

KNOWLEDGE ECONOMY PARTNERSHIPS 2014

End of Project Report

1. PROJECT DETAILS

Project title & reference	PANJAB UNIVERSITY STUDY TOUR
Name, position & institution of contact completing form (we may contact this person to discuss the report further)	Dr MANMOHAN GUPTA Professor of Physics Co-ordinator CRIKC
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Project website	crikc.puchd.ac.in

Please use totals for the project as a whole in the below boxes.

PROJECT STATISTICS	Numbers
Total number of core project team members involved in UK & India	06
Number of Exchange visits and visitors	UK to India: Visits –04 Visitors - 15 India to UK: Visits – 02 Visitors – 15
Number of academic staff involved in & benefitted	14
Number of other beneficiaries (students, administrators, external body, etc) involved in or benefited. Please include who these individuals are.	Please see Report
Number of publications or media mentions (if any)	Quite a few. Please see Report
Has the project been working directly with a government ministry, department or industries or corporates? If yes, please state which one(s)	NA
Additional funds received in the last 12 months. Please state funding source, amount (GBP) & if money is available directly or for wider related activities.	Approximately 11000 (GBP). Govt funding only for visits

2.0 Project Achievements and Highlights

Please complete the table below detailing the extent to which the project project has achieved the objectives set out in the application form at the inception of the project.

Objectives \ Achieved?	Not achieved	Partially achieved	Achieved	Exceeded	How have and/or will stakeholders (for donors, partners) and beneficiaries (for example students, farmers, nurses) benefit from the achievements realised?
a. Developing alliances between CRIKC institutions and UK Universities				The visits of CRIKC delegations have already let to concrete results in the form that MOU has already been signed on 11 th March 2015 between Panjab University (on behalf of CRIKC) and University of Nottingham. Another MOU is going to be signed between Brigham University and CRIKC institutions. Lot of interests has been shown by other UK institutions to forge alliance with CRIKC institutions.	The signing of MoUs between CRIKC and UK Universities would lead to large scale exchange of ideas, exchange visits of Faculty / Scholars / Students. The possibility of creation of joint centres of excellence can also be realised through these exchanges.
b. Learning about industry and academia interactions			One of the aim of the visits of the CRIKC delegations was to learn about the industry academia situation in UK in this connection apart from the visits to UoN and BoU and Cambridge, the visit to NCUB was very useful in learning about the latest development in this direction.		Government of India is very much interested in promoting Industry Academia interactions. The UK exposure in this direction will lead to many positive results.
c. Learning about Research Practices in UK institutions			The interaction in various Universities with various research groups have made the CRIKC delegations about the collaboration possibilities in various research groups. The CRIKC institutions will leverage this information to go for various collaborative research efforts.		Faculty members of the CRIKC institutions are already planning to have project specific collaborations.

Besides the above mentioned objectives the visits also realised the following:

1. City to City interaction, the second visit of the CRIKC delegation lead by Professor Arun Kumar Grover, Vice-Chancellor, Panjab University, Chandigarh, included Chandigarh City Officials Mr. Sandeep Hans who had extensive detailed discussions with the Nottingham City officials who showed keen interest to visit Chandigarh which was done during their visit on November 23-25, 2014.
2. Both the delegations had extensive interaction with Indian Diaspora who in turn assured their support for any collaborative efforts between UK universities and CRIKC institutions.
3. These visits also generated interests between Industrialists from UK and from India.

Briefly summarise the project's highlights during the lifespan of the project.

The delegation visits have revealed that there is a great deal of interest on both sides for wide ranging engagements involving collaborative projects to exchange programmes. Please see the Report for details

2 ENHANCED CAPACITY & IMPACT

Tell us about how the project has increased staff and/or institution's capacity (for example, in terms of teaching and research capability, technology, quality, innovation, etc). Please include or attach brief examples, feedback, testimonials and reports if available.

