



HEROÍNAS VOL. 2

REVISTA DE MUJERES EN CIENCIA, TECNOLOGÍA E INNOVACIÓN



GOBIERNO de
GUATEMALA

SECRETARÍA
NACIONAL
DE CIENCIA Y
TECNOLOGÍA

Yalan
jeb'él k"iy qab'ey nub'än
ri na'ojob'äl, nuya' chi qe jun
nimälaj ka'yib'äl chi re qak'aslen,
kow raqän chuqa' ütz taq
samajib'äl chi re ruchupik ri
ruk'ayewal.

Samaj pa ayonil utz,
samaj pa molaj majun
yiq'ilow ta.

Nute'
xya'ow chi we ri
kanonem; chi qawäch
rija' nab'ey xb'ë pa
nimatijob'äl.

Wachuq'a
ruya'on chi we ütz täq
samaj chupam ri jay tz'etabäl
samaj rik'in nimäq täq
rukusaxik na'oj.

Ri nim
nurayixik yintzu'
ruwachulew pa jun k'ak'
wachil, chuqa' yinya' nim
rupa'lemal rub'i ajiximulew
ixöq.

Yaq'äx
pa nujolom yinb'in
cho ronojel ruwachulew,
yinwetamaj chi re qate'
ruwachulew chuqa'
yinto'.

Pa walaxik petinäq ri
kanonem, ntel nuk'u'x chi
re ri kanonik. Yoj ixoqi' yoj
jun molaj ch'akonenela'
richin k'aslen, richin
achik' chuqa' na'ojob'äl.

Nutata'
nute' e ajk'ay, majun
kirayij ta nintel jun kunanel.
Wakamin wawe' yin k'ow, yin k'ow
pa nab'ey cholaj ruma ch'a'öz rik'in
COVID-19.

Ronojel
q'ij K'o pa nuk'u'x
ri Mayab' No'job'al.
Xinaläx pa tew juyub'äl
tinimal; yinkalk'uwal e kan
molaj winäq yetz'ukinäq pe
pa K'iche' chuqa' Mam

Ntel
nuk'u'x chi re
tz'ukarik na'ojob'al chuqa'
rukojik pa k"iy ruwäch täq
k'aslen qate' ruwachulew chuqa'
jalajöj täq kachoch wachinaq
k'o kik'aslem.



HEROÍNAS² REVISTA DE MUJERES EN CIENCIA, TECNOLOGÍA E INNOVACIÓN

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OKIBÄL TZIJ

Ixoqi' Ch'akonela' pa Eta'manem Na'ojib'al jun samäj nqatikib'a' rub'anik chupan ri Amaq' Tz'ib'ajay richin Na'ojib'äl Samajib'äl richin Iximulew (SENACYT) jun rejtalil chi ke kojonel ri ixtani' chuqa' ixoqi' e aj Iximulew, k'ask'onäq kijolom chi retamaxik na'ojib'äl, samajib'äl chuqa' ajilanem (STEM rub'iixik ya'xtanäq chi re pa ula'tzij). Ixoqi' chi re kichuq'a, kisamäj chuqa' kik'ambäl tzij kik'aslen, nki'an k'ex chupan ruwachulew; ye'ok k'amb'äl taq tzij chi ke ak'uwala' chuqa' q'apoa' k'ajola'.

Ütz yewil ruq'ijobäl samaj kichin ri na'ojib'al chuqa' e k'ak'ab'äl täq ixoqi' richin Iximulew, ri' rukan wuj yuk'ol kicholk'aslen kichin e juk'al lajuj nimäq täq kiq'ij ixoqi' chupam jalajon na'ojib'äl richin STEM, ixtani' tijoxela' k'a ja' nkemaj rij kitamab'äl pa tijobäl chuqa' ajsamajel taq ixoqi' chik e k'o chupam taq nimaq' taq mokaj samäj chik chupan Iximulew chi re chuqa' nik'al chik amaq'.

Rije' ch'akonela' ixoqi' ri' nkik'ut chi qawäch yojtikir kojch'akon chupam ri qak'aslen, xaxe' chakonem ki'koten yuk'an pe chi qe.

Chupam ri' juna' 2023 nqaya' apon rukan wuj ri' richin ri wuj Ixoqi' Ch'akonela' pa Eta'manem Na'ojib'al, chupam ruk'ulik ruq'ij jar ixög chi re ruwachulew; k'a k'o chik na k'iy samäj yiraj yisachoq rajil chi re samäj chi ke ak'uwala' chuqa' ixtani' k'ajola' nkik'is tijoxik ki' chupam tijob'al, ütz jaru' la nel kik'u'x chi re na'ojib'al, samajib'äl chuqa'k'ak'ab'al. Kiri' chuqa' kipa'b'axik ixoqi' chi re jojunäl na'ojib'äl nkib'än pa ruwi' ri qatinimit, chuqa' nqaya' ruq'ij kisamäl nkib'än chupam le tinimit.

K'o yuqbäl qak'u'x chi ri wuj ri' yiruto' ak'uwala' chi re rusamajixik kachik', k'o k'atzinel chi ke nkiyuquba' kik'u'x kik'in ri je' chupam rub'eyal na'ojib'äl, samajib'äl chuqa' k'ak'ab'äl; chi re kik'iyen richin kisamäj chuqa' kichin nik'aj winaq chik chupam ruwachulew.

Yojtikir nqejtamäj, chupam ruk'aslen jun ak'uwal, jun ixtän chuqa' jun ixög k'o jun ch'akonel. Nqamatiyoxij chi ke e oxk'al ixoqi' xkiya' kichilk'aslen chi re SENACYT, ütz k'o chi nqak'üt chi kiwäch nik'aj chik winaq, chi kiwäch ak'uwala' chuqa' ixtani' k'ajola'. Matiyox chi awe rät yasik'ij ri' wuj, yak'üt chik kiwäch nik'aj chik winäq. Rusamäj SENACYT k'o awik'in, richin wakamin, chuwa'q k'in chi re ka'b'ij chupan ruk'aslen Iximulew.

Jun nimaläj ch'akoj chi
qe qonojel yoj ixoqi' chi
re nqanimaj q'i yoj rik'in ri
qachuq'a, achi'el nqawil
chuqa' nqanimaj ri achuq'a
k'o pa qak'u'x; k'o chi
rajawaxik nqatzukuj ri
qachik'.

Ana Chan
Ixoqi' ch'akonela' pa eta'manem na'ojib'al

TIQAB'ANA' RI NTEL QAK'U'X CHI RE, ¡MAN TAXIB'IJ TA AWI'!

Ninak'uwachij chuqa' rutojtob'exik rub'anik ja ri' xenb'ana la' pa nuch'utinal. Ke ri' k'a, wi nqanuk'uj ruwujil rusaqil tzij, kan jari' xel nuk'ux chi rij ruk'u'x tijonik. Kan ja ri' xinmaj rutz'etik k'a ri' xqakamonij rij kik'in nute' nata', k'o k'a jantaq na' ni qatojtob'ej rub'anikil yojruto' chi re retamaxik.

Ri b'enan pa Nimatijob'al jani' la xqa chi nuwäch. Ntel nuk'ux chi kij kanojel ri tijoxela' kik'awalon kiwuj chuqa' ri nuk'ik kib'anun. Jun chi ke riwachik' yinok pa jalajoj taq jay richin saqwachinen, yikikot chire rub'inisaxik taq niya' q'ij chi qe niqatz'et jun ti ramaj ri samajib'äl tz'etb'äl taq chikopil, rumolik kiwäch tak chikopil ri niqatojtob'ej achike kib'anikil.

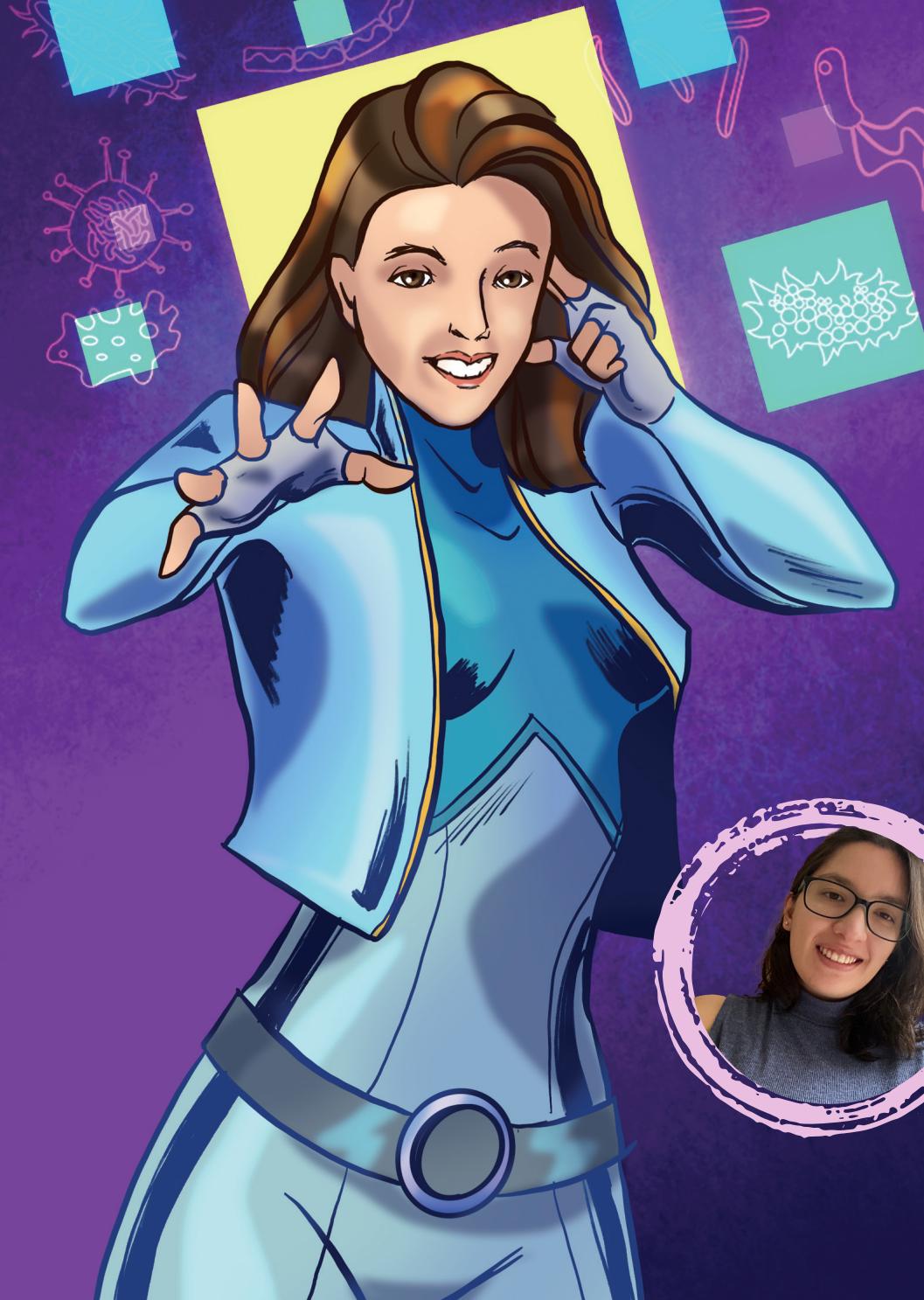
Ruma ri' xoqo' chi nuwäch, k'o chi xinjach wi chire Ruk'u'x Tijonik. Ruma ri' xinokel pa tijonik richin tijonik richin ri k'o ki k'aslen chuqa' ri tijonik chi rij kitz'etik chikopil ruk'in jun tz'etb'äl pa Nimatijob'al del Valle richin Iximulew k'a chi ri' ink'o wi ri xa jub'a ma tinch'ek nuwujil. K'a majanej ta xink'is rukaj junta', yin jun chi re ruch'akik jun mokaj ija'tz kuma' ri sik'inen qulaj k'in nim rub'anikil qulaj, chi ri' xinwetamaj wi runuk'ik jun samaj nik'atzin chi ke ri winaqi'.

Chi ri' xtz'ukutaj wi Ixtani' Ruk'u'x Tijonik GT, jun rucholajil kichin ixtani' ri xa nkik'is ruwaqaq junta' pa tijob'äl, k'in kito'onik qachib'il q'i', xqatz'uk richin yeqakusaj el ri ch'utin pa ruk'u'x tijonik. K'a wakamin qanuk'un chik ka'i' mokaj ixtani' kajlajuj kijuna', yek'o kik'in ri tijonela'.

