



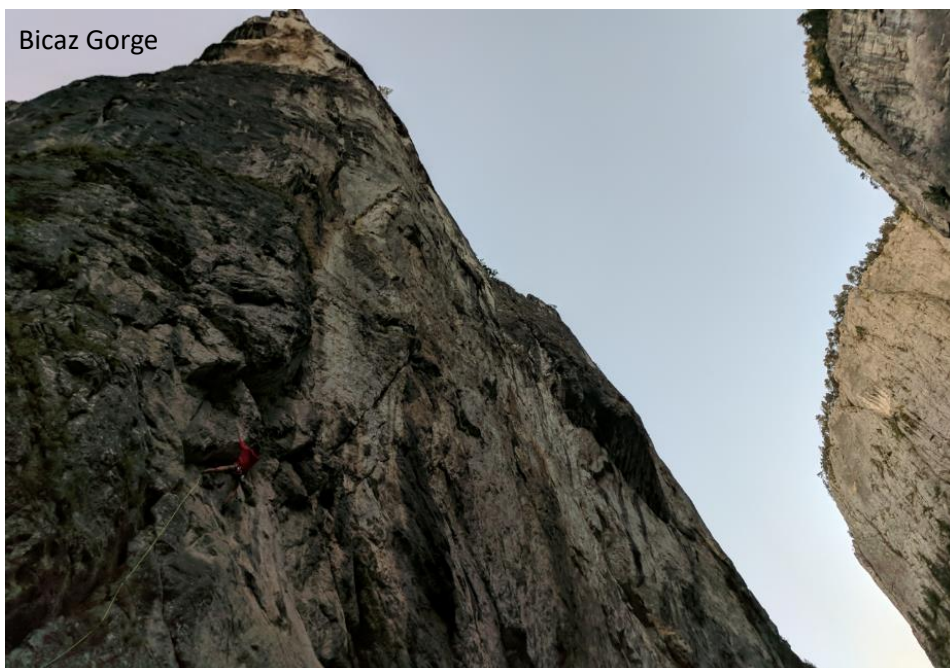
## Romanian Carpathians 2017 Expedition Report

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## 1. Introduction

This report covers the bike-packing expedition undertaken by 3 students from Imperial College London in the 18<sup>th</sup> September 2017. The route followed the curve of the Carpathian mountain range in Romania, from Suceava to Sibiu. The trip involved a total distance of 750km, crossing the mountain range four times, rock climbing within four distinct regions, visiting 2 of the 3 biggest cities in Romania and all but 4 nights wild camping in the uninterrupted Carpathian forests.

The trip objectives were all achieved, and as follows:

### Primary

- Complete a self-sufficient (except food) bike-packing expedition, from the northernmost point (air travel allowing) of the Romanian Carpathians tracing the mountain range around the Transylvanian plateau to Sibiu, over 700km away.
- Travel with rock climbing equipment and ascend multiple routes throughout the Carpathians, challenging all members to complete their first multidisciplinary expedition.
- Experience and document the reality of a misrepresented country and culture, challenging personal biases and encouraging further exploration by Imperial College members and the wider community.
- Complete the journey safely, and as friends.

### Secondary

- Promote Romanian culture and tourism in Eastern-Europe by documenting the trip using photography and GoPro videos. Footage will be distributed to a wider audience via social media platforms such as Snapchat, Facebook and Instagram.
- Contribute to improving and maintaining UK-Romanian relationships post-Brexit in person, acting as ambassadors to Imperial College and the UK.
- Complete various single and multi-pitch climbs in various areas including Pietrele Doamnei, Hășmaș Mountains and Piatra Craiului.
- Gain experience for longer and more ambitious, bike-packing trips.
- Cycle Romania's second highest mountain pass – the Transfăgărașan pass.

## 2. Itinerary

### 2.1 Route Choice

Departing on the 18th of September the team traversed the curve of the Carpathian mountain range in Romania, starting with a flight into Suceava International Airport in the North-East, heading south past Piatra Neamt to Brasov before turning west towards the town of Sibiu to finish. Daily distances were around 60km per day with rests day for every three to four days of cycling with additional days for climbing. The route can be split into four clear sections each outlined in the day by day itinerary shown below.

Table 1: Day-to-day route

Section	Day	Route	Distance	Details
1	1	UK to Suceava	16km	First breakdown, 'wild' camped in fortress grounds
	2	Rarau Mountains	77km	Full days waterproof testing. Wild camp in Rarau Mountains
	3	Pietrele Doamnei	7.4km	Wild camp below Pietrele Doamnei, big storm overnight
2	4	Pietrele Doamnei	-	Same camp, full day climbing
	5	Ceahlău Massif	85km	Wild camp in tree line around Lacul Bicz, scene of the water poisoning
	6	Bicz Gorges	87km	Wild camp on buttress in gorge, to avoid bears
3	7	Hâșmas Mountains (climbing/hiking)	-	Climbing on weak bolts and loose rocks
	8	Miercrea Ciuc	88km	Hostel – water poisoning
	9	Brasov (train)	(90km)	Hostel – still very ill
	10	Brasov (climbing)	-	Full day 'losing' Iskren
	11	Cheile Râșnoavei	30km	Wild camp/gazebo hammock in military training area
	12	Bran	31km	Wild camp in small hilltop woods, with local tea delivered to us
4	13	Campulung	51km	Poor progress, uneventful
	14	Curtea de Arges	52km	Base of Transfăgărășan Pass
	15	Transfăgărășan to Lacul Vidraru	44km	Wild camp next to 'Beware of bears' signs
	16	Transfăgărășan to Cârțișoara	51km	Full day descent of the pass
	17	Cârțișoara	48km	Home stretch, home comfort of beds and some karaoke
	18	Sibiu to UK	-	Packing bikes takes a full day!

Detailed map sections of the route are shown in the Figures 1-4 below. Light blue lines constitute the route choice, dark blue pins are points of interest and green pins are the locations of our overnight camps. Orange pins denote the start and finish points.