The interaction with UK universities has greatly impacted the thinking of many of us in the CRIKC institutions. In fact, CRIKC institutions and UK universities can jointly develop centres of excellence which would be at par with the best in the world.

Describe how the project work has been used to influence changes in policy or practice within your institution, within governments or in other organisations.

The university is definitely thinking in bringing in some of the practices regarding Industry – Academia interaction.
The exchange of faculty/students/scholars and holding of joint seminars/workshops very much on the cards.

What was the greatest benefit of the project to the Indian partner(s)?

Awareness about several UK-India funds which can be used for collaborative projects.
Recognition of CRIKC as a facilitator of interaction between institutions of higher education and research on both sides.
Many areas of research were identified which were joint projects/programs could be executed.
Laying the foundation for exchange of faculty/scholars/students.

What was the greatest benefit of the project to the UK partner(s)?

Availability of the large pool of CRIKC scientists for collaborations. The young amongst these are available for Post-doc positions in UK.

Firsthand knowledge of CRIKC as a platform for collaboration and for forging

alliances with more than fifteen institutions of higher education and research.

CRIKC as a facilitator for UK students to spend time in Indian institutions.

Building bridges with the Indian Diaspora in UK

Awareness about possibility of Indian students going to UK for higher studies

4 FINANCE AND ACCOUNTABILITY

Please report a financial report listing the estimated expenditure and the actual expenditure. No supporting documents like invoices or receipts to be submitted unless asked for by the British Council.

5 ADDITIONAL INFORMATION - any information that you wish to share and have not had the opportunity to express in the report, please outline here.

The British Council should appoint a person to co-ordinate activities of CRIKC and the council so that we can proceed forcefully to realize the potentialities of the program.

6 BRITISH COUNCIL INFORMATION

How could we better support you in future? What could we do differently?

The council should keep funding such programs. If need be, this can be discussed in more details.

Thank you!

Report of U.K. visits by CRIKC delegations (Under Knowledge Economy Partnership)

(June 23rd – 28th, and 26th Aug -3rd September 2014)

Two visits by Panjab University and other CRIKC institutions faculty members were organized under the initiative of British Council and Panjab University. The delegation consisted of the following members:

First Visit

1. Professor A K Bhandari, DUI PU Chandigarh (Leader of the delegation)
2. Professor Rupinder Tewari, Dean Science Faculty
3. Professor Ronki Ram Dean Arts faculty
4. Professor U Shivhare Dean Engg Faculty
5. Professor Renu Vig Director UIET
6. Professor Manmohan Gupta (Convener)
7. Professor Manoj Arora Director PEC University of technology
8. Dr R S Sangwan CEO Centre of innovative and applied Bio-processing (CIAB))

Second Visit

1. Prof. Arun K. Grover, Vice Chancellor, Panjab University (Leader of the delegation)
2. Sh. Sandeep Hans, Special Secretary, Technical Education, Chandigarh Administration
3. Dr. Girish Sahni, Director, Institute of Microbial Technology, Chandigarh
4. Prof. Manoj K. Arora, Director, PEC University of Technology, Chandigarh
5. Prof. Anil Monga, Dean Alumni Affairs, Panjab University
6. Prof. J. S. Bagla, IISER, Mohali
7. Dr. Sameer Malhotra, PGIMER, Chandigarh

The first delegation visited the following institutions.

1. June 24: Univ. of Birmingham, Birmingham
2. June 25: (i) National Centre for University Business (NCUB) London
(ii) School of Asian Studies (SOAS) , London
3. June 26: Univ. of Cambridge, Cambridge.
4. June 27: Univ. of Nottingham, Nottingham

General Observations: CRIKC delegates were received warmly by all the institutes. Each institute had a clear cut schedule. Formal lunch by pro- VCs was hosted at University of Birmingham (UoB) and University of Nottingham (UoN). All institutes are open for collaborations at Ph.D. and Post Doctoral level as well as for exchange of faculty.. Hosts suggested some ways of seeking funds, for the visit of scholars, by agencies like Newton

Funding, Wellcome Trust, and Bill Gates Foundation etc. Each Univ. has lot of flexibility/freedom especially University of Cambridge.

