VATLY NEWSLETTER

It makes me sad to see the old generation prevent the young to take over, who are mature, creative, enthusiastic, bold and innovative. The future is in their hands, we all know that. If they were given a chance, they would look at the world around them with more realism, more sincerity, more courage.

Viet Phuong, July 2015, on the occasion of the IXth Congress of the Association of Vietnamese Writers

CONTENT

This twenty-sixth issue of the ***VATLY NEWSLETTER*** opens with the traditional ***NEWS FROM THE LABORATORY***, followed by a tribute to our friend ***VIET PHUONG, A MAJOR FIGURE OF CONTEMPORARY VIET NAM***, who passed away on May 6th. Several of us have been spending time in Quy Nhon, on the occasion of conferences and schools. This Summer, Diep, Tuan-Anh and Phuong attended there a conference on *Star Formation in Different Environments* and took this opportunity to conduct ***AN INTERVIEW OF TRAN THANH VAN ON ICISE AND RENCONTRES DU VIETNAM***, two of his major achievements in support of Viet Nam. VNSC outreach installations in Nha Trang and Hoa Lac are nearing completion, including optical telescopes and planetariums. Nhung reports about a ***SCIENCE MUSEUM IN HOA LAC***, where it is currently being laid out. Tuan Anh spent ***A MONTH IN PARIS***, working with Pierre Lesaffre and Thibaut le Bertre, followed by a week in Bordeaux, learning from Stéphane Guilloteau some subtleties of ALMA data reduction and calibration. Phuong is now back in Ha Noi, after ***A SPRING IN FRANCE*** working on her thesis under Anne Dutrey supervision. She tells us about what she did and what she learned. VNSC has recently been renamed Vietnam National Space Centre, replacing Vietnam National Satellite Centre. On this occasion, Diep briefs us with ***VNSC, CURRENT STATUS AND FUTURE PLANS***. Finally, Bac Pierre gave a stimulating talk to the young VNSC staff, encouraging them to be more active and less afraid to speak up, implying the need for more freedom of expression, which he considers mandatory for the country to progress.

We reproduce here an article that he wrote for Tia Sang on this occasion, entitled ***THE LYSENKO CASE AND ITS LESSON***. The issue closes with the traditional ***PHOTO ALBUM***.

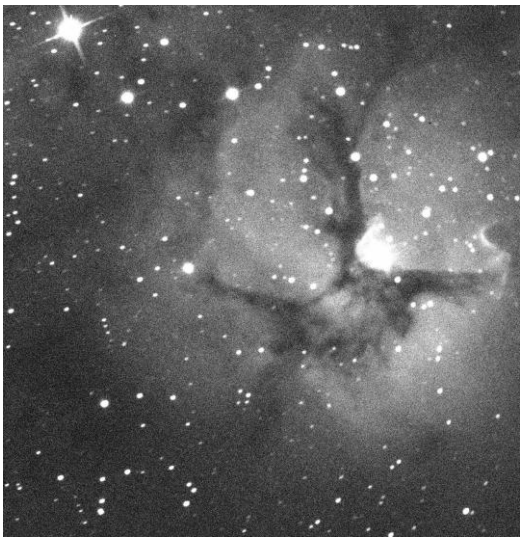
NEWS FROM THE LABORATORY

Under this heading we review briefly the progress of the work of the team and the main events in its life.

This first half of the year has been again dominated by analysis work of ALMA observations. Two articles have been accepted for publication. The first, in RAA, on the HI emission of a Red Giant, Y Cvn, sufficiently away from the galactic mid-plane not to suffer too much from the interstellar HI contamination. Hoai and Nhung sign together with Thibaut Le Bertre, Lynn Matthews and Eric Gérard. The second, in MNRAS, on 49 Ceti, with Nhung as first author. After having completed the redaction of this latter article, we realised that the width of the CO emission line was so narrow that it could provide interesting information on the underlying physics. We therefore decided to study it and, as NAFOSTED ask us to publish at least one article in a local journal for each project, we found this study perfectly suited for publication in Communications in Physics Viet Nam. The article has now been published; Nhung, Tuan Anh and Hoai, who has been back with us in March, worked on it. Its final version owes very much to Pierre Lesaffre, who was the referee, and whose comments and suggestions considerably helped with improving the quality of the work. Diep, together with Pierre and Phuong when she came back from France, analysed observations of the

^{13}CO emission of a triple protostar, GG Tau, to which Anne Dutrey has devoted intensive work for now several years. Diep and Phuong have frequent Skype sessions with Anne and her Bordeaux team and GG Tau is an important topic on the agenda of their discussions. Again part of this work will provide the substance for a local article, this time in a journal close to the Ministry of Science and Technology. Nhung, Hoai, Tuan Anh and Pierre have now been working for a few months on new ALMA observations of the AGB star EP Aquarii. These are not free access data but are part of a project of which Thibaut Le Bertre is Principal Investigator, together with all of us as co-PI's. Earlier studies using Plateau de Bure observations had shown that two interpretations were possible, one implying the presence of a detached shell, the other of a bipolar outflow. The data reduction made by the ALMA staff was not satisfactory and Tuan Anh spent quite some time and effort to produce good data. The star is seen with its axis nearly parallel to the line of sight and reconstructing the morphology and kinematics of the gas envelope in space is quite a challenge. Tuan Anh has been finalising our proposal to ALMA to observe a lensed high redshift galaxy, RX J0911, which we had already studied in some detail using Plateau de Bure CO observations and open access ALMA data for the dust. The proposal has been rejected. We expected that it would be, the probability for a team that does not belong to the consortium to be approved is negligible, but we deplore the lack of information explaining and justifying the rejection. It is now the second time that we experience such rejection and the very brief and cryptic comments given by the referee leave us with the bad impression that he (she) did not even read the proposal, of if he (she) did, he (she) was much more ignorant of this physics than we are. Tuan Anh had applied for a post doc position in Japan but his requirement to spend a few months in Ha Noi for each of the two years could not be accepted by the Japanese administration, although his Japanese host was welcoming the idea.

Hoang Anh, who had left for Nha Trang in October last year, has been witnessing much progress with the installation of the new optical telescope and planetarium. In July, Diep and Thao



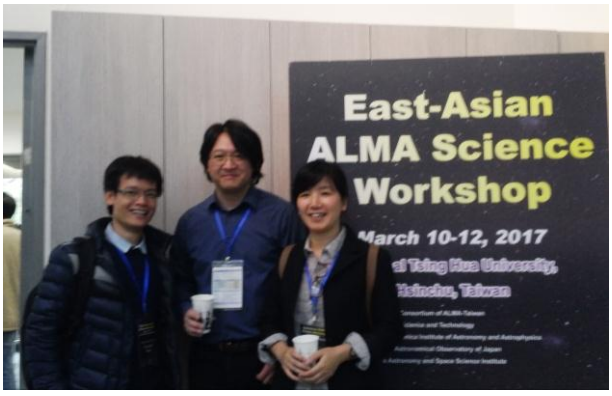
The Trifid Nebula as seen by the Nha Trang telescope. It is a star-forming region in the Milky Way. The most massive star that has formed in this region has a mass about 20 Suns and is surrounded by a cluster of over 3000 young stars.

went to Nha Trang to attend a training course on the operation of the optical telescope. Together with Hoang Anh and Lucio Piccirillo, an Italian professor working in Manchester and closely associated with the Nha Trang telescope project, they took first light beautiful pictures. Piccirillo passed by Ha Noi on his way back to Britain and visited us. We explained to him the Vietnamese situation and he said that he would like to convince us to acquire a radio telescope from him, the design of which he is currently working on. Thao, Nhung and Diep attended a series of meetings at VNSC of a working group helping the Japanese team in charge of the organization of the Space Museum being laid out in Hoa Lac.

Under the Nha Trang Observatory dome

On August 18th VNSC organised an opening ceremony in Nha Trang. Tuan Anh ran a nice introductory show in the Planetarium and gave a fifteen minute talk on the importance of outreach in astronomy and space science. A project that Thao had submitted to VAST to exploit the optical telescope in Hoa Lac has been approved.