K'o ruk'uqb'äl nuk'u'x chi qanojel tikirel yojapön pa ruk'u'x na'oju chuqa' xinsamajij nutijonik pa Ilinen S. A. Xinwetamaj taq natijoj awi' chi re ruk'u'x tijonik majun ruk'ayewal chi re rujaqik k'iy b'ey chi awäch, nuya' pa utzil ri ak'aslen ja ri' ri apalib'al chuqa' samajib'äl richin napab'ala' awi' chuwäch taq ruk'ayewal.

Niyob'ej chi ronojel xkek'iyer ta ri ixtani' chi re rutijoxik ki' chi re ruk'u'x na'oju, yinwetaman xer kerí' tikirel ruq'l'ik achike nikajo' ri winaqi'. Wi k'o jun xa k'o sachib'äl k'u'x rik'in chi re rutijoxik ri' chi re ruk'u'x na'oju, nib'ij apön chi re, jantaqil utz k'o ri xib'ib'äl chi qe, qanojel k'o chi qe chuqa' qawuk'an, ri k'atzinel niqab'än achike' ri ntel qak'u'x chi re, mani kan k'o ri xib'inik chi qe.

*Adriana Maria
Gill Herrera*



RI NUTE' NATA', RI NURAYNIK CHIRIJ RI TIJONIK

Ri nujatzul ak'wayonwichin, nu palib'al ruk'in nuch'ob'onik. Yin ixoq k'iche' rchin Q'antel, Xelajuj Noj, chiri' xintijox wi, xin wetamaj ruk'in pixb'anen, xuya' wuchuq'a' xinok jun ixoq. chi kij nute' nata' xink'am wi nuna'oj, rumari' xq'alajin chi nuwäch achike tijonik xinwajob'ej.

K'o chik waqxaqlajuj nujuna', xin tz'ukursaj ruk'ik' tijonik "rub'i" Sanik" pa ch'ab'äl k'iche', xin nojij rij ri tijonik, jari' jun sapanik utz nqa komonij rij kuk'in ri qajil qa tz'aqät. Ri nute' nata' jari' xki sipaj chuwe, ja k'a yin wakamin niwajo' nkamonij rij kuk'in ch'aqa' chik.

Ri Nuk'uj Sanik k'o kají' ru palib'al rusamaj majtajnaq rukusaxik pa tinamit San Lucas Sacatepequez. Nab'ey, rukusaxik chuq'a' chire tijonik, rusik'ixik ajlanik kichin ri ak'wala' yeb'enaq pa ro' k'in ruwaqaq tijonik. Ruka'n, kito'ik tijonela' pa taq jalajoj tijob'äl chirij rusolik rub'eyal tijonik, na'ojil, k'ak'a' samajib'äl k'in ruya'ik ru chojmilal wujil. Röx, kito'ik chire k'ak'a'samajib'äl ri ek'o pa ruk'u'x tijonik ruk'in runik'ajal tijonik. Ruk'isb'al, to'ik chike ri alaboni', ixtani' yek'o pa runik'ajal tijonik chi re ruk'asoxik kina'oj chi rij rutz'ib'axik rucholajil k'aslema tijonik, rutz'ib'axik ruwujil tijonik, rub'anikil rucholajil ruk'amik b'ey.

Yin jun nuk'uy rub'eyal wujil, k'ari' xink'ul jun chirij ruk'u'x nuk'uy wujil pa k'ak'a' samajib'äl richin ru jikb'axik. Yisamaj pa jun nimlaj samaj k'o pa jalajoj taq amaq'. Xa nuyon ok yin ixöq yin k'o chi kikojol, man k'o ta' jun b'ey kiq'aton nuwäch rumaxa yin ixöq.

Jun chike ri nimlaj nuch'ojib'äl nuqajb'en, ja ruk'exik na'ojil chi re runuk'ik' rucholajil ch'ab'äl yakb'äl k'u'xlal rub'i' Vital Voices Global Partnership, richin tikirel yisamäj kuk'in jalajoj amaq'. Tikirel nq'alajirsaj wetaman rumari tijonik whichinan.

Ronojel re' ma tikirnaqta chi re nuch'arij pa un k'aslema kulk'in aj pa wachoch, tikirel niq'axanpe jalajoj taq kikotemal kuk'in. Junan yojwa' tokwaq'a', nqa tzijoj ri xqa k'ulwachij paq'ij. Nikikot nuk'u'x rumachi yin ixöq tikirel xinjalwachij wi, ntz'et apö chi nuwäch chi tikirel ntz'ukursaj jun nimläj nusamaj ri kan whichin yin, chuqa' ma malin kan ta ri Nuk'uj Sanik, rumachi qawäch, pa nixk'in apö xk'iyer ruk'utuxik tijonik, k'o chi nqaya' apo chi ke ch'uqa' chik pa ronojel Iximulew.

Niwajo' yinok k'amb'al tzij chi kiwäch ixoqi', ixoqi' qawinaq richin nkitamaj, chi ronojel tikirel yatapön chi re k'amol b'ey. Ri qach'ojib'äl chuqa' jun junal utz, rqa ch'ojib'äl pa ruk'iyal nim ruq'ij chuqa k'o ruchuq'a'.

América Ixlem Chen Sam



NIWAJO' RI NIB'EN, JUN RUWACHULEW MA Q'AYNAQ TA

Ruk'axaxik ri numama' chuqa' ri k'ojlen rik'in tikirel ri yink'owi wakamin. Xinnak'wachij k'iy mul rutzolixik ri utz wachil, ruchupik riq'axomal chi ke ri yawa'i, ri tojb'äl nkiya' kan chi awe "Ri Ajaw xtitojo' chawe" Lito Paco numama' rija' jantape q'omay eyaj k'in ronojel ruk'u'x. k'in ri' nqawaqxanej apön rub'ixik ki k'aslen ri wach'alal kuk'in nute' nata' (Gustavo k'in Miriam). Chuqa' yeq'omanuel richin eyaj ma k'ayew ta rub'ixik yin chuqa' ja ri' nutijonik.

Xinjikb'a nutzij taq xinwak'axaj yeruk'iyal ri ak'wala' yek'o chuwäch ruwachulew, ma ajlatel ta chik jani' winaqi' kitijon ruponal chi re ruq'ayik eyaj rupo'on ri' chi re jun nimaläj yab'ilal, ri tikirel naq'ät ruwäch rik'in jun utziläj b'ixikil chuqa' tioxik.

Ruma ri' xinikib'a' nusamaj kuk'in ri ak'wala' chuqa' ri aj pa jay, chi re ruya'ik to'onik richin ru utzirsaxik ri nimaläj ruk'ayewal richin utz wachi'il xinok pa Nimalaj Tijonik richin Eyaj pa USAC. Chi ri' xq'alajin wi chi nuwäch jani' la ntel nuk'u'x chi re ruk'asmal rusamaj jun q'omanuel chi rij ruk'u'x tijonik chi re rukunuxik utzil chi re re jun nimaläj yab'ilal.

Wakamin yin q'omanuel eyaj, xinjunimayij nutijonik pa Nimatijob'al pa Texas Hearlth (UTH) richin tinamit Q'enchi', rik'in ri Dental Branch chi re ruq'omaxik Eyaj, pa Nimatijob'al richin Sao Paulo, Brasil, rik'in jun nimayin tijonik chuqa' rusamjixik kichin Tijonela' Nimatijob'al richin Rutz'etik q'omaxik eyaj chuqa' k'o chik jun nuwujil richin Medellin, Colombia k'in ri UTH.

Ntel nuk'u'x chi re ruya'ik tijonik, yikikot taq nk'ut ri xinwajob'ej yin xk'ut chi nuwäch. Jani' la utz, taq jab'él nab'än chi re runuk'ik tijonik, ruma' chi tikirel nuxim ri' ri samaj kik'in ri winaqi' ri k'uql kik'u'x qik'in, napön chuwi' qaq'a' ri jani' la nqajob'ej pa qak'aslen, ri utz wachil.

Chuqa' pa nuk'aslen xinwil rub'eyal nib'en nutijoxik pa jun chik amaq', ja yin xinwajob'ej chi wawe' pa Iximulew. Wawe' k'iy nima'q taq whichinäq tikirel niqab'än richin jun utziläj k'exonik.

Pa taq ruk'isb'al juna' re' jikil chi k'iy k'exonik qak'ulun ruk'in nima'q taq to'onik, ruma' niwajob'ej ri nisamajij, nujachon wi' pa nusamaj, k'uql nuk'u'x chirij Iximulew richin jun utziläj ruwachulew.

*Ana Magaly
López Estrada*



K'AMB'AL TZIJ AJOB'ENIK

CHIRIJ TIJONIK

Ri tijonik jantaqil janila niqa' chi nuwäch, pa nab'ey tijoxik ja ri' jani' la xinrayij, pa ruk'u'x tijonik jani' la utz xintz'et ruxe'el jun wachinäq.

Pa nimatijob'al, xinkanuj ri tijonik chi ke winaqi', k'in jub'a' xiruto' nusamaj richin tijonel. Ri tijonik ri jani' la niqa' chi nuwäch r unuk'ik ri Ajlab'al, pa jun q'ij ri tijonel rumajon ruya'ik tijonik chi qawäch xuk'utuj chi we ¿Naq k'a chi re ma nab'an ta tijonik richin ruk'u'x tijonik? Chi jantaqil rija' nunak'wachij jun tijoxel, kan qitzij wi nk'awomaj rutijonik achi'el nib'än yin, xinnojj rukusaxik runa'oj.

Wakamin yin tijonel chi re runuk'ik ch'ich', xinjunimayij nutijonik chi rij ruk'atanal ruxe' ulew, chuqa' yintijonel chi rij riya' ruwäch. Ninja' chu saqil, xt'ujt'ut nuk'ux chi rij ri niwojob'ej, retamaxik k'ak'a' wachinaq ruk'in ruch'ob'ik rusolik ruwäch, nel ak'u'x chi re.

Ka'i' achi'a' xkikusaj kichuq'a' wik'in chire nutijonik. Ri tijonel Carlos GarcíaBickford, chire ri nimatijonik, k'in ri nimatijonel Robert Proesser, chire Nimaxel Tijonik richin Nimatijob'al Manchester, par i tijonik richin ruchuq'a' ri k'atan mak'ayewta nub'en chire rub'ixik chuqa' rik'in k'u'xlanen ri narayb'ej rub'anikil.

Yaq'ax pa tijonik k'a ri' chi re rusamajixik jani' la k'ayew, nab'ey nutamab'äl chi re Nuk'uy Ch'ich', rusamajixik ko'ol nuk'ik richin rujosq'ixik jun samajib'äl richin ruxe' ulew pa Iximulew. Chi ri' xinwetamaj wi rub'aq il retamaxik k'o chi yak'uje' akuchi k'owi ri samaj.

Rat ixoq nasamajij runuk'ik ch'ich' jani' la k'ayew, ruma' k'a k'o na sachb'äl na'ojoj chi rij runa'oj ri ixöq chi re rusammajixik jun samajib'äl ch'ich'. Ma ruk'et ta ri', tikirel xinjaq nub'ey chi kikojol wachib'il.

Jun kochij xinwil chi re nutijonik pa Nimatijob'al ruk'in nutijonel Osborne Reynolds, saqwachinel chi rij ch'ich' richin ya', chi ri' chuqa' xk'uje wi pa tijonik Alan Turing, jun chi ke ri tatixel richin ri tijonik richin ri kematz'ib' ri nab'ey tz'ukusanel richin rutraluxik b'ixikil pa kematz'ib'. Xinwetamaj chi rij wachinaq ya' ruwech ruk'in ruk'isb'al samajib'al, achi'el chi rij rukusaxik jun samajib'äl chuqa' rujulil kaqiq'.

Wakamin yin tijonel richin kusaxik pa jun samaj Alemana Kaeser ri jun kach'ij jun ch'ich'.

Niwajo nq'axaj ruwi' nutijoxik chi re samajib'äl richin nuq'axaj ruxla' juyu' k'in ruchuq'a' chuqa' tikirel nitzijoj ri na'ojoj wilon ma ruyon ta pa taq amaq' ri k'o naqaj, chuqa' ri k'o chuwäch ruwachulew.

Chi ke ri ixtani' nikajo' ri tijonik richin ruk'u'x na'ojoj nib'ij pön chi ke ronojel tikirel wi ke ri' niqajob'ej chuqa' niqatij qaq'ij chi re ri qachik'am pe wi ke ri' nqajob'ej.

Ana Raquel
Reyes Hernández



TIJB'AL RUQ'IJUL CHUTZ'UKIK MOKAJ SAMAJEL RUB'ANIKIL WINAQI'

Ri tioxik pa jun chik amaq', jun ruk'ayewal tikirel ruch'akik, xanya' kan wal, ri aj pa jay, jani' la ruk'ayewal; xinya' wuchuq'a' chi rij. Xinch'ek ruwujil nutijoxik pa Nimatijob'al Pensilvania, tikirel xqach'ek yoj oxi' chi re ri tijonik richin K'amolb'ey Samajela' richin kik'aslema winaqi' richin amaq'.