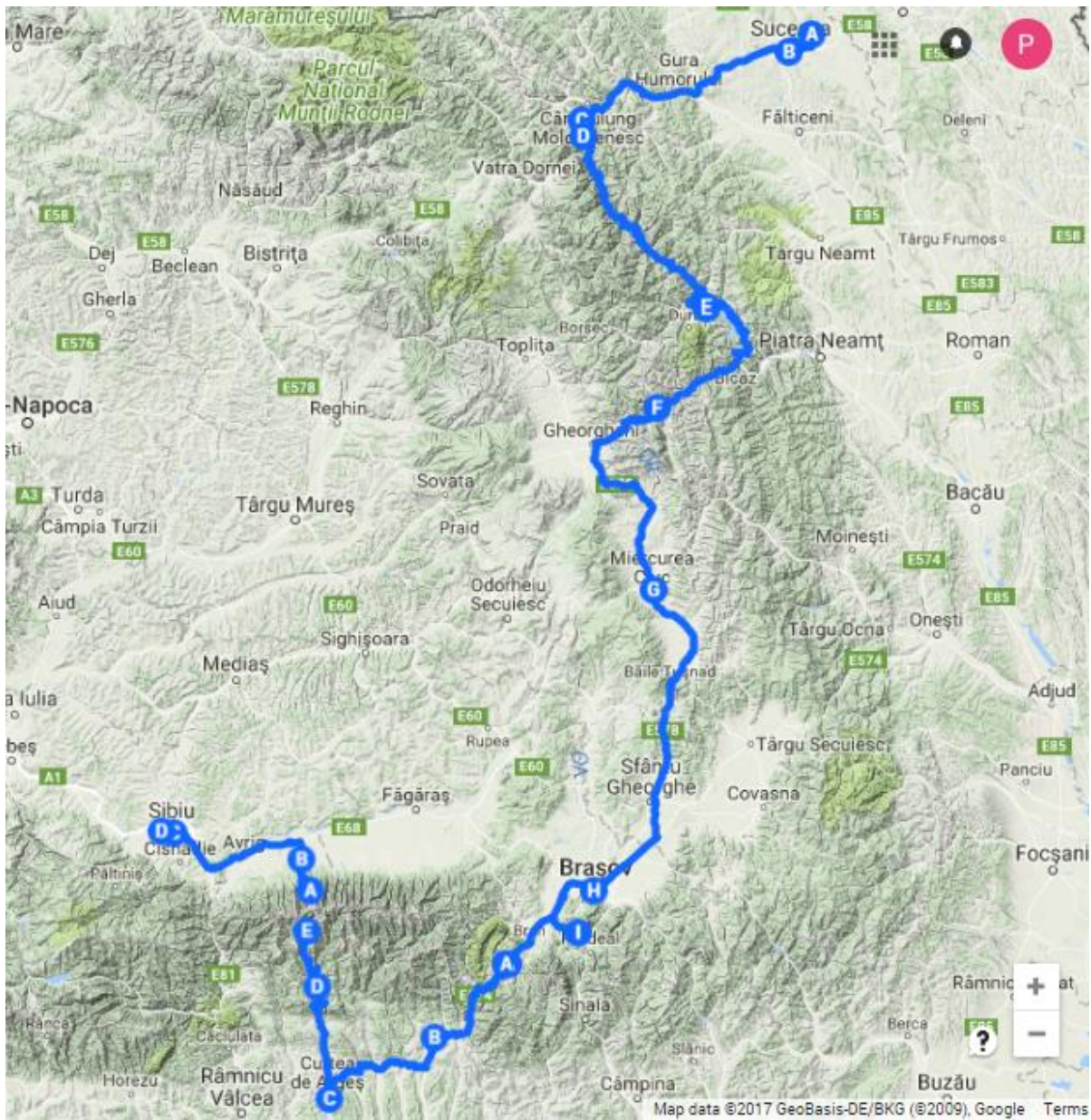


Figure 1: Overview of entire route

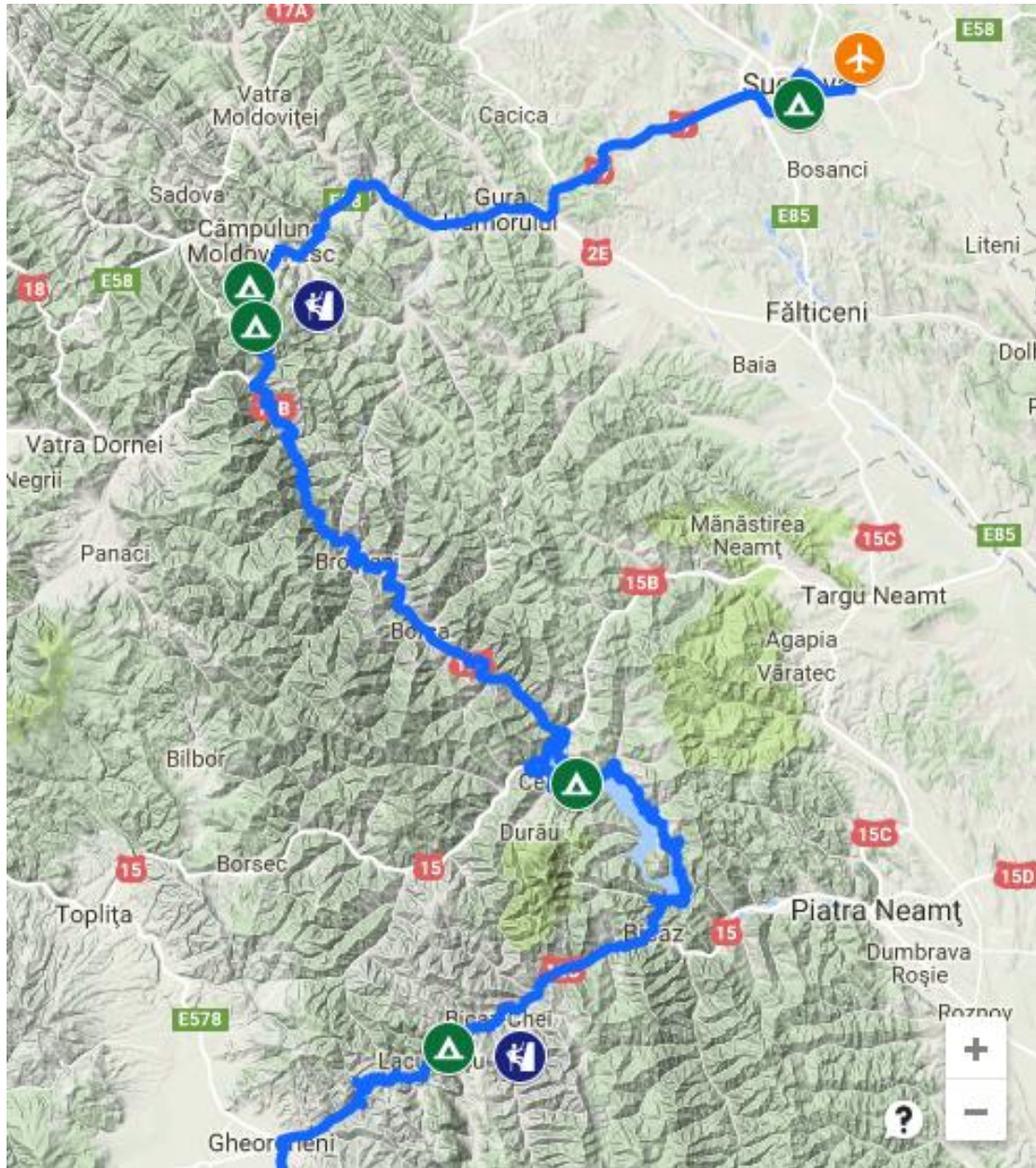


Figure 2: Starting sections of the route from Suceava, past Pietrele Doamnei, through Biczaz to the Hasmas Mountains

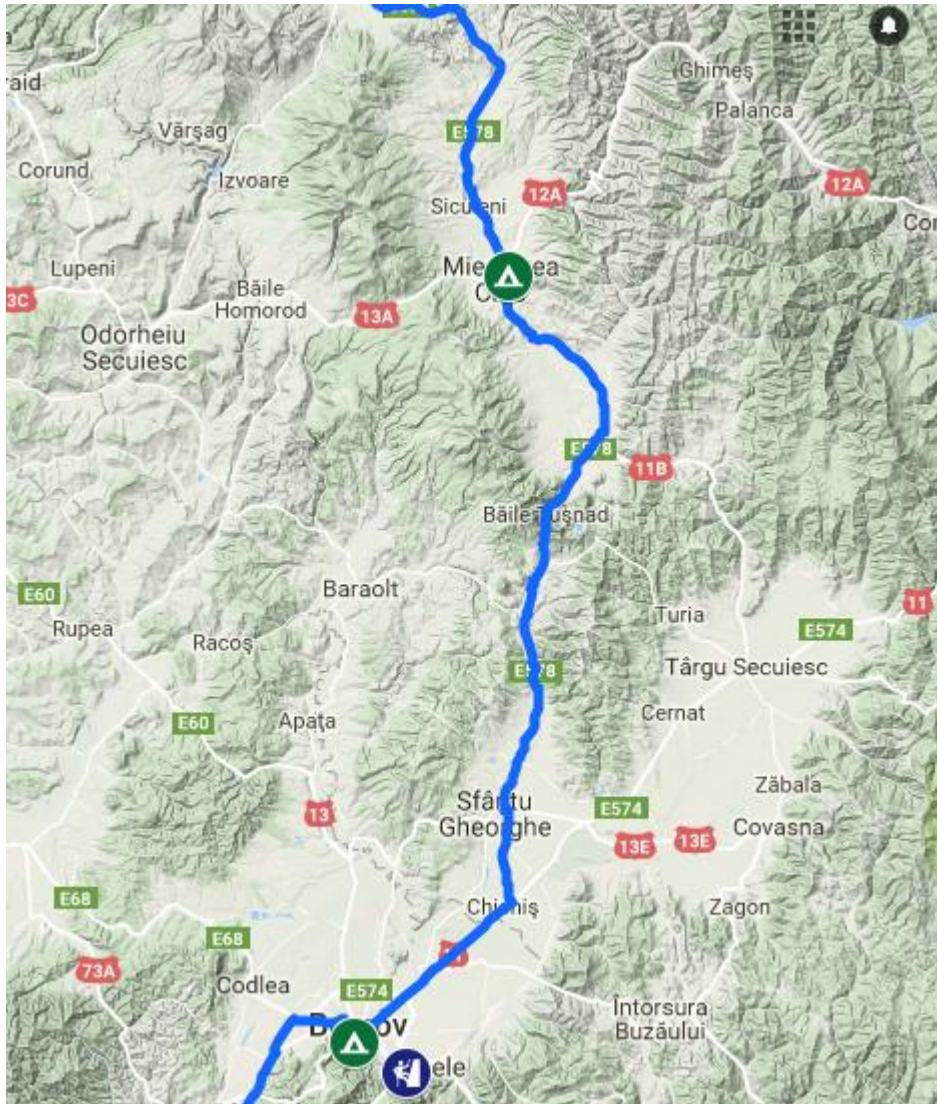


Figure 3: Leaving the Harghita Mountains to head South to Brasov



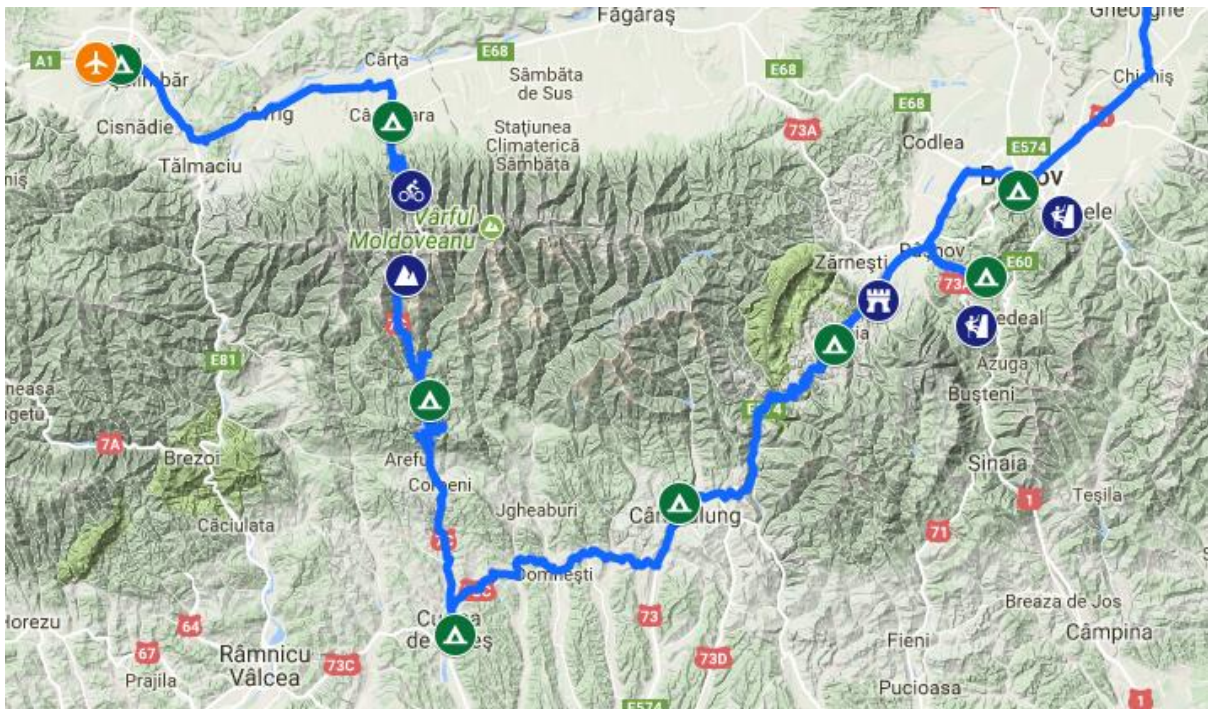


Figure 4: Route from Brasov, through Piatra Craiului an the Transfaragasan pass finishing in Sibiu

## 2.2 Climbing

The general climbing areas in Romania are shown in figure 5 and table 2 below, more in-depth information is contained in relevant guide books. We carried the ‘Rock Climbing in Romania’ guidebook with us during the entire trip, but mostly relied on intuition in finding suitable crags and routes, of which there were numerous.



