

## Niall Fest 2018

Conference in honour of Niall Ó Murchadha at University College Cork, May 24-26<sup>th</sup> 2018

All Lectures will take place in room WW5 of the West Wing of the Quad on the campus at UCC  
Breaks and registration will be in room WW7

### Thursday, May 24<sup>th</sup>

8:30am – 9:15 am Conference Registration/coffee

9:15am – 10:30am Conference Introduction and First Morning Session

Chair – Paul Callanan

**Anita Maguire** – Vice President for Research, UCC – *Greetings and Introduction* 15 mins

**Edward Malec** – Krakow - *General-relativistic rotation of heavy fluid bodies around spinless black holes.* 30 mins

**Jemal Guven** – Mexico City - *Lost in the fog: Conformal arc-length, its tension-free states and spatial analogs of the logarithmic spiral* 30 mins

10:30-11am break and conference registration continued

11-12:30am Second Morning Session

Chair – Asaf Pe'er

**Michal Pirog** – Krakow – *Post-Newtonian model as an intermediate step to the description of the general relativistic rotation in self-gravitating, Keplerian tori around black holes* 30 mins

**Niels Warburton** – UCD – *Second-order self-force calculation of gravitational binding energy.* 30 mins

**Juan Valente-Kroon** – Queen Mary, London - *A perturbative approach to the construction of initial data on compact manifolds* 30 mins

12:30 – 1:30pm lunch

1:30pm – 2:50pm First Afternoon session

Chair – Bryan Kelleher

**Rory Conboye** – Washington – *A New Piecewise Flat Approach for Approximating Smooth Curvature* 20 min

**Dan Kennefick** – UCC – *Niall, History and me* 20 mins

**Barry Wardell** – UCD - *Black holes in highly eccentric orbits* 20 mins

**Shane Mansfield** - Sorbonne - *Contextuality and causal structure* 20 mins

2:50-3.10pm break

3:10 – 4:10pm Second Afternoon Session

Chair – Dan Kennefick

**Asaf Pe'er** – UCC - *High energy radiation from jets and accretion disks near rotating black holes* 20 mins

**Paul Callanan** – UCC - *Finding the counterparts of Gravitational Wave sources with Theseus* 15 mins

**Dave Rea** – UCC - *Niall over the decades: Some reminiscences of a country teacher* 10 mins

**Bryan Kelleher** – UCC – *Physics without equations: Lessons from Niall* 20 mins

4:10pm-4.30pm break

4.30 – 6.00pm Evening Session

Chair – Edward Malec

**Hwei-Jang Yo** – Tainan City, Taiwan – *Improved fast-rotating black hole evolution simulations with modified BSSN formulation* 30 mins

**Chopin Soo** – Tainan, Taiwan - *Intrinsic time and gravitation* 30 mins

**Cormac O Raifeartaigh** – Waterford – *One hundred years of the cosmological constant; from "biggest blunder" to dark energy* 30 mins

Thursday evening - Informal Conference Gathering

Please join Niall and Donna for a celebration with their many visiting friends and colleagues.

## Thursday night - dinner arrangements and music

Cork has a vibrant traditional music scene and an old schoolmate of Niall's, Gary Cronin, plays fiddle in the Spailpín Fánach pub on South Main Street (no. 29) from 9:30-11:30. People may like to make their dinner arrangements in order to facilitate this traditional music session.

## Friday, May 25th

8:30-9:00 Late Registration/coffee

9:00 – 10:30am First Morning Session

Chair – Paul Callanan

**Marc Mars** – Salamanca – *Multiple Killing Horizons* 30 mins

**Sascha Husa** – Balearic Islands - *The moving puncture paradigm and the modelling of gravitational waves from compact binary coalescence* 30 mins

**Piotr Bizon** – Krakow – *Remarks on instability of AdS* 30 mins

10:30-11:00am break

11:00-12:30pm Second Morning Session

Chair – Asaf Pe'er

**Matt Choptuik** – Vancouver - *Recent developments in critical collapse* 30 mins

**Thomas Baumgarte** - Bowdoin College - *Visits with Niall* 30 mins

**Harald Pfeiffer** - Toronto - *Niall and binary black holes with nearly extremal spins* 30 mins

12:30-1:30pm lunch

1:30pm-2:30 pm First Afternoon Session

Chair – Edward Malec

**Patryk Mach** – Krakow – *Keplerian self-gravitating tori around black holes* 30 mins

**Mark Hannam** – Cardiff – *Blowing our own trumpet* 30 mins

2: 30pm-2:50pm break

2:50pm – 4:20pm Second Afternoon Session

Chair – Bryan Kelleher

**Richard Milner** – MIT – *Where is the Dark Matter?* 30 mins

**Julian Barbour** – Oxford – *The Initial-Value Problem in General Relativity and a Possible Explanation of Time's Arrows* 30 mins

**Robert Beig** – Vienna – *The ADM evolution equations - a further look* 30 mins

4:20pm-4:40pm Break

4:40 pm – 6:45 pm Evening Session - 4 speakers

Chair – Dan Kennefick

**Kip Thorne** – Caltech – *Gravitational Waves: Their Sources and Detection — Personal Reminiscences* 30 mins

**Bill Unruh** – Vancouver - *Analog Black Holes* 30 mins

**Bob Wald** – Chicago – *Black Holes Cannot be Over-Charged or Over-Spun* 30 mins

**Niall Ó Murchadha** – UCC – *Solving the Einstein constraints: The Lichnerowicz - York equation* 35 mins

8pm Conference Dinner

The conference dinner will be held in the café of the Glucksman gallery on the campus of UCC.

The price of dinner plus two lunches at the conference is 50 Euro per person.

**Saturday, May 26<sup>th</sup>**

**Conference Excursion 10am-3.30pm**

Visit to Spike Island for those who are interested. Spaces on the ferry to the island have been reserved. The boat over to the island leaves the pier in Cobh at 11am. We will organize transportation by bus at no extra charge to Cobh from Cork that morning. Those taking part in this excursion should be back in Cork city by 3.30pm.

The cost of the tour is 16 Euros for the ferry, which includes admission to the island. There is a cafeteria on the island for those who would like to buy lunch.

Information about Spike Island – <https://www.spikeislandcork.ie/>

Recent Guardian article about this attraction -

<https://www.theguardian.com/travel/2018/mar/19/ireland-spike-island-cork-harbour-alcatraz-prison-and-fort>

The island has been chosen for a conference excursion because of its scenic views of Cork Harbour, one of the world's great natural harbours and because of its rich military and cultural history as well as its spacious and quiet environment. It is also appropriate for a meeting in honor of Niall because his great uncle Tom Malone, who was the brigade commander of the Limerick IRA during the Irish war of independence, was the first person to escape from Spike Island. The episode is described at <http://homepage.eircom.net/~corkcounty/spike.html>