Taq xinmaj pe nutijonik xintz'et nim ruk'exon ri' chire runuk'ik, runuk'uxik ri tijonik richin saqwachinen ri xintz'et chi la' pa Tinamit Q'enchi' ruk'in ri k'o pa Iximulew. Ri nimalaj ruk'ayewal k'o pa amaq' ja ri' ma k'o ta' ruk'iyal majun achike nitz'eto' ronojel achike nirajo', ma k'o ta' jun pixa' chi kikojolil winaqi'.

Ma ronojel ta ri ma utz ta. Ruk'iyal moloj ri'il, k'in samaj, xnuk'utaj jun mokaj jalajoj kiwäch tikirel xkinuk' ritijoxik richin k'aslema, k'a ri' tikirel xqanuk' jun Mokaj ri jalajoj kiwech winaqi' xek'uje' ruk'in K'asoy Na'oj Amaq ruk'in Ruk'ux na'ojo chuqa' samajib'al (Concyt).

Ja k'a yin xinkanuj nusamaj. Ma rik'in ta ri' pa Iximulew k'a majun ruwachib'äl re jun ejqalen kichin samajela'. Xintij nuq'ij chi re rukunuxik jun k'ujulb'ä i richin niqatzujuj apön ri qasamaj, xuk'isb'ej ri Mokaj richin tijonik chirij ruk'u'x k'aslen richin ri Nimatijob'al Apala's Marrokin ja ri' xk'ulu'wichin.

Niqatz'et chi ma e k'o ta' ch'aqa' chik K'amolb'ey richin ri mokaj samajela' richin ruk'u'x k'aslen, chuqa' yojb'enaq. Wakamin k'o chik tz'etonel, ja yin k'o chik jun nusamaj niya' to'ik chi re ru nuk'uxik ri tijonik richin ri mokaj ruk'u'x k'aslen richin Nimatijob'al San Carlos.

Ri tz'etonel k'o pa rucholojil rusamaj rukusaxik kinuk'ik ruwinaqil ri mokaj, rumá ri' nik'uqb'an nuk'u'x chi iqal iqal yojb'e' chi re rutaluxik re jun tijonik re', ri tz'etonel richin nkichololej ki' ri mokaj chi re kito'ik kanojel ri yek'o pa mokaj saqwachinela'.

Wakamin ri', yinto'on apö chi re runuk'ik mokaj Ruk'u'x k'aslema, achi'el richin Rutz'ukik Rusolik Iximulew (Fundegua) k'o tzijonen nub'anun richin runuk'uxik tijonik chi rij saqwachinen chuqa' yin k'o chi kikojol ri Mokaj Ruk'u'x K'aslen senacyt, ri akuchi' yojk'o wo'o' lajuj winaqi' oj lajuj roj ixoqi'.

Wakamin nitijo wi chi re samaj kuk'in winaqi' akuchi' nikusaj wi ronojel wetamab'äl chi re ruto'ik apön qa amaq' niqatij ruq'ijul chi rij ri nqarayb'ej chuqa' tikirel niqach'ek ri qachik'an.

*Ana Sofía
Fabián Ortiz*



RI K'AK'A' RUB'EYAL SAMAJ PA KAMON

Xaläx pa nuk'u'x ri samajel ch'ich' ri xk'utnaj pe pa joq'o' jun k'al jun juna', Janina' ten k'isa' ri jalajoj tijonik, k'a yin k'ona' pa rukaj juna' richin retamaxik ruk'u'x kematz'ib', patijob'al San Pablo, ronojel q'ij nkanuj k'ak'a' na'oj chi rij.

Pa Joq'o' jun k'al ka'i', matyox chire nata' xre k'axaj rutzijoj ru Cholajil B'alam, xin kusajel wi pa tojtob'enik chuwächamaq' chi re samajib'äl ch'ich'. Waqlajuj juna', pa nuch'utinal ntz'eton pe ri rk'ayewal chire retamaxik ri petenaq pa k'ak'a' taq tijonik, ruk'in jub'a' kan nuk'amompe pa walaxik ruma ri nute' nata' jari nki samajij.

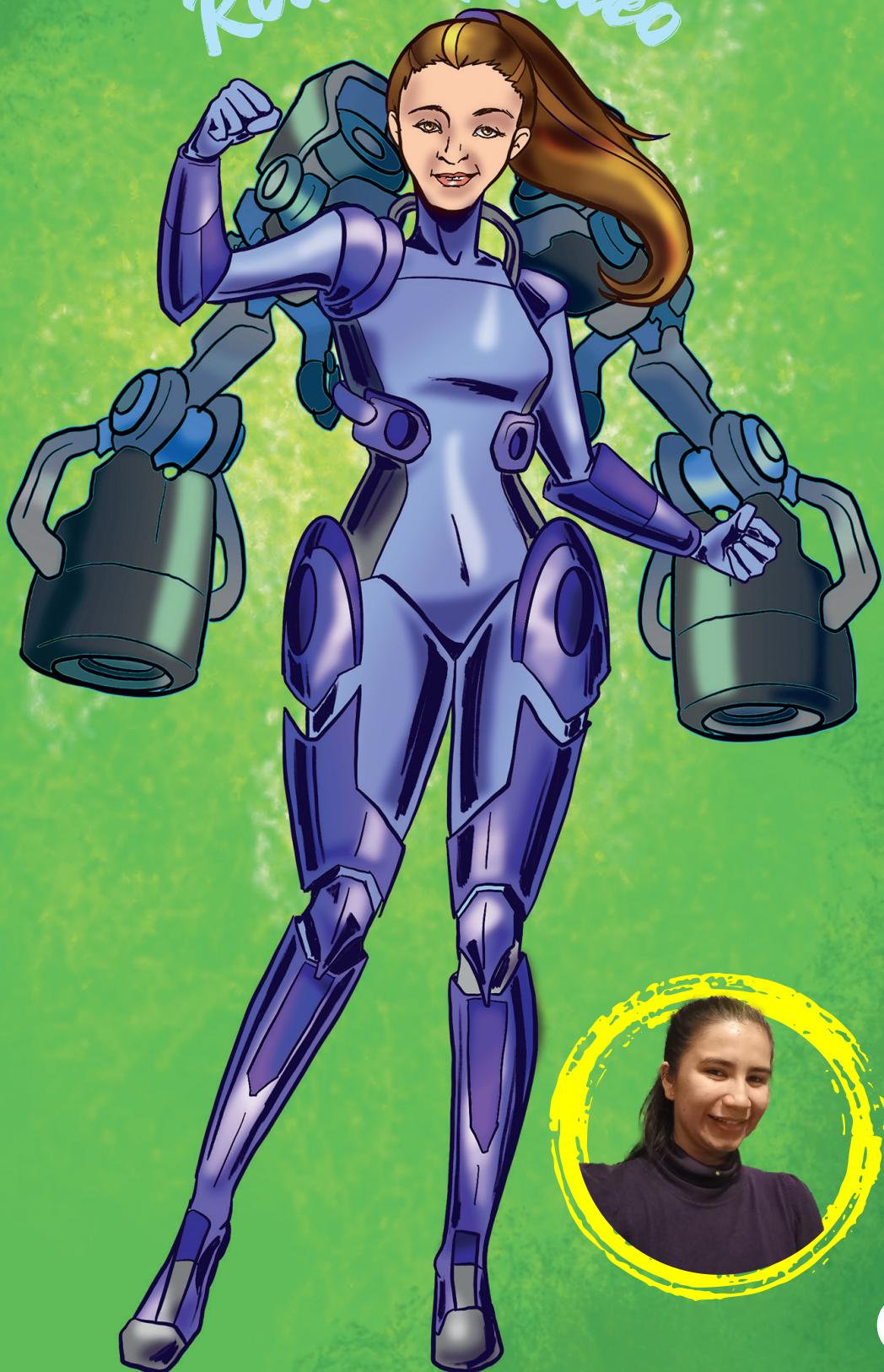
Chanin xinok chire rutz'etik rukusaxik ri k'ak'a' samajib'al, ka'i' juna' yink'o chi ri' pa rucholajil B'aläm, xik'uje' pa Galileo Electronic Challenge, jun tijonik kichin ixoqi' Tz'ukunel Rub'ey Samaj, xib'e chi kikojol ri xecha'ox pe pa amaq' chi re ruwinaqirsaxik Samajib'äl Ch'ich' pa joq'o' jun k'al ka'i'.

Taq xicha'ox tikirel xinok ruk'exwach qa amaq' pa First Golbal Chakkenge pa Joq'o' juk'al ka'i', rub'i 'Carbon Capture (Nab'ey rk'ayewal xink'ul pa ri juna' ri) "Rulatz'uxik q'eqa sib'" achi'el jun tijb'äl chuqä' pa atz'anin rub'anikil. Chi ri' xinwetamaj wi kiwäch k'iy winaq ri xqakamonij ruk'u'xlaxik rutz'etik ri k'ak'a' na'oj, chi ri' xqatz'et wi ri qach'ab'äl ma tikirel ta chi re ruq'atik ruwäch ruk'ulb'exik qi'. Xq'alajin chi qawäch ri kamonin ch'akonik, xojruto' chub'anik ri samaj, taq xa ayon ma tikirel ta, chuwech ri samaj pa mokaj.

Jun chike ri wachib'il David xqanuk' rucholajil ri qaamaj richin keri' tikirel xa jun samajib'al nqa kusaj chire samajixik kuk'in qachib'il, k'ayew jub'a' rub'anikil. Rumari xqa tz'et ruwech jalajoj samajib'al taq ch'ich', jalajoj ki solixik chire ri kisamaj, tikirel nub'än xa jun ruwäch rusamaj nto'on wi. Mayb'äl rutz'etik xa jun ruwäch ronojel ri ral taq ch'ich' xqakusaj chi re ruweqik, manta junan ruk'in qichin roj, k'o ruq'ebx'en rqa samajel ch'ich'.

Jikil, ronojel na'oq qawichinan pe xkuje' kan pa ri qa k'aslen. Jun k'ak'a' tanaj yoj taqchi'ij chire rukunuxik achike nqajob'ej, ronojel mul k'o nawetamaj, xipotej chire jun nimlaj winaqirsanel richin ruyakik kik'u'x ri ixtani' chire jun k'ak'a' tijonik.

Astrid Pamela
Rodas Mateo



NITZ'IB'AJ, YIB'IXAN K'IN WACHIB'AL RICHIN MANIMESTAJ

Ki kayib'al ri maya' kan nik'amompe. Xina lexpe chuwäch ri Juyu' Taq'aj, pa qajb'äl q'ij, yinkisi'j kijotay ka'l mokaj winaqi' Mam k'in K'iche'. K'a yin ko'ol na' xinkanuj rub'eyal ri k'axaxik ruqü'l ri k'o nuk'am wi ri' ruk'in, yin tijonel, jun chik tijonik winaqirsey jay pa Nimatjob'al San Carlos. Xintijoj wi chi rij kikayb'äl ri maya', k'a ri' xinkayej qa wi yin, ri nutzya'q chuqa' nuk'aslen, ma wichen ta kichin kan ri qati't qamama' ri nikusam pe, achi'el kib'anum pe rik'iyal ixoqi' pa Iximulew.

Niloq'oj nub'anikil yin jun ixoq qawinaq. Yin winaqirsey jay, jun nimaläj ch'akonik xinya' chi ke ri ajpajay ri nim rub'anikil achi'el ri qa k'ulwachin pa qa amaq' ke ri' chuqa' ri junabil taq xinalex. Xuya' jun nimplaj ejqalen chuwij chire rusamajixik kik'in ri wach'alal, numokajil, ri amaq', xioqi' chuqa' ixtani'.

Junwinaq waqlajuj nujuna' yinb'anoy wachib'al, nuk'unel, saqwachinel chi rij rukusaxik ri ajlanik maya' richin nqaq'alajirsaj qab'anikil, k'o qaxaqul, k'o ruk'ojulb'al qab'anikil nuk'ut chi qawäch chuqa' ri k'exoj.

Ni nojj qaq'aj chi yin xik'amo' rub'ey ri ajlanik maya', pa ri juna' jo'q'o' wo'o'lajuj juna' xin saqwachij rub'anikil ri tzyaqib'el maya'. Wo'o' juna chi rij apö xinb'ij apön rutzib'axik ri wujil "Kem – T'isom nuch'ab'al" (tejido, bordado, mi voz) nutz'et, nutz'ib'aj kisamaj chi rij kitzyaqib'äl maya', ri ajlanik achike nib'än chi re rukusaxik pa kina'oj ri ajruqajb'al q'ij, ri ajlanik, ri ajlab'äl chuqa' ri jun chik ajlab'äl rik'in tz'ib' chuqa' wachib'äl richin ruxe'el saqwachinik richin jun k'o julb'äl.