1. **Univ. of Birmingham:** Formal presentation was made by UoB. Visited a few departments. Strong biomedical Centre having high end instruments. Chemical Engineering. Department excels in energy programmes. Full-fledged Industry- Institution Centre. Happy to have tie ups with PU.
2. **Univ. of Cambridge (UoC):** No formal presentation was made on behalf the university. Prof. S. Saxena (Physics Deptt.) gave a bird's eye view of the functioning of UoC. This Univ. has Annual system of examination! Teacher student ratio is 1:2! Heavy emphasis on tutorials. Presentation on Industry –UoC linkages was made. Many industrial units have centres in the campus. Boundaries between industry and academia, on campus, seems blurred. It has a very good blend of Industry and academia on the campus. Each faculty member is totally independent to have collaboration with anyone.
3. **Univ. of Nottingham:** Formal presentation was made by UoN. Established Univ. campuses in China and Malaysia. Chris Rudd (Pro-VC) spent lot of time with delegates. The delegates did not visit any department, but there were lots of presentations by various professors belonging to different streams. Well established Industry- Academia Cell. Mr Hardev Singh (from International Cell) keen on establishing collaboration with PU. Chris Rudd and Hardev liked proposal of assisting each other in industry matters e.g. Industry problems which PU cannot solve or work on, will be forwarded to UoN. And UoN will do the same for PU. In addition, if an industrial work taken up by UoN is feasible in PU and is less costly, may be transferred to PU. UoN is good in Food Technology. Our Chem. Engg. Department and BPU (Mohali) can go in for collaboration with them.
4. **National Centre for universities and business (NCUB):** A short presentation was made by Dr Graeme Reid, Strategic Advisor NCUB, followed by detailed discussion on how UK is planning to handle Industry –academia interaction. NCBU would be happy to establish links with similar efforts being carried out in India, in particular the Policy Research provide us with Science Policy of UK, if request routed through the British Council.
5. **London University (SOAS):** Interacted with a Professor Gurharpal Singh a senior professor of Indian origin. He is very keen to work with PU on political and societal aspects.

Conclusions:

- (i) **The visit revealed several interesting areas of collaborations with the UK universities and their keenness to forge alliances with PU.**

- (ii) Identified several areas where collaborations can be carried out with UK institutions.
- (iii) UoN and Birmingham University were found to be keen to collaborate with PU on a wide spectrum basis.
- (iv) In the follow up visit, the plan was to identify areas where we can work together and lay the foundations for MoU's to be signed.

It was also resolved that in the follow up visit to be led by Prof Arun Grover, keeping in mind the KEP Programme of British Council, the emphasis would be on the following:

- i. Develop alliances with UK Universities like University of Nottingham, University of Birmingham etc.
- ii. Explore partnership of Chandigarh Region Innovation and Knowledge Cluster (CRIKC) institutions with the UK Universities.
- iii. Explore research collaborations in specific areas of science and technology.
- iv. Explore possibilities of faculty/scholar/student exchanges between CRIKC and UK universities.
- v. Explore partnerships with UK Universities for Centre for Policy Research in Industry-Academia collaboration.

Follow up Visit (Aug. 26- Sept. 2, 2014)

Visit to Indian High Commission, London, Aug. 27, 2014.

The delegation had a meeting at Indian High Commission, London, at 4:00pm on Aug. 27, 2014. The meeting was chaired by Sh. Virander Paul, Deputy Indian High Commission and lasted for more than one hour. The meeting was attended by Prof. Grover, Sh. Sandeep Hans, Prof. Arora, Dr. JS Babla, Dr. Sameer Malhotra from the Indian side. The Indian High Commission assured their full support for any collaborative efforts by CRIKC institutions and UK institutions.

