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General Secretary Kim Jong Un gives closing address at first workshop for Party chiefs at city, county levels

The first short course for chief secretaries of the city and county Party committees closed with the fourth-day sitting on March 6.

Jo Yong Won, member of the Presidium of the Political Bureau of the Central Committee of the Workers' Party of Korea and secretary in charge of organizational affairs of the Party Central Committee, gave a lecture on more thoroughly establishing the unified leadership system of the Party Central Committee.

He underscored the importance and significance

of more thoroughly establishing the unified leadership system of the Party Central Committee in Party building, its activities and the strengthening of its leadership and fighting efficiency, and gave a detailed explanation about the principles and tasks to be surely maintained by the city and county Party organizations to faithfully uphold the leadership of the Party Central Committee.

The lecture stressed that the chief secretaries of city and county Party committees should remain unfailingly loyal to the sacred duty entrusted to them by the times and revolution, keeping in their minds the iron truth

that the victory of the revolution, the prosperity of the country and the happy future of the people rest on defending and upholding the Party Central Committee led by General Secretary Kim Jong Un.

A letter of pledge was adopted in the short course which expressed the firm resolve of the chief secretaries of the city and county Party committees to successfully turn their regions into fortresses of single-hearted unity and socialist paradises, true to the Party's line of developing cities and counties.

While guiding the short course, Kim Jong Un gave valuable instructions which would serve as guidelines in the

work of the chief secretaries.

City and county Party committees are major combat units that organize and carry out the Party's line and policy implementation, he said, noting that the flag of victory can be fluttered on the overall fronts of socialist construction when the city and county Party committees vigorously organize and mobilize the masses to the revolutionary work by properly applying the leadership idea and art of the Party Central Committee.

He called on the chief secretaries of city and county Party committees to proficiently conduct the work with officials, Party members and

other people with a higher sense of responsibility than ever so as to make definitely turn the struggle for regional development into the work of the masses themselves.

Saying that the chief secretaries should equip not only themselves but also the officials of the city and county Party committees with the Party's idea and line of attaching importance to cities and counties and unite them and achieve practical successes by brainstorming, he inspired them with confidence that there can be no fortress unconquerable when everything

is organized in keeping with specific conditions as required by Party policies and carried out by relying on the broad masses of the people.

All the cities and counties will be turned into places good to live in when the chief secretaries set clear development-oriented goals and make uninterrupted innovations and struggle for their implementation, he noted, introducing in detail the important undertakings planned by the Party Central Committee for bringing balanced and rapid change to local areas.

SEE PAGE 2



Kim Jong Un poses with participants in first workshop for local Party chiefs



Kim Jong Un, general secretary of the Workers' Party of Korea, had a photo session with chief secretaries of the provincial, city and county Party committees, who participated in the first short course for chief secretaries of city and county Party committees, at the office building of the Party Central Committee on March 6.

After declaring the short course closed, Kim Jong Un came out to the photographing venue, talking with chief secretaries of the provincial, city and county Party committees.

Expressing the expectation and

belief that the chief secretaries of the provincial, city and county Party committees across the country who are to leave for their dispatched places with fresh determination and preparedness would prove their sacred pledge made before the Party Central Committee and the people true with substantial successes by dynamically conducting the revolutionary work as they studied and armed themselves during the short course, he had a significant photo session with them.

At the end of the photo session, the chief secretaries of the provincial,

the chief secretaries of city and county Party committees.

Kim Jong Un delivered a closing address at the first short course for chief secretaries of city and county Party committees.

Noting that the Party Central Committee attached great importance to the short course with big expectation for the role of the chief secretaries of city and county Party committees in decisively shifting socialist construction onto the next stage, he said that through the short course, practical experience for equipping, awakening and inspiring them once again and improving and intensifying the work of city and county Party committees was accumulated.

Saying that the chief secretaries should always be aware that officials, Party members and other working

city and county Party committees raised enthusiastic cheers of "Hurrah!" in excitement in reflection of warm gratitude and loyalty to the General Secretary who repeatedly bestowed upon them great honour as well as great political trust to become true Party officials, genuine revolutionaries serving the people with sincerity and sharing joys and sorrows with them.

Kim Jong Un warmly encouraged them, waving back to the chief secretaries who were full of high confidence and fighting spirit.

people in their cities and counties will keep an eye with greater expectation on them who came back after participating in the first short course, the first of its kind in the history of the WPK, he stressed that the solemn pledge taken by the chief secretaries this time is an oath they swore before the people of their counties and a supreme task that should be carried out in any case without fail.

He asked all the chief secretaries to conduct a powerful organizational and political work for implementing Party policies with a fresh view and attitude that they have newly been appointed and start their work from now, play the role of steering the development of cities and counties well and thus bring about definite changes and successes to be welcomed and realized by the

The chief secretaries of the provincial, city and county Party committees made a firm pledge to present the report of loyalty to the Party Central Committee by strongly consolidating the city and county Party organizations into powerful political general staffs and surely achieving clear and actual successes desired by the people, as field political officials who received instructions directly from the respected General Secretary.

KCNA

FROM PAGE 1

The chief secretaries should determinedly pave the way for the future and energetically steer the development of their cities and counties by actively applying good experience introduced in the short course to their work, he said, giving earnest instructions that they should always attach importance to the mindset of people and let their work be appreciated by the people.