Rub'ixik, rupach'uxik ruqul b'ix, xin winaqirsa jun jun b'ixanik ruk'in retal b'ixanik chire jun po't k'iche' richin Chuwi'patän ruk'in junwinaq ch'umila' ri kemon ruk'in kema'. Nuk'ut rub'anikil, rusamixik ri tzyaqib'äl k'in ri ajlanik maya', k'in ajlab'äl, k'in ruqü'l, k'in tijonik, ri wachib'äl chuqa' ri k'aslen. Ja re' ruk'amom pe jun tijonik pa rukemal, wachib'äl richin ruk'utik apö, k'a k'ona' ri saaqwachinen majani' tiqab'en ruk'in ruto'onik ri Ruk'exwach ri Amaq' Noruega k'o pa Mexika.

Ri saqwachinen re', xel nuk'u'x chi re taq xinkusaj ri ajlajik maya' ruk'in rusamjixik retal kib'eyomel ri ati't mama' ruqul ri b'ixab'al, retal k'in ch'aqa' chik, samaj ri xb'e pa jalajoj taq amaq' rub'äl' "Thi Livig maya Destiny Cards".

Nim qaq'ij taq niqatz'et qa q'i'. Niqatz'ib'aj richin ma niqamestaj, retamaxik, ruk'utik, rutz'ukik, kamon tz'ukik, yab'äl ruq'ij riqa b'anu pe, qab'anik, ri qab'anikil apön.

Aurora Nohemi Chaj Haz



QANOJEL TIKIREL NIQAYA' KAN QETAL PARA RI TZIXOK

Tijonik chi rij xumanil ri nikusax pa samaj qitzij chi nim rub'anikil, janila ntel ak'u'x chire. Matyox chi ri xinnojj, xinwichinaj, tikirel nasiloj, nachojmirsaj awi chi rij ri b'enan pa jalajoj tinamit, ri kib'anikil chi re kamon samaj.

Nunimersan wi ruk'in nusamaj chuqa' ruk'in ri tijob'äl chuqa' chi re rutz'etik ri samaj pa wachoch. Ma rik'in ta chi ri nusamaj yintz'etol xumanil pa iximulew, chuqa' yinajxijilon, yin te'ej kichin ka''i' ixtani', jun wuqu', jun kaji' kijuna'.

Pa joq'o' junk'al wo'o' lajuj, xinwichinaj jun Nimlaj Atamab'al pa Nimatijob'al Saqwachinel richin achike rub'anikil nikib'en ri q'omanela' chi ke ri yawa'i' pa Universidad Nacional Autónoma México (UNAM). Xinmajel ri nutijonik richin saqwachinel, jikil chi rij ri tijonik rub'anikil yab'il richin ch'akul winaqi'. Xin tzaq wuchuq'a' chire retamaxik ri tikirel xinkusaj panusamaj ru nuk'uxik rik'in nimaq taq k'utuxik.

K'a wakamin nib'anun chik oxmul tijonik pa ruwi' ri nimatijonik, jalajoj ruxolel nujikb'a' wi chi awäch rusamajixik pa ri saqwachinen. Ni jikib'a' rub'ixik ri tijonik richin rub'anikil ki b'akil chikopi' ri janila elenaq nuk'u'x chi re. Re jun ruq'a' tijonik re' xirutaq chi'ij chi re jun chik samaj pa jun chik k'ak'a' saqwachinen pa Mexika. Ruk'amompe rukolik ruk'u'x ch'akulaj ADN ruk'in ARN ri nelitej pa taq choy chuqa pa ulew.

Chuqa' xinwichinaj tijonik chirij ruk'ayb'äl ruwachulew, richin wakamin k'in richin ojer, ri tikirel naya' apön k'ak'a' taq na'oj chi rij ri chi nupach'uj ri' rik'in ri chapayon jun ch'akulaj k'o ruk'aslen ri k'owi pa ruq'ijul.

Nitel nuk'u'x chire retamaxik ru k'aslen ch'akulaj, achike nuq'ajuj ri k'owi, yiruto' chire rujikb'axik retamaxik ri jalajoj k'aslemal, ri ruwachulew chuqa ri k'exoj nuk'ulwachij pa taq ri k'ojlen, ri kamonin samaj nikib'en, xa junan rik'in ri samaj nib'an pa juyu' taq'aj.

Yin kachib'il ri Mokaj Ixoqi' k'o Kina'oj pa ruwachulew ri b'enaq pa mimmersaxik (OWSD), wakamin nk'uwan ruka'n ejqale'n richin kamol b'ey pa rumokaj Iximulew, chuqa' yin k'o pa ruwaqxaq motzaj richin ru k'exik ruxtewul meq'enal ruwachulew, ruq'atik ruwech rk'ayewal, pa re jun nuk'uj re', xin wetamaj kiwäch ixoqi' ajiximulew ri k'o nimaq taq kina'oj, ri qakomonin rusamjixik qasamaj, ri man tojon ta chi re k'exik jun utziläj Iximulew.

Bárbara Beatriz
Moguel Rodríguez



XIN K'WACHINEL RUK'U'X NA'OJ RICHIN ILINEN

Kan pa walaxik yin nak'wachinel, nitel nuk'u'x chi re ri sawachinen. Nujachon nuk'aslen chi rij Ilixik, jun atamab'al k'a k'o na majani' niqatz'et chi re rusakixik rij: k'atzinel ri saqwachinen.

Jari' niwajob'ej chi ke ri winaqi', ruma ri' taq xinokel chupän ri b'ey richin saqwachinen, xinab'ej rub'anikil chuqa' ilinen kichin ri winaqi' ja ri' e uk'uwayon richin ruch'ajch'ojil kik'aslen.

Ri wal nim kiq'ij chi nuwäch, ma ruyon ta nuk'aslen chuqa' pa nutijonik. K'a nimajon nutijoxik wi chi re ilixik taq xalex nab'ey wal, wakamin b'eleje' chik rujuna', taq xinwichinaj nuwujil ch'akonik k'o chik rukän ak'uwal.

Matyox chi re jun to'onik, tikirel nutijoxik. Ri nab'ey ak'uwal xqapixb'aj rik'in ronojel xqak'ul pa nab'ey taq juna' pa Nimatijob'al, ja ri' xok qapalib'al richin ma xojtzaq ta. K'iy ruk'ayewal xinq'axaj, taq majani' na' nuwichinaj nuwujil, pa ruk'isb'äl xinch'ek ruk'in ki'kotemal.

Matyox chi re ronojel re' xuya' tikirel roj ixoqi' xinjikb'a', ri ixoqi' yekamb'al tzij richin k'aslen ch'akonik, ri achik' k'in tijonik. Pa Nimatijob'al San Carlos richin Iximulew, xinch'ek jun junimayil tijonik chi rij ruk'u'x saqwachinen, k'a chi rij ka'ri xinb'en chik jun tijonik richin Nim Ajtz'ib' Runuk'ik chijun richin ruk'u'x jalajoj Anaq' (SG-SICA), richin Rucholajil Runuk'ik B'ixikil Runa'oj richin Rujikb'axik Tzuqunik (PROGRESAN – SICA), richin Nima Moloj Yab'al Na'oj richin nimatijob'al kichin Jalajoj taq amaq' (Csuca) ruk'in ri Tijob'al richin Ruk'waxik ruwinaqil tinamital (Incap).

Pa re nuk'uj re', xinwil jun tijonik chi rij Rujikb'axik Ilinen chi re rusakixik rij kiwayb'al winaqi' richin nuq'aat ruwech kikamik. Xel nuk'u'x chire kito'ik chuqa' rusakixik rub'anikil ki utz wachil riwinaqi'.

Wakamin ntel nuk'u'x chirij ki utz wachil winaqi' yin kachib'il ri Moloj ri'il ri tikirel chire rusolik kewech ri winaqi' chuqa' ixoqi' k'in Rumokajil kichin Ixoqi' ri k'o kitijonik richin nimersaxik (OWSD). Chuqa' yin tijonel to'onel chi rij saqwachinen pa amaq', ruq'a' tinamit k'in ch'aqa' amaq' chik, chuqa' nuk'amol rub'ey to'onik richin Incap richin Iximulew.

Celina del Carmen
Calvimontes Battodano



NK'UQB'AN NUK'U'X CHI RIJ RI JALTAJB'AL

Yatapön pajun nimlaj ejqale'n pa ri amaq' achi'el rub'anik Iximuilew kayew jub'a', ruk'in tijb'al ruq'ijul tikirel.

Nab'ey xinch'ob' chiutz, rucholajil nusamaj k'o k'iy na'oj niq'ato' ruwech. Kan xa ruyon ri achin tikirel, ri ixoqi ma kanta niya' q'ij chike. Xinya'el wi chupän rumä xinch'ek nuwujil richin runuk'ik b'ixikil, ruya'ik, rutz'ib'axik, rutz'ukik rujachik ronojel b'anikil pa kematz'ib' pa Nimatijob'äl Mariano Galvez richin Iximulew.

Wakamin yin k'o chuwäch Nima k'amol b'ey pa jun nimlaj samaj richin chajinik pa kematz'ib' pa iximulew, ja wi rat ixöq k'a ri' yape pa ruq'a' tinamit richin ri amaq', yin ajtinamit Aküx, yin nina' qa chi k'ayew nub'än chi we pa nusamäj.

Iqäl, iqäl xinwil rub'eyal richin xinelesan apön chuch'akik nutijonik, chi kiwäch ri wachib'il. Chuqa' xinwichinaj jun Nimaxel Tijonik chi rij K'ayij ruk'in ri' tikirel xinto' ri Tijob'al Amaq' richin chajinel pa kematz'ib' pa iximulew (Incibe) jun Mokaj ma richin ta ri chapomal ONG, yeruto' taq ixtani' q'apoji', ixoqi' richin niqa junimayij ruwäch qab'anikil pa rucholajil k'ak'a' samajib'al.

Ronojel re' xinwichinaj taq nuk'amon rub'ey ri "Women in Security", pa jun samaj "K'o Ruchuq'a' chuqa Rukowil" akuchi' qasolon wi chi kiwäch ixoqi' yeqakusanel pa samaj richin nikil rub'ey k'ak'a' samajib'äl richin chajinik. Ke ri', kik'in ch'aqa' chik ri kik'ulun tijonik qamajoj rutz'et jun jaltajb'äl pa rik'isb'äl taq juna' re'.

Nab'ey janila rk'ayewal xub'en chi nuwäch pa samaj, ma ruk'in ta nich'akön chik, pa taq samaj k'a ma janina' nik'uqe' kik'u'x chi rij ri xioq. Maruk'in tarí', kan majun xq'ato' wichen xintij ruq'ijul chire rukunuxik nusamaj. Wakamin yin k'o pajun rujawalul samaj chuqa' nimajon kito'ik ixoqi' richin nki wichenaj jun kisamaj k'atzinel ri tijonik chuwech ri jalajoj taq rk'ayewal.

Ma tikirel ta ruq'aton yin ixoq, te'ej chuqa' ajxijilon. Nik'ulun ri junimayil pa nuk'aslen roya'on q'ij chi we chub'anik nusamaj pa jay, ma ruq'aton ta ruwäch ri jun chik nusamaj.

Kan k'uqul nuk'u'x chi rij jaltajb'al kina'oj ri achi'a' nim kiq'ij nikina', chuqa' k'o chi qakojol roj ixoqi'. Wetaman chi k'ayew ri qab'ey, k'o chi niqach'ek ri junimayil roj ixoqi', chuqa' niqach'ek chi ronojel q'ij nimaren k'o ri qachuq'a', richin nqa jikb'a' qi pa qak'ojulb'al richin niqach'ek ri nqayarij, richin tikirel nqajalwachij ri qa amaq', niqaya' qi' pa utzil roj, ri qalk'uwal chuqa' ri pa qachoch.

*Cristina Julissa
Velásquez Joachín*



RI Q'OMANEL XUJIKB'A' RUCHUPIK RI

YAB'ILAL COVID 19

Rukusaxik wuch'uq'a chirij utz wachil, wakamin, chirij ri yab'ilal SRAS-CoV-2, ri nib'ix Covid-19 pa Iximulew.

Pa Oxlajuj marzo richin Joq'o' jun winaq, xib'e pa jun q'ase'n b'ey, chi re rukolik kik'aslemañ winaqi' ri xeyawäj kan ruma ri coronavirus. Xin jikb'a' rutijik ru q'ijul chirij. Taq xojpe ri yab'ilal re' pa qa amaq' ronojel xujalwachij ruwäch, ri tijonik, ri qasamaj, ri niqanojij, chuqä'i k'ak'a' taq na'oj.