On behalf of the delegation, Prof. Grover, explained the purpose of the visit to Mr Paul, who got very excited about this initiative. He promised that the Indian High Commission would provide full support to such initiatives in education sector and in particular referred to the 150 million pounds Newton Bhabha fund, which will be announced soon. In this programme, the Indian scientists would be able to receive grants in association with UK counterparts for research and development activities cutting edge technologies. Mr Paul deputed Mr. Pankaj Sharma, Consul in Consulate General of India, Birmingham, to participate in the discussions of the delegation with the University of Birmingham.

Visit to University of Nottingham, Nottingham (Aug. 28 – Aug. 31, 2014).

During the afternoon of Aug. 28, 2014, the delegation visited Nottingham City Council to have discussions on the upcoming Sports Complex in the Nottingham City. Panjab University also plans to build a similar type of sports complex at the campus, which could augment the needs of sports facilities of various academic institutions and research organisations in Chandigarh. Having an infrastructure like this will surely provide a boost to the sports activities in Chandigarh region.

In the evening of Aug 28, 2014, the delegation was invited to Indian New Art Exchange to interact with Indian community who have made exemplary mark in Indian art and theatre. There were exchange of information between Prof. Grover and the Indian New Art Exchange group to promote theatre and cultural relationships between CRIKC institutions, in particular, Punjab University and the Nottingham Indian community. The interaction was followed with mesmerizing performance by the artists. The delegation was overwhelmed by the performance of Bernhard Schimpelsberger who used a number of non-conventional music instruments to play a number of songs from all over the globe.

The meeting in University of Nottingham was coordinated by Ms Min Rose, Senior Executive, Asia Business Centre, Business Engagement and Innovation Services, University of Nottingham. The delegation reached University of Nottingham in the morning of Aug. 29, 2014 and met the pro-vice chancellor Prof. Hai Sui Yu. After providing an overview of the University of Nottingham, Prof. Yu emphasized that the university has always been a research led university and have produced two Noble Laureates (one in medicine and the other in economic sciences). Prof. Grover, as the leader of the delegation, talked about CRIKC and emphasized the need of pre-PhD courses and PhD training to give boost to research in India. He appreciated the existence of a PhD training institute at the University of Nottingham and corroborated the need of such institutes in India. Prof. Grover and Prof. Arora also threw light on the usefulness of post-doctoral fellows in the university, who act as solid link between the faculty and doctoral students. The postdoctoral research does require a boost in Indian universities to take cutting edge research forward.

The delegation then went to Hayden Green Institute for Innovation and Entrepreneurship to attend a meeting with the Heads of various research groups of the University of Nottingham from different disciplines at 10:00AM. The meeting started with presentations from Prof. Grover, Dr. Girish Sahni and Prof Manoj Arora. Prof. Grover talked about CRIKC and threw pointers on how CRIKC institutes can engage in research with different groups at Nottingham University. Dr. Sahni's presentation was on the discovery of new medicine. He emphasized the need of filing patents in order to make scientific research useful for the society. Prof. Arora's talk focused on collaborations between the CRIKC institutes and Nottingham University in Engineering sciences. He said that there is scope for collaboration between the two institutes in a number of ways,

Teaching

- Dual Degree PhD Programmes in select areas
- Joint Master of Engineering/Science programmes in select areas
- One semester Internships at University or Industry in the city
- Full semester study of courses (Student Exchange)
- Teaching by faculty for one semester as Visiting Faculty (Faculty Exchange)

- Writing joint research proposals and bidding for NERC, UKERI, Newton India and any other such programmes

Industry

- Identifying product and design based joint research problems through industry participation
- Starting of incubators and spin off companies at universities through industry involvement

The presentations by Indian delegates were followed with a number of presentations from the Nottingham University. Dr. Tucker, from School of Biosciences talked on Crops and Soils, crop improvement and genetic diversity. Dr. Phil Williams from School of Pharmacy spoke on biophysics, surface analysis, biomaterials and 3D printing of formulations. Dr. Andy Long, Dean of Engineering, provided an overview of various engineering faculties at the university. He stressed upon the usefulness of the ongoing foundation engineering courses, which prepare the students for different engineering programmes. Steve Hardy talked about prevailing research and graduate services at the university. The key research areas identified are,

