

Behind the Scenes of the Discovery Channel's *Rosetta* Mission Documentary Special

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On the evening of 12 November 2014, the Discovery Channel documentary *Landing on a Comet: Rosetta Mission* was broadcast around the world. This was the culmination of months of preparation and behind-the-scenes filming. Shelley Ayres, the producer, director and writer of the one-hour special recounts how this came about and reflects on her experience.

Introduction

The 12 November 2014 was a monumental day for space science and exploration. The *Rosetta* mission successfully landed *Philae* on Comet 67P/Churyumov–Gerasimenko, an achievement that resonated around the world.

Just about everyone took notice, from scientists to school children, and the European Space Agency (ESA) was thrust onto a world stage by international media who had earlier tested the waters of this story in August 2014 when *Rosetta* managed to slide into orbit about a comet. Not by any standards an easy task. As the prospect of landing on a comet stirred curiosity *Rosetta* and *Philae* made headlines and the story unravelled before our eyes. Ejection, descent, landing, bouncing and a lost lander. Compelling imagery, like a news feed, trickled in every few hours.

For our team — the Discovery Channel crew covering this event as a cap to months of coverage — we could not have asked for a more exciting and interesting day. The coverage from 12 November made our story, built from the past many months, all the more relevant, compelling and of course, watchable. Our one-hour documentary special, *Landing on a Comet: Rosetta Mission* was to be a great success¹.

Starting a story

Having done smaller features on ESA missions and having completed a space documentary special in the past, I had expectations of what was needed to bring this story together, but there is always a mix of excitement and trepidation when embarking on a new and large-scale project. And there are always challenges to overcome.

In this case location was one of the biggest challenges. I am based in Canada, while the mission, the scientists and engineers, are based all over Europe, largely in Germany. So the first step was getting there. One of the first things we did, in May 2014, was to arrange a visit to Darmstadt, Germany, where we could meet the press team at the European Space Operations Centre (ESOC) and interview some of the key players on the mission, including engineers, flight teams and scientists working on *Rosetta*. It was during this trip that we covered our first mission moment — a trajectory correction manoeuvre.

This was our opportunity to survey our story, our characters and the team at ESA who would be so instrumental in providing ongoing access through the year. From a practical perspective it was also good to understand the locations and what that would mean for filming, both now and later when hundreds of media representatives would come to tell the *Rosetta* mission story in November.

Our footprint was small, just my cameraman and director of photography Mark Foerster and myself. This was a calculated decision as our goal was to truly get to know the story and the people behind this mission. After all, many people had dedicated their careers, years and years of hard work, to get to this final year.

We not only visited ESOC but also ESA's European Space Research and Technology Centre (ESTEC) in Noordwijk, the Netherlands, and the Deutsches Zentrum für Luft- und Raumfahrt (DLR) in Cologne, Germany. It was an exercise to navigate locations, and press contacts in each location. I am very grateful that



Figure 1. The Discovery Channel documentary *Landing on a Comet: Rosetta Mission* was broadcast on 12 November 2014, on the day that *Philae* landed on 67P/Churyumov–Gerasimenko. Credit: Discovery Channel



Figure 2. Some of the many outdoor broadcast units that were hosted at the European Space Operations Centre in Darmstadt, Germany, as media channels reported live and recorded news reports about the historic comet landing. Credit: Discovery Channel

everyone spoke perfect English and tolerated my poor French.

Every site visit was a success, with each contact playing a valuable part in getting us what we needed on site, but even more so afterward when I needed to ask for help finding visuals, animations, early mission photos or documents.

Building on a story

The rendezvous event on 6 August 2014 proved to be a great dress rehearsal for November and we covered it very differently from other news teams; we had time and our scope was broader. This was a day to simply follow and to allow our characters, and their story, to come to life.



Figure 3. Mark McCaughrean, Senior Science Advisor at the European Space Agency, being interviewed by Shelley Ayres for the Discovery Channel documentary about Rosetta. Credit: Discovery Channel

We used this visit to bring some creative shooting to the story. Explaining a trajectory manoeuvre is tricky, and although animations do a good job, we found an outdoor Olympic-sized pool in Darmstadt and some amazing swimmers, which helped us with an analogy. Sam Gulkis, the principal investigator of the Microwave Instrument for the Rosetta Orbiter (MIRO), joined us for the shoot to talk about water on the comet.

In terms of things that worked for our production, I want to draw attention to a small example. The day after the rendezvous we had arranged to shoot at the Max-Planck-Institut für Sonnensystemforschung (MPS) in Göttingen, Germany. While we did not have a firm scene planned, we knew we wanted to follow the Optical, Spectroscopic, and Infrared Remote Imaging System (OSIRIS) team — the people responsible for the science camera on *Rosetta* — at a very key time, unravelling imagery they had waited years to see. The team, ESA and MPS were trusting in allowing us to do this, and as a result we captured something that was in the moment and felt very real. I applaud ESA and MPS for allowing us that access and understanding that we would stand by our agreement to hold that footage until our broadcast. This is something many press offices are reluctant to do.

In contrast, one of the biggest obstacles was just making sure I stayed informed and very close to the story and mission when I was writing and editing in Toronto. This required a lot of talking and emailing with the press teams, following our leads as they tweeted or as reports appeared on ESA's website and in the news. Multiple sources, various agencies, a collection of press offices and summer months filled with distractions all added to the challenges, but in the end, it was worth it.

A very human highlight

Something that was critical in the storytelling of the mission and one of the greatest things that ESA, Centre national d'études spatiales (CNES) and the participating scientists allowed, was access to the landing decision meetings in Toulouse, where the site for *Philae's* landing was to be chosen. This took a lot of arranging and at times did not look feasible, but in the end an agreement was reached and it was

truly an opportunity for us, and the other documentary teams, to document the difficult decision this mission needed to make.

It was a long two-day meeting, over two weekends. It was not very visual; no one climbed a mountain or jumped out of a plane, but the stakes were high and this was real science and true emotion. After the special aired, we received many viewer comments about this coverage. Viewers loved being able to see this side of the process, and how hard the scientists were working to make an incredibly difficult decision.

Ultimately, it was and continues to be the willingness of scientists and engineers to engage with us and share their stories, which help me, and ultimately our viewers, to understand what this mission means to them. I thank the press offices that enabled us to access these individuals and their stories.

Conclusion

There are different ways to tell stories, especially about space missions. There are visual ideas that will push us to try new things, frame interviews, new angles, backgrounds, animations. There are editorial decisions about writing, stakes, and drama. In the end it is always the emotion that wins out, and it is the emotion that this mission carries with it that makes it so compelling. I was, and still am, very fortunate to be the one on the ground, learning, telling and sharing the story.

Notes

¹ The documentary can be viewed here: <http://review.bellmedia.ca/view/170700914> (For personal review; non-commercial, non broadcast, nor online embed use.)

Biography

Shelley Ayres is a director, producer and writer working with the Discovery Channel in Canada. She works in a variety of factual genres including science, technology and space. Shelley produced the *Landing on a Comet: Rosetta Mission* documentary. Her most recent production is *Direct from Pluto: First Encounter*.