Figure 5: General climbing areas in Romania

Table 2: Details of climbing areas (referring to figure 5)

No.	Crag	Maximum Height	Types of protection
6	Rarau	100m	Pegs and bolts
7	Sihla	Bouldering	N/A
8	Ceile Bicazului	250m	Pegs and bolts
9	Brasov/Kronstadt	40m	Pegs and bolts
10	Bucegi	500m	Pegs, bolts and trad
11	Piatre Craiului/Konigstein	250m	Pegs, bolts and trad
12	Buila Vanturarita	300m	Pegs and bolts

### ***Pietrele Doamnei and Rarau Crag***

Despite no online topos of the area, Pietrele Doamnei and Rarau crag were both peppered with good quality bolts and exceptional lines. We proceeded to warm up on Rarau crag, testing out the 'Alpine Butterfly' arrangement so we could climb as a three. Pietrele Doamnei itself had several routes to the summit, we chose to ascend cracks to the shoulder before topping out, which we did on both towers. As there were no guides or gradings, we were cautious to not start up any routes we weren't certain we could complete because the face, at 300m, was much larger than anticipated from the pictures we had seen.



Figures 6, 7, 8: Pietrele Doamnei face and summit, Rarau crag base

### ***Bicaz Gorge***

Desk research yielded little information on the Bicaz gorges besides ‘challenging sport climbing’ and this turned out to be perfectly accurate. With the gradings spray painted onto the gorge wall only indicating 7c or higher (several grades above the team’s capabilities) it took until the evening to find a suitable sloping crack climb directly over the road. Fading light and a busy road meant the belayer had to stand way out of sight of climber. We were challenged further when a dyno onto a loose rock sent Adam on a 20 foot fall and an old bolt snapped off in Phil’s fingers (the local bolter we met insisted it was not one of his). Thankfully the line was fantastic, we all enjoyed the action and got some striking photographs.



Figures 9, 10: Bicaz gorge

### ***Tampa Crag, Brasov***

Climbing on Brasov crag, nestled besides the Hollywood-style BRASOV sign, you are rewarded for rounding the steep bulbous overhang to rise above the tree line for a view of the city, sprawled in amongst the surrounding forested mountains. Adams experience was slightly marred with the tragedy of losing a beloved climbing shoe during the overgrown walk in, the 1 shoe/1 flip-flop arrangement did not perform well but no one failed to top out their routes regardless. A short days climbing on a small crag but the exhausted team might not have managed much more, even if they had the opportunity.



Figures 11 & 12: Tampa crag – Brasov view and lost shoe

### ***Cheile Râșnoavei Gorge***

A military training area, some routes were out of bounds whilst we were there, including a creative-looking Via Ferrata. We climbed several small routes, one harmless-looking slab (“it looks like you can just walk straight up this one”) was a team effort, taking 2 hours and a surprising amount of blood to complete. As throughout the majority of the trip, we were surprised by the quality and quantity of bolted routes and climbed in the twilight hours again.



Figure 13 & 14: Cheile Râșnoavei Gorge – deceiving difficult slab and Via Ferrata

### 3. Team Members and Experience

#### Adam Brown – Expedition Leader and Equipment

21 years old – Studying Mechanical Engineering (MEng) at Imperial College London



Relevant Experience	
<b>2009-2012</b>	<ul style="list-style-type: none"> <li>Member of Army Cadets and Scouts, involving basic navigation, survival and first aid training</li> </ul>
<b>2010-2013</b>	<ul style="list-style-type: none"> <li>Competed in 3 annual solo orienteering marathons (The Founders) in the Surrey Hills</li> <li>Competed in 3 downhill mountain biking competitions at the UK Bike Park, Dorset</li> </ul>
<b>2010-2015</b>	<ul style="list-style-type: none"> <li>Bicycle mechanic, diagnosed and repaired all components of any bicycles including the entire assembly and upkeep of the largest Santacruz demo fleet in the UK.</li> <li>Organized and helped lead local rides for 5-20 people through appropriate trails every week.</li> <li>Competed in 5, and won 2, mountain bike orienteering races (PMTBO) in the Surrey Hills</li> </ul>
<b>2012-2014</b>	<ul style="list-style-type: none"> <li>Organized 2 trips, each a week long, mountain biking in Wales. Coverage of around 50km a day</li> </ul>
<b>2014-2015</b>	<ul style="list-style-type: none"> <li>Solo cycled, without electronic navigation, from Surrey to Nottingham. 170km covered in 12 hours</li> <li>Part of a team competing in the Brands Hatch Cyclothon 12 hour race event</li> <li>Climb indoor several times a week, also several weeks experience in Wales and Slovenia.</li> </ul>
<b>2015-Present</b>	<ul style="list-style-type: none"> <li>Undertook (with the other group members) a 10 day trek along the TMB. 170km trail through 3 countries self-sufficient except for food, involving alpine navigation (non-electronic).</li> <li>Competed in the Rab Mini Mountain Marathon 3, involving navigation and route finding.</li> <li>Competed in the 2016 and 2017 Original Mountain Marathon, a self-sufficient overnight navigation race through the Scottish highlands.</li> <li>Secretary of Imperial College Exploration Society</li> </ul>

## Philip Rutter – Logistics and Training

21 years old - Studying MSci Physics at Imperial College London



### Relevant Experience

#### 2008-2016

- Member of South Ribble Orienteering Club (SROC).
- Competed in many orienteering events ranging from national level competitions such as The Scottish Six Day and The JK to single day events.
- Extensive experience with travel abroad from a young age. More recently backpacking through East Asia (summers of 2015 and 2016).

#### 2009-2015

- Downhill mountain biking experience in the Lake District on trails through Grizedale, Whinlatter and the Forest of Bowland.
- Multi-day mountain bike/walking trips to Lake District and Cairngorms carrying all equipment required to wild camp overnight.

#### 2012

- Previous mountain biking trip to Moab, Utah in the USA spending a week cycling single track routes in the desert.

#### 2014-2016

- Member of ICMC, climbing indoor several times a week at Westway and The Climbing Hangar.
- Member of the Cross Country and trail running team at Imperial training several times a week and several university competitions

#### 2016

- Also undertook the 10 day trek along the TMB route. 170km trail through 3 countries self-sufficient except for food, involving alpine navigation and survival.
- Competed in the Rab Mini Mountain Marathon 3, involving navigation and route finding.
- Competed in the 2016 and 2017 Original Mountain Marathon, a self-sufficient overnight navigation race through the Scottish highlands.
- 3-day solo fast-packing trip to Cumbria relying solely on compass and map navigation to cross the Lake District National park from west to east.

**Iskren Peev – Treasurer and Cultural Liaison**

21 years old – Studying BSc Mathematics at Imperial College London



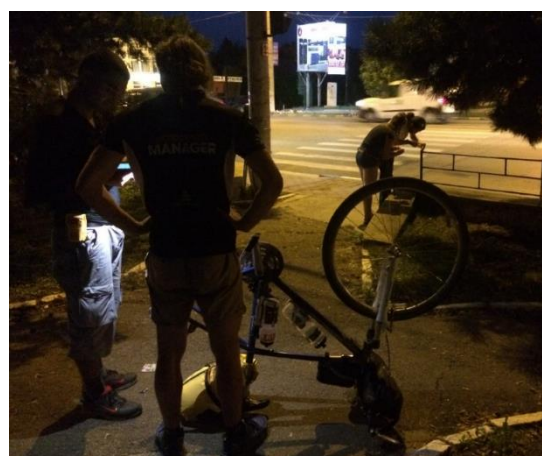
<b>Relevant Experience</b>
<b>2002-2008</b> <ul style="list-style-type: none"><li>• Forest and mountain hiking from a young age, often more than 20km</li><li>• Learning about camping and outdoors safety/etiquette from grandfather with military background</li><li>• Hiked to the top of Bulgaria’s tallest mountain (2925m)</li></ul>
<b>2009-2014</b> <ul style="list-style-type: none"><li>• Exercising in the gym, 3-4 times per week to improve overall fitness</li><li>• Running/Cycling once per week 10/20km or more</li></ul>
<b>2012</b> <ul style="list-style-type: none"><li>• Qualified as RYA Day Skipper – experienced in navigation, chart reading and plotting, weather adversity, risk assessment, route planning, crew management and dealing with emergency situations (e.g. Man over board)</li></ul>
<b>2014- Present</b> <ul style="list-style-type: none"><li>• Cycling as part of daily commute (minimum 5km daily)</li><li>• Completing a 20-40km cycle at least once per fortnight</li></ul>

**N.B.** Iskren was born and raised in Bulgaria and has a good level of fluency in French, a language spoken by many Romanians.