- Sustainable Societies
- Health and Well Being
- Culture and Communication
- Digital Futures
- Transformative Technologies

Clearly, all these areas are multi-disciplinary, and therefore the university has a beautiful concept of establishing of multi-disciplinary institutes at the campus. One such institute is the Institute of Geospatial Sciences, which work closely with the faculty of engineering, faculty of science and faculty of social science. Clearly, the aim of these institutes is to work on current research and consultancy problems in multi-disciplinary areas. These institutes work closely with academic departments.

George Rice spoke on technology transfer and support to spin out companies at the campus to promote academic-industry linkages, innovation and development. Prof. Arora then described that already a number of research groups having common interests at both ends have been identified. The research proposals from about 10 such groups were handed over to their International Officer to initiate the networking between the groups. These research proposals are given in Annexure I. Immediately, after the interaction, the research group from Institute Geospatial Institute came over and had discussion with Prof. Arora, Mr. Paul Singh Bhatia, Prof. Stuart Marsh and Dr. Andy Sowter participated in the discussions. They showed keen interest in pursuing joint research in the area of Glaciology, Hyperspectral Remote Sensing, and ongoing Grace programme. They were keen to visit Chandigarh during their next visit to India under their ongoing collaboration. The international office of University of Nottingham shall be contacted again to take the research collaborations between different research groups forward.

The meeting was followed with a lecture by Prof. Grover on the topic, as announced at

[http://www.nottingham.ac.uk/business/businesscentres/hgi/events/how-collaboration-between-academic-institutions-in-india-and-the-uk-can-promote-trade-and-investment-in-both-countries.aspx?utm_source=Special+seminar+list&utm_campaign=083e5440d4-Seminar August&utm_medium=email&utm_term=0_6288f113c5-083e5440d4-138366457](http://www.nottingham.ac.uk/business/businesscentres/hgi/events/how-collaboration-between-academic-institutions-in-india-and-the-uk-can-promote-trade-and-investment-in-both-countries.aspx?utm_source=Special+seminar+list&utm_campaign=083e5440d4-Seminar+August&utm_medium=email&utm_term=0_6288f113c5-083e5440d4-138366457)

The lecture was attended by more than 100 people from across business community, academicians, researchers and students. The Sheriff of Nottingham graced the occasion with her presence and applauded the initiative between the two groups of institutes and the Nottingham City Council. In between, Dr. Sameer Malhotra, visited Queens Medical Center and City Hospital to have interaction with the medical science group.

On August 31, 2014, Dr. Nigel Trodd, Professor and Associate Head (Business Development and Internationalisation), **Coventry University**, drove from Coventry to Nottingham to meet the delegation for potential collaboration in some thematic areas of interest. The meeting was held in St James Hotel and lasted for about 3 hours. Prof. Grover, Prof. Girish Sahni and Prof. Arora participated in the discussions. Dr. Trodd, after providing an overview of ongoing research activities at the Coventry university, listened to aim and purpose of the delegation, and immediately got interested in having collaboration in following thematic areas to start with,

- Health and Life Sciences
- Environment and Disaster Management.

In fact, as soon as the delegation returned to India, an email (extract given below) was received by Dr. Trodd to start the collaboration in one of the above thematic areas.

In the afternoon of Aug. 31, 2014, Sh. Hardev Singh took Prof. Grover and Prof. Arora to the Notts County Football Club, the Worlds oldest football league club, to have a look at the sports facilities, keeping in mind the aim of the Panjab University to enhance the sports facilities in Chandigarh region as stated earlier. The delegation had a tour of the facility, which was guided by Damien Irvine, Commercial Director. The discussions concluded with the urge of having such a facility in Chandigarh also, keeping in view of the Indian Football League and the craze of this sport in India, in general.

