

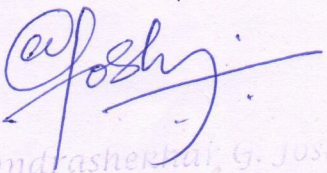
## REPORT

Report on participation of the ICMR International Fellow (ICMR-IF) in /training /Research abroad.

1	Name and designation of ICMR – IF	Dr. Chandrashekhar Gajanan Joshi Assistant Professor
2	Address	Department of Biochemistry, Mangalore University, Chikka Aluvara, Thorenoor post, Somwarpet, Kodagu- 571 232, Karnataka
3	Frontline area of research in which training /research was carried out	Tumor microenvironment and Epithelial to mesenchymal transition in Pancreatic ductal adenocarcinoma.
4	Name & address of Professor and host institute	Dr. Nagaraj Nagathihalli Assistant Professor Division of Surgical Oncology, Department of Surgery, Sylvester Comprehensive Cancer Center, University of Miami Miller School of Medicine, Miami, FL 33136 USA
5	Duration of the fellowship	Six months
6	Highlights of the work conducted Technique/ expertise acquired. Research results, including any papers, prepared/submitted for publication. Proposed utilization of experience in India.	See Annexure- 1

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Signature of ICMR-IF

  
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## Annexure- 1

### 1. Technique/ expertise acquired

I have studied the role of Tumor microenvironment and epithelial to mesenchymal transition in the progression of pancreatic ductal adenocarcinoma (PDAC) besides the effect of few natural compounds in the prevention of PDAC progression in vitro as well as in vivo. For this research work, various cell lines such as BXPC3, PANC1, MiaPaCa2, K8484 (*Pdx1<sup>cre/+</sup>;LSL-Kras<sup>G12D/+</sup>;p53<sup>R172H/+</sup>*), PC17, PC18, HPNE, HPNE-KRAS and HPNE-KRAS treated with NNK were used. *In vivo* studies were carried out in knockout mice for example KC (*LSL-KrasG12D/+;Pdx1Cre/+*), KPC(*LSLKrasG12D/+;Trp53R172H/+;Pdx1Cre/+*),PKT(*PtflaCre/+;LSLKrasG12D/+;Tgfr2flox/flox*) and iPK (*PtflaCreER; LSL-KrasG12D/+*) animals on top of athymic nude mice – Foxn1 *nu/nu*. During my visit, I have learnt different techniques like cell and tissue Immunofluorescence, immunohistochemistry, q-PCR, western blot, cell proliferation assay, wound healing assay, soft agar assay, genotyping, animal surgery, tissue sectioning using microtome, preparation of acinar cells, cytokine array and antitumor studies etc.

### 2. Research results, including any papers, prepared /submitted for publication

#### **a. Papers submitted for publication**

Totiger T, Srinivasan S, Jala VR, Lamichhane P, Dosch AR, Gaidarski III AA, **Joshi C**, Rangappa S, Castellanos J, Vermula PK, Xi Chen, Kwon D, Kashikar N, VanSaun M, Merchant NB, Nagathihalli NS. "Urolithin A, a



novel natural compound to target PI3K/AKT/mTOR pathway in pancreatic cancer". Manuscript submitted to *Molecular Cancer therapeutics*.

**b. Participated in the conference & was a co-author for poster presentation**

- i. Totiger T, Srinivasan S, VanSaun M, **Joshi C**, Shi C, Dai X, Dawra R, Gaidarski A, Nestler E, Merchant NB, Nagathihalli N. "CREB transgenic mice to study alcohol-associated pancreatic carcinogenesis". American Association for Cancer Research annual meeting, Chicago, USA from 14<sup>th</sup> to 18<sup>th</sup> April, 2018 (International Conference with approximately 50,000 delegates).
- ii. Totiger T, Srinivasan.S, VanSuan M, **Joshi C**, Shi C, Dai X, Dawra R, Gaidarski A, Nestler E, Merchant N, and Nagathihalli N.CXCL2 induces CREB and modulates alcohol induced pathogenesis of pancreatic cancer. Surgery day poster session, University of Miami, Miami, FL. USA on 10<sup>th</sup> May 2018.
- iii. Srinivasan.S, Totiger T, Shi C, Castellanos J, Lamichhane P, **Joshi C**, Dosch A, Kashikar N, Honnenahalli K, Ban Y, Merchant N, VanSuan M, Nagathihalli N. "Tobacco carcinogen induced GM-CSF production activates CREB to promote pancreatic carcinogenesis".19<sup>th</sup> Annual Zubaroid memorial Lecture and Sylvester Cancer Research Poster Session, University of Miami, Miami, FL, USA on 11<sup>th</sup> May 2018.



**c. Papers accepted for presentation in conference to be held in September 2018**

- i. Srinivasan.S, Totiger T, VanSuan M, **Joshi C**, Massagio F, Shi C, Dosch A, Kashyap M, Dawra R, Merchant N, and Nagathihalli N. "CREB drives pathogenesis of alcoholic pancreatitis." Society of Asian Academic Surgeons 3rd Annual Meeting. **2018**, 27th to 28th September. Medical College of Wisconsin, WI, USA.
- ii. Totiger T, Srinivasan.S, **Joshi C**, Shi C, Dai X, Gaidarski A, VanSuan M, Merchant N, and Nagathihalli N. "CREB is a critical oncogenic driver in alcohol-induced pancreatic carcinogenesis". Society of Asian Academic Surgeons 3rd Annual Meeting. **2018**, 27th to 28th September. Medical College of Wisconsin, WI, USA.

**3. Proposed utilization of experience in India**

**a. Research and Collaboration**

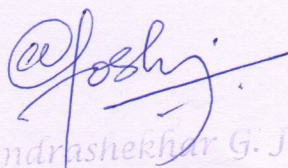
The techniques and knowledge gained in the University of Miami will enrich the research activity of my colleagues and students in Mangalore University. The interactions with faculty members, scientists and students of University of Miami helped me get the new ideas which I can explore and implement for further progress of research in frontier areas of pancreatic cancer research. The expertise acquired during the training period will be utilized for writing the projects and collaborative research. Pancreatic cancer is the less studied field in India and only few scientists are actively involved in this cancer research. Information extended during the training will help me carry out research in pancreatic cancer especially natural compounds in the prevention of pancreatic ductal adenocarcinoma (PDAC). Proficiency developed during my stay in USA will assist me to collaborate with the



scientists of University of Miami along with other institutes to carry out the research of international standard.

**b. Teaching**

The practical knowledge gained during the training programme will help me plan and teach the students of Mangalore University in depth. The ideas developed through the discussion with my mentor and other colleagues in University of Miami will aid me design the experiments of high quality which will be beneficial to research as well as MSc students. With the knowledge gained during the training program will improve my teaching skills as well as research quality.



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