We keep maintaining very close contacts with USTH. Diep and Tuan Anh gave astrophysics lectures to second year bachelor students. We exchanged views with Yannick Giraud Héraud and Ngo Duc Thanh (the newly appointed head of the Space and Application department and vice-rector) on the identity of the department, which is still a little blurred, and on the role that we might play; in particular we proposed to be accepted as possible PhD thesis co-supervisors under joint supervision with a French team (cotutelle). We are currently hosting a USTH intern, Nguyen Xuan Que, who has a position at VNSC and works under Diep's supervision on ALMA free access observations of a protoplanetary disc, HD 163296. Bui Van Tuan, who had made his master thesis with us and is currently working for his PhD in Paris, passed by Ha Noi and gave a nice seminar on his work on galaxy formation. We also enjoyed a flying visit of Alain Maestrini who gave some lectures and a seminar; we just had the time to invite him for lunch and he was already gone. Vo Bich Hien visited us on two occasions, telling us about his low wavelength ideas and exchanging views on possible implication of USTH in such a project.



Nhung and Tuan Anh with the chair of the East Asia ALMA workshop

Several of us attended schools and conferences. Nhung and Tuan Anh attended an East Asia ALMA meeting in Taiwan in March where Nhung gave a talk on our work on 49 Ceti and Tuan Anh on RX J0911. This August, Diep, Phuong and Tuan Anh attended in Quy Nhon a conference on star formation in different environments, where Tuan Anh and Phuong presented work of ours and took part in the science-camp organised by Nguyen Luong Quang in the preceding days. Back from Bordeaux and Grenoble (she reports about it elsewhere in this issue), Phuong attended also the school on astrophysics organised in Quy Nhon by Rencontres du Vietnam shortly thereafter.

Phuong and Tuan Anh at the Quy Nhon Science Camp

The East Asia Young Astronomers yearly Meeting (EAYAM 2017) will take place in Japan in November. Thanks to NAOJ support from Kaz Sekiguchi, who has been helping and supporting us continuously since we first met him a few years ago, Hoai and Phuong will be able to attend. We should like to take this opportunity to express our deep gratitude for his generous support. The 2018 conference scheduled in Quy Nhon for next year, overseen by Anne Dutrey and bringing together experts of star formation and of evolved stars, is taking shape; Diep is the co-chair, together with Anne, of the Scientific Organising Committee. Tuan-Anh spent a month in France sharing his time between Paris and Bordeaux; he reports on it elsewhere in the issue. Diep was invited to the Tay Nguyen University in Buon Me Thuot where he presented our research work to students and lecturers from the department of physics.

Bac Pierre went to Erice in July to give a lecture on galaxies in the early Universe at the school on subnuclear physics. In Hanoi, he took part in the jury of the Ta Quang Buu prize, which was awarded to a mathematician from Quy Nhon and a material scientist from the Ho Chi Minh City

University of Technology; on the occasion of Women Day, on March 7th, he gave at Hanoi University of Sciences the same lecture on Marie Curie as he had given at Hoa Sen in Saigon a few months before. He also was invited to an editorial meeting of the Vietnam Journal of Science and Technology but disagreed with their priorities. They were concerned with making the journal more visible abroad, in particular by inviting prestigious scientists to write articles, while Bac Pierre argued that the priority was to give better support to research: if the research is good, so is the journal. But this was a politically incorrect argument that was unanimously rejected by the members of the editorial board… Finally, Bac Pierre kept alive the tradition of writing articles for Tia Sang, the last of which is reproduced at the end of the present issue.

After Bac Pierre's talk at Ha Noi University of Science. Le, Editor-in-chief of Tia Sang, is second from left.

Hoai had submitted a project to VAST to obtain support for research on evolved stars, spanning over three years; it has been accepted. But the saga of her Vietnamese PhD degree is not yet over. She is now approved for a presentation in front of a Vietnamese jury; but before, she needs to make 50 copies of a 24 pages summary of her thesis to be sent to 50 doctors in Vietnam and obtain positive evaluations from at least 15 of them. This bureaucracy is a real shame and does not contribute to enhance the image of Vietnam abroad, in particular when one knows that the country is absent from the list of the 300 best Asian universities published recently.

Apart from the excellence fellowship obtained by Phuong from the French Embassy (she ranked first in the fundamental science jury) our other requests for support have not been retained. In particular the request to the French Embassy for Diep to fly to Bordeaux and Anne to fly to Ha Noi in the context of Phuong's thesis was turned down. So was also our application to the CNRS for a PICS in support of our collaboration with Thibaut Le Bertre and Pierre Lesaffre; we were not even informed of the rejection, nor, of course of the justification for it. We are saddened by this lack of support, because we think, objectively we hope, that our requests are both modest and of better value than many that have been retained.

Diep explaining the principle of a telescope to young audience on Space Day

Thao, Nhung, Diep and Hoai helped with the organisation of the Science Day at USTH on May 14th and of the Space Day at VNSC four days later. On the occasion of the latter, a series of talks on space applications were given to a broad audience of secondary and high school students; Diep and Thao attended.

Bac Pierre nominated Diep, Nhung and Tuan Anh to the World Federation of Scientists to take part in projects on pollution, floods and extreme weather events and energy respectively. In the series of seminars organised by Diep at VNSC, we heard Nhung give a very nice presentation on star formation and a young VNSC engineer talk on the use of stars to guide and orient satellites. There was also a talk on the Fourth Industrial Revolution, Industry 4 as they say, which some see as an opportunity for Viet Nam to progress, and others, alas more realistically, as an opportunity for multinationals to become richer. There were also seminars outside, in particular one by Cao Van Son who will collaborate with Nguyen Thi Hong Van on long baseline neutrino physics. The idea is to

create an experimental particle physics team in Quy Nhon, with help from Japan (where Son is working). There was also a seminar on a possible accelerator project aimed at offering hadron therapy, to which Bac Pierre took part; unfortunately, such a project was judged much too ambitious for Viet Nam, given the present availability of skills in the fields of accelerator physics and nuclear medicine.

The Memorandum of Understanding between the Viet Nam National University at Ho Chi Minh City (Phan Bao Ngoc) and the East Asian Observatory (Paul Ho), which operates the James Clerk Maxwell sub-millimetre Telescope (JCMT) on top of Maunakea in Hawaii, has been signed. This will help encouraging collaboration between us (together with Ngoc, Trung and Quynh Lan) and we shall soon celebrate the event with Paul Ho. Diep, supported by Quynh Lan, pleaded for including astrophysics among the fields covered by the doctoral school of GUST (the Graduate University of Science and Technology associated with VAST) but Trung and Khiem, the head of the physics department at GUST, said that it was premature, the teaching staff being insufficient.

At VNU Ha Noi, after Gerard 't Hooft's talk. He is seen here together with his wife.

Among the visitors whom we had the pleasure to welcome in Ha Noi, were Gerard 't Hooft and his wife, who were passing by Ha Noi on their way from Saigon to Holland after a stay in Quy Nhon. We shared a lunch with them in a restaurant specialised in Hue gastronomy and Diep and Nhung took care of them. Nhung translated into Vietnamese a seminar that 't Hooft gave at the VNU Hanoi. Like several theorists these days, he is interested in black holes as a kind of gedanken laboratory where to explore how quantum physics and gravity could live together. This was the dominant theme of the lectures given at Erice in the school that Bac Pierre attended and it serves as an inspiring way to explore the problem differently from current M-theory approaches. Such black holes have of course nothing to do with those with which we are familiar and which are well accepted members of our zoo: the former evaporate and the latter grow, the former are at quantum scale and the latter reach sizes as large as the solar system.