## 4. Daily Diary

### DAY 1 – Departure prep and Suceava (16 km)

As a team, we arrived at Adam’s London home the night before departure to prepare ourselves and our bikes for travel using mattress bags, cardboard and duct tape as an unconventional method to strap up all our gear. Early morning flights got into Suceava just after midday, leaving us plenty of time to get fully geared up outside the airport. The airport security guards, keen to hear about our trip, offered us some advice (our first dose of Romania’s hospitality) before we found our way into the city for supplies. After stocking up of fuel and food we set off on the first leg out of the city - eager to make a start. We didn’t make it far. Within the first 3 km of cycling in the city, Iskren snapped his bike’s mech hanger, probably the result of some damage in transit, so we sat in a local park while Adam attempted a quick fix. We got lucky when a passer-by offered to call a friend who owned a bike shop nearby. Within 20 mins, a guy named Sebi had turned up with a tool box and replacements to solve the problem. And on his recommendation, we cycled to the Fortress of Suceava grounds nearby to set up a late night camp spot.



### DAY 2 – Suceava to the Rarău Mountains, Eastern Carpathians (77 km)

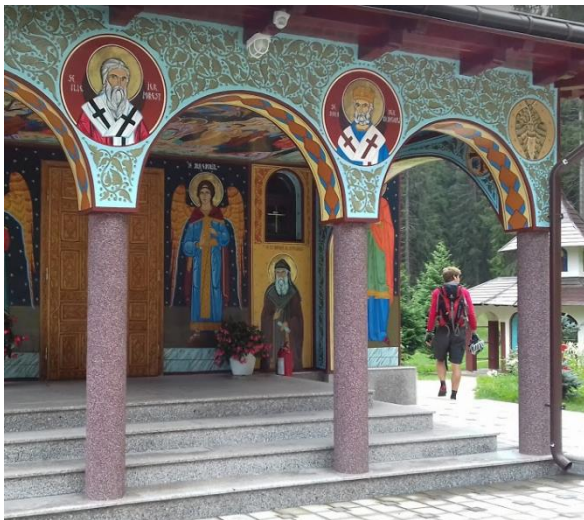
Spurred on by our lack of progress the previous day we left early morning and headed west towards the Carpathian Mountains. The majority of the morning cycle traversed typical Romanian agricultural land – an easy start to the journey. It began to rain around midday, providing a good test of our waterproofing and forcing us to find shelter for lunch at Gura Humorului. 40km of cycling in and we were well into hills. At the turnoff for Cabana Rarău, we happened across a Romani bar where we stopped for a drink and an attempt at chatting with the local people. Following a broken conversation in Romanian and French we set off again and hit real track into the mountains. Muddy, steep, seemingly endless we battled up the track for 20 km or so before camping at around 800 m altitude. This was our first night in Romania’s bear country so we lit a campfire, hoisted our food into the trees and went to bed with our pepper spray close to hand.





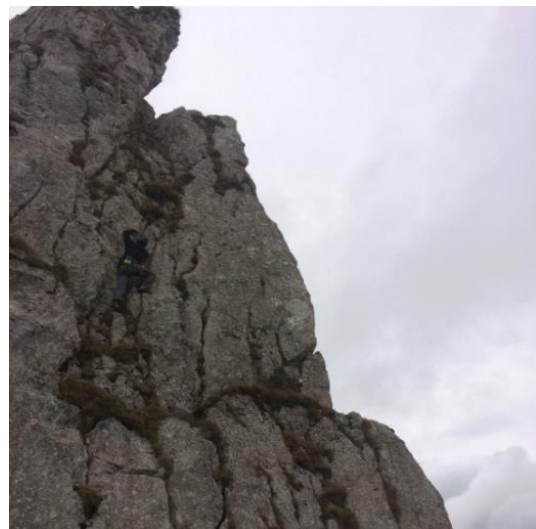
### DAY 3 – Rarău Mountains to Pietrele Doamnei (7.4km) and rock climbing at Cabana Rarău

Set off up the track again the next morning hoping in vain we would reach out of the treeline any minute. Just before lunch we passed the Mănăstirea Sihăstria Rarăului and met Theodor the Theologist who gave us a tour and a passionate talk about Romania's religious heritage. He offered rooms for us to stay the night in the church grounds but we politely declined – there was rock climbing to be done. We struggled up the muddy slope through loggers and rivers and topped out at Cabana Rarău around 3 pm. Here, we were at 1500 m altitude and had cycled just over 100 km. Got stuck into some of the sport climbing routes in the Cabana's grounds in the afternoon, some small single and two-pitch routes. We finished the day on a madly overhanging climb, lead by Adam out of a cave section and that evening we set up camp in the woods around the Pietrele Doamnei formation, a surreal spot in amongst the boulders and moss. Adam almost got lost in the forest's evening fog and the night brought an intense thunderstorm. We managed to weather it. The following day we discovered a number of the Cabana's concerned residents, who'd seen us with our camping gear, had left notes for us outside offering help if we had needed during the storm overnight.



### DAY 4 – Climbing at Pietrele Doamnei

Our first rest day meant a full day of rock climbing around Pietrele Doamnei. We trekked to the pillar like rock formations from the Cabana to scout routes. The area was incredible. Lots of bolted routes, boulders everywhere and amazing rock structures meant this was a climber's paradise. All three of us started on the smaller of the two rock pillars first topping out as a team before abseiling down to head up the main formation in the afternoon. We climbed the first pitch of the route as a trio before Adam and Phil continued up as a pair to top out. Once at the top, Adam abseiled down for a view of the main face before heading down the route as a pair. We finished the day with a pint in the Cabana while listening to Adam's attempts at chatting to the waitress in Romanian (resoundingly unsuccessful, we undoubtedly looked and smelt rather rough).





### DAY 5 – Pietrele Doamnei to Ceahlău Massif (85 km)



Packed up camp and headed south away from Pietrele Doamnei and down through the mountains. Morning mist and smooth roads made for a good descent through the trees to valley below. We cycled a further 40km down the Bistrita River towards Lacul Bicaz. For lunch we stopped in the village of Brosteni and met some local kids who were very interested in our map. Made it through the valley and to the lake by mid-afternoon and after a brief stock up on supplies, we decided to take the southern road along the north side of the Ceahlău National Park to find a spot to camp. We set up on the shoreline of what we expected to be a beautiful lake but instead found ourselves by a waterline polluted by plastics, food and other waste. As our only water source we used

the lifestraw to filter our drinking water – a tool that turned out to be vital. Our setup used one water carrier filled with lake water to be passed through the straw and filtered into a second water carrier. Over the next few days we would become painfully aware that this setup was not to be mixed up.



### DAY 6 – Ceahlău Massif to Bicz Gorges (87 km)

Cycling the remaining length of the lake track the following morning was tough. Thanks to the wet and muddy conditions we looked a state passing through the various villages dotted along the shore. At one point we stopped to chat to a friendly woman who spoke no English and ranted at Iskren for not being able to speak Romanian. She brandished her walking stick at him a few times, but was good-humoured and gave us a hand waving description of a route to the nearest town. We managed to make it to the edge of the lake and stopped to resupply in Bicz before heading west, back up one of the valleys to our next climbing spot, the Bicz Gorge. We passed through the gorges in the late afternoon and scouted some climbing routes before searching for camp. Camped on a buttress of rock well above the road, away from any possible bear encounters.



### DAY 7 – Rock climbing and hiking in the Hășmaș Mountains

The next morning was a cold start in the gorge and climbing day number three. We spent most of the morning attempting to contact home with our progress before giving up and heading up to Lacul Rosu higher in the valley. We had a bite to eat in a café before cracking on with some of the day's climbs. Trekked up to a Via Ferrata route at midday and got to the top with our improvised climbing

setup in a couple of hours. From the top, we improvised a route down and pushed through the forest despite the lack of trails. In a way, we were disappointed to have still not seen any bears. As evening approached, we were back in the Gorge heading in further for some evening climbing on the routes we had scouted the previous day. An incredible line prevented us from being fazed by the busy road below, the fading light, a snapped bolt and loose rocks. By the end of the day we had sent some more climbs, taken some big falls and had a lot of great pictures.



### DAY 8 - Hășmas Mountains to Miercurea Ciuc (88 km)

The next day was a long cycle, and there was some persuasion needed to get everyone out of bed. Deflating air mats proved to be a good enough incentive. By mid-morning we'd cycled to the top of the pass separating the Bicaz Gorge from the Transylvanian Plateau and were on our way to Brasov. We perfected our drafting skills on the fast cycle along the flat to Miercurea Ciuc. We had some punctures along the way but made it into town by late afternoon. We stopped in the town to resupply but soon realised we were very weak from the day's cycle. Iskren began to feel very sick so we decided on a hostel for the night after 8 days of wild camping. Once in our room, it went downhill quickly. Iskren was the first to be sick, followed by Phil a few hours later. Adam tried his best but lasted until just after midnight before making it a trio. We'd given ourselves water poisoning after not thoroughly washing our water carriers that we'd filled with lake water a few days before. Four very unpleasant days followed.



### DAY 9 – Miercurea Ciuc to Brasov (Train)

The next day we were still in a bad way. Luckily, we had stopped being sick but after a long night we were in no condition to cycle the 90 km+ to Brasov that we'd planned for the day. As a compromise for rest and travel we decided to get the train in the hope that we could recover for the rest of the trip and remain on track to complete the expedition.