Pa jun kan juna', yin yisamäj pa Aq'omab'äl Jay richin Villa Nueva, chuwäch ronojel rk'ayewal xokisex chire Covid-19. K'in ruk'iyan ri yab'ilal, xa pa lajuj q'ij aq'anaj xtz'ukutaj jun chik aq'omab'äl Jay pa Parque la Industria. Majun ninab'ej yin, ri k'amol b'ey richin utz wachil xirutaq chire rukwaxik rub'ey samaj chila' pa aq'omab'äl jay. Yerk'iyal xkimey ri nuwujil. ¿Achike k'a ruma chi ri ja? Xkik'ulb'ela' ki' ri jalajoj taq winaqi'. ¿Achike ruma maxkanuj ta jun chik ri kan k'o k'iy runa'oj? Ch'aqa' chik xkib'ij ¿Achike ruma xa jun ixöq?

Ja yin xinb'ij, ri ajuna', ri ana'oj, wi rat ixoq, majata ri' niq'ato' iwichin chire ruk'waxik rub'ey jun samaj, ri k'atzinel ja ri ana'oj chi re' ruk'uwaxik. Nak'uwaj awi' kik'in jun mokaj q'omanela' ri jalajoj kina'oj chi rij q'omaxik, kusey taq aq'om, josq'inel k'aslemañ, xqab'en ri qasamaj, xqasamajij ruk'in ki'il k'u'xlal, xqaxim ri qa samaj ri man qatz'ib'an ta. "Ma tikirel ta yeqatzolij ri yawa'"

Xa b'akuchi nipe wi, xa b'achike ruq'axampe pa ruch'utinal. Xa nuyun yin ajq'omanel pa ri qachoch. Ri nata', nute' ye ajk'ayij, majun b'ey xki nojjí ta chi jari' tijonik niwichinaj. Wawe ink'owi, nukusan wuchuq'a'. Pa ri juna' kan ma xinch'ob' ta chi nik'waj rub'ey samaj pa jun aq'omab'äl jay, nim rub'anikil, jari' xupo' wi ri' pa nuk'aslemañ chi kiwäch ri ajiximulew. Pa ri oxi' juna' re', wachuy joq'o' yawa'i' xeqaq'omäj, k'a qamajon na samaj kuk'in ri wachib'il chi rij ruq'atik ruwäch ri Covid - 19.

Ma kan ta k'uql nuk'u'x chi rij riwichinan, pa wochoch, ronojel ri wetamab'äl richin niyäk kik'u'x ch'aqa' ixoqi' chik. Taq yak'uje' chuwäch jun samaj, k'atzinel na k'uqb'a' ak'u'x chuqa' tikirel, pa qachuq'a' kowi ruk'exik ruwachulew, tiqaxila' ri q'atonel k'o pa b'ey.

Ja yin yink'o pa nab'ey chuq'atik ruwech ri Covid-19, nujikb'an ruk'ulik k'ak'a' samaj.

Dania Corina
Hernández Manroquin



RUTIKIK JUN K'AK'A' AMAQ' K'IN JUNIMAYIL WINAQIL

Ri nuq'axam pe yin keri' chuqa kiq'axam pe ruk'iyal ixoqi' ajiximulew, ruk'in raynik chuqa' ruk'in achik'anik. Nk'awomampe ri nima'q taq tijonik ri kan tz'aqät akuchi' ri kan tz'aqat ri tijonik, xinwajo' ru k'iyyik etamab'äl. Nik'atzin chi whichin k'ak'a' na'ojoj ri q'axam pe pa taq ri juna' q'axnaq kan, k'atzinel nimaq taq xalkät niqaya'. Rumari' xalexpe ri nik'atzin chuwe yin, ri tijonik Ingeniería pa nimatijob'äl San Carlos richin Iximulew (USAC) Xinwichnaj ri ch'akonik chi rij nima'q taq na'ojoj pa joq'o' jun k'al waq'i' juna'.

Pa ri q'ijul ri' xink'ul tijonik pa Nima Tijob'äl richin ch'ab'al q'anchi', ma ek'iy ta ri ixoqi' tijonela' richin cholajil na'ojoj, k'in jub'a' xa jun ixoq k'o chikikojol jun wok'al achi'a'.

Taq yin k'o chik chiri' tikirel xin majel nusamaj pa Rumokajil Samaj richin ri Champomal, taq xin tz'et jani' k'atzin chike ri winaqi'.

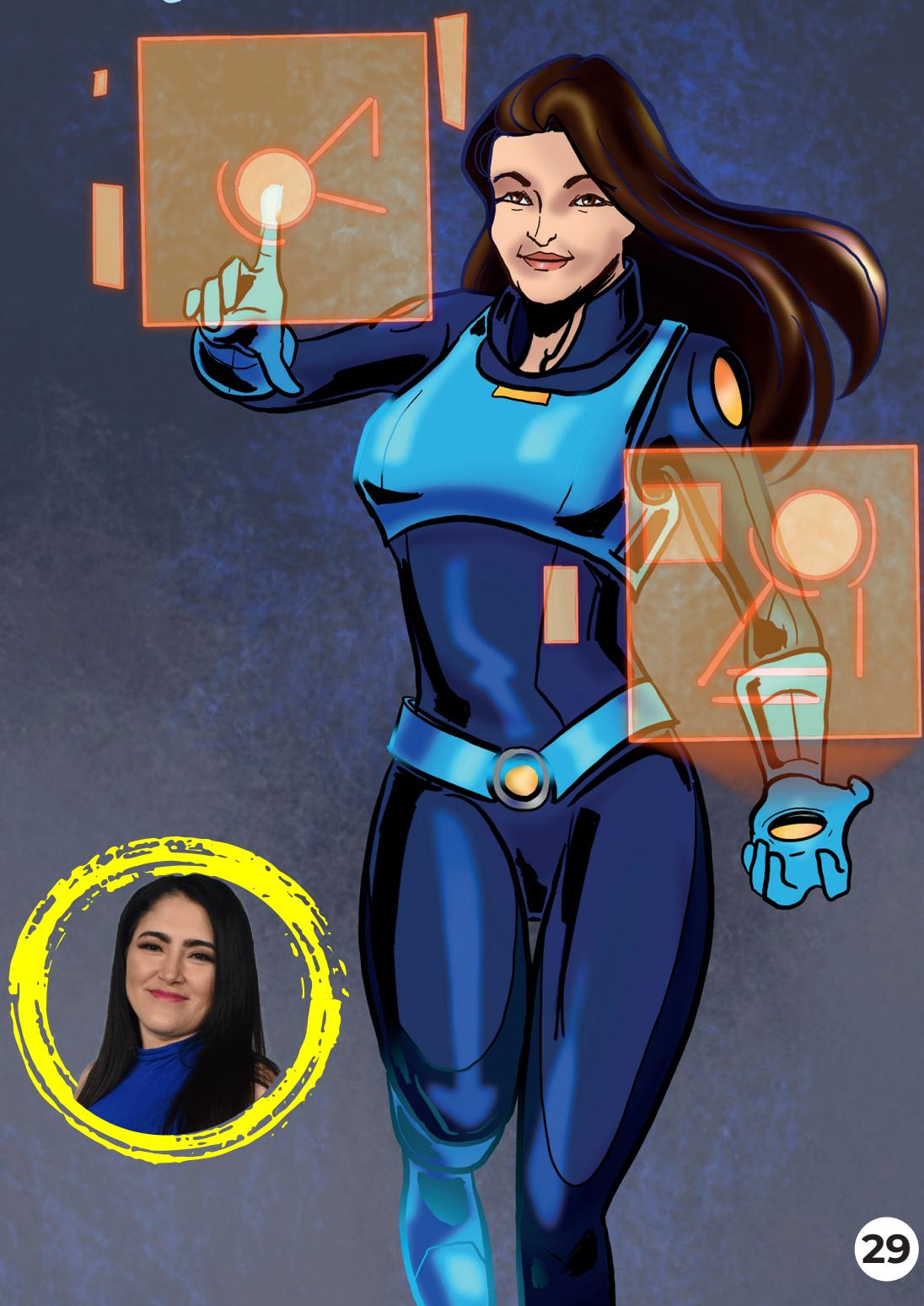
Xin nimersaj nutijonik, xinwil jun nima tijonik chire Rub'anikil Rupajik Runuk'ik Samaj pa Facultad de Ciencias Económicas richin USAC k'in jun chik pa amaq' Corea del Sur.

Pa joq'o' julajuj juna', junk'al lajuj nujuna' xinjikb'a' nurayb'el, xinok te'ej pa kajlajuj rulajuuj iik' rumari' taq xintz'et chi k'atzinel nqa jikb'a' ruq'ij ri utzil chuwachulew. Xin nojj q'a k'atzinel chi qanojel ta nqakusaj quchuq'a' chire rukunuxik utzil richin yeqa yakan pa utzil ri qa k'exwach. Xuyek nuk'u'x chire ru kunuxik jun k'ak'a' jikb'axik. Rik'in nuqatoj tzij xin nojj q'a k'atzinel nib'ën jun nima tijonik chirij ru jikb'axik k'aslen.

K'in jub'a' rumari xya' jun rukän ejqalen chire rukusaxik k'ak'a' na'ojoj pa ruq'a' ri K'amol B'ey kichin Chajinela', chuqa' xin whichinaj chi yin tijonel k'in k'ak'a' taq tamab'el pa nimaq taq tijob'äl chuwech ri amaq'. Chin tikirel nijach ronojel ri etamab'äl ri nuk'ulun pa nuk'aslemal.

Xinjikb'an rub'anik jun k'ak'a' amaq', Xtiqajunimayij ta qawäch ri yoj winaqi'. Yojsamäj richin niqayäk kik'u'x ri ixoqi' ajiximulew pa retamaxik k'ak'a' taq na'ojoj. Richin keri' nijaqatej ri qab'ey chire ruk'ulik ri utzil.

Devora Empnerathis
Meza Orellana



RI NIWAJO: RUCHUPIK RUWECH RI WAYJAL

Ri winaqi' chuqa' yin xqab'ij ri nutijonik nib'en chi rij retamaxik mokaj pixb'anen, taq xuwil ruq'ijul xinjikib'a' nutijonik chi rij mokaj richin ajlanik jun chik ruk'amom pe ri nub'ey. Pa nuch'utinal ntel nuk'u'x chi rij retamaxik k'ak'a' taq na'oj, k'a yinko'ol na taq xya rutzijol chi we chi k'o jun ruchikopil yab'ilal pa nutzantzaqor jun ruch'akil ruxuyal jutil chikopil nalitej pa nuch'akul ruma rujutil nalitej pa rutyojil äq, nupori' chi re jun xu'y pa rutyojil winaq. Janila xyalojin nuq'amaxik k'in ruk'ayewal, ruma chi kan richin aninaq xutz'ilä nunojib'al.

Ma ruk'in ta ri', matyox chire nuchajixik xkib'en ri wach'alal chuqa jun chojmirsanel richin nutzantzaq'or ri tikirel xuya' pa ruk'ujulb'al nunojib'al chire' retamaxik k'ak'a' wachinaq, xtzolimpe ronojel nunojib'al. Jari' xtaqo' whichin rumari' xin jikb'a' nu tijonik chirij ri wayb'al.

Taq xink'is nab'ey junta' chi re ruk'ux tioxik, pa ri Nuk'ik Tijonik xuya' ri Nimatijob'al San Carlos (USAC) pa rox xik'uje' wi chire nuch'akonik chuwech ri amaq'. Ri rub'eyal xinb'en xin tijo wi chi re kematz'ib' k'a ri ri' Tijonik chi rij rusamajixik k'ak'a' samajib'al. Pa ruk'isb'al xink'ul ri tijonik chi rij ri wayb'al, ke ri' xinch'ob', richin nisol rij ruk'u'x saqwachinen richin tikirel yenuto' ri winaqi'.

Rusamajixik nutijonik xinb'en kuk'in ri ak'wala' pa Q'omab'al Jay Roosevelt, chi ri' xintuwachij wi kitzuqik ri ak'wala' k'a majani' ruq'ij kilaxik wi ma tz'aqat ta kalal yek'o pa tz'etik. Ri ixöq k'o rutijonik chi rij tzuqunik xub'ij jan'i' nib'en chi re kitzuqik k'in ripuk'al richib'il ya' nirajob'ej, xa natwachij chi ka'l ruwäch ri naya' chi re, jantape napön pa ruwayb'äl ri nirajob'ej.

Xinkamluj rub'anik chi wachoch, xinwil jun rub'eyal richin kan tz'aqat nelesan apön junb'ey, ma niyalojin ta rub'anik ruma ruk'iyal ri tzuqunela'. Ruma chi ma ruk'ayewal ta wakamin ja ri' majon rukusaxik pa Aq'omab'al Roosevelt pa amaq'.

