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How were you drawn into virology and become familiar with the GVN?

After completing my baccalaureate in microbiology, I joined a master's program in clinical virology at the Manipal Institute of Virology, Manipal, India, where I trained in various realms of virology, including clinical virology, diagnostic virology, public health virology, and one health. After completing the master's degree, I worked as a research staff on multiple projects. For those three years, I was able to explore several virology domains and understand my field within microbiology. I joined a Ph.D. program to focus on developing modern tools for diagnosing viral infections and gained essential knowledge in arbovirology, identifying several research gaps, especially in antiviral and viral vaccines. Then I decided to focus on arthropod-borne viral zoonoses.

In 2019-2020, my institute became India's second GVN centre of excellence. That was my introduction to the GVN, and I realized the importance of GVN as an international body with eminent scientists. I understand there are few such institutions promoting virology research internationally, especially in low and middle-income countries. GVN is an excellent organization for sharing, transferring, networking, and exchanging ideas for anyone working in virus research, especially for early career researchers like me.

What do you hope to gain from—and contribute to—GVN's Rising Stars Mentorship Program?

I hope to benefit from the guidance and expertise of my mentor, who can offer insights and perspectives that I may not have explored or realized before. This fellowship can help me develop an action plan to achieve my objectives and provide feedback and encouragement. Additionally, the mentorship program offers a supportive environment for me to share my goals, challenges, and aspirations.

As a mentee, I can contribute to the program by sharing my experiences and insights with other mentees, participating in program events and activities, and providing feedback to the program organizers. This will foster a culture of learning and growth and help me build a supportive community. Additionally, sharing my insights and perspectives with my mentor may enrich their understanding of the challenges and opportunities faced by emerging professionals.

Overall, I believe the Rising Stars Mentorship Program is a perfect platform to learn, grow, and contribute to the professional community**.**

Research Interest/Professional Summary

My research interest is in public health virology and antiviral and viral vaccines, especially emerging and neglected tropical diseases such as Kyasanur Forest Disease (KFD). KFD virus (KFDV) is a significant public health concern in regions of southern India. The recent rapid spread of KFDV to neighbouring zones—from one Indian state to five Indian states—has made it an emerging viral disease.

Unfortunately, the existing vaccine's efficacy is low, having been developed in the late-1960s and 1970s. Developing a new vaccine for KFDV is an active area of research, with several candidates being tested in animal models. These vaccine candidates include inactivated or attenuated virus vaccines, DNA vaccines, and protein subunit vaccines. However, more research is needed to determine the safety and efficacy of these candidates in people.

In addition to vaccine development, there is ongoing research into developing antiviral drugs for KFDV either to treat KFD patients or as prophylaxis for individuals at high risk of virus exposure. Several antiviral compounds have shown promise in vitro or in animal studies, including ribavirin, favipiravir, and remdesivir.

Overall, developing a vaccine or antiviral for KFDV is a challenging but important goal, as KFD is a significant public health threat. Ongoing research into these interventions will be important for controlling the virus's spread and reducing the disease burden.

Overview of your current Institution

Manipal Institute of Virology (MIV), Manipal Academy of Higher Education, Manipal, India is a Biosafety level-2 (BSL-2) laboratory equipped with the latest and technologically advanced instruments. MIV has a state-of-the-art viral infectious disease diagnostic facility, a blend of classical and advanced methods, which provides the capability to detect 40+ viruses with an average turnaround time (TAT) of 24 hours. The varied research areas mainly focus on improving clinical diagnosis of viral diseases, surveillance of infectious diseases, and epidemiological studies, including molecular epidemiology of emerging and re-emerging viral diseases. The current thrust of research diseases and on developing strategies for newer and alternative treatment (prophylactic and therapeutic) modalities, platforms for testing antivirals, immunological profiling of viral diseases, and developing diagnostic kits and vaccines. MIV is a part of two major Translational Research Consortia projects related to viruses causing neglected tropical diseases such as chikungunya and dengue, in collaboration with national and international partners. MIV is also one of the key performers in the 'ENDFLU - Horizon 2020' project, which has seven Indian and seven European partners.

MIV offers a postgraduate course in clinical virology (MSc. clinical virology) and a Ph.D. program in virology, which is a focused, unique, competency-based program intended to create a new cadre of virologists. The centre also runs short courses and training programs, contributing also to a stronger public health cadre.