

In memory of Franki Dillen

Bang-Yen Chen and Luc Vrancken

Franki Dillen was born in Balen (Belgium) on March 15, 1963. After studying at the high school Sint-Jan Berchmanscollege in Mol until 1981 he went to study mathematics at the Katholieke Universiteit Leuven where he in 1985 finished his undergraduate studies in mathematics. At that time he had already obtained several original results. In his final year work he studied curvature conditions for hypersurfaces in Euclidean space involving the Weyl projective curvature tensor. Doing so, he obtained a new characterisation of the hypercatenoids. This led to his first publication in an international scientific journal. This work was done under the direction of Prof. Dr. Leopold Verstraelen.

At that time, in the final year of undergraduate studies it was also common that during the geometry seminar a book was studied in detail, both by the final year undergraduates in differential geometry and the phd-students in differential geometry. As the first author at that time had introduced the notion of finite type submanifolds and just finished his book (Total mean curvature and submanifolds of finite type, World Sci. Publishing, Singapore, 1984) on that subject, in Franki's final year the choice fell on that book. In his seminar Franki had to present the classification of two type curves. As he was not convinced by the arguments in the book, he presented a counterexample to the statement of the theorem in the book followed by a corrected classification theorem. To some extent this illustrates Franki's thoroughness: once you could convince Franki that a certain mathematical argument is correct you could be absolutely certain that it was indeed correct. Naturally these results were also published. During his undergraduate studies at the end of every year he received top marks.

After his undergraduate studies he continued in differential geometry in order to obtain a Phd. Like for his undergraduate work, his advisor was Prof. Dr. L. Verstraelen. He obtained his Phd thesis on December 10, 1988 with again greatest distinction.

Before and after his Phd, Franki visited the first author several times at Michigan State University. This was the starting point of a very fruitful cooperation on a variety of themes in submanifold theory leading up to this point to 30 joint publications between Franki and the first author.

The second author got to know Franki at the beginning of 1986. At that time the second author was a final year undergraduate student, while Franki had just started working on his Phd. This was also the starting point of an extremely

fruitful cooperation between Franki and the second author, leading up to 69 joint publications with the second author to this point.

He started lecturing at the Katholieke Universiteit Leuven from 1992 where he was promoted to professor a few years later. He stayed there until he died on April 17, 2013.

His main topic of research was the study of submanifolds. His contributions include both global and local results, centered around submanifolds of spheres (in particular, but not only, the nearly Kaehler 6-sphere), parallel and semi parallel submanifolds, affine differential geometry, Lagrangian submanifolds, finite type submanifolds, submanifolds of product spaces,... His broad interest is also illustrated by the fact that throughout the years he collaborated with 56 different mathematicians.

He was not only good in doing mathematics by himself and in collaboration with other mathematicians, he was also very good at motivating young people to start doing research in differential geometry. As such it is no surprise that he was an advisor of many Phd thesises. His students include J. Van der Veken, J. Fastenakels, W. Goemans, B. E. Abdalla, Yu Ling, W. Sodsiri, G. Verbouwe, D. Kowalczyk, A. I. Nistor and K. Schoels. The first of which now has the difficult task of replacing Franki as the head of the geometry section at the Katholieke Universiteit Leuven.

People will no doubt also remember him for his lectures at conferences and the organisation of workshops. Both of which already started at a very young age. He gave his first lecture at a small workshop at the Max Planck Institute in Bonn in 1986 during his first year as a Phd student. The two other speakers at this workshop were K. Nomizu and U. Pinkall. This was quickly followed by lectures at conferences at the CIRM (Centre International de Rencontre Mathématiques) in Luminy, in Avignon, in Leeds, in Berlin and at the conference center in Oberwolfach. Starting from 1991 he became also one of the organisers of a series of conferences organised by PADGE in Leuven and Brussels. Even though he was on paper only one of the organisers, in practice he did most of the work which made this series successful. The last conference he organised, despite of his advancing illness, was the workshop in Leuven at the end of August 2012. Throughout his career he also continued participating and lecturing at international conferences worldwide. It is remarkable that during the last year of his life he still attended a Phd jury in Berlin, organised as mentioned before a workshop in Leuven, and attended a conference in Bedlewo (Poland) and Zlatibor (Serbia).

Franki Dillen was an extraordinary gifted and dedicated mathematician as well as a good personal friend of both of the authors. He was regarded extremely warmly by many friends and widely respected as a wise and knowledgeable colleague with a fine sense of humour. He will be greatly missed by the entire mathematical community. Franki is survived by his wife Monique and his daughters Ute and Anke.

DEPARTMENT OF MATHEMATICS,, MICHIGAN STATE UNIVERSITY, EAST LANSING, MICHIGAN 48824-1027, U.S.A.

E-mail address: `bychen@math.msu.edu`

LAMAV, UNIVERSITÉ DE VALENCIENNES, CAMPUS DU MONT HOUY, 59313 VALENCIENNES CEDEX 9, FRANCE

E-mail address: `Luc.Vrancken@univ-valenciennes.fr`