Visit to University of Birmingham, (Aug. 31 – Sept 2, 2014).

The delegation travelled to Birmingham in the afternoon of Aug. 31, 2014. After checking-in the hotel, there was an informal meeting of the delegation with Panjab University alumni in the meeting room of the hotel.

The meeting in University of Birmingham was coordinated by Mr. Wu Wen Wei, International Development Manager (East Asia). The delegation reached in the morning of Sept 1, 2014 to **Muirhead Tower Hospitality Suite** University of Birmingham, for academic meetings with various research groups in University of Birmingham. The whole day session was chaired and coordinated by James P. Warren, Business Development Manager (Education), College of Engineering and Physical Sciences. Mr. Priyank Sharma, a key person who looks into activities on research and knowledge transfer from UoB side was also present throughout the day. Also present was Mr. Pankaj Sharma, Consul, Consulate General of India, Birmingham, from Indian High Commission Side. The meeting was planned based on the research proposals sent by Prof. Arora to Mr. Wu Wenwie in the month of July-Aug., 2014, as a follow up of the 1st UK visit of the delegation during June, 2014. Thus, many of the research groups from the UoB side were also present in this academic meeting, as can be seen from the programme given in Annexure II.

The meeting started with a presentation by Prof. Grover, as the leader of the delegation, who talked about CRIKC and emphasized the need of research collaboration between the two sides. Prof. Grover threw pointers on how CRIKC institutes can engage in research with different groups at Nottingham University. Prof. Arora's talk focused on collaborations between the CRIKC institutes and UoB in Engineering sciences. He said that there is scope for collaboration between the two institutes in a number of ways,

Teaching

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- Writing joint research proposals and bidding for NERC, UKERI, Newton India and any other such programmes

Industry

- Identifying product and design based joint research problems through industry participation
- Starting of incubators and spin off companies at universities through industry involvement

This was followed with research group wise presentations from the faculty of UoB. Dr. Kiran Gulia, Laser Technical and Research Manager, School of Metallurgy and Materials, spoke on Advanced Materials Development, Processing and Characterization. She specifically talked on Biomaterials, Photo polymers, Lasers, Metals and Plastics and their usage in Automotive and Aerospace industries. Mr. Priyank Sharma indicated the collaboration between the material research

groups on two sides and suggested to explore the possibility of funding through Horizon 20 programme. Dr. Gulia is a Scottish from Indian origin and was very keen to interact with the Indian material science group. She went on to the extent by saying that now it is payback time and she would volunteer to assist Indian Universities in carrying forward the research in this key area. She showed willingness to visit Chandigarh in near future.

In between, Dr. Samir Malhotra left for College of Medical and Dental Sciences to have discussions with the medical science group. The meeting was coordinated by Dr. Sarah Knaggs, Manager of Postgraduate School and Dr. Junying Jia, International Project Officer.

Dr. Rami Bahsoon, Computer Science, gave a presentation on Search Based Software Engineering, Analysis, Testing and Verification, Computational Intelligence in Software Engineering. He spoke on research in the area software architecture, software testing, cloud software engineering and large scale distributed software systems. He also mentioned that the department of computer science of UoB is rated as 5th in UK and was number one last year. He continued to speak on software testing for security, economical models in software testing, regression testing etc. He showed willingness to interact with software testing group in PEC University of Technology, as there are many common areas of interest where joint research can be carried out.

Professor Stefan Dimov, Head of Advanced Manufacturing Technology Centre, School of Mechanical Engineering, threw light on the research in the area of Advanced Manufacturing Technologies and Composite Manufacturing. He emphasized on the need to doing homework through mutual interaction between the two counterparts to identify key areas of mutual collaboration with a focus on Indian manufacturing technologies that have impact in India. Thus, the research proposals can be suitably revised and submitted to the funding agencies for faculty and postdoctoral exchange programmes.