### DAY 10 – Rock climbing on Tampa Crag, Brasov

After an unplanned rest day we were under the impression we'd recovered and so attempted to find the Brasov Crags we'd researched as part of preparation. Turns out we weren't recovered and as a result we got thoroughly lost in the woods. Adam lost a beloved climbing shoe battling through the undergrowth and had to subsequently climb in flip-flops for the afternoon. Iskren attempted to find an alternative path to the crags but instead went missing for most of the day. In our poor states of health we eventually managed to climb some good routes in the sun above the city before packing in.

DAY 11 – Brasov to Cheile Râșnoavei (30 km) and Bucegi Massif rock climbing

The next day we headed out of Brasov for yet more climbing. We were still feeling very weak on the bikes but made it past Rasnov and up towards the foothills of the Bucegi Massif. Cycling up through the main gorge and into the trees accessing the mountains, we passed the by the Romanian army conducting exercises. By midday we'd arrived and setup camp in a wooden hut-structure we found in the woods. Adam hung his hammock in the rafters. Spent the remainder of the day climbing until late in the evening. Phil and Adam struggled on a slab climb for a few hours while Iskren was still in serious pain from our water poisoning. Eventually, Iskren recovered enough to send a crack climb in the dark before we finished for the night.



### DAY 12 - Cheile Râșnoavei Gorge to Bran Castle (31 km)

We were woken up the following morning by a hive of activity outside our tents. The Romanian army had stopped by our campsite and asked permission to park while they conducted exercises (we didn't have much of a choice). We chatted to one of the drivers over breakfast, who had a look at our map and offered some advice for the rest of our journey. This was easily the coldest morning of our trip and Adam was severely regretting his decision to sleep in a hammock. As an attempt to warm up, we headed down the valley to climb in the main section of the gorge but were instead turned away by the army – still conducting their drills. In order to not waste the day, we decided to head out to Bran and continue with our route. Bran was the first tourist trap we'd encountered on our trip, so we stuck around to wander the castle for a few hours before heading out to wild camp around 6pm. We had to cycle further than expected and ended up starting up into the mountains and cycling until dusk. After briefly being attacked by a pack of dogs we found a camp spot in a small birch forest next to a few farms.



### DAY 13 – Southern Piatra Craiului Mountains to Campulung (51 km)

Apparently, we were spotted setting up camp overnight because the next morning a local farmer greeted us with hot tea as we were cooking breakfast. A hot drink was welcome in the cold weather and lifted spirits as we packed up. The day's cycle had us heading west along an undulating road towards Curtea des Argeș and the Transfăgărășan pass, our final obstacle. Still not feeling fully recovered, we made poor progress and finished the day in Campulung.



### DAY 14 – Campulung to Curtea de Arges (52 km)

An early morning start found us aiming to get across the spurs of the Făgărăș mountains to the start of the Transfăgărășan road. The road was slow going with long, continuous uphill climbs and descents. As a team we were struggling by midday (with Iskren being overtaken by a horse

and cart at one point and Adam being plagued with punctures) but we battled on and were speeding up by the afternoon. We were in Curtea des Argeş by late afternoon and excited to get started on the mountain pass the following day.

#### DAY 15 - Curtea de Argeş to Lacul Vidraru via the Transfăgărăşan road (44 km)

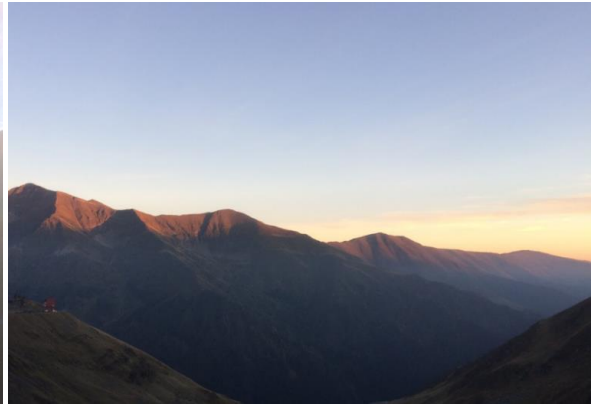
We spent the next morning prepping our bikes for the final push and set off around 10 am. Made good progress on the start of the Transfăgărăşan road and passed over the dam at the head of Lacul Vidraru by midday. We were warned that there had been recent bear activity in the area but, confident in our abilities to repel them, we continued on to find a wild camp anyway. We set up camp in the forests bordering the lake 40km down from the top of the Transfăgărăşan pass. The remainder of the push was to be done in a long climb the following day. We left a fire burning overnight in an attempt to deter any wildlife coming to investigate and made sure the pepper spray was kept close by.



#### DAY 16 – Lacul Vidraru to Cârțișoara via the Transfăgărăşan road (51 km)

Adam got the fire going again the next morning to warm us up before setting off. A little too keen to heat his feet, Adam managed to set fire to the ends of his shoes and had to duct tape up his toes for the remainder of the trip. Despite this, morale was high as we set off in the morning. The first 20km was relatively flat but we knew a further 1200m of climb was still to be done. The push up was tough and the temperature had dropped well below zero as we approached the 2000 m point of the pass but we were rewarded with a fantastic sunset as we topped out. Once at the top we were greeted by some of the emergency workers from a nearby mountain hut who congratulated us. We shared stories about our trip so far and their work up in the mountains.





Apparently they had seen bears on the hillside a couple of hours before so they warned us not to hang around and to head down over the other side as soon as possible. On the final push we cycled through the tunnel at the top of the pass to Lac Balea on the northern side of the Carpathians – our final crossing of the mountain range. Across the other side we found high winds, cold temperatures and 25km of clear downhill cycle on the most famous section of the Transfăgărășan road. We made our way down as fast as possible, cycling with head torches and a full moon to light the way. Finishing on the northern side of the Făgăraș Mountains we decided to stay in hostel before the final straight into Sibiu the next day.



#### [DAY 17 – Cârțișoara to Sibiu \(48 km\)](#)

The last stretch of cycling into Sibiu had us heading west along the flats of the Transylvanian plateau and after a battle with the wind and traffic we'd made it into the city by midday. We arrived at our final hostel and collapsed in bed after an exhausting week of cycling. We'd still not fully recovered from our illnesses but had finished our expedition. We celebrated that evening with a meal out and drinks at one of the karaoke bars in town. Iskren put in a legendary performance covering The Red Hot Chili Peppers, the locals were impressed.



#### [DAY 18 – Sibiu and prep for the journey home](#)

We had planned to spend our final morning preparing our gear and bikes for the journey home. Adam and Phil set off into the city to scout for materials we could use to protect our bikes during the journey home while Iskren sorted out our flights. A few hours later we met at the airport and began a mad rush to pack our bikes before the check in closed. That evening we arrived in London





with our bodies and equipment intact. We had travelled over 750 km, crossed the Carpathian mountain range four times, been struck down by severe water poisoning and climbed all over Romania in changing conditions. Throughout our journey, only one thing remained constant – the white and orange ‘milestones’ at every kilometre along the way provided much-needed assurance that we were making progress. We successfully completed our expedition and will definitely be returning to the Romanian Carpathians in the future with an even bigger adventure planned.



## 5. Logistics

### 5.1 Maps and Navigation

Obtaining good quality up-to-date maps for navigational purposes proved difficult for the trip. The majority of the route was planned using Google maps software, being implemented during the expedition using a printed copy of our proposal and a Michelin road map of Romania. These maps proved effective enough for long distance, overland travel but were not useful when scouting areas for climbing routes or campsites. A large amount of personal judgement was required to effectively navigate the forest paths in the high mountains. When searching for climbing areas, we relied on the minimal resources from the internet and inconspicuous route signs to find the crags. In terms of camping, the group relied heavily on previous wild camping experience to judge which regions of the day's route would be the most suitable for a camp site and where drinkable water sources may be found.

### 5.2 Travel to Romania

All members will flew from London to Suceava, with the return flights from Sibiu. Flights were booked online in advance via providers Wizz Air. One train journey was necessary due to illness, this was from Miercurea Ciuc to Brasov (~90km).

### 5.3 Equipment Transportation

The bikes were wrapped in cardboard and bubble wrap (thoroughly, shown in figure 15), with as many bags as possible stuffed within the frame. The entire arrangement was then taped inside a mattress bag, the bike stays protected but visible, making damage less likely. There was no damage or issues with packing bags alongside bikes as we had anticipated on either flight.



Figure 15: Phil's bike packed bike for the plane

### 5.4 Currency

ATM's were numerous, all money was taken out directly in Leu using Revolut's prepaid bank accounts in different currencies, with Monzo cards as a backup. This was much simpler and easier than expected. We carried a maximum of £100 in RON at any time.

### 5.5 Terrain

There were long stretches on good roads, long stretches on average tracks, and long stretches on appalling to non-existent paths. This actually served to break the monotony of some cycling days and all the bikes coped well, only suffering punctures. The map differentiated between road qualities reasonably well; only once, travelling the opposite bank of Lacul Bicz, did we regret our route choice due to the terrain. This was perhaps mainly due the view of the smooth tarmac road from across the lake.

### 5.6 Weather

Day 2 had us worried, as our kit was tested by a constant downpour, thankfully this did not return during any cycling hours for the remainder of the trip. Temperatures dropped to  $-5^{\circ}\text{C}$  overnight on occasion, and Adam came to regret his decision to sleep in a hammock, and purchased extra socks at the first opportunity. One night brought a storm which we later realised had taken several lives in a close by region, we were well sheltered by the surrounding boulders and later learned that the nearby Cabana owner had left his door open with a note, had we been in trouble.