He said that chief secretaries of the provincial Party committees are also responsible for many problems that arose with regard to the work of city and county Party committees, stressing the need for them to discharge their duties in improving the work of city and county Party committees in their provinces and guiding and assisting

Saying that the chief secretaries should possess the spirit of unconditionally serving the people and the organizing ability and drive, practical capability and noble moral traits appropriate for officials who are in charge of regional bases of socialist construction, he warmly called on them to work hard to make the decisions of the Eighth Party Congress recorded in history as the ones successfully implemented.

Enthusiastically appealing to them to become faithful servants accepted by the people on the road of serving our great people, he declared the first short course for chief secretaries of the city and county Party committees closed.

KCNA

LEAD

One for all and all for one

The Korean people are now redoubling their efforts in socialist construction under the slogan "One for all and all for one!" which is seen in every workplace and everyone is eager to live and work as required by the slogan.

The watchword embodies the fundamental principle of the existence and development of Korean-style socialism and reflects the demand and aspiration of the Koreans.

It was coined at the time when the socialist system was just established in the country as the crystallization of the principle and way of life to be upheld by working people in socialist society. Its validity and vitality have fully been demonstrated through decades-long practice.

All members of society sharing the common aspiration pooled their efforts to make collective innovations and cared for one another. In that course, exemplary persons imbued with communism were produced and socialist industrialization was accomplished in a matter of 14 years in the heat of the Chollima movement.

As "one for all and all for one" was carried on as a social ethos, a new era of speed campaign was heralded in the 1980s and socialism was firmly defended and a solid foundation for building a powerful country

was laid in such trying years of Arduous March.

Although several decades passed and a new century set in, the slogan encourages the Korean people to make fresh innovations in their struggle still today when the socialist cause has reached a new higher stage of its development.

They believe that everyone should unite and devote their wisdom and energies for the state and the people in order to carry out the new five-year plan advanced at the Eighth Congress of the Workers' Party of Korea. Everyone hardens their resolve to think of the Party, country, society and collective before themselves, and society and collective share the same determination to embrace and help laggards and those in hardship to overcome present difficulties and usher in a new period of upsurge.

Every unit now conducts production and business activities with the viewpoint of giving priority to the overall interests of the state and all sectors and units have turned out to kindle the flames of joint innovation and increased production.

In the efforts to establish the collectivist ideological viewpoint and work attitude, the movement of making collective and joint innovations, which started from one shift helping

the next and one workteam the others in the Chollima era, is being conducted dynamically in every sector and unit, and they render mutual assistance and cooperation.

A series of touching scenes unfolded last year when natural disaster hit the country. Senior officials rushed to the afflicted areas to show the locals kindred affection and the capital rendered unstinting assistance to those areas. Measures were taken to make flood victims live in the office buildings of county Party committees, while their owners worked and lived in tents. As such beautiful human and social relations of sharing hardship and helping one another forward flourish, the Korean people lead a revolutionary and optimistic life, full of confidence in bright future, in the face of multiplying ordeals.

All citizens strive to do more things beneficial to society and collective with the eagerness to unassumingly devote their all to the prosperity of the country and with the noble intention to become a cornerstone for the development of the country—it is the true appearance of the Korean people who made a strong start for the implementation of the new five-year plan.

Ji Myong Chon

INSPECTION

Premier Kim visits Kimhwa County



Premier Kim Tok Hun (third from right) acquaints himself with preparations for building local factories in Kimhwa County.

Premier Kim Tok Hun, who is member of the Presidium of the Political Bureau of the Central Committee of the Workers' Party of Korea, inspected Kimhwa County of Kangwon Province to learn about the preparations for the construction of local-industry factories.

Making the rounds of the sites of factories to be built, he took measures to thoroughly apply the principle of building infrastructure first to the construction of public buildings and push ahead with river improvement.

The field consultative meeting discussed the problems arising in stepping up technical preparations for each construction project on the principle of preserving the

features peculiar to the county, completing the designs at the earliest possible date, preparing skilled workers for ensuring quality in the finishing touches on the projects and actively tapping raw materials to ensure the full-capacity operation of the factories.

The Premier also inspected the newly-built Wonsan general fishing tackle factory and the construction site of Phyonggang army-people power station and called for consolidating the material and technical foundations of the fishing sector and speeding up the building of the power station.

KCNA

ANNIVERSARY

International Women's Day celebrated

Marking the 111th anniversary of March 8 International Women's Day, the whole country brimmed with respect and warm affection for women, who are adding beautiful fragrance to a large harmonious socialist family, and congratulations were extended to them.

A constant stream of visitors flowed to the Kumsusan Palace of the Sun, the supreme temple of Juche where President Kim Il Sung and Chairman Kim Jong Il are preserved in their lifetime appearance.

They visited the statues of

the President and the Chairman and the portraits bearing their beaming images on Mansu Hill in Pyongyang and other places to lay baskets of flowers, bouquets and flowers.

A variety of congratulatory performances were given at theatres and open-air stages in Pyongyang and provinces.

The National Symphony Orchestra, the Mansudae Art Troupe, the Phibada Opera Troupe, the National Folk Art Troupe and the National Theatrical Troupe gave performances at theatres and the central women's union



A performance given at the East Pyongyang Grand Theatre in celebration of March 8 International Women's Day.

artistic motivational team at the Women's Hall.

Light music reflecting the joy of women who are respected as the flower of the country and the pride of the times made the audience spellbound, and ice acrobatic pieces and illusionary jugglery were given, accompanied by fascinating effects of illumination.

Each artistic motivational team also gave open-air performances to add colours to the festive mood.

Meanwhile, officials of each province, county, institution, factory, enterprise and cooperative farm warmly congratulated exemplary working women.