With Gerard 't Hooft and his wife at coffee

We also enjoyed sharing a lunch with Pham Duy Hien, former director of Da Lat reactor and research institute, and influent in Vietnamese science policy. Kenneth Wong, who is working in Japan on high redshift galaxies as a laboratory where to reveal possible non-constancy of the so-called fundamental constants, spent three days with us and gave two seminars on his work, one just for us and the other, to a broader audience, at USTH. A young lady, Nguyen Chi Thuy Han, introduced to us by Ngo Bao Chau, visited us twice in preparation for a movie between fiction and documentary on "work and aspiration". A Japanese theorist, Shingo Takeuchi, spent two days with us at the end of November; he is working on black holes (those we are familiar with) and will stay for some time at VNSC. He seems to enjoy Vietnam and to be doing well. He is going to give an invited talk in a workshop in Korea on his recent work. He plans to organize an international workshop next year in Vietnam. We sometimes talk to each other at lunch in the VNSC cafeteria. Starting from

September, we welcome two new members, Tran Thi Thai and Phan Thanh Phuc. Thai has just graduated from University of Education in Vinh Phuc; she will work with Tuan Anh on high redshift galaxies. Phuc will stay with us several months before moving to Nha Trang Observatory to work with the optical telescope.

We end this section with two good news: Thao gave birth to a strong boy on the 7th of August and Tuan Anh's wife is expecting to do the same in November; before the end of the year, the team will be rich of five young children: succession is guaranteed! Long live for the future!

VIET PHUONG, A MAJOR FIGURE OF CONTEMPORARY VIET NAM

The readers of the Newsletter have already met our friend Viet Phuong on several occasions, when we invited him to share with us his memories and his views on the future of the country. It was Hoang Tuy who had introduced Bac Pierre to him. Tuy and Phuong had soon adopted Pierre, who was ten years younger than they, as a close friend and the three of them became used to share a lunch every two months or so since that time. Phuong passed away on May 6th. Bac Pierre pays here a tribute to his outstanding influence in intellectual and political circles as an example of integrity, tolerance, wisdom and generosity.

Viet Phuong was born in December 1928 in Ha Noi, when Viet Nam was under French rule. He learned French from his father, a school teacher, and Vietnamese from his mother. When he graduated from high school, at the age of 16, he was already bilingual. In 1944, he joined the National Youth League and, in September 1945, the Resistance against the French in the South. In 1947, as a political commissar of a regiment in Buon Me Thuot, in the Central Highlands, he met Pham Van Dong, who was impressed by his young talent and took him as personal secretary. Pham Van Dong was 23 years older than Viet Phuong. He had been jailed in Poulo Condor when he was 24 and had been freed six years later, on the occasion of the Front Populaire uprising. When he met Viet Phuong, he was Minister of Finance. He became Minister of Foreign Affairs and Deputy Prime Minister in 1954, just after Dien Bien Phu, and Prime Minister the year after. He kept Viet Phuong as his personal secretary for 53 years, until his death in 2000. Viet Phuong has also been secretary of Le Duan, the General Secretary of the Party, for ten successive years. After having officially retired, in 1993, when he reached 65, he was kept by Prime Minister Vo Van Kiet as permanent member of his advisory team and remained close to the Government office. He was also a member of the Institute for Economic Management, and liked to introduce himself as a political economist.

For over half a century, Viet Phuong has been close to the main actors of the birth and coming of age of the young Vietnamese Republic, including the most prestigious, Pham Van Dong and Le Duan, of course, but also Ho Chi Minh, General Giap, Truong Chinh and many others. Yet, he always demonstrated much modesty when asked about them. It was not aloofness but simply decency. If someone would express some criticism of one of them, he would immediately moderate and temper its reach by offering examples to the contrary. To a journalist who interviewed him on such matters, he simply said: "*Each medal has two faces. People see one of these. We are closer, we see both. And it is fine this way*." Often, I tried to convince him to write his Memoirs, conscious as I was of the treasure they would have meant for the history of Viet Nam. But I failed; when I was asking him for the reason for his reluctance, he was remaining evasive; to each possible reason I might imagine and suggest, he would simply agree that there was a bit of it.

Ho Chi Minh's Viet Nam had to elbow its way between Chinese and Soviet influences and, as one can imagine, free speech was not on the agenda. In the mid-fifties, in the wake of the Hundred Flowers movement in China, Viet Nam had witnessed a burst of liberalisation with a

cultural and political movement named after two new magazines pleading for increased freedom of speech, *Nhân Văn* and *Giai Phẩm*. But, following a loosening of political restrictions, repression had soon been re-established, stronger than before, as had been the case for the Hundred Flowers Movement. Over a decade later, political correctness had still to be strictly obeyed, as the young Hoang Tuy and Viet Phuong, they just had passed forty, sadly experienced. In 1970, Hoang Tuy met Le Duan, then almighty General Secretary of the Party, and spoke freely to him, using words that he was not used to hear, it had the effect of a bomb. The same year, 1970, Viet Phuong published 30 of his poems, selected for not being too politically incorrect with the help of the publisher among a lot of hundred or so written in the preceding years. The brochure, titled *Open Door*, sold 5'300 copies in less than two weeks and had a major impact on the cultural and political life of the country. The new style was blowing a breeze of freedom in the heavy atmosphere of soviet-like literature that was prevailing at the time. Still today, people remember two verses of a poem, in the form of a pamphlet, mocking the practice of making people swallow fables and falsity:

More round is the Moon in China than in the States,
More precise the watches soviet-made than swiss-made.

Viet Phuong and Hoang Tuy talking to VATLY (from Newsletter 15, January 2012)

The price to pay was repression in his career, causing him to be sidelined for several years. In spite of support from Le Duan, Truong Chin and Pham Van Dong (Ho Chi Minh had died the year before) he was severely criticized by the priests of the orthodoxy in force at the time. When asked about this time of his life, he would not display any bitterness, nor any resentment toward those who had not supported him as strongly as one might have hoped and expected. He simply had learned the lesson that one should not open doors too abruptly; it was more efficient to do it gently. But his conviction that truth needs to be faced with courage and to be looked at in the eye, and that free speech needs to be encouraged for progress to blossom came out stronger than before.

Viet Phuong with his wife, Tu Lan

Indeed, in Open Door, he was having the courage to look at the past years with open eyes:

We may have learned at last, after twenty-five years,
What it means to love, what it means to kill and slaughter.
We discovered dark spots on the face of the Moon,
We found mud on top of our mountains.
We have paid a high price, but it opened our eyes.
Under shelling and bombing, we learned to distil happiness,
Our hearts beat for tomorrow to sing forever.

He liked to meet young people, to speak with them and listen to them, to encourage them to speak up, never to give up, to repeat over and over what they are convinced of. At the same time he would give them warnings of caution: not to be unnecessarily offending, to learn to be patient. When he met us for the first time, together with Hoang Tuy, he told my young colleagues how lucky I was "*to be immersed in such a fountain of youth*." Viet Phuong never evaded responsibility in protecting or promoting freedom of expression. Recently, he helped a young lady, from whom a censor had withdrawn her master degree in

literature, two years after the defence of the thesis, simply because it dealt with the Open Mouth group, a poetic movement considered as subversive.

Viet Phuong at the IXth Congress of the Association of Vietnamese Writers

In 2015, the IXth Congress of the Association of Vietnamese Writers took place in an atmosphere of tension. At that time, sixty independent Vietnamese writers, led by Nguyen Ngoc, a famous novelist, had launched a petition asking for more freedom of speech and denouncing the negative influence of the Association. On this occasion Phuong, who was close to Nguyen Ngoc, criticized the conservatism and the old age of its members, their lack of vision, their insistence at protecting their own privileges rather than caring for the progress of Vietnamese literature. He expressed his sadness to see them prevent the young generation to take over, to be given a chance to look at the world around them with more realism, more sincerity and more courage than their elder were doing.

In September 2007, several prestigious intellectuals established the first independent policy think tank of modern Viet Nam, which they called the Institute of Development Studies (IDS). Together with Viet Phuong were economists such as Le Dang Doanh and Tran Duc Nguyen, who had served generations of Party and Government leaders as major advisers; Ambassador Nguyen Trung, who was an adviser with ministerial rank to former Prime Minister Vo Van Kiet; former Vice President of the Vietnamese Chamber of Commerce and Industry Pham Chi Lan; leading scholars such as mathematician Hoang Tuy and historian Phan Huy Le; and prominent thinkers such as Nguyen Quang A, Tuong Lai and Nguyen Ngoc. Unfortunately the hope for a liberalisation of the freedom of expression was soon wiped out by the government, who disbanded the group, a hard blow to Viet Phuong.

