

“CONTACT” WITH EXTRA-TERRESTRIAL LIFE; AN ASTRONOMER’S VIEW. Norio Kaifu,
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From astronomical point of view contact with extra-terrestrial life (in whatever situation) may occur within the coming half century. In case of life on exo-solar planets the “contact” will happen by astronomical observations. Obviously it is role of young scientists to be eyewitnesses and be participants of such great scientific events, still I am excited as an old astronomer to be in this starting phase toward the great jump of human knowledge.

Since 2009 we have been organizing compact meetings to continuously discuss key issues relating to extraterrestrial life among some 20 Japanese scientists in broad area: biology, earth science, astronomy, and anthropology. Our main purpose is to understand steps of practical road map toward the “contact”, and also to publish a textbook of “Life in Universe” for undergraduate student. The science in 21th century already has huge accumulation of new facts and data on evolution of terrestrial life, history of planet Earth, physical condition of solar system bodies, observational and theoretical outcome of exo-solar planets, and problems of civilization too. Taking the dramatic evolution of observational technology into account we can feel that we are actually getting the “contact” in our sight, though vast unknown problems are still waiting us.

In this talk I plan to discuss a few points among several issues which were identified through our discussion to be important to consider when we try to search for evidence of life on exo-solar planets. I put my emphasis on what we expect in future astronomical observations (optical/IR and radio waves) toward the exo-solar Earth-like planets.