Pa nuk'uj richin ruchupik ruwech ri wayjal xinsamajij rukunuxik to'onik richin jun nimatijonik. Ri xinwil jun ruk'ayewal ruk'in pa nub'ey, ruma ma wetaman ta ri q'anchi', xintijojna' wi chi re, k'a ri' xinwil jun tijonik chi rij Sipänyab'ilal pa Brasil. K'a ri jun nimalaxel tijonik pa Mexika, xisamaj chi rij ruwihaqirsaxik retalil richin utz nikusek kuk'in ri winaqi' ri majtejnaq kitz'etik k'in wayjal pa ki utz wachil ri tinamital. Xitzolin chik junb'ey pa Brasil, chi re runimal ri nimalaxel tijonik achike ruma ma junam ta ri tzuqunik.

Wakamin yisamaj pa Mokajil Ruwachulew richin utz Wachil – OMS – pa Ginebra, chi re rutz'alwachixik chi jun ri tzuqunik rik'in ri Qarayb'el Rusolik Ruwech –ODS – nich'ob' qa, taq k'o k'uqb'al ak'u'x chuqa natij aq'ij chi re ri samaj, nach'ek kanojel ri q'atonel.

Giovanna Laura Mania
Gatica Dominguez



RI K'ULUJ RI'IL XUJALWACHIJ NUK'ASLEN

K'o jun ninataj chuwe achi'el xa k'a iwir xq'ax kan... yin tz'uyul pa ch'akät chu tz'etik taluwach kuk'in nute' nata' taq xqak'axaj ri b'ixikil chi rij jun ya' q'äq ruwäch janila' ruxla' ri elesam pe chuxe' ulew xtix pa palow kela' pa Mexika. Aninaq xqaya' ri taluywach xqatz'et ri wachib'äl nib'iro' pa q'aq' pa nik'aj palow. Pa ruwi' ri palow niq'alajin achi'el rub'onil ixkoq'a', ri chikopi' yek'isnaq pa ruq'eqal ri q'eqaya' tz'amäl chi kij.

Taq majanina tin k'ulwachitej re' ma wetamanta achike nib'en pa nuk'iyik, yinojin qa k'in jub'a' yinok tijonel wi nuk'unel jay, k'in ri xk'ulwachij xuya' pa rub'ey nuk'aslen.

Taq xtix ri q'aqa ya' "Deepwater Horizonte" xuk'asoj nuna'oj richin ruto'ik ri ruwachulew, xuk'asoj nuk'u'x xin jikb'a' ruch'akik nusamaj. Kan pa ri q'ij ri' xinmaj ruch'ob'ik chi k'atzinel niqato' ri palow richin nilatz'ux ri q'eqa ya'. Nik'atzin jun watzawik samajib'äl chuwe richin nulatz'uj pe ri q'eqaya' ri man k'ayew ta rujosq'ixik, ke ri' nirajo' ri raqän taq ya', choy chuqä' palow.

Ri nuch'ob'oj xk'iyer chi nuwäch apön. Ruma chi k'a woyob'en apön ruq'ijul rucha'ik ri tijonik pa nimatijob'äl, nk'awomaj ri b'inen pa taq tinamit richin Iximulew. Nitel nuk'u'x chi re rutz'etik ri ruwachulew, rutz'etik jujun täq ruk'ayewal chi rij ruk'aslema, nik'usaj nuk'u'x chi re ruch'ob'ik ruk'in ch'u'jlaj taq na'oj richin ruto'ik.

Taq xulomaj ruq'ijul nicha' nutijonik pa nimatijob'äl, xinmaj rukunuxik, xinwil jun tijonik ri tikirel nutz'aqtisaj rik'in ri nurayb'en pe.

Wakamin ruk'in ruch'akik jun wujil richin bioquímica chuqa' microbióloga yin k'o pa jun nimatijonik richin tiko'n chuqä' ruk'aslema, ruwachulew richin nimersab'äl. Yinsamajnäq chi rij jun samaj akuchi' nikusex wi biotecnología richin kamsab'äl chikopil richin tiko'n chuqä' ri utz wachil ruwachulew chuwäch ri xa jun ruwäch tiko'n. Ri saqwachinen, riyeruto' ri k'o nimaq taq kina'oj, ri k'o ki rayb'el chi re ruk'exik jani' kisaqwachin chik k'in jun wachinen ri k'ayxik rij ri janila ntel k'u'xlal chi rij pa Iximulew.

K'a k'ona nub'ey ri janila' tinb'inp'ej, janila majani' tink'ulwachij pa nuk'aslen. Ronojel q'ij ninataj "Mayoj peyonta ri yoj k'o chuwachulew, yoj ral qate' ruwachulew, pa qaq'a' k'o wi' ruchajixik."

Ja k'a rat, ¿Ja k'o ak'ulwachin ri nuk'ut ab'ey?

*Isabella
García Cattaneo*



YISAMAJ PA NIMA NA'ojil RICHIN YETATO' RI AJ IXIMULEW

Yin k'o chi kikojol ri xecha'ox ri xek'uje' pa Nimaaq'ij Ajlanik, xinjikb'a' wi chi kikojol ri yoj k'o pa tijoxik richin nimatijob'äl ri yojb'enäq wi. Xuya' q'ij chuwe xinok kuk'in richin nqanimersaj ruwäch qana'oj richin nuq'alajirsaj chi nuwäch pa nuk'aslem richin nik'uje' nimläj na'oj wik'in.

Xusaqjirsaj nub'ey taq ri nata' xutz'ib'aj nub'i' pa moloj richin ri k'exik ruwäch k'ak'a' taq na'oj pa Nimatijob'al wawe'. Chi ri' xintz'et wi achike nuq'ajuj chuwe rukusaxik jalajoj rub'anikil ajlab'äl rik'in rukusaxik wachb'äl. Chi ri' k'a xinojj wi chi ni rayb'en ri nimatijonik ri yiruk'uwaj pa nurayb'äl akuchi tikirel nakusaj wi ri ajlab'äl chire ruwinaqjirsaxik jun k'ak'a' rub'eyal samaj.

Pa joq'o' waqlajuj juna', xinya' wuchuq'a' chire ruka'n ruk'u'x tijonik ruma ri' xinwichinaj jun to'onik richin tijonik pa Universidad del Valle; tikirel xintijoj wi chire ingeniería mecatrónica jun tijonik nirayb'en pe, ruma chi wetaman chi janila yiruto' apö pa nusamaj.

Ri samaj ri' xel nuk'u'x chi rij rub'anikil rutz'ukük ruyakük ak'axab'äl ch'ab'äl. Ri rub'eyal xinwaniqjirsaj jalajöj taq ak'axab'äl, xa jub'a' ma junan rik'in ri nikusäx pa ruqü'l taq b'ix. Taq naya'el nuyuj jub'a' ri wechib'äl, xa jub'a' ma junan rik'in ru samajixik janila iqäl rutz'etik.

Ri nusamaj richin nuch'akonik xinsöl rij, xin saqwachij rij ak'axab'äl. Rucholajil ri samaj xinnojj richin ni kamulüx chirijel wachib'äl yesamajix, yeto'ox ruma rukusaxik jalajöj ajlanik richin tikirel nawichinaj jun k'ak'a' ak'axab"äl ri jalajoj rik'in ri kan k'owi. Pa ruk'isb'äl xinwil ri ch'akonik Summa Cum Laude, xuya' ruq'ij ruwujil nusamäj.

Taq xinwichinaj ri nuch'akonik chuqä' xinwichinaj jun nusamäj chi rij rutz'etik, rusamjixik richin ri utz wachil. Nib'ix chi re Bitmec, xinmäj rusamjixik akuchi nimajon wi pe samaj ri tikirel rukusaxik pa taq jay richin utz wachil, akuchi' kan majun kikochin.

Wakamin nimajon rukusaxik jun samajib'äl ri nukanuj achike nuwil pa ch'akulaj achi'el ri qänima chuqa' qa uxlamb'äl. Nik'awomaj rukusaxik ronojel ri nimäq täq tijonik xinwetamaj chuwachulew ri yeruto' ri winaq'i' aj wawe' chuqä' ri ma ajwawe' ta.

Jacqueline Mayakí Guarcax Temay



RI TIJOXIK NITIKIR NUJALWACHIJ RUWACHULEW

K'a yin ko'ol na, nute' nata' xinkitijoj chi re nimäq taq achik'. Xinkitijoj chi re ruch'akik achike nirayij, nich'ob' k'a ri' kan nakusaj awuchuq'a' richin nawichinaj.

Pa tijob'äl xinwetamaj pe niwichinaj ri nuk'ut chi qawäch, nuraynik kan ta yin yich'akon apön richin ni nimersaj ki k'u'x nata' nute'. K'o jun nim ruq'ij xinq'axaj pë pa ri walk'alil pa nuq'apojil, k'o jun xinwichinaj taq xib'e pa jalajoj taq amaq' richin xqajalwachij ruwäch qab'anikil kuk'in ri winaqi' ri k'o jalajoj taq na'oju' kuk'in. Tikirel xinok ruk'exwach qa amaq', janila xiruto' chi re retamaxik chi runimersaxik qawäch tikirel nqawichnaj ruk'in tijoxik ri'il, nimäq täq na'oju' chuqä' ruk'in nimäq taq tamab'äl.

Xuwil ruq'ijul rucha'ik jun k'ak'a' tijonik pa nimatijob'äl, kan janila xinsakij rij ruwäch, k'a malo' xch'ob'otaj chi utz ri tijonik richin k'ak'a' samajib'äl chi rij aq'omab'äl. Re jun tijonik re' k'iy wachinäq nikochin. Yoj k'iy xqachib'ilaj q'i', xqawichinaj b'enan pa tijoxik pa nimatijob'äl rche Valladolid España. K'iy na'oju' xi whichinaj pë, xuk'ut chi nuwäch chi k'a k'o na' k'iy tijonik k'atzinel nqatamaj.

Ruk'iyal chire ri xinwetamaj, matyox chire nusamaj xinb'än pa jay richin saqwachinel k'o pa kachoch saqwachinela' rche nimatijob'äl richin ri tijob'äl San Carlos (USAC). K'a chi ri' xinwetamaj wi achike rub'anikil ri aq'om chuqä' achike rub'eyal rukusaxik ri samajb'äl nakusaj chire saqwachinen chi rij ri k'o chu saqil rik'in ri k'o chuxe' ulew. Chi ri' pa saqwachinel jay yin k'o wi' taq xinch'ak nuwujil rumá rusakixik rij ruwäch jun jub'ül aq'om chuqa jun ch'uch'üj aq'om ri xqakusaj chi re saqwachixik jun samajb'äl rub'i" "biopolímero richin quitosano" ri elesan chi re rutz'ilol rij ruxumanil cho'm.

Xa jub'a' ma wo'o' jun'a' q'axnaq kan chik, xk'iyer nuna'oj chi rij nusamaj. Xisamaj pa Rusaqwachinel Amaq' richin Utz Wachil chi re rusolik rij rub'anikil achike aq'om k'o ruk'in ri wayb'äl niqatij chuwäch ronojel amaq'. Chuqä' yinsamajinäq pa b'amb'äl aq'om chi re niqasaqwachij achike rub'eyal nib'an chi re. Pa re ka'i' samaj re' xintz'et wi chi janila k'atzinel ruk'uwaxik ri jujun rub'eyal richin tikirel nasaqwachij, chi ke ri rajaw chuqa' ri mokaj. Xa rumá ri' taq xib'e pa jun chik nimalaj tijoxik chi re Retamaxik Ch'ajch'ojil chuqa' retamaxik ruk'olik taq wayb'äl.

Yink'o jun nurayb'äl: niwajo' chi ri ixoqi', ixtani' qawinaq pa Iximulew xtikiwichinaj ta usamaj, richin ke ri' xtikib'än ta achi'el xinb'än yin, k'o ta jun nimalaj achik' xtikib'än.

*Jocelyne Melissa
Puac Ixcampanie*



TIJONIK CHI RE RUNUK'IK B'EYOMAL

Riyin ixoq jantape nikanun ri jaltajb'al chuqa' ruya'ik utziläj retalil chuwäch ruwachulew, nik'u'xulaj rutzij ri te'ej Teresa de Calcuta: jantape niqana' qa' ri nqab'än achi'el ruqajik jun tz'uj ya pa palow, mak'ij ta k'ari ri palow wi k'ak'ona jun tz'uj ya nirajo'

Xinalex pa Jutiapa, yin petenaq pa jun jay ma kanta k'o qab'eyomal, ri qate' qatata yesamajel chuqa' k'o tijoxik kik'ulun. Ri wach'alal ixoqi' ni ki Samajij Aq'om, ja yin xintijoj wi chire kitjoxik winaqi' ri nkisamajij k'ak'a' samajib'al. Wetaman ri tijonik xincha' xa q'alaj kiwech ixoqi' yejawan, nijikib'an achiike xtub'än chinuwech.