Public catering service networks throughout the country gave women holiday services.

Different restaurants in Pyongyang invited women workers of the Pyongyang Kim Jong Suk Textile Mill and Pyongyang Kim Jong Suk Silk Mill to offer kind services.

Other restaurants in each province also did their best to give women pleasure on the holiday.

In families, husbands and children warmly congratulated them as they presented them with greeting cards and beautiful flowers, and every home was filled with happy laughter.

KCNA

Nationwide

Huge blasting conducted

A 260 000-cubic-metre blasting was carried out at the Sunchon Limestone Mine on March 10.

The successful blasting provided a guarantee for supplying enough main material to the Sunchon Cement Complex.

Mines lay foundations for production growth

The Phungnyon Mine increased tunnelling 1.3 times as compared to before while concentrating efforts on the restoration of flooded pits, perpetuation of tunnels, repair and maintenance of equipment in each process, capacity building of dressing plant and extension of new series of floating machine.

The Sangnong Mine carries on its mineral production plan after confirming a new deposit of minerals and by introducing an advanced mining method.

Unpha, Yongyu and Jungsan mines are pushing ahead with projects for the expansion of production capacity such as development of new stope, preparation of reserve stope and modernization while carrying on current production.

Production of fertilizer and chemicals on the increase

The Namhung Youth Chemical Complex and the Hungnam Fertilizer Complex are now increasing the production of nitrogen fertilizer after overfulfilling their February production plans.

The February 8 Vinalon Complex, Sinuiju and Chongjin chemical fibre mills and other industrial establishments are also fulfilling their daily production plans of such chemicals as caustic soda and vinyl chloride.

Giant cement producer boosts output

The Sunchon Cement Complex is producing hundreds of tons of more cement than planned every day.

While prioritizing the settlement of problems arising in the upgrading of production processes and the expansion of production capacity, it has applied new operation methods to increase the operation rate of kiln and other equipment.

Its refractory branch factory rationally modified the parts of a gas producer and the Sunchon Limestone Mine is overfulfilling its daily production plan by over 20 percent.

THE PYONGYANG TIMES



Scientific production

Great efforts are being directed to putting mushroom production on a scientific basis in different parts of the country.

The Central Mushroom Research Institute bred over 10 good strains of mushroom appropriate for each season in keeping with climatic features of the country, and established energy-saving culture techniques for them.

Among them are such species suitable for growing in spring and autumn as *Lentinus edodes* and *Plurotus sajor-caju* and those in winter including *Pholiota nameko* and *Flammulina velutipes*. In particular, *Pleurotus abalonus*, *Volvariella volvacea*, *Auricularia auricula* and *Phyllotopsis* with good taste and high nutritional value were developed as strains that can be cultivated safely even in summer.

Mushroom farms in each province strive to solve technical problems.

Among their developments are an automatic system for controlling environment for mushroom cultivation and a magnetic water maker.

The system monitors in real time and automatically controls the oxygen content, humidity and illumination which are essential for growing mushroom. After its introduction, mushroom yield has increased by 15 percent as the content of carbon dioxide has been lowered and relative humidity increased in cultivation grounds.

The magnetic water maker magnetizes the water for mushroom to promote its growth. The magnetic water has increased the bud divergence ratio by 10 percent and the mushroom yield as well.

The farm machine research institute under the Ministry of Agriculture contrived a mushroom spawn sowing machine which injects cultured spores into fermentative substrates.

After its introduction, the Pyongyang Mushroom Farm doubled productivity, while preventing environmental pollution.

Unsan County in South Phyongan Province introduced a method of producing mushrooms using a bioactive radiator to increase output while lowering costs.

The radiator decreases the association of water and generates anion. The water treated by the radiator maximizes the moistening degree of substrates for the high penetration to ensure even fermentation of substrates and has sterilizing effects as well. The fermentative substrates made thus nurture mushroom

production method based on liquid culture of spores was the first of its kind in the country.

The method makes it possible to use all kinds of materials containing cellulose, including straws, corncobs and sawdust, as substrates for mushroom growing and also increases production by dozens of times while saving much labour and electricity.

The mushroom production method based on liquid culture obtained a patent of the DPRK and won the first place at an exhibition of intellectual products held in 2016.

Economical methods

The Ryugyong Mushroom Farm in the suburbs of Pyongyang has introduced cost-effective and labour-saving production methods.

One of them is recycling of substrates which take a very important share in mushroom farming.

In the past, mushroom substrates were used only once and therefore it required much labour and cost to purchase corncobs, the main material for substrates. The farm's technicians devised a method of recycling used substrates for five times. The substrates are first used to grow *Pleurotus eryngii* for three times and then in the production of different kinds of mushrooms such as *Pleurotus ostreatus* for two times in the outdoor cultivation ground. In the end, waste substrates are fermented to be used as feed for domestic animals. Consequently, the farm reduced the consumption of corncobs while raising their utilization rate by half.

It ensured profitability in the use of the sterilizing oven and cooling water. After being remodelled, the oven reduced the sterilizing time to one third, saved much labour and lowered the annual consumption of coal by dozens of tons.

The farm also remodelled the power-driven cooling water system for quick-freezing into a power-free one, thus saving hundreds of kilowatts of electricity, eliminating pollution in the cooling chamber and increasing mushroom output.

Besides, it raised the productivity by 5 percent after adding natural mineral multifunctional nutrient to mushroom substrates.