Dr. Neil Cooke, spoke on behalf of School of Electronic, Electrical and Computer Engineering, as an Interactive System Engineering Group leader. He said that there are 8 full time academics and 40 researchers in this group, who are working in wide areas of research, which include,

- Signal processing
- Ergonomics
- Eye tracking technology
- Speech Recognition
- Brain Signal Processing
- Image Processing
- Digital Heritage

He also discussed opportunities for funding from EPSRC and Defence Organisations. He was keen to have collaboration with Indian counterparts and stressed on the need of conducting joint research seminars as a first step towards writing joint research proposals for funding. The seminars can be held through Skype or in the form of workshops at different locations in Chandigarh or UoB. It is thus likely that the research groups on the two sides will take initiative in holding such workshops soon.

Professor Miles Tight, Transport, Energy and Environment Tutor, School of Civil Engineering, Highway Management and Engineering, talked on Transport Policy, Highway Engineering, Asset Management and Rural Road Provisions. Prof. Tight himself is a social scientist working as a faculty in the department of civil engineering. This clearly shows the openness in flexibility in hiring faculty members in different departments, which are conducting research in multi-disciplinary areas. In fact, all applied research is multi-disciplinary in nature and our university system should also allow this kind flexibility when it comes to the recruitment of faculty and staff in a department. He appreciated the need of having a Masters programme in Road Management Engineering. He also indicated that the Rail Research Center of UoB is doing lot of work in the area of Aerodynamics where the faculty from Aerospace Engineering at PEC may be interested. He said that the department would be willing to take students for internships. He also supported the idea of conducting joint workshops as a pre-requisite to writing joint research proposals by the two groups. Prof. Arora also mentioned that a faculty member in Transportation Engineering from PEC shall be visiting UoB during the middle of September, 2014 for a short term course and that the discussions can be taken forward then.

The meeting ended with a brief session that was attended by Professor Richard Williams, Pro-Vice-Chancellor and Head of the College of Engineering and Physical Sciences, and Peter Clack, Director, International Relations. The delegates from the two sides showed keen interest in starting collaboration in identified areas of research. The funding sources identified were Newton Bhaba, Horizon 20, UKIERI, Global Innovation Initiative (UK-USA-India) and EU funding. The concept of holding joint workshops was appreciated. It was also proposed that in order to write good joint research proposals, faculty from academic institutions in Chandigarh may sent for a short term visits for 4-6 weeks to have interaction with the UoB faculty. This will lead to producing good and effective research proposals with a focus on Indian needs.

After the debrief session, the delegation visited the Business Engagement Center of UoB, which acts as a link between the academia and industry. The visit was coordinated by Gurpreet Kler. She explained the role of the center in great detail. The Indian delegation was impressed with the functioning of the center in bridging the gap between academia and industry. At the time of visit, 30 companies were provided space in the center, where the students and faculty can interact with the industry professional to work on innovative ideas and do research on live problems that are relevant to the society. Some of the snapshots of the center are appended here. The Indian delegation strongly voiced the need to such a center in Chandigarh and requested the Business Engagement Center to share their business models.

Later in the evening of Sept 1, 2014, an informal discussion of the delegation was held with the Indian Business/Academic Community. The talks were general and mainly focused on the academic practices adopted in India and UK, the government education policy, role of NRIs in Indian education system etc. Mr. Pankaj Sharma, Consul, was also present in these discussions and ensured support from Indian High Commission in carrying the interaction forward.

Conclusions of the two visits:

- The universities of Nottingham and Birmingham are ready to have comprehensive MoU's with Panjab University on behalf of CRIKC institutions.
- There is good deal of possibility of collaborations between CRIKC and UK institutions on specific scientific topics by using the facility of Newton-Bhabha Fund and many such similar funds.
- CRIKC institutions can host students from UK institutions; details need to be worked out.
- The possibility of faculty/scholar exchanges needs to be explored further.
- Joint carrying out of teaching programs etc also needs to be explored further.
- Interestingly city to city interaction between Chandigarh and Nottingham can also be carried out.