The love that Viet Phuong had for poetry went hand in hand with a keen interest in foreign languages. His mastering of French was amazing, and he used to remind me recurrently, not without a little pride, that he had never been in France, just a few days at the time of the Paris Peace Accords in 1973. Among his three grandchildren, he often told me about his granddaughter, praising her command of the French language. She even shared a lunch with us. He also often spoke of a stay in China, where Pham Van Dong had sent him, and which had been an occasion for him to learn Chinese.

Viet Phuong considered that his never failing loyalty to his superiors was giving him the right to preserve a few acres of land where he could think, dream and speak in complete freedom. A patch of paradise ruled by poetry where he could be himself, fully conscious of his skills and weaknesses, free of any constraint. A patch of paradise that he might only share with other poets who were hoping for a same happy future as he himself was and aspiring to a same ideal of purity, integrity and truth.

Viet Phuong meets Viet Phuong (from Newsletter 21). Vu Viet Phuong is a senior VNSC engineer in charge of the satellite department. We learned from him that he owes his first name to Viet Phuong, whose poems Vu Viet Phuong's mother was fond of. We enjoyed inviting both of them for lunch in a very friendly and pleasant atmosphere where they could meet.

We shared a lunch with Viet Phuong, who told us about his memories of fifty years serving as Secretary of Pham Van Dong (from Newsletter 24)

It had become a habit, for Hoang Tuy, Viet Phuong and I, to share lunch together, once in a while. I would bicycle to Tuy's home, leave my bicycle there, and we would take a taxi to pick up Phuong at his place and go to a restaurant, never the same. Phuong was vegetarian, it was a challenge to discover a new vegetarian restaurant each time we met. I was hanging on every of their words. We were sharing amazingly close views on the world in general, and on Vietnam in particular: respect of individuals, humanism, love for the country, a critical but constructive mind, determination to progress and to see the good side of things rather than lamenting about what is wrong. I do not remember we ever disagreed on anything but Tuy was prompter to rebel and be offended about injustices and dysfunctions, Phuong was more tolerant; he had since long sorted out the good from the bad and concluded that the balance sheet leant on the positive side, which made him a kind of wise old man looking from a distance at present turbulences. In several occasions, I heard him quote Aragon's poem, *Que la vie en vaut la peine*, as a profession of faith. This poem in my mind sums up so faithfully how he felt, allow me to quote a stanza that takes today a particularly deep dimension:

It is something, after all, that I cannot understand
This fear of death that people have in them
As if it were not wonderful enough
That the sky, for a while, looked to us so tender.

I am at an age when one sees one's friends disappear, one after the other; tomorrow may be my turn; I am at an age when the past takes more room than the future in our thoughts and feelings; and each death takes away a bite of them, it is a cruel experience; with Phuong being no longer with us, a big piece of Viet Nam's memory disappears into oblivion. For us, his friends who loved him tenderly, it means deep sadness and sorrow. Our team will never forget the moments he spent with us, the youth in his words and in his heart and the lucidity with which he was looking at the world around us. We shall never forget his message of tolerance, of integrity, of truth and of freedom.

AN INTERVIEW WITH TRAN THANH VAN

Professor Tran Thanh Van is the president and founder of Rencontres du Vietnam (RDV), which is an official partner of UNESCO. RDV was established in 1993 with the aim to "promote North-South cooperation and develop education and science in Vietnam through privileged partnerships". The success and reputation of the Rencontres de Moriond and the Rencontres de Blois organised by Tran Thanh Van for over half a century led to the creation of the International Centre for Interdisciplinary Science and Education (ICISE) in 2013. ICISE is a science and education institution located in the coastal city of Quy Nhon, Vietnam. Commissioned by the 'Rencontres du Vietnam', the purpose of ICISE is to bring together scientists from developed and emerging countries, to host conferences, to allow young Asian students to meet with top scientists as well as to nurture the association's long-held expertise in designing exceptional cultural and educational projects. Currently, each year, ICISE hosts between 10 and 12 high level national and international conferences, specialized professional colloquia, as well as selected thematic schools. On the occasion of the 25th anniversary of Rencontres du Vietnam and of the 5th anniversary of ICISE we had an interview with its founder, Professor Tran Thanh Van.

VATLY: Could you kindly give us a brief summary of what has been achieved by both Rencontres du Vietnam and ICISE?
Tran Thanh Van: We started to organize the first Rencontres du Vietnam in 1993 in collaboration with Professor Nguyen Van Hieu, former President of the Academy of Science and Technology together with some young Vietnamese scientists.

At that time, Vietnam was still under US embargo: it was difficult for foreign scientists to come to Vietnam and attend conferences. It was even difficult for us, who were suspected to organize international conferences with the sole aim of making benefits! For the first conference, we had about 60 participants, among whom 1988 Nobel Laureate Jack Steinberger. It took a lot of time and effort for him to get through all the paper work. When back at CERN, he wrote a letter to President Bill Clinton pleading for lifting the embargo.

As with Rencontres de Moriond, we always encourage the participation of young scientists. Dr Nguyen Trong Hien[1] was a PhD student at the time.

In 1995, we were asked by the Vietnamese Physical Society to organize another international conference on the occasion of the total solar eclipse visible from South Vietnam. Jane Luu, who later got the Shaw and Kavli Prizes in 2012 for the discovery of the Kuiper Belt, attended it as a postdoc.

Professor Nguyen Van Hieu has always remained close to us from the first days; without his help we would not have been able to achieve what we did.

When organizing the Rencontres du Vietnam we always follow two essential rules : i) create a place for young and senior scientists from all over the world to meet and discuss and ii) help young Vietnamese scientists by giving them opportunities to discuss problems at the frontier of science. Since 1993, such conferences and meetings have offered increased visibility to many young Vietnamese scientists. Moreover, the Rencontres have bridged the gap between Vietnamese scientists living in Vietnam and abroad. Nowadays, ICISE hosts some ten conferences and five to six topical schools each year. However, to be more successful we need more help and support from the Vietnamese scientific community.

VATLY: We know that you are also very active in helping the SOS children organization and in raising funds to support Vietnamese students. Could you give us some information about these activities?

[1] a scientist from Jet Propulsion Lab, the first Vietnamese who visited the South Pole

Tran Thanh Van: In the early seventies, the war had left many Vietnamese children without parents. Therefore, we decided to do something about this. We started to work with the International Federation of SOS Children's Villages to build homes for young orphans; we raised funds by selling Christmas cards in the street in Paris to build children villages in Da Lat, Dong Hoi, Hue and Quy Nhon.

From left to right: Tuan Anh, Mrs. Dung, a member of RDV conference secretariat, Tran Thanh Van and Diep.

For what concerns support to Vietnamese students, in 1994 we started to offer fellowships to master and PhD students and from 1997 we extended the programme to students of the honour classes of the Hanoi University of Science. Many of those who had been awarded such a fellowship became excellent university students, some of them were admitted to study at Ecole Polytechnique in France. The prestige of the above programme was well established. In 2000, two Nobel Laureates, together with other famous scientists, attended the Rencontres du Vietnam conference. At the scholarship ceremony, we invited them to hand over the scholarships to the students. Such a strong symbol inspired Professor Odon Vallet (who had just arrived in Hanoi the day before in order to visit our SOS children village in Dalat after having received a donation from his mother). He then asked to join our fellowship programme. While maintaining our own RVN fellowship programme for the honour class at the Hanoi University of Science and for the schools of Dong Hoi, we named the new programme "Vallet Fellowships". Nowadays, it grants more than 2'200 fellowships to students and young researchers with

total yearly value of some 29 billion VND. Professor Odon Vallet was offered the Friendship Medal by the Government last August, in recognition of his generous gesture of friendship toward the country.

VATLY: We see that a science exploration centre is being built next to ICISE. Could you tell us about it?