## 5.7 Wildlife

Per the official estimation presented by the Romanian Bear Management Plan in 2006, there are about 6000 northern (or brown) bears. The Romanian General Association of Hunters and Anglers in Romania claims there are about 4000 wolves. Estimates (which experts dispute may be overestimates) say 2000 lynx live in Romania.

Wolves and lynx pose no particular threat to humans, the 'wolf attacks' reported in Romania have been exclusively shepherds protecting their flock and hunters wounding animals. Bears, however, can cause considerable harm to humans, so the following precautions were taken.

### **Before departure**

- \* Check reported bear activity in regions of travel
- \* Purchase bear-proof food containers, bear spray and bear bell

### **While travelling**

- \* In risk areas, attach bear bell to bicycle to alert bears of our presence in advance
- \* Check for signs of activity (scat, tracks, carcasses)

### **In camp**

- \* Cook 100 metres downwind from the tent
- \* Store all food in bear proof containers suspended out of reach
- \* Keep a clean camp free of food and rubbish

### **In case of encounter**

- \* Remain calm, do not run
- \* Speak loudly and raise arms to appear larger and obviously human (most bears on the trail will have encountered humans before)
- \* Back away slowly until it loses interest and detour far downwind

### **In case of aggressive encounter**

- \* Administer bear spray, this should be sufficient to stop the bear and allow your escape
- \* If attack continues, fight back using anything at hand aiming at eyes and nose.

No dangerous wildlife was encountered, food was always stored high, buried, or at least a suitable distance from camp. Other precautions we took, camping on a buttness within Bicz gorge, and leaving a fire lit (safely) midway up the Transfăgărășan road.

Dogs were the only possible threat, they often chased us quite a distance and ambushed us from amongst long grass. Whilst we assumed they would have never actually attacked us, we did not stop to test this hypothesis.

Other wildlife spotted included

- Fly catchers
- Tree creepers
- Great crested woodpecker (underappreciated at the time due to his choice to peck a tree in the centre of our camp in the early hours)
- Eagles
- Hawks
- Small snakes and lizards
- Black squirrels
- Hundreds of dogs (not cyclist friendly)
- Many farmyard animals and horses

## 5.8 Report inc. Pictures

A large part of the trip is to document the country from our perspectives. We relished the opportunity to photograph the incredible surroundings, some of the results of which are shown throughout this report. Please see the final thoughts for our conclusions on this incredible country.

## 5.9 Reducing our Impact

Camp was kept very clean, partly due to bear risks. All rubbish was disposed of in towns and fires were fully quenched and buried. We feel we did as much as we were able to avoid leaving any lasting impact, both for the environment itself and the other people that enjoy it.

## 6. Equipment

### 5.1. General

Table 3 is an explanation of all the kit on Adam's fully packed bike.

Table 3: Equipment layout

Saddle Bag (12L)	Bar bag (12L)	Frame Bag (15L)	Top tube/cockpit bag (0.5L)	Rucksack (20L)	Also on handlebars	Other (on frame or person)
<ul style="list-style-type: none"> <li>• Hammock</li> <li>•Tarp</li> <li>•Sleeping bag</li> <li>•Sleeping mat</li> </ul>	<ul style="list-style-type: none"> <li>•Clean clothes pack</li> <li>•Dirty clothes pack</li> <li>•Group first aid kit</li> <li>•Bicycle repair kit (inside mess tins)</li> <li>•Climbing shoes</li> </ul>	<ul style="list-style-type: none"> <li>•Waterproofs</li> <li>•Bear Spray</li> <li>•Headtorch</li> <li>•Wash kit</li> <li>•Daily snacks</li> <li>•Food when necessary</li> <li>•Pen knife</li> <li>•Bike pump</li> <li>•Battery pack</li> </ul>	<ul style="list-style-type: none"> <li>•Bear Spray</li> <li>•Headtorch</li> <li>•Compass</li> <li>•Midlayers</li> <li>•Wash kit</li> <li>•Valuables (phone, personal)</li> <li>•Duct tape</li> </ul>	<ul style="list-style-type: none"> <li>•Climbing rope (60m)</li> <li>•Quickdraws (x13)</li> <li>•Harness</li> <li>•Slings (x6)</li> <li>•Insulated jacket</li> <li>•Whistle</li> <li>•Water filter</li> <li>•Survival bag</li> </ul>	<ul style="list-style-type: none"> <li>•Coleman Darwin 2 man tent</li> <li>•Flip-flops</li> </ul>	<ul style="list-style-type: none"> <li>•Helmet</li> <li>•Map</li> <li>•Water bottle (x2)</li> <li>•Watch</li> <li>•4 x Bungee cords</li> <li>•Bike cable</li> </ul>

Table 4: Specific kits

Clothes	First Aid Kit	Repair Kit	Cooking/tents	Climbing
<ul style="list-style-type: none"> <li>•Warm base layer (top and leggings)</li> <li>•2 cycling socks</li> <li>•1 woollen socks</li> <li>•3 boxers</li> <li>•1 long sleeve shirt</li> <li>•2 cycling tops</li> <li>•1 cycling shorts</li> <li>•1 insulated jacket</li> <li>•1 waterproof trousers</li> <li>•1 waterproof jacket</li> <li>•1 cycling gloves</li> <li>•1 camp gloves</li> <li>•1 warm hat</li> <li>•1 rugged trainers</li> </ul>	<ul style="list-style-type: none"> <li>• Antiseptic cream</li> <li>• Bandages</li> <li>• Plasters</li> <li>• Scissors</li> <li>• Artificial stitches</li> <li>• Sterilised dressings</li> <li>• Imodium</li> <li>• Pain killers</li> <li>• Water Purification Tablets</li> <li>• Sun cream</li> <li>• Vitamin supplement tablets</li> <li>• Vaseline</li> <li>• Needle and thread</li> <li>• Finger Tape</li> </ul>	<ul style="list-style-type: none"> <li>• Inner tubes</li> <li>• Puncture patches (excess)</li> <li>• Pump</li> <li>• Magic links</li> <li>• Spare chain</li> <li>• Duct tape</li> <li>• Cable ties</li> <li>• Thick grease (marine grease)</li> <li>• 1.5-8mm hex wrenches</li> <li>• Chain splitter</li> <li>• Crosshead screwdriver</li> <li>• Flathead screwdriver</li> <li>• Spoke key</li> </ul>	<ul style="list-style-type: none"> <li>•2x Stoves</li> <li>•Fuel bottles</li> <li>•Lighters and waterproof matches</li> <li>•Wine bags</li> <li>•3 x Pots</li> <li>•Tents – HiGear Soloista 1 man, Coleman Darwin 2 man</li> </ul>	<ul style="list-style-type: none"> <li>•Climbing Shoes</li> <li>•13 x Quickdraws</li> <li>•10 x Slings</li> <li>•Harness</li> <li>•Chalk</li> <li>•60m rope</li> <li>•2x belay device</li> <li>•1x belay plate</li> <li>•Guide book</li> <li>•6 x Locking Carabiners</li> </ul>

The bikes were all packed slightly differently dependant on rider preference, as shown in figure 16.



Figure 16: All three bike's packing arrangement

The combined mass of all the climbing equipment was around 6.2kg, similar to the 5.5kg which was estimated using the 'weighmyrack' database.

At no time did we find ourselves lacking a piece of necessary kit, and everything we brought was used. We struggle to think of anything we would change on our kit list, except for a longer trip we would try to find another bag to hold more spare bike components, such as derailleur hangers.

## 5.2. Food and Water

The itinerary left a maximum of two days without passing places to purchase food, so 2 days, plus emergency rations, was the maximum amount that was carried at any one time. This then involved filling 2 panniers and all other spare space in the other bags.

Water was collected from natural sources, or from inhabited areas (tap water in Romania is safe to drink). The Royal Geographical Society Expedition Handbook suggests fluid intakes of 4 litres a day, with one extra litre for every hour of exercise, this is what the group used to conservatively judge amounts when refilling. Filling up our personal bottles and a communal bladder and water carrier totalling 12L altogether easily lasted us several hours, plus dinner, breakfast and some time into the next day.

The water was fine to drink from all running sources away from agricultural land. At Lacul Bicz, we used a water filter to filter unclean water from a small bladder into a larger water carrier. We made a minor mistake and cross contaminated these water containers, and consequently all three members got water poisoning. This took impact around three days later for the entire team, who had vomiting for 12 hours and diarrhoea, stomach pains and extreme fatigue for 4 days. The fatigue was bad enough initially that the next 90km of the journey were done by train, with Adam barely managing to walk from the station to the hostel at the other end. The symptoms remained with Iskren the longest, experiencing crippling stomach pains several days on.

### 5.3. Bikes

#### 5.3.1. Gear ratios and chain

Gear ratios were as follows, and all were sufficient throughout:

Adam	Phil	Iskren
1x10	2x10	3x8

One spare chain was taken, and several spare magic links. One oversight was not bring spare derailleur hangars, and this cost us half a day in Suceava waiting for a mechanic to file down another one to fit Iskren's bike.

#### 5.3.2. Wheels, tyres and tubes

26" rims are the most common in both the UK and Romania so, despite the benefits of larger sizes, these were used by all members for ease of purchasing and repair. For the same reason, inner tubes were used rather than an otherwise superior tubeless system.

Both steel and alloy rims would not be expected to fail during this relatively short journey. Alloy rims would be preferred to reduce weight, and the price difference is minimal. Alloys also offer a greater dampening effect which will be beneficial on the rougher tracks.

Spokes are susceptible to breakage, but can be neglected temporarily whilst replacements are sourced, so several spares were taped to the bike frames.