"With the help of such production methods, the factory increased the per-substrate weight of mushrooms to 145-150 grams and the farm's annual production rose 1.2 times more than that of the past," said senior engineer Pak Chol Ho.

Mushroom farming bears tangible results



JON KWANG HUN

Nationwide efforts are made to increase mushroom production.

spawns in large quantities in a short period. The radiator has saved the county from using quicklime which was used for producing fermentative substrates and sterilizing cultivation grounds in the past.

Nutritious mushroom

The Jongbangsan Mushroom Farm in North Hwanghae Province produces diverse sorts of mushroom.

"In the past, we cultivated a few kinds of mushroom. Nowadays, the demand for different sorts of nutritious mushrooms is growing higher. So we are concentrating main focus on increasing the varieties of mushroom," said Mun Hye Sun, manageress of the farm.

The farm is attaching primary importance to ensuring substrates after establishing the scientific cultivation technology in order to produce various kinds of mushroom in an industrial way.

To this end, the farm uses the shuck of cottonseed from the province as substitution substrates, recycles waste

substrates and studies and introduces a multifunctional nutrition stimulant.

The multifunctional nutritive stimulant also increases the yield per raw material as it is widely used from the production of spores to its cultivation.

The farm now turns out various microtherm and thermophilic mushrooms including *Flammulina velutipes* and *Pelurotus ostreatus* with no spores.

Demand is high especially for the mushroom that takes the form of *Lentinus edodes* at the upper part and looks like *Pleurotus eryngii* at the lower part.

"This mushroom is reportedly good to eat as it tastes sweet to some extent and feels soft in the fibre. And it is suitable for close cultivation for its high yield and rooting rate and it is unaffected by carbon dioxide," said Choe Yun Hyok, chief engineer of the farm.

Brown-coloured pholi mushroom is also favoured since it is good for the treatment

of stomach disorder and has anti-cancer effects.

Popular growing method

A new mushroom growing method developed by the mushroom farm of the Ryongsong District People's Committee in Pyongyang is drawing the attention of many units.

Unlike the one based on solid culture which is practised at many mushroom farming units in the country, this method relies on liquid culture, or submerged culture.

The method based on solid culture cannot avoid the seasonal influence and is vulnerable to a series of problems such as the decrease of productivity by pollution.

According to Kim Song Ung, manager of the farm, the submerged culture-based method helps shorten the spore and substrate production periods, while getting them to remain unaffected by such problems.

He added that the mushroom

EDUCATION

College makes the most of study-while-work system

Pyongyang College of Technology is an institution of learning based on the study-while-work system.

Employees of different factories learn textile, chemical, electrical, mechanical and computer engineering and industrial administration at the college.

"We continue to innovate teaching methods while further making teaching contents practical," said Kim Kwan Guk, deputy rector of the college.

The college made 6,472 teaching plans in 107 subjects practical, comprehensive and up-to-date a step higher by innovating education contents in recent three years after

rationally determining the academic level and width of basic subjects.

It also adopts teaching methods by applying a variety of educational science and technology including VR and AR technologies.

In the course of this, the mechanical engineering teaching method using the VR technology was generalized among colleges throughout the country involving the study-while-you-work system as it increased the cognition rate of students to over 98 percent.

"We attach importance to making students scientifically acquire the knowledge accumulated through

experience in line with the teaching of students working in the field. Since students with rich experience raise many unexpected problems, we put big efforts into the preparations for lectures," said lecturer Mun Ye Gyong.

Amid fierce competition to create new teaching methods between teachers, between departments and between courses, over 30 lecturers received the certificate of registration of new teaching method and more than 3,700 e-teaching plans and hundreds of multimedia presentations were made in the recent three years.

Kim Kwan Guk said that students have taken an active part in scientific research so as to closely combine education with scientific research and practical activities, adding that the certificate of registration of sci-tech achievements, the certificate of new technology introduction and the certificate of original plans were conferred on many students.

The college, in which 80 percent of its lecturers are academic degree or title holders, is striving to make new innovations and steady advance.

By Ri Sung Ik PT



PANG UN SIM / KUMSUGANSAN

Lecturers discuss how to introduce virtual reality technology into education at Pyongyang College of Technology.

ANIMATION

Oksoe Defeats a Devil wows cartoon fans

"*Oksoe Defeats a Devil* is now in greatest demand among the 'Mokran' multimedia for smart phones. Months have passed since it was brought out, and it still grows in popularity," said Kim Pom, staffer at the Samhung IT Exchange Centre.

The cartoon liked by children and adults alike is a cliff-hanging story about a brave man who fights against injustice. Its

vitality lies in the application of a new portrayal in production.

The creators of the Korean April 26 Animation Studio which dominates the animation field in the country introduced several innovative techniques into making the cartoon.

They refined the 3-D cartoon software which was applied to previous animations like *Awangnyo Finds out Fire for Kindling* in the

course of producing this film.

"The 3-D cartoon software can ensure flexible and realistic portrayal and truthful expression, but the application of it requires a great deal of efforts and time. Such programs are constantly updated worldwide and the success of an animation rests on how efficiently its producers use the apps in cartoon making ahead of others," said director Kim Jin Hyok.

The producers enhanced the softness of hair of characters, the real sense of their motions and the vividness of their costumes by using an advanced 3-D program with hair and dress simulation apps.

They also fractionated and concretized characterization according to each process so as to maximize the level of representation of such elements as water, fire and smoke for special effects, thus presenting delicate and lifelike pictures.