Tran Thanh Van: We built ICISE to have a place for scientists to meet and share their knowledge in a relaxed atmosphere; however, we are also aware of our responsibility to bring science to a broader public. Therefore, we bravely proposed the idea to create a science centre to the Minister of science and technology some years ago. The project received support from the Prime Minister and we decided to go ahead. The construction is largely financed by the government and the Binh Dinh Province with the conception brought to Binh Dinh by the international network of our friend-scientists, especially from France, Germany and the USA. The general idea is to bring science to the general public and mainly to children. The main components of the Centre are a 12 m diameter planetarium (using a French design) and three exhibition rooms of 250 m^2 each. The first room is devoted to elementary particle physics (CERN, Geneva, is helping with its concept and materials); the second room tells about Sky and Earth with the message to protect our living environment; and the third room aims at inspiring young minds by making them share the adventure of the exploration of Space. In addition to these areas, experimentation rooms of 1000 m^2 will provide children with basic knowledge on mathematics, physics, chemistry, biology, computer science… and new disciplines such as nanophysics or nanobiology arising with new scientific developments. Temporary exhibitions on hot topics as well as workshops for kids to develop their skills will be programmed. The visitors which we aim at are school children and teachers from Vietnam in particular from Binh Dinh and surrounding provinces of Central Vietnam, which still are in poor conditions. In the future, we hope that small units of inflatable Planetariums and exhibition panels will be made available to the children of rural area.

VATLY: What about the Institute For Interdisciplinary Research in Science and Education (IFIRSE) ?

Tran Thanh Van: It is a private institute having the aim to provide favourable conditions for young scientists to develop, which, for the time being, we control and finance. The idea is to form small teams of scientists and to offer them living conditions and a working environment as suitable as possible for fruitful work and as free as possible of bureaucratic constraints. Currently, there are two young scientists active at IFIRSE, with colleagues from abroad as visiting scientists and students from surrounding universities. Another team is being created, which will study long baseline neutrino oscillations. We enjoy much support from Japanese scientists who give them guidance. As you well know, building a team of experimenters is very difficult in Viet Nam. Hopefully, in three to five years, this team will be able to make significant scientific contributions but we know well that there is a long way to go and that it is not yet in the bag.

Gerard 't Hooft and Tran Thanh Van at the inauguration of the Science Avenue linking Quy Nhon city to the ICISE site. Local representatives are seen on the left.

VATLY: Can you comment on the difficulties to work in Vietnam?

Tran Thanh Van: From the very beginning we have defined clearly what our aim is; we do our best to stick to it, which made it possible for us to obtain some success. Progressively, we enjoyed increased support from the leaders of the province and members of the government. However, having support from above is not enough; it often happens that strong support at high level fades away when

going down the hierarchy. It is in the domain of manpower that we face the harshest difficulties.

VATLY: Which are your plans/wishes for the future?

Tran Thanh Van: We would like to find enthusiastic, active and responsible people, sharing our vision of the future and open to the outside world to take care of ICISE. Think of Princeton; although being a small town it attracts elites from all over the world; we dream of Quy Nhon becoming the "Princeton of Vietnam" in ten, twenty or thirty years, a place wide open with windows on the world. We expect about 50% of the scientists working at ICISE to come from abroad, in conformity with standard models of international research institutes. Hopefully, the level of Vietnamese science will gradually keep up with that of the world. In the process of realising our dreams we met a lot of obstacles; however, fortunately, we always found friends ready to lend us a hand. Also several deciders and policy makers demonstrated their readiness to help. However, the future development of Vietnamese science requires more help and support from the government. In Quy Nhon, we need to create favourable conditions to attract young talents from abroad and from big cities such as Hanoi and Ho Chi Minh City. Young Vietnamese scientists can blossom rapidly when they are given a chance. Only the young generation can decide how fast Vietnam will progress.

SCIENCE MUSEUM IN HOA LAC

The Space Centre that VNSC is constructing in Hoa Lac, 30 km west of Ha Noi, will include a planetarium, a 50 cm telescope and a museum dedicated to Space Science. Nhung, who is involved in the design of the latter, reports below.

In April, Thao, Diep and I were asked to join a working group of VNSC helping the Japanese team in charge of designing the arrangement of the Vietnam Space Museum being laid out in Hoa Lac. We were excited to have a chance to make some contribution, however modest, to the first museum of science and technology being set up in Vietnam. The main task of the group is to collect documentation on the Vietnamese history of astronomy and of recent developments in space science and technology; and to help the Japanese team in selecting the items to be retained for the final design of the exhibition.

The Space Museum is located in the campus of the Vietnam Space Center in Hoa Lac High Tech Park (30 km west of downtown Hanoi) with a total indoor area of some 1700 m^2 and an outdoor area twice as large. Next to the museum, there will be a planetarium and a 50-cm telescope, serving the double purpose of disseminating knowledge and of underlining the importance for Viet Nam of space applications. The museum will address the young generation in priority. The construction of the building that hosts it is now completed. The general idea of the exhibition has now been defined, it remains to fix the details and to select the items to be displayed.

Meeting with the Japanese team on the design of the exhibition

The museum will tell visitors about the Universe, the history of space exploration, the development of space science and technology and its influence on life in general and on Vietnam in particular. The exhibition is divided in four main sectors. The first sector aims at arousing the visitor's interest for science using examples such as why the sky is blue, what is the Sun light made of, how does a rainbow form, what makes a star radiate, etc. It also includes models helping to visualize basic scientific concepts such as gravity, vacuum, motion, dynamics, light, wave, and so on. The second sector introduces the public to the current understanding of the history of the Universe, formation and life of stars and galaxies. Particular attention is given to the solar system: planets, moons, asteroids and comets as well as phenomena resulting from their relative motion: phases of the Moon, solar and lunar eclipses, etc. The next sector is devoted to the history of space exploration, the recent development of space

science and technology and their contribution to our life. There will be many examples of their applications using Earth observation data in Vietnam, which is in the list of top countries that suffer from natural disasters. This part also shows the progress and efforts of Vietnam, VNSC in particular, in constructing small satellites and developing applications of space technology. The last sector is a gallery displaying documentation on the history of astronomy in Vietnam.

Along with interactive exhibits and shows in the planetarium, the museum is planned to offer lectures on astronomy and activities for groups of school children. It is expected to be open to public by the end of 2018. We hope that it will inspire visitors and make them, especially children, better aware of the role of science and technology in the development of society.

A MONTH IN PARIS

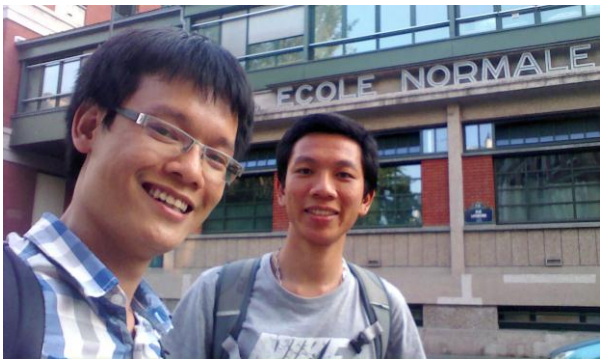
Tuan Anh spent a month in France thanks to a programme of the Paris observatory allowing for inviting foreign scientists in replacement of tenure astronomers in leave of absence. He reports below.

In May, I spent a month in Paris to work with Pierre Lesaffre and Thibaut Le Bertre. It is thanks to them, who worked hard to obtain financial support from Observatoire de Paris, that it was possible, for which I am very grateful. It was in the framework of a "temporarily vacant position" programme, with both travel and living expenses being covered. It was a great experience to spend a full month in such a professional research environment and in the late Paris Spring.

Most of the time I stayed at LERMA-ENS (Laboratoire d'Etudes du Rayonnement et de la Matière en Astrophysique et Atmosphères, École Normale Supérieure) to work with Pierre and his USTH PhD student, Le Ngoc Tram. I learned from them to build a 1-D wind model for evolved stars. The wind physics at large radii, where dust resides, is well understood. Dust feels the radiation pressure from the host star, couples with gas and, together, they are dragged outward. By writing a set of conservation equations of energy, mass and momentum one can describe stellar wind physics. At smaller radii, where there is no dust, it is more difficult in practice. Such a simple stellar wind model has been tested with a lot of evolved stars, including many that we studied in Ha Noi. When Tram will be back in Viet Nam, we shall be able to collaborate on such studies.

