



/ Nathan Fifield conducting the rehearsal

Recording the Royal Philharmonic Orchestra

An audio industry organisation and a university collaborate to offer post-graduate students practical live recording experience with the RPO

Based on the proven format of the Gus Dudgeon Foundation and JAMES Summer Course, students from JAMES accredited UK university courses were selected to work with industry professionals, in order to experience the recording and mixing process in a real-life situation — recording the RPO’s performance at The Orchard Theatre, Dartford. The five-day course began with two days of orchestral recording preparation at the University of Suffolk, one day recording the rehearsal and concert of the Suffolk Philharmonic Orchestra at The Apex, Bury St Edmunds, the RPO recording observed by *Resolution*, and a subsequent day at the University at West Suffolk College mixing the recordings.

Andrea Healy, programme director BA(Hons) creative and commercial music for the University of Suffolk at West Suffolk College, explained: “We initiated a recording partnership with the Royal Philharmonic Orchestra Community and Education team in 2013, and now have a wonderful working relationship with them. They allow recordings at venues all over the country as a valuable learning and industry experience for our degree students. My colleague Gary Kelly shares his orchestral mixing and listening skills with the

students”. Healy explained that, when she was a degree student, the opportunity to make a recording became available with a local orchestra, and from that moment audio recording has become a field she is passionate about. “Having played in many orchestral settings as an instrumentalist, to record a professional orchestra became a goal. The complexity and unknown factors that are always part of a live recording, make it a joy and thrill to be part of. I would like to thank Ruth Currie, director of community and education at RPO Resound, for her initial belief and support in the first recording project back in 2013.”

Sponsors Steinberg Media Technologies and Sonnox contributed software packages of Cubase Pro 9.5 and Dorico Pro 2, a Native Elite Collection and a Native Essential bundle as student prizes. Lisa Rodio, community & education project manager with the RPO added: “We are delighted to offer these opportunities to students as part of our commitment to developing the next generation of industry professionals. This new partnership with JAMES will help us to reach an even wider range of students interested in exploring pathways into the creative industries.”

“This is the first time we’ve recorded at Dartford,” said Healy, “thanks to JAMES, we

have students from as far afield as Perth and Abertay, Portsmouth and Bournemouth.” Tony Andrews, head of marketing for JAMES, explains further: “We put an invitation out to all our accredited course leaders in the UK, and they put forward the students they’ve chosen to attend.”

Recording the RPO in prison

“We’ve done around fourteen recordings for the RPO, which they archive” Healy reveals. “We’ve recorded in many different locations, from Wandsworth prison to Corby football ground.” Hang on a minute — Wandsworth prison?

“One of the great things about the RPO and University of Suffolk partnership is that we’re able to give the students a chance to see all the work the Orchestra does — including our work in the community,” explains Rodio. “The HMP Wandsworth experience was part of our ‘Lullaby Project’ with partner’s Irene Taylor Trust, which supports parents in challenging circumstances — such as those in the criminal justice system or with refugee status — to compose original lullabies for their children. It was brilliant to be able to bring the University of Suffolk degree students into the prison with us to record these lullabies, creating an important



/(L-R) Alistair Henry-Blows, Tom Snell, Andrea Healy, Isaac Espinaco, Aidan Kitchen, Josh Gwilt, Gary Kelly

keepsake of the songs for the men and their families while giving students a very different experience to recording us in a concert venue.”

“The Community and Education team have been fantastic at facilitating the collaboration between a top professional orchestra and our students,” says Healy. “Students are able to see the breadth of work of UK orchestras while practicing their skills in venues they may not have imagined.”

When *Resolution* arrived at The Orchard Theatre, students were busy setting up microphones. “This is very different to anything

I’ve done in the past, I’ve done lots of studio work but never had the chance to work with a live orchestra,” said Tom Snell, from De Montfort University, Leicester. “It’s interesting to see the orchestra as a whole, but also to pick out individual elements with different mic techniques... and I must say this group has been so on it! If something has been said, someone is up a ladder changing a mic position or whatever, everybody has their stage plan and knew what they were doing, so communication has been very efficient!”

We got Gary Kelly (module leader BA (Hons)

and FdA music production) to explain the mic plan: “We’ve got three pairs of hanging microphones today, we’re using RØDE NT55s because they deliver quite a uniform and bright sound. We’ve only got four, so the two rear hanging mics are NT5s. We also have a SoundField SP200 mic set up centrally, which we can decode to 5.1. For the students, we’re going to do a comparison later between a stereo pair of Beyer MC930s we have set up and the SoundField.”

We asked Kelly what the approach to mixing would be: “I always try and mix as if I was

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/ Students compared a SoundField and ORTF pair

sitting in the middle position of the stalls, in terms of width and depth. The mics will likely be panned as you see them in terms of stereo width — but the theatre ambience will determine the amount of reverb we apply — a bit less on the fronts, probably. I always try and encourage students to visualise the stereo image.”

