept the offer. (In fact, the program was nowhere near as good as he was!)

Over the years we had several interactions; I invited him back here for something in honor of his advisor which he attended and spoke, and I refereed papers for him a few times.

I owe him a huge debt for being such a great graduate student; he was a crucial reason for my choosing where I spent my mathematical career. I once told him so, and his response was quite modest. I think the world of him.

In talking to people and examining documents as preparation for this obituary I realised that I, like many others, had underestimated the extent of Richard's contributions. He hid himself very well and just did things. We could all see that certain things had been done and obviously someone was responsible but too often we didn't look closely at the situation. If we had, we would have seen that Richard was behind much more than we realised. Just two years after his return to Ireland he joined the committee of the Irish Mathematical Society (IMS). He served as Secretary for five years, 1982-1987, as Vice-President during 1988-1989, as President during 1990-1991 and from 1981 until 2018 he was the TCD local representative of the IMS. Richard was never a passive committee member but was always looking ahead and initiating projects that would have long-term consequences. In 1984, Richard compiled a directory of Irish mathematicians and revised it annually until it was transformed into the web-site of the Irish Mathematical Society (IMS). For many years Richard maintained this web-site and through it made available all newsletters and bulletins of the IMS – a priceless resource for the mathematical community.

Richard Martin Timoney was born in Dublin on July 17, 1953. His parents were James Richard ('Dick') Timoney² from Belleek in County Fermanagh, later Professor of Mathematical Analysis at UCD, and Nora (nee Fallon) Timoney. The family homestead in Belleek has remained in the Timoney family having been inherited by Dick, by Richard and now by Richard's eldest son, Pádraig. Richard's paternal grandfather

¹A reference to AGA, the memorial conference for Richard, held in TCD, May 8-10, 2019.

²Richard's and his father's careers had a number of similarities, see for instance p.126-127 of *Report of the President, 1978-79, University College Dublin* and T. J. Laffey and S. O'Brien, *Obituary – Professor J. R. Timoney*, Irish Mathematical Society Bulletin, 16, 10-13, 1986.

was an associate of Count Horace Plunkett, founder and father figure of the Irish co-operative movement, and was part of a delegation to California in the 1920's led by the Count. Richard's maternal grandfather was a secondary school inspector from Galway and he had a keen interest in the Irish language. This he passed onto his daughter Nora and through her to the succeeding generations of Timoneys. Under her influence, Richard and his siblings, David, Nicola and Norma attended the Irish speaking primary school, Scoil Lorcáin, in Monkstown, as did Richard's three children Nuala, Pádraig and Kevin. In primary school he used the Irish form of his name, Risteárd and this is still used within the family. From his early teens Richard was a voracious reader and readily absorbed and retained news and details about many different topics. His analysis was never superficial and this often surprised those who naively assumed he had no interest in certain topics. This broad culture often allowed Richard to economically summarise a situation in a particularly striking fashion: for example in describing the teaching style of his friend and colleague, Trevor West, as being unique he said it was the *type of interaction that might be more common between a sports coach and his team*. A remark that says as much about Richard as Trevor.

Richard attended Blackrock College for his second level education. Significant later, but of course not apparent at the time, was the fact that Richard Hendron and Richard Timoney were classmates in Blackrock and that Richard Timoney married Margaret Hendron, a sister of the other Richard, in 1981. Blackrock is noted for both its high academic standards and as a rugby school and nursery. Richard was never an active rugby player but attended games particularly when family members were involved. In recent years he enjoyed watching his nephew Nick Timoney playing professional rugby with Ulster. The Timoney brothers, accompanied by Margaret, Nicola, Norma, Kevin, Nuala, her husband Matthew and son Connall, and by David's wife Darina and daughter Keelin would travel in convoy to Kingspan stadium in Belfast and celebrate the game and the day as a family reunion.

Richard's father studied, as a first year university student, both mathematics and engineering but continued with mathematics. Both disciplines, however, were very much present in the Timoney household during Richard's childhood and adolescence. The driveway of the family home in Stillorgan always contained a car, more often than not a Citroen, that was being worked on or even being assembled and Richard readily absorbed the Timoney passion for cars. Richard and his brother David became skilled mechanics in their teenage years and David went on to become a professor of mechanical engineering at UCD while Richard's eldest son, Pádraig, graduated from UCD with a PhD in mechanical engineering³. Richard's daughter Nuala followed more closely Richard's calling by studying theoretical physics at TCD and afterwards completing a PhD in quantum computing at Siegen in Germany⁴. The bias towards science and engineering was broken by Richard's youngest son Kevin who studied economics at TCD and completed a masters in economics at the Barcelona Graduate School of Economics. Kevin now works as an economist with the Irish Fiscal Advisory Council.