Moreover, Pierre has recently been particularly interested by the role played by binaries in shaping the gas envelope of evolved stars. He has been using a 2-D model, giving a simple explanation of some of the main features without having recourse to a sophisticated hydrodynamics code. He considers an evolved star having two companions of equal masses, located symmetrically with respect to the main star, and finds that it is surrounded by a torus of gas and dust particles having parabolic trajectories, as we observed earlier in the case of the Red Rectangle. In the case of a binary, spiralling trajectories get close to each other in the neighbourhood of the secondary star and form a shock. Pierre is now trying to derive the shape of the shock in 3-D.

During my stay, Pierre welcomed a student joining for an internship. His subject is to describe the shock generated by water falling from a tap into a basin. It is a nice project, I got involved in the hope that we could find a USTH student working on it later on.



Tuan Anh and Tram at Ecole Normale Supérieure

I also spent some time together with Thibaut to examine the ALMA EP Aqr data which we had just received. We were impressed by the many visible details at the very first look. We had a nice meeting on Skype with our long-time collaborator Jan Martin, from IRAM in Grenoble, asking him advice on data reduction. Thanks to Thibaut, I managed to get the complete set of raw data together with useful documentation.

My visit was a chance for me to present our work to our French colleagues. I gave two

seminars, one at the Observatoire about a high redshift galaxy, the other on stellar physics studies of the morphology and kinematics of circumstellar envelopes (both evolved stars and protoplanetary or debris discs), mostly using ALMA archival data. I had opportunities to discuss with experts at LERMA: Francoise Combes gave us advice about how to improve our ALMA proposal on the galaxy that I am working on; Sylvie Cabrit expressed her appreciation of the method used by us when dealing with stellar data, giving us added confidence in our work.

Jacques Haissinski and Tuan Anh in front of the Observatoire

While in Paris, I met again Professor Nguyen Quang Rieu, the founding father of radio astronomy in Viet Nam. He was touched by my intention and told me how much he appreciates what we are doing. He said that he enjoys seeing us grow up together, that it is quite an achievement to be able to work as a team in such a difficult context, and encouraged us to keep moving! Another close friend of ours, Jacques Haissinski, came to the lab and took me to a restaurant for lunch; he attended my seminar on the high-z galaxy at the Observatoire. He asked many questions about the team, our research environment, our difficulties. He follows closely our progress and the life of the team and he kept telling me that he will always be there to help us when needed.

I enjoyed very much my visit, Pierre and Thibaut were such excellent hosts, so kind to me. Paris weather was not that great but I enjoyed two sunny weekends, which I liked a lot. A friendly group of USTH students made my days in Paris full of joy.

At the end of my stay, I paid a visit to Bordeaux, to meet Phuong and Anne Dutrey's team for a few days. Together with Stéphane Guilloteau, I examined ALMA data on EP Aqr and learned from him how to merge several sets of interferometer data, which turns out to be very useful in this particular case. The warm hospitality from Anne and Stéphane made my stay most pleasant. Wine from the right place, cherries from their garden, music by their daughter, Emilie, dinner in the ancient square, made those days count!

A SPRING IN FRANCE

Phuong started her PhD work this year, under joint supervision from Diep and Anne Dutrey, who leads a research team at Bordeaux University in France. According to the co-supervision agreement, Phuong will spend three periods of four months in France in three successive years. She reports on the first of these, from mid-February to early July.

In the context of my PhD work, under joint supervision between France (Dr Anne Dutrey) and Viet Nam (Dr Pham Ngoc Diep), I am now part of two doctoral schools: the Ha Noi Graduate University of Science and Technology (GUST) and the Université de Bordeaux (UBx). This spring, I spent some four months in France to work with Anne Dutrey and her team for my PhD thesis; I also had chance to attend the Les Houches school on "Chronology of the formation of the solar system: The outer solar system and its relationship with the interstellar medium". Then, I spent time at IRAM/Grenoble to work with Dr Edwige Chapillon on the reduction of NOEMA data (Northern Extended Millimeter Array). While at the Laboratoire d'Astrophysique de Bordeaux (LAB), I attended the "doctoral and postdoc's day" and a meeting on the ability of the James Webb Space telescope (JWST) to observe GG Tau and similar protostar discs.

I arrived in Les Houches in February to attend the school. It's a very useful school, at the crossing between astrophysics, planetology and cosmo-chemistry, belonging to a series that Anne contributed to start in the late nineties. After the school, Dr. Edwige Chapillon – who also attended the school – drove me to the Institut de Radio Astronomie Millimétrique (IRAM) in Grenoble. It was my second time there, last time was on the occasion of an IRAM school, including a visit to Pleateau de Bure. Under supervision of Edwige, I reduced a NOEMA data set of observations focussed on S-bearing species (H_2S, SO and SO_2); Edwige is Principal Investigator of a study aimed at understanding the physical condition of the gas surrounding one of the stars (Aa) of the GG Tau system. The interest in S-bearing species arises from the fact that H_2S reveals the presence of a shock; however, SO and SO_2 are not detected, may be simply by lack of sensitivity. We are preparing a proposal to NOEMA to get longer observation time.

Anne, Phuong and Edwige at Chamonix, Mont Blanc

By chance, Frédéric Boone – Tuan Anh's PhD thesis supervisor – was also spending time in IRAM, working on data reduction of ALMA observations, and I had chance to talk with him about our work in Ha Noi. I also enjoyed a great lunch with Jan Martin Winter, with whom Hoai and Nhung work on AGB stars. He is one of the scientists in charge of the NOEMA upgrading project, which he told me about in some detail.

I arrived in Bordeaux on March 1st, together with Edwige. By then, all administrative procedures had been already completed. There was just a small problem with housing but Edwige, with the kind help of the lady in charge of the guest house, promptly solved it: I got a very nice studio on University campus. Edwige spent a few days in Bordeaux, supervising my work in preparation of an ALMA Cycle 5 using the ALMA Observing Tool.

Phuong in Stéphane's and Anne's garden in Bordeaux

Mid-March, I was interviewed via Skype by the panel in charge of selecting French Embassy Fellows; fortunately, I was awarded a fellowship for three stays in France during my PhD thesis. As I happened to be in Bordeaux during the ALMA proposal period, I experienced the excitation and pressure that it generated. I took part in the preparation of proposals aimed at observing dust polarization, density tracers and shock tracers in the environment of the GG Tau A disk. I made a simulation of CS emission, a density tracer. Under supervision of Anne and Stéphane I submitted a proposal to observe CO(6-5) emission from GG Tau A, of which they had studied earlier crude preliminary observations using ALMA cycle 0 data. Unfortunately, our proposals of GG Tau observations were all rejected without clear justification. Right after the ALMA proposal period, we received ALMA cycle 3 data on ^{13}CO(3-2), C^{18}O(3-2), CN(3-2) and CS(7-6) emissions from GG Tau with a resolution of ~20 au. Anne Dutrey is the Principal Investigator of the proposal. We reduced the data and started the analysis in early May. In spite of reduced observation time due to unforeseen changes in the schedule, new additional details of the morphology of the surrounding gas could be revealed. We are conducting the analysis using both a radiative transfer code (DISKFIT) developed in Bordeaux and the standard Ha Noi approach. Early June, I reported the current status of my PhD work to a member of the doctoral school who expressed his satisfaction with the progress. Mid-June, I attended

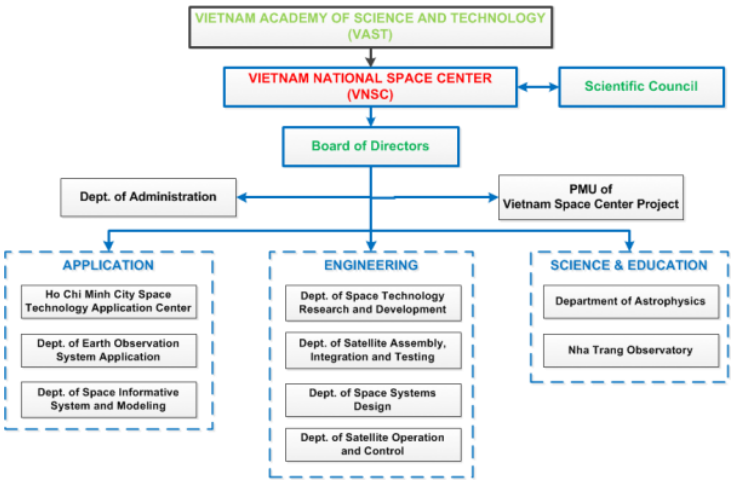
the "Doctoral and Postdoc's Day" at LAB where I reported about the work on GG Tau that had been accomplished in both Ha Noi and Bordeaux. The last week of June, we organized a meeting of the members of the GG Tau consortium, followed by a Jame Webb Space Telescope (JWST) meeting. This was an opportunity to listen to detailed review talks on GG Tau and similar discs from several experts as well as to learn about the ability of JWST in observing GG Tau and similar discs. Concerning the new GG Tau ALMA observations, I presented a brief introduction and Diep gave a video conference presentation of our work on the morphology and kinematics of the system using ^{12}CO(6-5), ^{12}CO(3-2) and ^{13}CO(3-2) emissions.