"The speech of each part is also very important in making cartoons a success. Mok Kum Song, who is well-known to



PAK KWANG HUN

Producers of the Korean April 26 Animation Studio draw pictures on touchpads.

PADUK

Game good for developing children's intelligence

Paduk or go is very effective for developing children's intelligence. In particular, it is easy to learn and interesting for nursery children.

The weekly nursery in Tongmun-dong No. 2, Taedonggang District, Pyongyang, has taught paduk since a few years ago and every child loves it even though they have different characters, dispositions and natures.

After a month-long study of paduk, they can easily solve problems on a reference book, and even restless children do not feel it boring to learn the game for more than 30 minutes.

According to nursery school teacher Ri Hyon Hwa, children feel most exciting when they capture the opponent's stone and paduk draws the interest of children as it helps them naturally develop their intelligence.

Those who have learned how to play the game excel in counting, she said, adding that the whole process of paduk playing is associated with counting.

She said that children easily understand the concept of addition and subtraction as they count the number of stones they have captured or lost after counting their numbers in the course of playing the game. As they count the number of

the people for his outstanding speech, gave full play to his prodigious talent as he spoke the part of hero Oksoe," said section chief Ri Un Ju.

The producers introduced a 5.1 stereo system for the first time into *Oksoe Defeats a Devil*, thus boosting the level of presentation of cartoon.

As part of the efforts to produce 3-D cartoons, the studio recently brought forth Parts 28-34 of historical animation *Ko Junong*.

By Kwon Hyo Song PT



Scenes from newly-produced animation *Oksoe Defeats a Devil*.

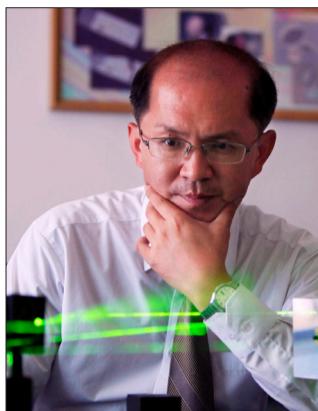
“Oksoe Defeats a Devil is now in greatest demand among the ‘Mokran’ multimedia for smart phones.”

Kim Pom, staffer at the Samhung IT Exchange Centre



Research results suggest new solutions for major projects

Researcher resolves knotty problems in nonlinear optics



Im Song Jin, professor, PhD and section chief of the Department of Physics of Kim Il Sung University

Im Song Jin, professor, PhD and section chief of the Department of Physics of Kim Il Sung University, has made outstanding achievements in research into nonlinear optics.

He published nearly 40 SCI-class papers including several papers in prestigious academic journals of the world.

Serving as a reviewer of such organizations as OSA, he published three papers of great significance in the study of nonlinear optics in Physical Review B last year.

His paper "Hysteretic optomagnetic bistability based on the plasmon-induced inverse Faraday effect in magnetoplasmonic disk resonators" dealt with a scientific guarantee for increasing

the recording density and speed of information recording devices.

"In developing information recording devices, it is an important matter to increase their recording density and speed. The existing disks ensure high writing speed, but their recording density is low. In this paper we referred to the new discovery of unique magneto-optical recording phenomenon in nanoresonator," said Im Song Jin.

The application of the research finding to practice would increase the writing speed and writing density of hard disks thousands of times.

In his other paper published in the same journal "Optically induced nonreciprocity by a plasmonic pump in semiconductor wires", he suggested a paradigm for optically induced nonreciprocity in semiconductor wires which are spatially asymmetry-free and provide a very simple and efficient platform for plasmonic devices.

In most studies, spatial asymmetry has been by necessity applied to break Lorentz reciprocity, Im said.

This principle may open an avenue toward highly integrated all-optical nonreciprocal devices, he added.

By Kim Rye Yong PT

Papers suggest solutions for developing NTC thermistor



Yu Nam Chol, PhD, associate professor and researcher at Kim Chaek University of Technology

Yu Nam Chol, PhD, associate professor and researcher at Kim Chaek University of Technology, is a member of the organizing committee and Technical Committee member of the International Conference on Materials Science. He is also a member of the International Society of Chemical Engineering of the International Association of Engineers and an honorary member of the London Journal Publisher Association of the UK.

He has presented or contributed dozens of papers at international conferences and to international science journals and reviewed papers for the conferences.

He published six SCI-class papers last year and another one in January this year.

Of them two papers attract particular

interest of the academic circle.

The first paper proves that nanoceramic materials, which can be used as an ideal NTC thermistor, can be successfully prepared by a cheap sol-gel auto combustion and the second one presents numerical data with which to design an optimized multilayer NTC thermistor by way of simulation using a finite element analysing method.

"Nano-ceramic materials prepared by sol-gel auto combustion will lower the production cost by a fourth of that by the existing method and if they are annealed for 72 hours at 550°C in N₂ atmosphere, their aging will be reduced by over 0.3 percent as compared to before. And many researchers have undertaken research projects to design optimized multilayer NTC thermistors. I applied the simulation method based on finite element analyzing method which is used for designing optimal battery to the designing of multilayer NTC thermistors and confirmed correct and satisfactory numerical values," said Yu.

The research results are expected to be of high practical value as the NTC thermistor and multilayer NTC thermistor are widely used.

By Han Kwi Hun PT

Research into new energy materials intensified



Yu Chol Jun, professor, PhD and section chief of the Materials Science Department of Kim Il Sung University

which can be obtained at low cost by a chemical method, instead of using expensive silicon.

Yu newly designed an interface structural model of the photovoltaic material consisting of mixed halogen perovskite, Lewis base and graphene.