Press Notes/Briefings

There were several press mentions; two of these are included here.

News Released by PTI on 27th June 2014.

A number of leading universities from Punjab are interested in making collaborations with the UK's prestigious University of Birmingham.

A delegation representing five institutions from the northern Indian state visited Birmingham this week to learn more about how UK universities operate, with the hope of exploring potential partnerships in the future.

"The University of Birmingham has a proud history of engagement with India, welcoming its first Indian student in 1909. Since then, the university has provided education for more than 1,000 Indian students across the institution's five colleges, including for high-ranking government officials," the University of Birmingham said in a statement.

The majority of the visiting academics came from Panjab University, a public state university located in Chandigarh and one of the oldest universities in India.

A number of leading universities from Punjab have expressed their interest in making collaborations with the University of Birmingham, a delegation member said.

The university was also ranked number one in India in the Times Higher Education (THE) World University Rankings for 2013-2014.

It coordinates a group of institutions around Chandigarh, known as the Chandigarh Region Innovation and Knowledge Cluster (CRIKC), to work together to promote and sustain excellence in research.

PEC University of Technology and the Postgraduate Institute of Medical Education and Research (PGIMER), members of CRIKC, had also sent representatives to Birmingham as part of a British

Council initiative to analyse how research is organised in UK universities and how links with industry are developed and sustained.

The visit comes as Lord Karan Bilimoria, the Indian-born founder of Cobra Beer, is set to take over as Chancellor of the University of Birmingham on July 17.

Peter Clack, Director of International Relations, University of Birmingham, said "We are delighted at this opportunity to share knowledge and experience with our friends from the Punjab and we hope that from this visit we are able to build further institutional links with the state."

A press briefing was held at about 1:00 pm, which was published in **Nottingham Times on Aug 29, 2014** with applause.

Business nottinghampost.com/business

Indian team bowl in with aim to build city trade links

By Richard Baker
richard.baker@nottinghampost.com

THEY'VE flown in from India, they'll be at Trent Bridge tomorrow and they're hoping for a great result.

But these aren't cricketers or cricket fans. They're a group of business people and academics who want to build trade links between Nottingham and Chandigarh, in northern India.

A visit to the one-day international cricket match between England and India is part of a three-day schedule of events that has been organised by their hosts, Nottingham City Council and Nottingham Means Business.

The 11-strong delegation began to arrive yesterday at Nottingham's St James Hotel, where they were welcomed by Chris Henning, the council's director of economic development, and hotel director Harjeet Johal – who is also a member of a forum which promotes trade with India for the Nottingham Means Business organisation.

The visit follows a similar delegation to Chandigarh by a Nottingham team, and Mr Henning says he hopes the reciprocal trip will pave the way for mutual investment.

"What we're doing is building a bridge between Nottingham and India and if we do that effectively, we'll see two things.

"One is investment coming from India into



Outside the St James Hotel – from left: Sam Hopwell, of Invest Nottingham; Mandj Arora, of Punjab Engineering College; Sandeep Hans, special secretary, technical education, in Chandigarh; Samir Maihotra, postgraduate Institute of medical education and research; Arun Kumar Grover, vice-chancellor of Punjab University; Chris Henning, director of economic development of Nottingham City Council; and Harjeet Johal, director of the St James Hotel.



CRIKC delegation at Birmingham University on 24th June 2014



CRIKC delegation at NCUB 25th June 2014



CRIKC delegation at Physics Department, Cambridge 26th June 2014



CRIKC delegation at Nottingham University on 27th June 2014



CRIKC delegation with Nottingham City Official on 28th August, 2014



CRIKC delegation at Nottingham University on 29th August 2014



Professor Arun Kumar Grover and delegates with Sheriff on Nottingham on 30th August 2014



Professor Arun Grover with Dr. Nigel Trodd of Coventry University on 31st August 2014



CRIKC delegation at University of Birmingham on 1st September 2014



CRIKC delegation with Indian Diaspora at Birmingham on 1st September 2014