While Richard was a Teaching Assistant at the University of Illinois he was also in receipt of a Travelling Studentship stipend from the National University of Ireland. With this discretionary income he bought a blue Plymouth Fury 3 car and indulged himself by spending as much as the car was worth on a set of Michelin tyres. During the summer of 1976, Richard and David drove over 8000 miles across and around the states visiting all the well known Formula 1 racing tracks: the Indianapolis 500 track, the Watkins Glen track in upstate New York and the famed Utah Salt Flats at Bonneville where many world records were recorded. They set their own speed records of approximately

³Pádraig is currently the principal engineer in metrology at GlobalFoundries in upstate New York.

⁴Today, Nuala works for Intel in Leixlip and lives in Maynooth.

180 kmph in Bonneville. In Ireland, Richard and his growing family, usually fortified by a roast dinner prepared by Margaret, maintained an interest in Formula 1 racing by attending Grand Prix races in Mondello and the Phoenix Park. In 1998, while on a holiday in the south of France, the whole family visited Monte Carlo and all drove a lap of the famous circuit. Richard never smoked nor did he ever drink alcoholic drinks, a suitable trait for someone with his interest in cars.

This interest in cars may have been responsible for Richard's lifelong interest in solving complicated mechanical problems and in dismantling and reassembling cars, computers and his grandchildren's toys. His academic career spanned the period 1978-2018 and this more or less coincided with the birth, the development and finally the dominant presence of the personal computer as an indispensable piece of furniture in every academic's office. Like many other mathematics departments TCD School of Mathematics had staff members who had foresight about what might digitally lie ahead and who were adept, theoretically and practically, at implementing the changes that kept their department ahead of others along the digital curve. All doubts for mathematicians were put aside once Knuth's *expert system* of \TeX was unveiled. In the School of Mathematics at TCD, the two experts were Richard and Tim Murphy. Of course, all their colleagues, even those who could not change a light bulb, knew who these experts were and their advice and expertise were frequently sought. Right up until ten days before he died Richard was remotely solving computer and internet related problems for his colleagues. It is indeed ironic that Richard's obituary of Tim Murphy appeared in the December 2018 Bulletin of the IMS.

Richard attended University College Dublin (UCD) during the years 1970-1974. At UCD he obtained a B.Sc.(Hons) and an M.Sc.(Hons) in Mathematical Science. Political and educational changes in Irish society during the mid-1960's resulted in a large increase in the student population and a corresponding increase in the academic staff during the period 1968-1972. The new staff included Tom Laffey, David Lewis, Brendan Quigley, David Tipple, Phil Boland and David Williams and, a little earlier, Fergus Gaines. All were under thirty and as a group they brought new energy and enthusiasm to the department. This doubling of the staff resulted in a reduced teaching load and facilitated research. These were the teachers that nurtured Richard's interest and mathematical talent during his undergraduate days. In my experience freshly minted PhDs usually set very demanding standards for their students as they learn their teaching trade and if the students are not overwhelmed they benefit greatly. Equally influential was the fact that Richard was a member of an honours mathematics class that many remember as one of the most talented ever seen in UCD. Five of that group of 14, Richard, David Redmond, Leslie Daly, Denis P. O'Brien and Joe Hogan, completed PhD's in the mathematical sciences and pursued academic careers while the others were equally successful outside academia. An idea of the even distribution of talent within the group may be gauged by noting that Joe Hogan got first place in first year, Richard came out top in the masters examinations with David Redmond in second place while Leslie Daly was reputed to have asked good questions in *every* class. Having completed their masters at UCD, Richard and his classmate, David Redmond, continued their studies at Champaign-Urbana. David completed his PhD in algebra in 1977 under the direction of Michio Suzuki. Afterwards he accepted a lecturing position in Maynooth and recently retired as Registrar of Maynooth University. Richard's thesis, *Bloch Functions in Several Complex Variables* was supervised by Professor Lee Rubel.

On completing his doctorate, Richard spent two years as Vaclav Hlavaty Research Assistant Professor at Indiana University in Bloomington. In 1980, Richard returned to Ireland as a Lecturer in Mathematics at Trinity College Dublin (TCD). Apart from a one year visiting position during 1984-1985 at the University of North Carolina in

Chapel Hill and shorter academic trips elsewhere, Richard spent the rest of his career at TCD. Richard was a traditional, almost conservative, type of person. Trinity College, which has remained an educational institution and retained academics in prominent decision making positions⁵, suited his personality. Over his almost forty years at TCD he came to appreciate the traditions and congeniality of TCD. Richard got on well with most people, but there were some with whom he had differences and others who had differences with him. I have been told that even with those with whom he had problems he was willing to help if help was needed. On occasion, and these were rare, if he felt he was being overburdened with duties or that the spirit of certain rules and regulations were being too loosely interpreted he was capable of writing a logical but devastating critique of the situation and, if necessary, of taking the matter further.