K'a waqlajuj nujuna' xinmaj samaj, xintijoj wi chi rij kematz'ib', chaq'a' yisamaj akuchi ninuk' wi kematz'ib' chir'i pa tijob'al. Ri xik'uje' chuniqajal jari' xuk'ut nub'ey chire nurayb'el chire nutijoxik, janila xin k'uxulaj chirij retamaxik ri winaqirsab'el samajib'al.

Janila rk'ayewal, xinch'ob' na chi utz richin xinelesan apo chuwäch, chi wachoch majun qa kematz'ib' richin nisamajij nusamaj. Ruma ri' yik'uje' na kan pa jay akuchi' ninuk' wi ri kematz'ib' pa Nimatijob'al San Carlos richin Iximulew (USAC) richin nib'en nusamaj.

Xinwil rub'eyomal ruk'in jalajoj nuna'oj pa samäj, xik'uje' tijonel, xinsol rij Software, xik'uje' richin runuk'ik samajib'al, ajt'ib' chi re ri nk'ulwachitaj, rukusaxik ruk'amal wachinaq nik'atzin ronojel re' xuq'alajirsaj chi nuwach jani' ri k'exoj nub'än ri k'ak'a' taq samajib'äl pa jojun k'ojulb'al, xa ruma ri' xinwetamaj runuk'ik software, xinjalwachij ruwäch nusamaj ruk'in ri nimläj tijonik pa nuk'aslemal.

Q'axnaj ruwi wo'o'lajuj junta' yin samajina pe chi re rutz'alwachixik ri k'exoy chuqa' k'oloy puwaq, nityoxij chi re re jun nuk'uj ri'il re' ruma yaru taq chi'ij, nuq'ij chi ke rusamajela' richin nkitijoj ki'.

Yintz'etonel rukusaxik na'oj pa ronojel b'ixikil ruk'in q'atoj tzij chi re ruch'ajil ruwäch puwaq, ri yek'o par i Mokaj richin na'ojil richin puwaq. Panusamaj b'aanakil nqa kusaj ri k'exoj, chire rutz'itik k'in na'oj richin yoj ruto' chire rukunuxik ruwinaqirsaxik ruwäch rusamajixik puwaq, achi'el kib'anik ri yeto'on chi re ruq'atik ruwäch ruch'ajik puwaq chuqa' kitojik ri b'anoy taq kamik.

Yatejnaq chi we ri samaj ri nuk'usaj nuk'u'x chi re rusamajixik, ruma chi nuya' nuq'ij chi re ruto'ik rusolik ruwäch ri qa'amaq'.

Karen Isela Rowdan Lorenzana



TAWAK'AXAJ ACHIKE' NUB'IJ RI AK'U'X RICHIN YATACHIK'

Yatetz'an k'in ruwachulew jari xqa chinuwech pa walk'alil, ri wachik' k'o chirij Tijonik chirij ru k'aslema Palow, ri nutijonik xenk'isa' chirij ya'. Jari ri kan k'o pawachik' pa Iximulew.

Xinya' retal chi ja ri' ri tijonik niwajo' nitijoj wi chire ri k'aslema k'o pa palow chuqa' ruchajixik ri nimalaj k'ojulb'al, maruyonta rutikik ruchikopil ya' ri yojruto' k'in ri wayjal. Ri jun xalkät chire nutijonik chi rij jun nimalaxel tijoxik chi rij kik'aslen chikopi', yek'o pa ruk'aslema k'achelaj, pa rachoch ri aq'omab'al chikopi' chuqa' k'a woyob'en jun chik chi re ruto'ik rutz'ib'axik wujil richin runuk'ik jun chik nimalaxel tijonik richin ru k'aslamal Tiko'n chuqa' Ruwachulew pa Nimatijob'al pa Santiago de Compostela, España.

Matyox chi re nuna'oj xuya' tijoxik xalex ri Runuk'ik' Plancton tikirel xusakij rij alaji' ruq'uxal ya' chuqa' ri q'ux ri xajun ti ch'akulaj ruk'aslema yek'o chuxe' ruya' palow, ikim chi re iximulew.

Xel nuk'u'x chi re re jun tijoxik re', ruma ri q'uxal re' taq nisijan nikaqir ri ya' (marea roja). Re jun ruk'ayewal re' nukamsaj chuqa' yertz'ilá' ri winaqí' chi re kich'akoj ri e k'o naqaj chu chi' ri palow, rik'in ruya'al kaqal yerukansaj ruchikopil ya', ja ri' ri k'ayew. We nqatamaj achike rub'anikil ruxe' ya' chuqa' achike ik' nk'utinaj, chuqa yojrutz'ilá' ruma chi kan chanin yek'iyer, ruma ri' k'atzinel nqatz'awachij richin aninaq chuqa' niqaq'at ruwäch richin ma yerkamsaj ta ri winaqí' chuqa ri chikopi'.

Wakamin yinq'axal kitzij Nimatijob'al San Carlos chi kiwech ri Mokaj Amaq' richin Rukaqal Palow. Yisamaj chi rij ruk'aslema palow taq niwinaqir pe ruyabil ri q'uxal ya' yin k'o chiu kikojol ri winaqí' richin jalajol taq amaq' richin rusakixik rij ri palow pa taq'aj ke ri' chuqa' qakamonin samaj Ruk'u'x Tijonik richin Palow chuqa' richin ri qaya' (CEMA) chuqa' chuwäch ri ANCA IOCARIBE ruk'in COI UNESCO, k'ak'a' na'oj nim rub'anikil rutzjoxik kiyab'il ruchikopil palow ri yerkamsaj chuqa' kela' pa Caribe.

Wetaman ri tijonik chi rij ruwachulew ruk'ayewal chi kiwech alaboni' chuqa' ixtani'. Ma rik'in ta ri', nitojtob'en chik ruk'ulik ri utzil nijaqatej taq k'o ri arayb'el chusaqil, nitz'eton chik taq yojk'o pa ruk'yewal, roj ri ri tikirel nqakanuj ruk'exoj chi kiwäch ri qak'exel ri kimajir rukunuxik rub'ixikil yek'uje' chi re ruk'amik rub'ey nimäq taq tijonik.

Matyox chi ke' ri k'o nimäq taq tijonik kik'in tikirel xinwil ri wachik', ri jani' la yakikot ruma taq tikirel nataluj rub'ixik ri ana'oj, ri amolon pe ruchi' rik'in rucholaj saqwachinen chuqa' taq rat tijonel.

*Karla Evelyn
Paz Cordon*



JUN TIJONEL K'ASLEMAL NAJ NIXIK'AN WI CHI KIWÄCH TAQ TZ'IKİN

Taq k'a yin ti ixitän niwitzij ruwech ruwachulew, ri tikb'äl kotzij chuwa jay ja ri' nuk'ojulb'al yin, ninatej chuwe janila utz nitz'et yankanuj taq chikopi' chuxe' taq ab'aj k'ari nib'en kachoch k'in alaji' taq xik'ay ruk'in ulew, k'a ri' nitz'alwachij achike nikib'än. Ri aj pa wachoch xenkitijoj chi re kiloq'oq'exik ri chikopi', taq yojb'e pa b'inen kuk'in k'iy nqa saqwachij rij.

Nab'ey ma wetamanta wi k'o tijonik chi rij k'aslemal, jani' la niqa' chi nuwäch ruka'yib'äl Animal Planet nawetamaj rub'anikil kik'aslemal ri chikopi'. K'o pa wachik' yib'in na chuwech ri ruwachulew richin niwetamaj rub'anikil chuqa' ruto'ik. Keri' xinb'en, taq xerla' ruq'ijul nutijoxik pa Nimatijob'al, kan wetaman chik chi yin tijonik richin k'aslemal.

Pa rutijonik xinjikib'a' chi kan ja' ri tijonik chi rij k'aslemal wichen yin, chi jojun tijonik ma ruk'ayewal ta rutz'etik pa nuk'aslemal, achi'el ruk'aj chikopil wi ulew k'a pa jun kojulb'äl kichin ri k'o ki k'aslemal. Jari jani' la niqa' chi nuwäch, chi ki jujuinal ri niwetamaj ma kan ta nanimaj rub'anikil, pa taq ri q'ij ri' k'o jun nuraynik chi rij ruk'aslemal palow.

Ma ke ri' ta, pa jun k'achelaj xinwil wi ri niqa' chi nuwäch. Taq yink'o pa tijoxik chi re kib'anikil ri k'o ki k'aslemal, xinwak'axaj jun b'ix janila xel nuk'u'x chi rij, xinnak'wachij retamaxik ¿Achike k'a ri'? Xinokel pa k'achelaj xintzakilb'ej ri b'ixanik k'a jantape xewil oxi' taq nik' tz'ikin nima'q kijey yeb'ixan yeropin pa ruq'a' taq che' nikik'ulb'a' ki'. Chi ri' taq xuk'ex ri' jurayil nuk'aslen, chu kän q'ij xinjikb'a' nutijonik chi kij taq tz'ikin.

Rik'in tib'el chuq'a' chuqa' k'uqb'al k'u'xlaj xinch'ek jun to'onik richin jun nimatijonik chi rij rusamjixik ruto'ik ruk'aslemal k'achelaj pa nimatijob'al richin amaq' Costa Rica.

Wakamin yisamaj chire kito'ik "ajxik'a' chu chi' palow", yexule' yejote' chuwäch Abya yala yepe k'a pa Alaska yeb'eqa k'a pa tinamit Chile. Ruma ri xinch'eäk jun to'onik richin saqwachinel ki k'aslemal ajxik'a' chikopi' pa Nimatijob'al Cornell richin ruto'ik ki k'ojuib'al pa Iximulew.

Ri ajxik'a' chikopi' ja ri' yenuk'amol b'ey. Chi jujuinal rusamjixik ruk'utun chi nuwäch chi yitikir k'in eleb'el k'u'xlaj, uchuqa' chuqa' ruq'ijul, tikirel yatxik'än richin niwichinaj ri nawajo', ri nawichik'aj tikirel nawichinaj.

Karla Vaninia
Sagastume Pinto



RUTZ'ETIK RI KAJ JANILA NTEL NUK'U'X CHI RIJ RI NUK'ULWACHIJ

Stephen Hawking kere' xuch'öb' chirij jun samäj xub'an chi rij ruchuq'a' rub'inb'älraqän ya', jalajoj ruchuq'a' rub'inb'äl akuchi' niq'ax wi'. Yin nich'ob' qä, keri' qab'anikil roj chuqä' chi qajunjunal, pa jun ch'uti ramaj nuwil el rub'ey ri tikirel nujalwachij ruwäch achi'el nirajo' ri ja'.

Wuqlajuj nujuna', k'a yin ko'ol na xink'utpe wi, chi mayin junan ta' kuk'in ch'aqa chik, rumá ri' kan majun ruk'ayewal nub'än chi nuwäch. K'a malo' xq'alajin chi nuwäch kib'anikil ri ch'umila' ri e k'o chi kaj, xinwetamaj kib'anikil. Taq xk'ut chi nuwäch k'a waqxaqi' nujuna' xinmaj pë runuk'uxik ri kaj ri janila' xel nuk'u'x chi rij kib'inb'äl. Taq xinwetamaj chi utz taq xib'e pa k'u'x tijonik, ri nub'ey tikirel rutz'etik ri kaj richin nimayb'ej rutz'etik.

Taq xib'e pa ruk'u'x tijonik, xinwetamaj chi rub'ey ri nutijonik kan nib'ena' näj chi rijel ri ruwachulew.

K'iy ch'akonik xinwil chi rij ajlanik pa tijob'äl; xik'uje' pa jalajoj taq tijonik chi kij ri ch'umila', achi'el kiwinaqirsaxik wachinäq, ri b'inib'äl chi kajil kan jani' la xel nuk'u'x chi rij kinuk'ik' ch'umila'. Pa Joq'o' junk'al jun juna', xinwachib'ilaj a Daniel Enríquez xqach'ak jun runuk'ik na'ojoj taq xnimaq'ijux ri CIMAT (ciencia, ingeniería, matemática, arte y tecnología) rumá runuk'ik' jun software (APP) kichin tokoni' yech'on pa ch'ab'äl Kaqchikel. Matyox chi re tikirel ruximik rik'in runuk'ik na'ojoj chire ru samajixik jun jaltajb'äl chi ke ri winaqi' achi'el ri nuna'oj yin pa nuk'aslen.