Tyres incur a trade-off between good off-road grip and low rolling resistance, there are many options on the market which we be selected due to user preference. Adam used semi slick tyres, for reduced rolling resistance but satisfactory cornering grip. Phil and Iskren used traditional off road tyres. Thicker, wider tyres than normal touring were used for shock absorption as the frames themselves are rigid, offering little comfort.

#### 5.3.3. Handlebars

All members used flat bars, 2 of which had ergonomic bar ends improving riding position to reduce back pain and also serving as mountings for dry bags. Iskren also had an adjustable stem, purchased specially for this trip, to change the rider position from a more uncomfortable but aerodynamic hunched-over position to a more up-right touring position. This modification is highly recommended for longer trips to avoid back pain.

#### 5.3.4. Brakes

Mechanical, cabled brake cables were used instead of hydraulic, as they are easily repaired using standard equipment, except by Phil. Thankfully they didn't fail.

#### 5.3.5. Mudguards

Unnecessary, considering our general state of uncleanness. They would only be in the way and add unneeded weight.

#### 5.3.6. Pumps

Pumps are vital, and reportedly the most likely item to be stolen due to their versatility. So, multiple compact hand pumps were carried. A rubber O-ring stretched and failed on Iskren's, proving the necessity of having replacement pumps.

## 6. Accommodation

The only planned accommodation was via camping, with at most one or two stays at a hostel to take advantage of a showers. All members already owned suitable lightweight sleeping bags; the conditions in Romania are not extreme during the proposed dates. Hence, this would be likely only for a treat or if there are no suitable camping areas nearby. However, due to our illness we needed access to clean water, improved hygiene and rest in order to speed up our recovery so we stayed a few additional nights.

## 7. Budget

The trip was paid for using the member's personal funds and the Imperial Exploration Board. Other sources were approached such as bike manufacturers and expedition trusts, of which there are numerous. The team also attempted to source as much donated equipment as possible from local businesses, online forums and personal contacts to lower costs.

Table 5: Exchange Rates to Romanian Lei (RON)

GBP	USD	RON
1	1.32	5.21
	1	3.93

Table 6: Expected costs per person

Item	Description	Expected Cost	Actual Cost
Bikes	Similar to Ridgeback Tour	£600	0-400
Bike bags/panniers	Frame bag, front or rear panniers	£80	112
Bike spares	Tubes, spokes, cable ties etc.	£50	27
Bike tools	Multi-tool, grease, pump etc.	£50	0
Food	Self-catering, some street food	£100	200
Accommodation	Up to 4 nights in towns	£80	51
Insurance	1 year or single trip (similar prices)	£50	0
Transport	London to Suceava, Sibiu to London. Both inc. bike transport	£200	198
Emergencies	Taxis, repairs, theft etc.	£100	12
Losses via exchange rate	Buying/selling dollars and Lei or ATM fees	£20	5
General Equipment	Clothes, stove, headtorch, climbing gear etc.	£100	95
		Total:	1430 1100

## 8. Training

All members acquired suitable bicycles for road training in London and began commuting by bicycle several months before the trip (80km a week) whilst doing training rides each available weekend (working up to 80km). Rides were never done with the exact packing arrangements that were used, but reasonable substitutes.

All members received wilderness first aid training.



All members undertook training regimes; involving runs of at least 45 minutes and indoor climbing sessions of around 2 hours 3-4 times a week. These were already done together by the group so the team dynamics were well established before setting off. Certain members also spend weekends surfing and kayaking, this cross training helped to prevent monotony in the training period.

No full kit test run was completed, some bags were first packed and mounted the evening before leaving, thankfully everything performed as intended with only minimal issues during the entire trip.

## 9. Medical

### 9.1 Cycling Specific Injuries

Groin chafing and rashes are the most common issues due to extended periods of time in the saddle. There are many saddles that can be chosen to limit these effects, as well as using ointments such as Vaseline and talcum powder.

No team members had any injuries to note, but we felt well prepared had there been any incident.

## 10. Emergencies

The following sections underline our emergency procedures, the entire proposal was printed and brought along in a waterproof pouch. It was not used, but is included regardless.

- If, for any reason, the group is separated in remote areas, attract attention with six short blasts of a whistle, or flashes of a torch if it is dark. All members should be carrying their own emergency rations, water, first aid kit, clothes and phone and have a knowledge of where they are and where they are going. This way all members should effectively be able to complete each stage alone but every attempt should be made to re-join the group before reaching the next checkpoint.
- The paper maps will cover a suitable area at all times to be able to locate a suitable emergency evacuation zone depending on terrain and proximity to civilisation.
- A list of emergency numbers will be kept with the communication devices at all times, including:

Table 7: Emergency Contacts (*some numbers removed for the public document*)

Insurance emergency line	-
Imperial College Security	+44 20 7589 1000
UK Embassy	+40 21 201 7200
Emergency services	112
UK Medical Contact	-
Global Air Rescue 24/7 UK Emergency Dispatch Centre	+44 1506 243411
Next of kin	Robert Knott (Adam) - Brenda Rutter (Phil) - Peter Peev (Iskren) -

## 10.1. Remote Evacuation

Using a GPS unit for finding exact location and paper maps to navigate to suitable terrain, an emergency evacuation should be achievable at all times. It is possible that the response will not be as speedy or well-equipped as in the UK (equally possible that it will be better) so this must be prepared for.

Following immediate stabilisation of the casualty, the insurance company will need to be contacted first, to approve all further actions. Information will need to be provided to the insurance and evacuation companies, such as condition of the patient, response needed, companion flying with the casualty etc.

Global Air Rescue operate from 9 airports around Romania, so arrival should always be less than a few hours after contact. They offer both evacuation and air ambulance services, depending on availability.

If air evacuation is unavailable, the casualty will need to be moved to an accessible road. This can be done using local transport and money should be kept for emergencies such as this.

## 10.2. Helicopter Evacuation Procedure

The individual on the ground should determine the following to communicate to the pilot:

- Location of landing zone
- Wind aspect and speed
- Hazards around the landing zone

The landing zone must be as such:

- Flat area, less than 10-degree slope, approximately 25x25m square in daylight, 33x33m in the dark
- Area free of obstructions, namely trees, wires, poles and buildings
- Ground must be firm
- Clearly mark the landing area with objects that will not blow away
- At night, walk the area to determine any obstructions in the dark
- At night, after landing, turn off all white lights

After landing:

- Approach the helicopter in full view of the pilot, do not run
- Steer clear of the rear rotor as they can be at head height

## 11. Final remarks

Cycling through a country gives a unique perspective as you are exposed to the elements and can easily interact with the locals you pass by, yet as it is faster than walking allows you to cover more ground in shorter period of time and carry more gear and provisions. Having cycled for over 700km through Romania, we really got to know the place and were absolutely charmed by its beauty and the hospitality and kindness of its people. Any prejudice was quickly dismissed – professionally bolted climbing routes were ubiquitous; we did not get pickpocketed by Romani gypsies, despite interacting with them on numerous occasions and drinking at one of their bars. Iskren was able to draw countless parallels between Romania and Bulgaria, two countries often group together, but there were numerous differences also. Despite being a deeply Eastern-European country, the Romanian language is unique, with Latin rather than Cyrillic roots and Theodore the Theologist pointed out that the Romania is ‘an island of Latinity’.

We also noticed while cycling through the most mesmerizing wilderness and national parks that despite signs discouraging litter, there was a lack of organised conservation efforts with our expectations of pristine forests and mountains, often being replaced by the reality of piles of single-use plastics, old tyres and cigarette ends.

This inspired us to begin planning more ambitious expeditions, with an embedded concerted conservation effort and we would love to return to Romania to help preserve this unique nature for future generations. We would like to spend more time in the country, taking our time to truly explore each area and visit even the most remote corners. In hind-sight, long periods relying on wild camping, although fun, were unnecessary as there were countless Orthodox Churches and monasteries where we were told we would always be welcome to spend a few nights. We also learned the importance of going on a short trial expedition prior to departure, with full kit, in order to test that everything is functioning as expected.

We would like to thank the Imperial Exploration Board for their support and guidance during the planning of this trip and for generously providing the funding, without which this eye-opening journey would not have been possible.

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Climbing equipment weight database - <https://www.weighmyrack.com>

## 13. Appendix

### 13.1. Hospitals/Healthcare Centres

Day	Route	Hospital A	Hospital B
1	Suceava International Airport to Eastern Carpathian Mountains.	Spitalul Judetean Sfântul Ioan cel Nou - Bulevardul 1 Mai 21, Suceava 720224, Romania	SC SERVICII PALIATIVE SRL - Spitalul de ingrijiri paliative Ilisesti, nr. 307C, jud. Suceava, Comuna Ilișești 727130, Romania
2	Rarau Mountains	Spitalul Municipal - Strada Sirenei 25, Câmpulung Moldovenesc 725100, Romania	Spitalul de Îngrijiri Paliative Ilișești - DN17, 727130, Romania
3	Climbing at Pietrele Doamnei in the morning. Start route south towards Lacul Bicz in the afternoon.	Spitalul Orășenesc Sfântul Ierarh Nicolae - Strada Barajului 31A, Bicz 615100, Romania	Spitalul De Psihiatrie Tulghes - Tulgheș 537330, Romania
4	Head south turning west at Lacul Bicz toward Lacul Rosu.	Spitalul Orășenesc Sfântul Ierarh Nicolae - Strada Barajului 31A, Bicz 615100, Romania	SPITALUL ORĂȘENESC GHEORGHENI - Bulevardul Lacu Rosu 16, Gheorgheni 535500, Romania
5	Rest Day with climbing in the Hășmaș Mountains.	Spitalul Municipal - Gheorgheni 535500, Romania	