How might they solve any phase problems from the vertically-hung, small-diaphragm RØDEs? “One of the first things we’ll do tomorrow is discuss phase relationships,” explained Kelly. “There’s a nice little plug-in

called Auto-Align from Sound Radix (reviewed, *Resolution* V15.6). I’ve never been very keen on just manually sliding audio around on a time line — it’s a bit hit-or-miss — I want to demonstrate to our students with the Sound Radix the importance of phase-aligning audio exactly. When we record this orchestra at the Cadogan Hall in London, we only hang four microphones, so six mics overhead will add a bit of an extra challenge. One of the things we try and impress on the students is just how much a venue can add (or subtract!) from the orchestral sound.”

Transferring the skills

“The main thing I think I’m going to take away today are the transferable skills,” said Brandon Wilkins, a student from Perth College UHI. “For example having the confidence to try new techniques, and working and communicating with other people. As an aspiring film and TV composer, seeing the orchestra live and seeing how the different sections work together as a unit, the insight I’m getting from that is really valuable. It’s been really humbling to work with such talented musicians and the group that I’ve been working with... their expertise has been invaluable to me.”

For spot mics, a stereo pair of RØDE NT5s were set up on the woodwind section, in an ORTF configuration. There was a small diaphragm AKGC430 looking down centrally on the Timpani, and several other spot mics at the back because of the amount of percussion in evidence — a glockenspiel, tam-tam and some snares — it was Tchaikovsky, what do you expect? To cater for solos, an AKG C214 was dedicated as an instrumental spot mic. “Last night we had violin, trumpet and vocal solos — the mic position is always a little bit of a compromise,” said Kelly. “We need to identify a location which is least affected by any movement of the soloist.”

“It’s amazing to be able to record and mix an



/ Spot mics on percussion

orchestra,” confirms Micheal Shaw from Abertay University, Dundee. “I’ve been stuck in Abertay working only with Abertay students — and mainly gaming students — so the opportunity to be able to work with people who are taking totally different courses, to hear what they say, share ideas, and to talk about sound is amazing.” This was a persistent theme echoed by other students selected for the course. “This is an amazing opportunity to enhance and improve your skills with live sound recording,” enthused Isaac Roman Espinaco, from the University of the West of England, Bristol. “I love this crossover between studio recording and live sound... also to increase your network, work with other people at the venue, make decisions, it’s all quite amazing.”

Recording at the venue was to Pro Tools 2018. A Midas Venice F32 desk was used as pre-amp array to get 24 mic channels into the DAW. The channel mic pres on the Venice are transformerless, discrete component variations on the circuit used in well-respected larger Midas consoles such as the XL4 and Heritage Series. A small green Firewire button on each channel strip on the F32 routes individual preamp outputs to the rear-panel I/O FireWire 44.1kHz/48kHz card. “Very quiet and very neutral sounding,” is Kelly’s verdict on the Midas sound. “We have previously recorded a jazz band where we did provide some monitoring on stage from the F32, but most of the time we use the console as a bunch of mic pres, with the option to add a little bit of EQ if required.”

The time-pressure and constraints of working with a large professional orchestra helped students to learn teamwork as well as technical skills. “The whole idea of this course is to give you an example of the real world, the freelance experience where you’re turning up having to work with a group, for people that you’ve possibly never met before. We see this interaction element as so important,” confirms



/ The RPO perform at Cadogan Hall in London

Tony Andrews of JAMES. “I’ve had a bit of background in live events in general, but this has been hands-down the most positive learning environment that I’ve been in over the last two to three years,” said Harry Knight, from Anglia Ruskin University Cambridge, “we’ve been dropped into the real world. It’s more of an adventure of learning with positive mind-sets and the enthusiasm behind it all.”

Several students who lacked experience of live music found the experience motivational: “Primarily I’ve always been studio-based producer, so it’s very interesting to see the difference between working in the studio and working live,” said Lauren Simm, from the University of Central Lancashire, Preston. “This is so much more high-paced than what I’m used to, and this is the first live recording I’ve

ever done! From this, I know I’d definitely like to get more involved with live recording.”

Impressing in the Orchard

The most impressive aspect of this project was the reality of pro-audio and pro musicians working synergistically with academics and students. An (often justified) criticism from pro-audio is that academic institutions are behind the curve, deploying teachers with no industry experience instructing hapless students with inappropriate techniques. The guys at The Orchard Theatre proved this stereotype conclusively wrong. Huge credit to Andrea Healy for involving the RPO, an orchestra of such quality that only a handful of professional engineers will have had the benefit of recording. Credit to Gary Kelly, encouraging students with a pragmatic mic setting which made the best of a rather low-budget (in orchestral terms) mic locker. There’s sure to be more to come from this team with Healy working on a future project with Sony Interactive Entertainment Europe and the RPO. And, of course, huge credit to JAMES, who’ve taken their successful summer school ‘of rock and pop’ model, and adapted the workflow to the orchestral experience.

“It’s given me the confidence to get into the industry, and to look at live sound rather than the studio-based option” said student Amy Ho, from the University of Hertfordshire. Harry Knight, Anglia Ruskin University Cambridge, also applauded the course: “You couldn’t do this without the thorough run-through of technical, equipment and production side of things. These things are the difference between make or break. Andrea and Gary nailed the key features and aspects of what you need to be fed before you go into the live area.”

<http://bit.ly/UOS-Music-Production-Course>

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/ (L-R) Tony Andrews, Andrea Healy, Gary Kelly