"Fixed halogen perovskite and graphene are widely applied as energy conversion materials. I found out that when Lewis base is added between mixed halogen perovskite and graphene to form a new interface structural model, it can improve the stability of the photovoltaic cells," said Yu.

He also discovered that the replacement of a certain amount of titanium, which is used as a cathode activation material for sodium ion battery, by vanadium can greatly expand the storage capacity in the design of energy storage materials.

According to him, the research finding provided the scientific base for increasing the capacity of sodium ion batteries to more than double that of expensive lithium batteries at the maximum.

Yu has contributed 43 papers to SCI-class magazines and his last paper was published last January.

By Pang Un Ju PT

An advance in speed-up of public key cryptosystem



Kim Kyu Chol, researcher at the information science and technology faculty of Kim Chaek University of Technology

both the signature and encryption functions.

The preceding methods studied to increase the RSA signature speed had shortcomings as the standardized fast prime generation could not be used.

Kim Kyu Chol proposed the fast decryption in rebalanced RSA signature while reducing the CRT exponents maintaining the full sized private exponent for encryption and decryption with composite modulus and using typical prime generation as it was, and proved its security mathematically.

In "Research for increasing the speed of decryption in the ElGamal public key cryptogram with composite number as a module", he provided a scientific and theoretical basis to settle the problem of simultaneous fast encryption and decryption in the field of public key cryptogram.

He proved that it is possible to ensure the encryption and decryption speed in the way of reducing the CRT secret exponents while maintaining the size of secret exponents.

His papers were published in Theoretical Computer Science and PLOS One (Public Library Of Science One).

By Ri Sung Ik PT

RUSSIA

Attention paid to education in patriotism

Activities were conducted in Russia to give preferential treatment to war veterans, model after their spirit and honour their achievements for war victory on the occasion of the Day of Defenders of the Motherland (February 23).

In Moscow, President Putin, the chairpersons of the State Duma and the Federation Council of Russia, representatives of political parties and members of the council of the Defence Ministry laid wreaths at the Tomb of the Unknown Soldier beside the

Kremlin walls and paid respects to the fallen soldiers in the war.

In Primorsky Territory a 200-square-metre large flag representing that of victory was unfurled and a nationwide patriotic campaign was initiated in the meaning of remembering the achievements made by the people of the former Soviet Union during the Great Patriotic War forever, treating war veterans preferentially and holding them in public esteem.

The Primorsky governor laid a bouquet at the monument "Glory to the people of Arsenyev" in memory of the fallen soldiers in

the war.

President Putin said in the Rossiya 24TV that the Day of Defenders of the Motherland was a symbol of loyalty to the country and valour.

Extending gratitude to veterans of the great times, he said that the tradition of patriotism tightens the inseparable ties between the people, country and their reliable defenders. It is also very important and urgently required today, he noted.

Prime Minister Mikhail Mishustin and Matviенко, chairwoman of the Federation Council, also published their

congratulatory messages to pay tribute to war veterans.

They also extended their congratulations to the brave and resolute defenders of the country who are devoting themselves to difficult military service, defending the interests of the state and contributing to the development of the country in peacetime.

Russia is making constant efforts to honour the achievements for war victory by promoting education in patriotism.

By Om Ryong PT

On February 16 this year, the European human rights court issued a directive that the British government should pay £ 22 000 to each of two Vietnamese boys as reparation.

In 2009 the British court had sentenced the two, who were arrested for a drug-related crime, to 20 or 18 months' imprisonment respectively. At the time, the British government made unilateral judgment without inquiring into the fact that they were the victim of illegal child trafficking.

The crimes and human rights abuses are an inevitable result caused by the decadent social system which is rife with mammonism, immorality and depravity.

By Choe Yong Nam PT

HUMAN RIGHTS ABUSE

Rampant crimes and human rights abuses in West

Various kinds of crimes and human rights abuses are committed in the Western countries without let-up.

According to the information released by the British central bureau of statistics on October 28 last year, the number of drug-related crimes increased by 30 percent in the period between April and June last year as against the same period of the previous year.

On November 19 of the year, knife wielding left four people

wounded in Germany.

In August last year the Netherlands uncovered a criminal group, who inveigled girls in their teens into taking drugs to commit gang rapes, and all of the criminals were reportedly young people aged from 18 to 26.

In France, those in the 20s committed an outrage on a busman who demanded them to wear masks in France.

A white man lured a 14-year-old girl student of middle school into the woods of a park in London, the UK, to rape her and

flee. Such an incident occurred in full daylight and even at a crowded public place.

Human rights abuses are committed even by social groups and at the state level, as well as by individuals.

At a farm of a huge British foodstuff company in Kenya, guards beat a 28-year-old male farmer to death for the reason that he stole avocado pears and raped over a dozen female farmers as they committed a total of 85 cases of serious human rights abuses.

EBOLA

Epidemic recurs in Africa

Ebola virus infection has recently broken out again in Africa.

An infected person appeared in Northern Kivu Province, the Democratic Republic of Congo, in early February.

On February 14, seven people were infected with the virus in the southeast region of Guinea, with three of them losing their lives.

The number of infected cases amounted to 28 and 11 were dead in the countries as of March 2.

The African centre for disease control said that the recurrence of the epidemic in the Democratic Republic of Congo and Guinea is causing new apprehension in the continent along with the spread of COVID-19.

Ebola virus was first found near the Ebola River in the Democratic Republic of Congo in 1976.