Richard had a wide mathematical culture and published quality research articles in a variety of mathematical areas: functions of one complex variable; several complex variables; operator theory; Jordan structures in analysis; functional analysis; harmonic analysis; infinite dimensional holomorphy and differential equations. Richard's mathematical research was highly regarded internationally but, since I am currently writing an article⁶ on Richard's mathematical legacy, I will not discuss his research here.

Richard took a holistic approach to life as a mathematician and teacher and contributed to the administrative, institutional, social, societal and personal aspects of his profession. He wrote survey articles, book reviews, letters to the national papers, guides to projects for second level students, obituaries, technical explanatory⁷ papers on \TeX and Mathematica, policy papers on the role and importance of mathematics in society, he organised conferences and he was an editor for three international research journals. All his writings are well researched and clearly written. Here and there within them we find unexpected insights into his character and beliefs. His well written and thoughtful obituaries and tributes contained concrete facts that will help future historians but also playful insightful images that resonated with those of us who knew his subjects. In 2013 he wrote a spirited defence on the contributions of mathematics to society and mentions what we may regard as part of his own philosophy: *the essential ingredient of inspiration provided by highly motivated individuals and the long-established record of surprise*. He wrote survey articles on specialised topics, both to help himself get an overall view of a subject and as an aid to any locals who might be interested in researching the topic. He was constantly expanding his own expertise by unselfishly accepting requests to referee articles tangential to his main interests and encouraging colloquium speakers to give in his words *intelligent talks in a wide variety of subjects so that we can all have an idea what's going on in a variety of fields*. Along-side his work for the Irish Mathematical Society he was for many years a member, and for some years Chairman, of the National Committee for Mathematics of the Royal Irish Academy. In this capacity he represented Ireland at two international congresses.

During the 1990s Richard was very involved in the Euromath project and in various computer-related topics, such as interactive mathematical editors, databases and computer algebra and in the OpenMath project which aims to provide a means to exchange mathematical information between computer programs. This involved a lot of travelling, especially to Eastern Europe, and considerable administrative skill. Although the overall aims of EuroMath were achieved, the main products are not widely used

⁵In contrast to other Irish universities which have been transformed in recent years into businesses where students and standards are subservient to the requirement to attract research grants and high-fee paying students from outside the EU.

⁶*The Mathematical Legacy of Richard M. Timoney*, to appear in Math. Proc. of the Royal Irish Academy, December 2019.

⁷Long before we all had our own computers and at a time when it took seven minutes to print three pages.

today. As a result of his involvement in the TEMPUS project, Richard was awarded the *Medal of Merit for the Development of the University* by Nicolaus Copernicus University, Toruń, Poland.

Within the School of Mathematics, Richard was appointed a Senior Lecturer in 1990 and an Associate Professor in 2008 and he was head of department for three years. Richard volunteered, or was volunteered, for numerous administrative tasks both within the department and the university: timetabling, examinations coordinator, college parking, the departmental library (with David Simms), liaison for the refurbishment of 19 Westland Row, member of the TCD Hamilton Mathematics Institute executive, responsibility for the School's web-site, Director of Graduate Studies in the School of Mathematics, etc. etc. Many of these were time consuming and he was always looking for ways in which computers could be used to simplify and make these tasks less onerous, e.g. in processing examination results and the automatic generation of transcripts. All these he undertook while also being the Principal Investigator on a number of research grants for Science Foundation Ireland. Richard was elected a Fellow of TCD in 1989 and in time became a Senior Fellow. In 2016, Richard was elected a member of the College Board by the fellows. The college board sits frequently and considers everything to do with the running of the college. Richard was a traditional voice on the board. He subjected proposals to a thorough analysis and he was always willing to be convinced by a clear logical argument. During the period 2016-2018 he was Junior Proctor at TCD.

Richard taught large and small groups of engineering, general science, physics and mathematics students. With the larger service classes he gradually introduced, as the computer facilities improved within TCD, the use of computer algebra and pioneered the classroom use of Maple and Mathematica. He taught complex analysis, functional analysis, measure theory, harmonic analysis and algebra to mathematics students and also introduced new subjects such as wavelets to the curriculum. Richard's courses were considered demanding but fair and his lecturing style was methodical and organised. He had a talent for pacing lectures so that students had time to understand and ask questions. One student told me: *I used to write bullet points in his lectures rather than paragraphs since these provided the background structure for the material covered and you could piece together the details later. I owe him a great debt of gratitude for showing me how enjoyable analysis could be when broken down into small ideas in this way.* Richard provided detailed printed notes and, in the smaller classes, written feedback to students. His accessibility and reputation for taking care of his students meant that he was highly sought after as a PhD adviser and he directed seven doctoral students and a number of masters students in a variety of different areas within analysis. He was patient with his research students, he gave them time to find their own level and he would meet each individually in his office for a scheduled two or three hours per week. His office had piles of books, etc, here, there and everywhere. Richard knew where everything was but students frequently had to move things about in order to make space to sit down.

