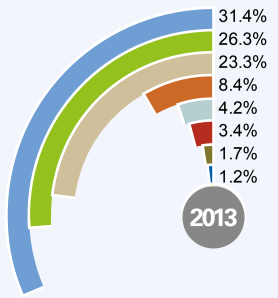
	2008 – 2013 (%)
nagers	(11.9)
ket sales workers	(2.4)
als	0.5
ssemblers	1.0
	3.4
	6.9
	8.0
	11.8
	3.6

occupations in the mining sector (2014) (%)



d machine operators and assemblers ■ Elementary occupations
nals ■ Professionals ■ Legislators, senior officials and managers

Unequal relations between occupational groups

The trend towards increased employment of high-skill occupations, as opposed to intermediate-level skills, deserves some attention. This is not necessarily a problem, but the relation between high and mid-level occupations has historically been contentious in the sector. Not only does a large earnings gap exist, but the sector's history

inequalities between occupational groups in the sector.

reveal that this relationship continues to be characterised by racial and gender inequalities that contribute to the maintenance of occupational hierarchies.

Trends such as these have implications for labour relations in this sector. However, rather than reverting to the traditional characterisation of labour unrest relating mainly to wage disputes, it is time to elevate the discussion to other factors, namely how structural inequality perpetuated in the workplace can be better identified and addressed. Studies on occupational milieus and identities have the potential to do so in allowing for the examination of the underlying sociological drivers of labour market change – issues such culture, discourse and work identities associated with a particular occupation.

Under such an overarching theme, the study on artisanal occupational milieus and identities focused on studying the nature and shifts in boundaries between occupational groups. Thus, in facilitating an exploration of not only the extent but also the nature of change in the demand and supply of skills, the study also illuminated structural inequalities between occupational groups in the sector. Consequently, rather than just identifying the location and existence of structural inequalities in the labour market, the study allowed a better understanding of the underlying factors that continue to drive structural inequalities between occupations.

Authors: Dr Angelique Wildschut, senior

Connecting capab

TO REACH THE GLOBAL SCIENC TECHNOLOGY FRONTIER

The Square Kilometre Array (SKA) telescope provides an exa effectively connect pockets of excellence in the national syst and align these with the skills and knowledge requirements o has helped the SKA to attain the critical mass and knowledge to compete at the global level, *Michael Gastrow, Glenda Krus Petersen* found as part of a large study on labour markets in

The study forms part of the HSRC-led Labour Market Intelligence Partnership (LMIP) project that aims to set up labour market intelligence systems to enable the government and the business sector to better plan to meet skills development needs.

In the process of determining what was needed for better planning, it became clear that the inequality that characterised South Africa's economic and education systems posed a challenge for policy-makers seeking to reap the benefits of the knowledge economy. However, within this unequal system, there existed pockets of excellence where resources, networks and skills were concentrated.

One objective in such a structure is to effectively connect these pockets of excellence, and align them with the skills and knowledge requirements of employers to attain the critical mass and knowledge intensity to compete at the global level – thus leveraging existing

Creating networks to build knowledge and skills

The Square Kilometre Array (SKA) telescope provides an example of such an achievement, and may provide lessons for science and education policy-makers. The SKA is a large radio telescope, currently in the design phase, which will ultimately consist of a network of 3 000 large radio receiver dishes and tens of thousands of smaller receivers constructed in aperture arrays. It will be built mostly in South Africa, with components in Botswana, Ghana, Kenya, Madagascar, Mauritius, Mozambique, Namibia and Zambia, as well as Australia and New Zealand.

The SKA has also necessitated the formation of a global innovation network with universities, research institutes, science facilities, firms and government agencies from 11 SKA partner countries, collaborating to develop the advanced technologies required to design and build the

High-level skills are required for the Square Kilometre Array. Herewith an artist's impression of the full SKA at night.
Credit: SKA SA

…nnect these … and align …d knowledge …yers.'

also critical – as precursors to formal interaction, as efficient communication 'short cuts', and as channels for the exchange of tacit knowledge.

The main university partners of the SKA include South Africa's leading research universities, drawing on all the substantial pockets of excellence relevant to astronomy and related engineering and ICT that are distributed throughout the higher education system.

development, student support and fundraising, provide the organisational competencies to support the development of niche areas of expertise and strong interactive capabilities within academic departments and research groups.

These niches have been highly responsive to the changing needs of the astronomy sector and the SKA: new curricula and courses have been

requirements of the SKA, and strong informal relationships have been built with the SKA, as well as other actors in its innovation network, such as firms and science facilities. The strong interactive capabilities present at these universities thus form a critical part of the total interactive capability the SKA's innovation network.

Universities also play intermediary roles that contribute to their overall

…capabilities.'

nationally co-ordinated postgraduate programme based at UCT that includes teaching and supervision from all the universities active in astronomy in South Africa. Through this the NASSP aims to make the most of South Africa's uneven and fragmented competencies and capabilities in the space science and astronomy domains. The NASSP steering committee and the structure that determines its curriculum include both SKA representatives and university academics, and are therefore important fora for these actors to create alignment and inform curriculum development that meets future skills requirements.

The structure and characteristics of interactive capabilities differ across academic disciplines and research fields. In astronomy, interactive capabilities are largely vested within individual academics and at the departmental level. In engineering, faculty structures are critical, and provide examples of good practice in terms of responsiveness to the requirements of the workplace, including close relationships to the engineering professional body, and the encouragement of direct interaction with employers. For example, the provision of one day per week for engineering academics to work externally has made it possible for academics at a leading research university to consult for firms in the SKA's innovation network and supply chain. This has also allowed them to form their own start-ups, often in partnership with postgraduate students or postdoctoral fellows, to participate in these networks and contribute to the SKA's technology development efforts.

Engaging colleges for better quality graduates