When it spread between 2014 and 2016, it turned out

to be the most fatal disease in terms of infectivity and fatality. The death rate from the virus reaches 90 percent and the route of infection is still unclear.

African countries have buckled down to preventing its damage while keeping their eye open to cope with its spread.

The Guinean government declared a state of emergency and launched into vaccination campaigns.

The Democratic Republic of Congo is finding out contacts to take relevant measures.

The African regional director of the WHO said that it is very important to take collective and rapid measures to prevent the spread of Ebola infection from turning it into uncontrollable phase now that medical personnel and public healthcare facilities are in the worst situation due to the spread of COVID-19.

By Min Chol PT

WRONGDOING

Massacre in Taegu part of Japan's sinful past

The March First Popular Uprising in 1919, an outburst of pent-up rage and enmity of the Korean people who had been subjected to contempt and maltreatment under ten years of the Japanese imperialists' "sabre rule", spread throughout Korea in an instant.

Much upset by the incident, Japan egged troops and policemen onto brutally clamp down on bare-handed peaceful demonstrators. Among such brutal atrocities, there was a massacre in Taegu.

On March 8 1919, tens of thousands of students and patriotic people turned out in the anti-Japanese demonstration in Taegu.

The Japanese policemen and military policemen rashly fired to peaceful demonstrators, killing many Koreans and committing an outrage on bereaved families who tried to carry away and bury corpses. They even arrested doctors and

family members for the reason that they had treated wounded demonstrators and detained innocent people at random and brutally tortured them.

When a young man called Kim Yong Hae read out the "declaration of independence" with his father, one of the demonstration organizers, Japanese policemen pounced on him to thrust their swords into his body and arrested and tortured him and his father before cruelly killing them.

As a result, more than 130 people were killed, over 80 injured and hundreds of people imprisoned in Taegu.

The slaughter in Taegu is the tip of the iceberg showing the brutal atrocities committed by the Japanese during their military rule over Korea.

The past wrongdoings of Japan must be punished without fail.

By Song Jong Ho PT

Briefly

Russia, Syria

West blamed for seeking sinister purpose

Russia and Syria in a joint statement on March 4 said all measures taken by Western countries have nothing to do with the counter-terrorist campaign in Syria.

The statement disclosed that their real purpose is to easily plunder natural resources from Syria, rather than fighting terrorism.

China

Special attention paid to protecting ecological environment

According to the information released by the Chinese Ministry of Water Resources, the loss of water and earth has been prevented in the area of 47 500 square kilometres of the Yangtze River basin and the covering rate of trees and grasses has increased over the past decade.

A relevant agency of the ministry reportedly took measures for tightening legal control over the construction projects.

Iran

Tree planting for forest conservation called for

It is crucial to protect forests and pastures in ensuring food security, said Iranian President Hassan Rouhani in an event on March 3, before referring to the need to map out a detailed plan for tree planting and growing.

He stressed that proper conservation of forests is a way to prevent desertification and leads to the provision of job opportunities, wealth and clean air.

Kenya

Regional unity and peace demanded

Kenyan President Uhuru Kenyatta said in a press briefing on March 4 that the situation has improved with the progress in the peace process in some countries in the region, but its humanitarian situation is worsening due to geopolitical disputes, climate change, the pandemic and terrorism.

LAS

Investigation into Israel's unethical crimes demanded

Foreign ministers of member nations of the League of Arab States adopted a resolution at the regular meeting held in Cairo, Egypt, on March 3, in demand of early investigation into unethical crimes of Israel against the Palestinian people.

Any peace initiative running counter to international efforts for peace in the Mideast can never be tolerated, the resolution said.

Sports village contributes to developing country's sports



There is a sports village on Chongchun Street in Mangyongdae District, Pyongyang.

"The sports village was built in 1988 in the picturesque place on the shore of the Taedong River covered with pine forests. Since then it has developed into a sports and cultural hub," said Ri Hang Jun, director of the Sports Facilities Management Bureau.

The sports village was renovated in March 2014.

Hub of sports and cultural activities

Sprawling in an area of over 1.54 million square metres, the sports village has a stadium and gyms to host matches of over 40 events in more than 20 sports at the same time and is fully equipped with all service facilities including

a dining hall and hostel for sportspeople.

The 26 000-seater Sosan Football Stadium with an impressive mark showing a football player kicking a ball hard can host all kinds of cultural events as well as football matches. Players can have training and matches in several water sports like swimming, diving, synchronized swimming and water polo and public service is provided at the Swimming Gymnasium with a total floor space of some 7 000 square metres at the entrance of the sports village.

The Basketball Gymnasium seats over 2 000 including a mobile stand with some 460 seats. Various kinds of ball games as well as basketball can be played in the gymnasium.

The Handball Gymnasium with a mark showing a player

ready to run forward at the moment with a ball in hand which is seen on the facade, the table tennis, athletics, combat sports, physical training and other gyms are all designed distinctively and their courts, viewing stands, service, welfare and other facilities have been provided at such a level as to host international events.

The 2019 Asian Junior and Youth Weightlifting Championships were held at the Weightlifting Gymnasium in 2019.

The Taekwon-Do Holy House and the Taekwon-Do Hall encourage the development and spread of the Korean martial art.

Hostel dear to sportspeople

There is a 15-storey hostel for sportspeople with a building area of 11 860 square metres in

the sports village.

It reminds viewers of a winners' podium.

At the centre of the facade is seen a mark representing a trophy and on the wall of the entrance hall is engraved with the five-ring Olympic emblem.