6	Lacul Rosu to the border of Harghita and Covasna county.	Spitalul Județean de Urgență - Strada Doctor Dénes László 2, Miercurea Ciuc 530173, Romania	Covasna Hospital - Spitalul orașenesc Covasna - Covasna 525200, Romania
7	Brasov and Bran	County Clinical Emergency Hospital of Brașov - Spitalul Clinic Județean de Urgență - Calea București 25, Brașov 500326, Romania	Spitalul Sfântul Constantin - Strada Iuliu Maniu 49, Brașov 500091, Romania
8	Rest day	County Clinical Emergency Hospital of Brașov - Spitalul Clinic Județean de Urgență - Calea București 25, Brașov 500326, Romania	Spitalul Doctor Caius Tiberiu Spârchez - Strada Policlinicii 12, Zărnești 505800, Romania
9	Climbing Piatra Craiului Mountains	Spitalul Doctor Caius Tiberiu Spârchez - Strada Policlinicii 12, Zărnești 505800, Romania	Complexul Balnear Măgura - Bughea de Sus 117027, Romania
10	Curtea de Arges	Complexul Balnear Măgura - Bughea de Sus 117027, Romania	Spitalul Municipal Curtea de Argeș - Strada Cuza Vodă 6-8, Curtea de Argeș 115300, Romania
11	Transfăgărășan to Lacul Balea	Spitalul Județean - Calea lui Traian, Râmnicu Vâlcea, Romania	Spitalul de Pneumoftiziologie Constantin Anastasatu - Mihăești 247375, Romania
12	Hiking in the Făgăraș Mountains	Spitalul Municipal Făgăraș - Strada Ghiocilor, Făgăraș, Romania	
13	Transfăgărășan to Sibiu	County Clinical Emergency Hospital of Sibiu Spitalul Clinic Județean de Urgență Sibiu - Bulevardul Corneliu Coposu 2-4, Sibiu 550245, Romania	CFR Hospital - Spitalul General Căi Ferate - Strada Constantin Noica 20, Sibiu 550240, Romania
14	Fly home from Sibiu International Airport.	County Clinical Emergency Hospital of Sibiu Spitalul Clinic Județean de Urgență Sibiu - Bulevardul Corneliu Coposu 2-4, Sibiu 550245, Romania	CFR Hospital - Spitalul General Căi Ferate - Strada Constantin Noica 20, Sibiu 550240, Romania

## 13.2. Risk Assessment

### 13.2.1. General Outdoor Risks

<b>Hazard</b>	<b>Effects</b>	<b>Controls and/or actions needed</b>	<b>Likelihood</b>	<b>Severity</b>	<b>Risk Factor</b>
Loss of direction	Unplanned exposure	Frequently check map, and GPS. Ensure all members are aware of the route and capable of navigating alone.	4	4	16
Exhaustion, fatigue	Lower core body temperature.	Frequent, adequate rests catering to the weakest group member. Always carry sufficient water plus emergency. Carry emergency, high energy food.	5	4	20
Dehydration	Sickness or death	Frequent water breaks. Water should also be accessible to be taken on during riding. Carry sufficient water plus emergency.	2	4	8
Hypothermia	Lower core body temperature, shivering, loss of feeling, death	Wear sufficient warm, water and wind proof layers including spares. Always change out of wet items as soon as possible.	2	5	10
Bad weather	Difficulty in navigation, unsuitable riding conditions	Refer to map and GPS more often, sharing the responsibility between group members. Be prepared to adjust plans and camp earlier than anticipated.	3	2	6
Trips and falls	Sprained, twisted or fractured ankle or knee. Other injuries.	Set up camp before dark so members can remember the layout. Take care when moving around throughout the day, taking no unnecessarily hazardous routes.	5	4	20
Group separation	Delays, increased likelihood of becoming lost or injured	All members should be aware of the route and have equipment to navigate, all members carry personal first aid kits.	2	5	10
Small injuries (e.g. cuts, sprains)	Inability to use affected body part	Be cautious at all times, take no unnecessary risks. All members should be familiarised with equipment before departure.	5	3	15
Larger injuries (e.g. severe bleeding, fractures)	Serious or permanent injuries, ending of expedition.	Be cautious at all times, take no unnecessary risks. Travel as a group at all times. All members will be first aid trained to deal with immediate issues.	3	7	21
Injury due to heavy loading	Muscular damage, inability to continue working at full capability	Distribute loads between groups fairly, taking into account fitness and any injuries. Warm up/stretch each morning before lifting heavy loads.	2	4	8

### 13.2.2. Camping

Stove breakage	Inability to cook or boil unclean water	Take maintenance and repair kit and a spare stove. Ensure spare is identical to main stove for repair purposes. All equipment shall be checked before departure to be in good working order.	4	2	8
Fuel loss/leakage	Unable to cook or boil unclean water. Fire or explosion risk	Frequently check stove and fuel bottles. Bring only correctly rated fuel bottles.	2	3	6
Tent fire	Loss of tent, possible burns	Cook outside of tent (well away due to bear risk). Keep all naked flames away from tenting area.	1	8	8
Tent loss/breakage	All persons sharing one tent	Ensure all equipment is packed firmly in correct places so not to be missed.	3	4	12
Trips and slips in camp	Sprained, twisted or damaged joints/bones	Ensure the campsite is clear of obstacles, especially overnight. Make team members aware of guy lines, prominent pegs or other features in camp	6	3	18
Dirty water	Sickness and diarrhoea	Check water sources up stream for obvious contaminants, always filter and sterilise water	6	2	12
Food poisoning	Sickness and diarrhoea	Avoid uncooked local food, use antibacterial hand gel for cooking, avoid bad street vendors	4	4	16

### 13.2.3. People

Permits	Arrest, barred entry, serious diversion needed	Research via the internet for all regions/national parks being entered, ask locals as final check at each place	2	6	12
Aggressive members of the public	Shock, injury, inability to find safe campsite	Research areas prone to stone throwing or similar acts. Camp out of sight of local people on public land.	4	2	6
Theft/mugging	Loss of property, injury, shock	Check crime rates in travel areas, keep away from danger areas, use common sense (not having valuable on show etc)	2	5	10

### 13.2.4. Road Travel Risks

Collision with motor vehicles at high speeds	Shock, serious injury or death	Follow the highway code at all times. Be aware of unpredictable traffic presence. Ensure adequate safety equipment is worn at all times	4	8	32
Collision with motor vehicles at low speeds	Shock or serious injury	Follow the highway code at all times. Be prepared to make quick decisions. Ensure adequate safety equipment is worn at all times	4	6	24
Collisions with members of the public	Serious injury to either party	Be aware of public presence and travel at low speeds on roads and paths where pedestrian encounters are likely	3	7	21
Collisions with other cyclists	Serious injury to either party	As part of a group travel safe distances apart and be aware of each other's presence	3	6	18
Poor road/trail conditions	Falls from bike resulting in Sprained, twisted or damaged joints/bones	Be vigilant when travelling and conduct prior research into road conditions. Always wear adequate safety equipment and travel at safe speeds.	5	6	30

### 13.2.5. Rock Climbing Risks

Hit by falling objects	Shock, serious injury or death	Maintain awareness of surroundings and climbing conditions. Always wear correct safety equipment and be prepared to raise alarm if required	3	7	21
Free fall from height	Shock, serious injury or death	Ensure team members are safely attached to anchor points at all times and are check equipment for faults and defects.	2	8	16
Roped fall from height	Serious injury	Ensure team members are trained to cope with roped falls when lead climbing and on belay. Wear correct safety equipment at all times.	5	4	20
Trips and slips	Sprained, twisted or damaged joints/bones	Keep equipment and ropes tidy, specifically in confined areas. Keep routes to and from the wall clear of obstacles	5	3	15
Equipment failure	Un-roped free falls from height	Constantly check equipment for faults that may appear when put under load. Make individual inspections of one another before beginning a climb	2	8	16
Hair catching in equipment	Injury to scalp	Tie back all loose hair or cut hair if needed	3	3	9
Rope burn	Blistering of skin on	Use correct rope handling techniques or gloves if necessary	4	2	8



	hands, in ability to climb				
Incorrect climbing/belay techniques	Increased probability of harmful fall	Team members will undergo training before the trip to ensure they are well practiced with safe techniques	3	5	15
Poor rock conditions	Possible rock falls or increased risk of slips	Only climb if the route conditions are ideal. Be awareness of changing conditions and make safe judgements in changeable weather.	3	6	18

### 13.2.6. Wildlife Risks

Bear encounter at camp	Shock, stolen food, broken equipment, small or larger injuries	Camp near trails indicating human activity, follow precautions outlined in section 4.7 of this proposal.	1	8	8
Bear personal encounter	Shock, stolen food, broken equipment, small or larger injuries	Travel with bear bells on established trails, follow precautions outlined in section 4.7 of this proposal.	1	6	6
Wolf encounter	Shock, stolen food, broken equipment, small or larger injuries	Keep 100m away from any sightings, use bear spray if necessary	1	5	5

### 13.2.7. Other

Falling rocks or other material	Injury or death	Be observant of surroundings. Ensure camping area is out of risk areas, be vigilant for possible risks when cycling	2	6	12
River crossings	Member swept downstream, damage to equipment, injury	Use bridges unless entirely necessary, use dedicated crossings, under no circumstances enter heavy/unknown current.	1	4	4
Lack of physical fitness	Unable to travel, greater risk of injury, missing plane home	Ensure training plan is followed by all members and no injuries are going to hinder process, plan easier, back up routes	3	4	12