

## EDITORIAL

This is fourth issue of Journal of Nepal Physical Society (JNPS). We tried to change its layout keeping in mind that it should be of international standard. We try to make every issue as standard as possible. In this event I would like to thank all the supporters who helped us directly or indirectly to make JNPS as this level of standard.

JNPS is regular and only one peer reviewed Journal of Nepal Physical Society. The main objective of the journal is to highlight the recent findings in the field of Physics. We welcome original and high quality of relevant manuscripts in the different areas of research in physics. Physicists from Nepal as well as from abroad are requested to submit their research articles in the prescribed format electronically. This is one of the platforms, where we all can share ideas and make conclusions to every aspect related to physics. We encourage everyone to support in our endeavor to build and share the knowledge from the research activities in physics.

The major breakthrough in physics of year 2016 was the discovery of gravitational waves. Physicists around the world have announced the discovery of gravitational waves, ripples in the fabric of space time that were first predicted by Albert Einstein a century ago. This discovery completes the Einstein's vision of a universe in which space and time are interwoven and dynamic, able to stretch, shrink and jiggle. The report of Virgo Collaboration (Members of the LIGO group, a worldwide team of scientists, along with scientists from a European team) published in Physical Review Letters with more than 1,000 authors. It is hoped that the discovery of gravitational waves astronomy could start to answer questions not just about the life of stars but their deaths as well. The discovery helps to know the basic understanding of the Universe and opens new vistas into the "dark" side of the Universe.

We, in Nepal suffered from earthquake in 2015 which killed more than 8,800 people and injured nearly three times as many. It causes economic loss, suffered significant damage of important places. The prediction of earthquake is impossible but we have to think to develop devices which can forecast accurately and used to give warnings of several impending hazard events. Warnings of volcanic eruptions and earthquake hours and a day ahead have saved many lives and prevented significant property losses. Physicist around this territory should think for the development of modern technologies for the production of quality of materials useful like earthquake-resistant structures etc. and motivate individuals and groups from various disciplines to work toward measures for disaster reduction.

New breakthrough of 2017 is the "Negative effective mass of neutral particles". Scientists have created a fluid that exhibits the peculiar property of "negative effective mass" in an experiment that appears to defy the everyday laws of motion. Michael Forbes, a physicist at Washington State University and co-author (Journal Physical Review Letters, April 17, 2017) have actually created negative effective mass, which behaves just opposite to that of normal mass. If you push a ball, the momentum you impart upon it pushes it forwards in the direction of applied force.

Finally, on behalf of the Editorial team and executive committee of NPS, I would like to thank all the NPS members, supporters, and helpers for their esteemed support to make the NPS accomplishments successful. NPS thanks all the contributors, Reviewers, Sponsors to make this issue successful. Any comments, queries, suggestions, and correspondences for the improvement of JNPS are highly appreciable.

**Dr. G. C. Kaphle**  
Chief Editor, NPS