It is equipped with proper facilities for relieving players and coaches of mental and physical tiredness.

There is a morning training ground covered with artificial turf on one side of the park built in front of the hostel. The residents do their morning exercises here in the early morning, breathing in the fresh air coming from the pine forest behind the hostel.

Sports goods production base

Built in 2016, the Pyongyang Sports Goods Factory basically satisfies the domestic demand

for sports equipment.

It produces sports goods including balls, gloves, bags, sportswear and protective gears, some 150 varieties in 60 kinds in total.

It is noticeable that a strict quality management system has been established on the basis of homemade test sets.

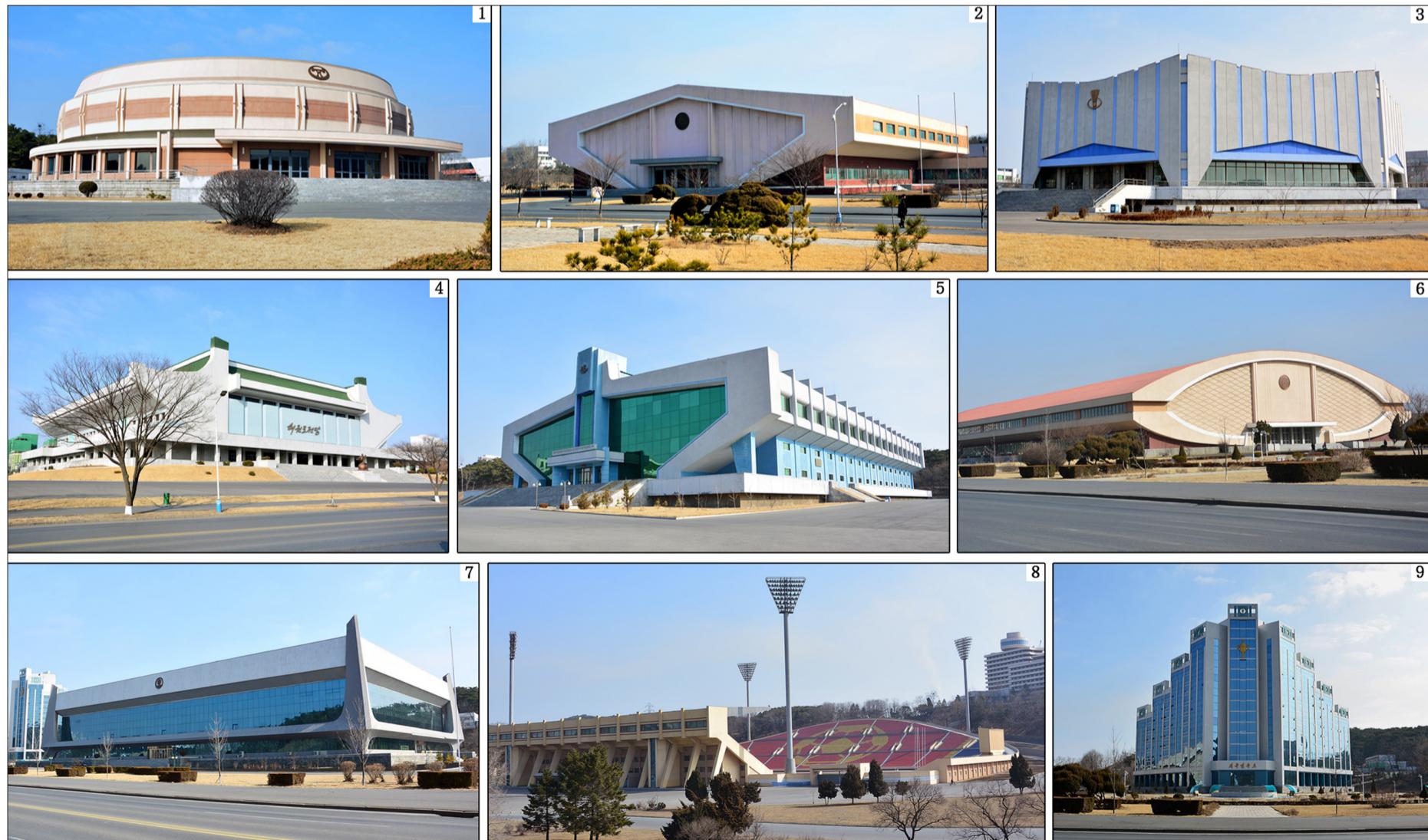
"The ball sphericity measuring device, elasticity test set control panel, water absorptivity test set, ball shooter and other equipment have been applied to make the quality of products conform with international standards," said Kim Thae Sop, chief engineer of the factory.

Dozens of patterns have been introduced into making footballs, in addition to those covered with different colours. Taesongsan-brand footballs, whose shape of sphere, elasticity, weight and other quality indices meet international standards and vary in colour and pattern, are popular with both sportspeople and fans.

In recent years the factory has developed various measuring devices which are helpful to the training of sportspeople, such as those for measuring waist strength, breathing capacity and velocity energy, and protective gears for Taekwon-Do players.

It is now stepping up the technical preparations for the production of boots for speed, figure and ice hockey skates and start of their production.

By Han Kwi Hun PT



1. Weightlifting Gymnasium 2. Combat Sports Gymnasium 3. Badminton Gymnasium 4. Taekwon-Do Hall 5. Swimming Gymnasium 6. Athletics Gymnasium
7. Table-tennis Gymnasium 8. Sosan Football Stadium 9. Hostel for Sportspeople.

RYU KWANG HYOK