Apart from all this hard work, I enjoyed great dinners with Anne, Stéphane and their daughter Emilie. I visited some beautiful nearby places in France such as Annecy (an hour by train from Grenoble), Arcachon and Saint-Emilion (an hour or so from Bordeaux). They are places loaded with history, which I enjoyed learning about. Saint-Emilion is a Mecca of French wine making, and I learned a lot about it. I came back to Viet Nam having made many new friends in France, whom I am impatient to meet again in a year time. I also keep very good memories of having met older friends in both Bordeaux and Paris.

VNSC, CURRENT STATUS AND FUTURE PLANS

Our home institute, now called Viet Nam Space Center, is implied in many projects and looking forward for a rich and successful future. Diep, who is at the head of the Astrophysics Department, reports below.

Vietnam National Space Center (VNSC), one of the 30 institutes of the Vietnam Academy of Science and Technology (VAST), the largest research complex in Vietnam. It was established six years ago on September 16th, 2011, with 31 staff members to start with. VNSC's mission is to "*lead the field of research, development, application and training of satellite technology and space technology in Vietnam, advancing towards the international level to contribute to the development of space technology in Vietnam, Southeast Asia and the world*". After six years of development, VNSC includes currently 132 staff members. To better understand the structure, I show bellow the organisation chart.



Currently, VNSC consists of nine departments as shown in the chart. The centre has four campuses: two in Hanoi, one in Nha Trang (Nha Trang Observatory) and one in Ho Chi Minh City (Ho Chi Minh City Space Technology Application Center). An important component of VNSC, shown in the chart, is the Project Management Unit (PMU) having as its main task the implementation of the Vietnam Space Center Project; this is the largest science and technology project realised in Vietnam over the past two decades; it is funded from a total ~600 MUSD investment of the Japanese Official Development Assistance (ODA) and a counterpart from the Vietnamese Government for a ten years period, from 2012 to 2022, subject to regular reviews. The headquarter of the Vietnam Space Center, one of the Hanoi's campuses, is being constructed on an area of 9 ha at Hoa Lac Hi-Tech Park, some 30 km west of Hanoi.

We are the Department of Astrophysics and starting last February the institute is hosted in a new ten floor building on VAST campus. We share the building with colleagues from the Institute of Mathematics, each institute using three floors; the rest is for reception, auditorium and cafeteria. On July 17th, 2017, VNSC, formerly known as Vietnam National Satellite Center, has changed its name to Vietnam National Space Center, better suited to its mission.

Since 2013, VNSC has been sending 36 young engineers to five Japanese universities for master degrees in satellite technology, where they designed, manufactured and tested the future

Micro Dragon satellite under guidance of Japanese experts. For three successive years, 12 engineers have been sent to Japan each year. The last group have completed their learning period and will be back to Vietnam by the end of September. Micro Dragon is a 50 kg satellite; its mission is to observe the Vietnamese coast, to assess water quality and to locate concentrations of aquatic fauna in order to support aquaculture. It is now assembled and waiting for being tested. It is planned to be launched into orbit in 2018. Also, in relation to manpower training, VNSC, together with three Vietnamese universities (International University at Ho Chi Minh City, University of Science and Technology of Hanoi and Hanoi University of Technology) has initiated undergraduate training programmes in space technology. Each year, some ten students are recruited and trained in each of these universities. In order to sustain manpower development on the long term, Dr Pham Anh Tuan, VNSC director general, is preparing to create a foundation to grant scholarships to the best students in the field of space technology and to help those in difficult financial condition. He also initiated a bimonthly seminar series at VNSC, with well-known speakers, with the aim to inspire young scientists on the VAST campus and to communicate their passion for science. VNSC is also organising a yearly "CanSat" competition for students from technology universities. They are asked to form a team to make a pico-satellite of the size of a Coke can, which will be launched to an altitude of some 50 meters above ground by a model VNSC-made rocket; it should be able to receive signals from ground and/or to take pictures and send them to a ground station. This year's competition is the second in the series. Young VNSC members are also active in organizing the Space Day and the STEM Day (Science, Technology, Engineering and Mathematics).

The main mission of VNSC is to acquire the ability to construct small "Made in Vietnam" satellites. The construction of the Space Center in Hoa Lac should be completed by 2020; it will be equipped with necessary instruments and tools for manufacturing, assembling and testing small satellites. Before the end of the project period, in 2022, VNSC is expected to receive and operate a 600 kg satellite made in Japan, LotusSat-1. It will carry a synthetic aperture radar sensor and be launched in 2019. The lotus flower is a national symbol, together with peach flowers for Tet celebration in the northern part of the country. While LotusSat-1 is being made by Japan, its successor, LotusSat-2, would be designed and made mostly in Vietnam. Recently, much time was spent by the VNSC satellite team and its Japanese counterpart to discuss technical specifications of LotusSat-1. The contract is ready for signature. However, recently, several ODA projects have come under review by our government and we need to convince them of the need of supporting the project. Meanwhile, the signature of the contract has been postponed.

Nha Trang Observatory is located near the city in a beautiful site overlooking the sea. The buildings are shared between the Observatory and an oceanography institute.

On August 18th, 2017, Nha Trang Observatory has started operation. We are waiting for a decision from the ministry of finance to have permission to open it to public, which is expected by the end of the year; the observatory offers a lecture room for short training courses, a planetarium and a telescope to train university students from surrounding universities in astronomy and space science. Informal agreements have been reached between rectors of these universities and the VNSC directorate. Earlier attempts to equip the country with telescopes and planetariums have failed to attract interest from a significant public; on the contrary, all conditions seem now realised for the VNSC installation, with excellent instruments, to be successful. The inauguration of the observatory has triggered interest in the community of amateur astronomers and in the general public. Tuan Anh has run the

first official planetarium show on the occasion of the inauguration. The event was reported in most big newspapers of the country. Currently, there are three staff members working in Nha Trang, under Hoang Anh. A new member has just been recruited and will move to Nha Trang after having been trained in Hanoi for a few months. In Hanoi, the other 50 cm telescope and a bigger planetarium will be assembled starting end September. It will take a few months to be completed.

VNSC is also building a national space museum. The first preliminary design phase is now completed. Next come detailed design and construction. It is expected to be completed in 2018. Nhung reports about this project elsewhere in the Newsletter.

There is still a lot of construction going on under VNSC control, both in Hoa Lac High-Tech Park and in Ho Chi Minh City.

In collaboration with a US company, VNSC is hosting a supercomputer with 112 cores, total storage capacity of 220 Tb and speed of 2 Tb FLOPS (floating point operations per second). The system is meant to store satellite data and to satisfy various calculation requirements. It is running well and we can also use it to reduce astrophysics observation data.

This year some key VNSC projects have been approved in the frame of the national space programme. One is to build in Vietnam a ~5 kg satellite, called nanodragon; another deals with Earth observation applications and a third one with developing expertise in satellite image processing. Besides, there are also on-going projects with the National Foundation for Science and Technology Development (NAFOSTED), mostly coming from our team; a project on the application of new materials to the construction of satellite structures has been approved by FIRST (Fostering Innovation through Research, Science and Technology), a foundation similar to NAFOSTED but dedicated to technology. There are also smaller projects for young scientists within VAST and GUST (Graduate University of Science and Technology).