Richard was very proud of his three children and two grandchildren Connall and Cían while Margaret was the anchor that enabled him to cope with a full and productive life. She brought music into his life and in his later years they enjoyed going to concerts in the National Concert Hall. Richard and Margaret were regular and active in their local parish of Newtownpark Avenue in Blackrock. They both enjoyed travelling to many parts of the world, sometimes for the purposes of Richard's work and sometimes for family visits. Just five days before he died Richard attended the marriage of Kevin and Aisling. His brave speech at the wedding reception was delivered with his typical humour and honesty.

Ar dheis Dé go raibh a anam dilís. Ní bheidh a leithéid ann arís.

PUBLICATIONS

We omit Richard's mathematical research publications, which will be listed in the forthcoming article on his mathematical legacy.

Expository mathematics.

1. *Is Nevanlinna theory dead?*, Irish Math. Soc. Newsletter, 7, 1983, 60-66.
2. *Pisier's operator Hilbert space*, Technical report TCDMATH 97-02, 1997.
3. *Norms of Elementary Operators*, Irish Math. Soc. Bull., 46, 2001, 13-18.

Obituaries.

4. (with Gordon Lessells, David Walsh and William Meany) *Dr. James J. McMahon*, Irish Math. Soc. Newsletter, 6, 1982, 3-7.
5. (with Robin Harte, Finbarr Holland, Lothrop Mittenenthal and Roger Smith) *Some Recollections of Trevor West*, *MRIA*, Math. Proc. Royal Irish Academy, 113A, 2, 2013, iii-xx.
6. *Obituary: T. Trevor West 1938-2012*, Bull.London Math. Soc., 45(6), 2013, 1331-1338.
7. *The Mathematician in Trevor West*, *The Bold Collegian*, 76-91, Lilliput Press, 2016.
8. *Timothy Gayleard Murphy*, Irish Math. Soc. Bull., 82, 2018, 4-10.

Computer Related Articles.

9. (with C. Nash), *About T_EX*, Irish Math. Soc. Bull., 19, 1987, 52-57.
10. *The construction of an interactive L^AT_EX translator for mathematical formulae*, Euromath Bull., 1, 2, 1994, 103-110.
11. (with M. Gorecka and T. M. Wolniewicz), *The Euromath interface to X.500 directory services*, Euromath Bull., 2,1,1996, 27-30.
12. *Euromath system: alphabets and fonts*, J. Comput.,Tech., 2, 3, 1997,73-79.

Miscellaneous Topics.

13. *Projects in Mathematics*, Irish Math. Teachers Association Newsletter, 59, October 1986, 10 –15.
14. *3 books on Metric Spaces*, Irish Math. Soc. Bull., 22, 1989, 69-71.
15. (with A. Jakubowski, D. Simson, T. M. Wolniewicz and H. Lenzing), *An East-West cooperation project*, Euromath Bull., 1, 2, 1994, 111-115.
16. (with M.Gorecka and T. M. Wolniewicz), *Preparing for the future, the new Euromath system*, Euromath Bull., 2, 1, 1996, 27-30.
17. *Why we need Mathematics in the RPE era*, Irish Math. Soc. Bull., 71 2013, 5-12.

Editorial Work.

- 2006-18: Associate Editor, Journal of Mathematical Analysis and Applications.
- 2008-18: Subject Editor, Proceedings of the Edinburgh Mathematical Society.
- 2009-18: Associate Editor, Journal of Geometric Analysis.

PhD Theses Supervised.

1996 Colum Watt, *Complex Sprays, Finsler Metrics and Horizontal Curves.*

2000 David Malone, *Solutions to dilation equations.*

2004 Bernard Keville, *Multidimensional second order generalised stochastic processes.*

2008 Derek Kitson, *Methods of ascent and descent in multivariable spectral theory.*

2012 Robert Pluta, *Ranges of bimodule projections and conditional expectations.*

2014 David McConnell, *$C_0(X)$ -structure in C^* -algebras, multiplier algebras and tensor products.*

2016 James Boland, *The Herrero conditions on norm limits of hypercyclic operators.*

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