VNSC is promoting collaboration with international counterparts. Several MoUs have been signed with both domestic and international organizations, such as Ho Chi Minh High-Tech Park, NASA, JAXA and the Israeli Space Agency. The Centre is also active in organising conferences: last year, it organised two national conferences on the occasion of its 5th anniversary and of the 8th South-East Asian Astronomers Network Meeting; this year VNSC is organising the 10th Global Earth Observation System of Systems (GEOSS) Asia Pacific Symposium taking place from September 18th to 20th at VNSC. There will be about 200 participants attending the symposium. The theme is: "*Accelerating the realization of the Sustainable Development Goals with Earth Observations: Lessons from the Asia-Oceania Region*". The Symposium will focus on Asia-Oceania's, and in particular Vietnam's needs for Earth observation, information, data sharing and data platforms, regional user engagement as well as thematic topics, toward accelerating the realization of the Sustainable Development Goals. Actions to be taken forward under the Asia-Oceania GEOSS will be identified in the Symposium.

For the five years to come, the most important task for VNSC is to make sure that all its plans will be completed on time. Much effort is needed to develop manpower for space science in general and for satellite technology in particular. Manpower problems are identified as the main obstacle to overcome for space science and technology to develop and progress successfully in Vietnam.

THE LYSENKO CASE AND ITS LESSON

There has been recently an increased expression of concern following the bad ranking of Viet Nam issued by Reporters Without a Border in relation with freedom of expression. It is in this context that Bac Pierre wrote for Tia Sang an article that we reproduce below.

Science never lies. Truth always triumphs. But it may take time. Too much time.

For over thirty years, between the early thirties and the early sixties, Lysenko imposed his wrong views on heredity to Soviet biology. He could do so because he enjoyed a strong support from Stalin, and later from Khrouchtchev. Stalin liked the idea to praise the son of a poor peasant family who was claiming that acquired features can be transmitted to offspring, opening the way to a Soviet ideology aimed at promoting the birth of a better man. In addition, Lysenko was dangling in front of his fellow countrymen the hope for better

harvests and better crops at a time when rude winters and the setbacks of the agrarian reform were causing major famines. Lysenko took advantage of this privileged situation by eliminating all those scientists who were opposing his ideas at a time when modern genetics was starting to blossom abroad. It was not until 1962 that three famous Soviet physicists, Ginzburg, Kapitsa and Zel'dovich could present a case against him and denounce the fraud. Finally, in 1964, Sakharov could declare to the Academy of Sciences that Lysenko "*must be held responsible for the shameful backwardness of Soviet biology and of genetics in particular, for the dissemination of pseudo-scientific views, for adventurism, for the degradation of learning, and for the defamation, firing, arrest, even death, of many genuine scientists*". In the second half of the thirties, many geneticists were executed or sent to labour camps. In 1948, genetics was officially declared "*a bourgeois pseudoscience*" and all geneticists were fired. Altogether, over 3'000 biologists were imprisoned, fired, or executed for attempting to oppose Lysenkoism.

I always wondered how it had been possible to hide the truth for several decades from a community of scientists of such high level. I remember discussing this issue with Soviet colleagues. In guise of an explanation, they were describing the atmosphere of distrust that had pervaded their community as a result of radical, arbitrary and irrational censorship. By fear of being blamed, many scientists had progressively reached a state of intellectual castration and given up the ambition of speaking up; they knew that if they did it would not help the cause of the truth but it would seriously endanger their career, or even their life. Censors, by fear of the hierarchy, tended to be more zealous than necessary. They were making no difference between those who aimed at destabilizing the government and the regime and those who aimed at helping the nation to progress. They were fighting both alike. They were not conscious that, on a long run, gagging those who open their eyes and say what they see irremediably leads to the ruin of the nation. Preventing them from saying the truth led to the fall of the Berlin Wall and to an unprecedented brain drain of Soviet elites.

Today, it is difficult to see how such a situation, which was so obviously contrary to the interests of science and of the nation, could repeat. Internet and other technological platforms give each of us easy and immediate access to a broad spectrum of information. It is no longer possible to hide the truth. Yet, the temptation to deny it is still threatening us. Like most countries, we are currently meeting many difficult challenges and the legacy of the twentieth century, half under French rule and half suffering years of wars and starvation makes it even harder for Vietnam to face them. But we must have the courage to identify the obstacles that need to be defeated, and to name them clearly, if we want to have a chance to overcome them. The reality may be dark sometime, we should not be afraid to recognize it if we want to have a chance to improve the situation. Viet Nam has enough reasons to be proud of its glorious past not to be afraid to look at the present in the eye, not to be ashamed of what remains to be achieved.

Bac Pierre answering questions from the audience after his talk on Vietnam tomorrow with Diep helping with the translation

We are in the rear guard of South East Asia in terms of skill, our development resulting mostly from an abundance of low wage labour that has been attracting foreign investments: the minimal monthly wage is 110 USD, compared with 160 in China and 230 in Thailand. We are absent from the 2017 list of the 300 best Asian universities and in the past 15 years we produced 18 times less scientific publications per inhabitant than Malaysia and 8 times less than Thailand. While 130'000 Vietnamese students study abroad, only 2'000 foreign students study in Viet Nam. In the world, we rank 170 out of 180 in terms of air pollution, 154 out of 173 in terms of natural disasters.

There is no worse blind man than the one who does not want to see, nobody is deafer than the one who does not want to hear. To defeat an enemy, to overcome obstacles, one needs to know them well. The future of the nation is in the hands of the young generation, we must encourage them to open their eyes and say what they see. Preventing them to do so would be acting against the interest of the nation. Teaching them fairy tales would not help them to become adults. Not enough is done to stimulate their critical mind; I sometime feel that we are raising a generation of yes-men. We think to protect them by keeping them out of the suffering that their parents and grandparents had to endure, but we do exactly the opposite: we fail to arm them with the resilience that they need to face a difficult future, we fail to train them at resisting, at saying "no" when one has to say no, at being outraged when one has to be outraged, at amending the regulations that rule our society when they no longer match the reality of an endlessly changing world.

Viet Nam needs to change style in order to progress. Only the young generation has the potential to devote to the task the energy, the courage and the determination that it requires.We need to restore a spirit of active citizenship, to make them feel responsible toward the future of the country, feel concerned about the common interest more than about their own. We need to train them as responsible adults; it implies that we must encourage them to speak freely as long as they do it in a positive and constructive spirit. We even need to be indulgent and tolerant if, by accident, an excessive enthusiasm inherent to their young age makes them state things that go beyond reason. Everything must be done to give them a chance, to encourage them to speak up, to get together, to stop being passive, to become active and creative, to care about the future of the country, to become aware that it is in their hands, that they will soon get old, that if they don't act now, they will miss the opportunity to leave a better world for their children.

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– PHOTO ALBUM –

Viet Phuong and Diep at the opening ceremony in Nha Trang

Thao entertaining children on STEM Day

Gerard 't Hooft, his wife and Diep in Ho Chi Minh's garden in Ha Noi

Diep with USTH students in front of our small radio telescope

Sharing a lunch with Pham Duy Hien

Sharing Hue specialities with Gerard 't Hooft and his wife

Tuan Anh and Nguyen Quang Rieu at the Observatoire

Bac Pierre in Erice with Thang, a Vietnamese student of the school on subnuclear physics

Students of the Vietnam School of Astrophysics, which Phuong (third from left in the front row) attended

Celebrating Hoai's birthday

White or red? Phuong does not know which to start with (but Tuan Anh in the background will choose for her)

By looking close, you may see a little bit of Phuong between scarf and hat

Thao's son

Diep and Thao under the Nha Trang dome with staff members of the telescope and planetarium

Part of the Hoa Lac Space Center seen from the back. The telescope building is on the left, waiting for its dome to be installed; the Planetarium is on the right; the Museum is in-between.