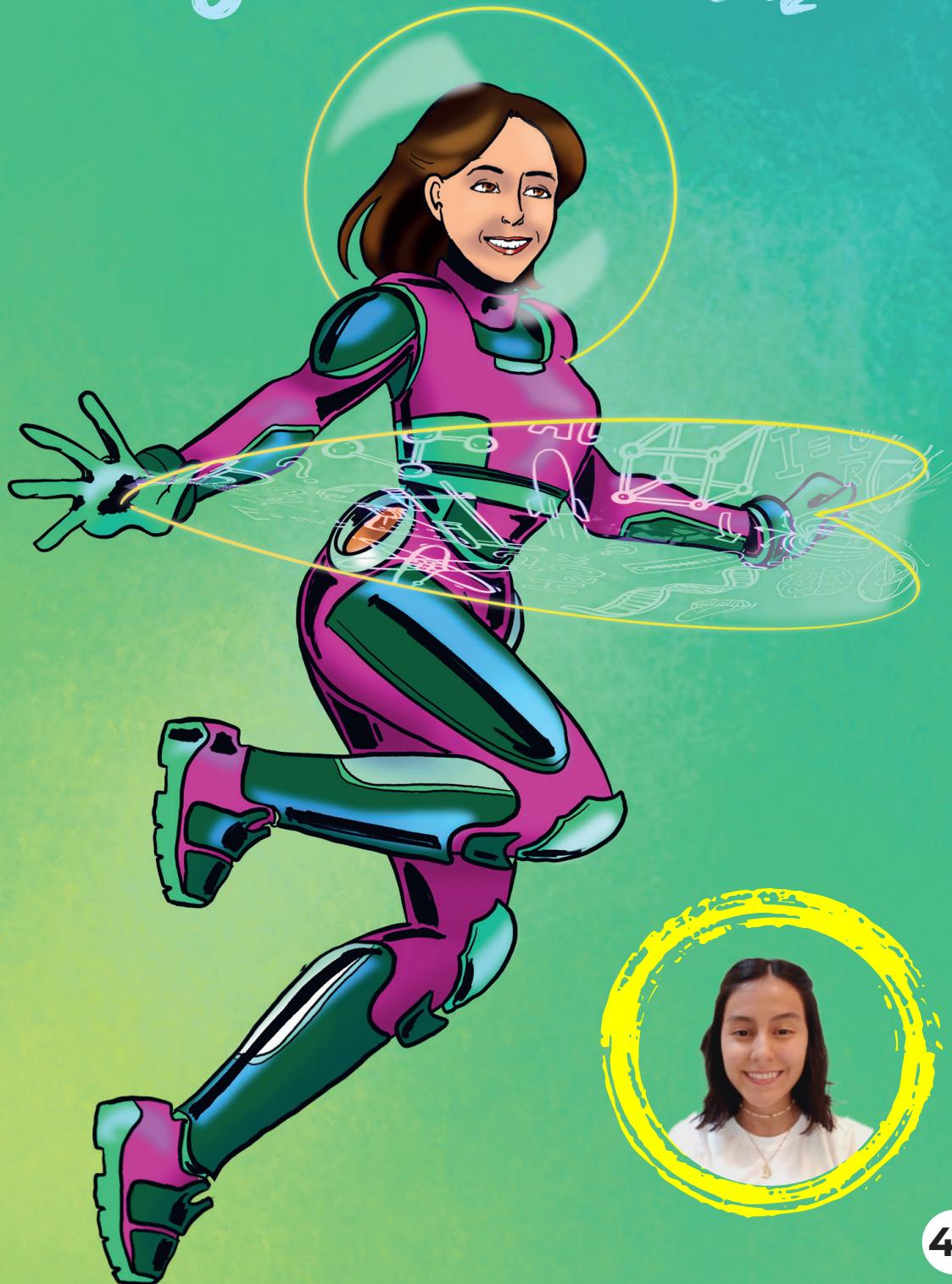
Pa taq ri q'ij re' yinkachib'il ri winaqi' kinuk'ün ki' pa b'inen chi kajil richin Iximulew (Paegua) yin k'o chi kito'ik rumokajil runuk'ik, chuqä yin k'o kik'in mokajil k'amol b'ey "Rija' xel ruk'u'x chi rij ri Jalajoj Amaq' ri xb'anataj pa Joq'o' jun k'al ka'i' juna" ri xtalux rutzijol ruk'in utziläj qulaj.

K'o saqwachinen nub'anun akuchi nikusän wi wachinäq achi'el rub'anikil ri q'ayis, jalajöj ija'tz richin niqakamsäj ruwäch rutz'iloxik qaya' chuqä' ruxla' juyu', nqa rayb'ej nqawil ta jun ruq'omal ronojel ruk'ayewal ri qacholon apön ri nurayb'ej runimersaxik ruwäch ri k'o pa ri K'atun.

Pa ri juna' re' nirayb'en xtik'atzin ta chi re ruyakik kik'u'x ri k'ak'a' q'ataj ixtani' ri xtikiq'alajirsaj ta ki' chuwäch ruwachulew rik'in kina'ojil. Ri nimalaj achik' nub'anun pe, chi rij rutz'etik ruwachulew pa jun ch'ukaj chik, richin ni qatzaqlab'ej ruya'ik ruq'ij ri ixöq aj Iximulew chuwäch ruwachulew chuqä' pa chi kajil.

Man tik'uje' ta xib'in ri'il chi qe chuwäch nimaq taq tijonik, toqo' chi qe chi roj rachib'il chik ri ja' achi'el xub'ij Stephen Hawking: "Kaka'ay chi kij ri ch'umila' man rija' ta ri awaqän natzu' qä, tatojtob'ej retamaxik achike natz'et k'a ri' k'a tak'ulb'ej qa awi achike rusamäj ri ruwachulew taq k'o, katz'alwachij".

Katia Sofia Samayoaa Antiga



NIWAJO' YENTZU' RI CH'UMILA', RI KAJ MAYARI' TA RI K'ULB'A'T

Taq xinwil ruwech ri ajlab'al, ma kan ta xiruya' pa utzil. Xk'uje' jun nutijonel xub'ij chi yin ma yin tikir ta. Ronojel xjalataj taq xinwil ruwäch ri tijonel Marisol Lux, k'o xutz'ët chuwe xirutaq pa taq ruk'utik ri ajlanik. Xa ruma rija', tikirel nitzijoj ri xink'ulwachij.

K'in ruto'onik, ch'aqa' tijonel chik xkik'ut chi nuwäch ruxe' kaj, rub'anik wechb'al chuqa' chire ri tojtob'exik. Ruma' chi kan yin nak'wachinel, kan nuk'amompe pa walaxik, k'a ruwewan ri' wik'in.

Wakamin niwajo' ri tijonik chirij Rusamajixik ruk'in sakenin, ruma rusik'ixik ruwech ri qawujil Popol Wuj Xinwetamaj achike' kib'anikil ri Mayas, xinwetamaj kiwech ch'umila' rumari' xiruk'waj chire ri tijonik.

Taq xik'uje' pa ruk'u'x tijonik xik'uje' chiki kojol Nimaq tak K'utunik chi rij ri Tijoxik. Rucholaj ri ajlanil xok wuchuq'a'. Ruma' xik'uje' chi kikojol xuya' k'ij ruk'i'il k'u'lal chuwe, k'o jantaq xub'en ka'i' nuk'u'x chire, xin na' chi ma yitikir ta, ma yikowinta ruma' mak'uqlta nuk'u'x wik'in.

Wakamin yinjalan chik, k'iy chik nuch'akonik. Xik'uje' pa jun tijonik richin wachib'al kichin ixoqi' pa Oaxaca. Cuuqa' xkijikb'a' nuwäch richin xik'uje' pa jun nuk'uj kichin Ixoqi' K'amol b'ey STEAM (jun mokaj tijoxela' ruk'amon ri' rik'in kitijonik ri yetikir chi re ruwinaqirsaxik taq achib'äl chuqa' ajlanik, ri retal k'o pa ingles) yin nab'ey ajiximulew xik'uje' chi kikojol, wakamin yin ruk'exwach champomal richin qa'amaq'.

Rik'in ri ch'akonik re' xinwetamaj ri nuq'ajuj ru tz'ukik moloj taq ri'il kichin ixoqi' k'o kina'oj.

Pa taq ri juna' ri' xinok ok pa runuk'uj PRISMA richin rutz'etik ajlanik. Yin kachib'il ri mokaj ri xok ruk'exwach Iximulew chi re Rutz'etik Ajlanik pa Jalajoj taq amaq' ruk'in Caribe (OMCC) xik'uje' pa FDIC (K'amol taq b'ey richin Nimaq taq Tijonik) richin nuk'uj alab'oni' richin Kuskuwintlan, xink'ül tijonik chi kij ch'umila', ma ruyon ta ri', xik'uje' pa jun nimaläj mokaj kichin sakinela' richin ruk'aj taq ch'umila' yetzaq pe chi kaj, richin Nuk'uj Ajiximulew kichin ri Winaqirsanel, Nimaq taq na'ojil (AGICE).

Ronojel ri xinwetamaj xuk'ut chi nuwäch ma ruk'iyal ta ixoqi' yek'o pa tijonik STEAMrumari' xqa tz'uk kan, kuk'in jun mokaj qachib'il q'i' jun Femiciencia rucholajil tijonik richin yeqakusaj ri ixtani' chi re retamaxik chuqa' nikinuk' ki' pa STEAM.

*Luisa Fernanda
López Monzón*



RI KAJ MAJATA RI K'ULB'ATIL, YIN K'A XINMAJ XIK'ANEN

Kajlajuj nujuna' xinwil jun to'onik richin tijonik pa Tijob'al Americano de Guatemala, jub'a' chik aq'anaj xib'e pa Nima Tijob'al del Valle de Guatemala, chi ri' xinch'ak wi' nuwujil richin tz'etoy k'aslemal.

Ri nab'ey nusamaj xinb'en pa ki K'ujulb'al Chikopi' pa Aurora, Taqanel k'amol B'ey, xek'uje' Jumuch' samajela' pa nuq'a' chi re kilixik ke ri' chuqa' ajq'amanela' kichin chikopi'

Majun sachb'al k'u'x chirij, jun nimalaj samaj, k'a yin q'opoj ixoq na. Iqal xinch'ek ki ajob'enik kichin ri samajela', xqa jalwachij rusamajixik, xqaya' kikojol ri chicopi etz'apin richin ma nki tz'il'a ta ki'. Noqa' chuwe, xqanuk' rub'anik jun moloj ri'il chirij kitz'etik ajk'achelaj chikopi', xuq'alajirsaj jani' kiwech chikopi' yek'o chikiwech jalajoj taq amaq'.

Ruka'n samaj xinok K'amol B'ey chire Ruk'aslemal k'achelaj richin Ruchajixik K'achelaj chuwech chi jun ri amaq'. Keri' taq xalex pa nuk'ux Ruk'waxik Rucholaj Tinamital ri xk'uje' kan retal pa tinamit, ruk'in utzilaj rukusaxik qa ruwachulew ruk'in jani' tikil chuwech. Chuqa' xik'uje' chire ru K'amik Rub'ey ri Tiko'n, Awaji' ruk'in Tzuqunik (MAGA) xqatz'uk jun ru cholajil chire ru loq'oq'exik jani' ri tikil chuwäch kuk'in ajtikmola'.

Pa Joq'o Lajuj juna', xitaqel pa jun Tijonik Nim Rub'ayal pa Nueva Zelanda rub'i' REDD+ jun rub'eyal ruq'atik ruväch jikän k'achelaj. Wo'o' juna' xojtiox chi re jun rub'eyal re', xinchayuj rij jani' nik'atzin, chuqa' ri ma nik'atzin ta chi re qa iximulew.

Nim nutemanik chi re Ruk'aslemal k'in Runuk'ik Rucholajil Ruwachulew, xinok pa samaj richin ak'axanel chi rij rutz'ukik jun chajixik chuqa' rusamajixik ri ya' pa ruk'u'x iximulew. Xya' wejqalen chi re k'amol b'ey richin FUNCAGUA ja ri nuk'amom pe rub'ey kan pa joq'o' wo'o'lajuj.

Xub'en wo'o' juna' qamajon pe rutz'etik kawinaq k'uwa'n richin q'atb'al tzij pa (b'eleje' tinamit) qatalun rub'ixik chi ma k'o ta pa Iximulew chuqa' qakamonin qana'oq chi rij chi k'atzinel junan nib'an chi re rusamjixik ri qaya'.

Pa Jo'o' junk'al juna' xink'axaj rutzijol chi k'o chik ch'ak oxi' rupalib'al chuwe, xiyujtaj rumá, ri k'uqb'ab'al nuk'u'x xiruto'. Bn'eleje' ik' xk'atisex ruwech tuyab'il, xya' rutzijol chuwe chi majun chik tuyab'il, matyox chire Ajaw xyataj chik junb'ey nuk'aslemal ri janina' xtinwichinaj chire.

Wakamin utz nityoxij nuk'aslemal, jun utz wachil chuqa' ri ajpawachoch.

Maria José Iturbide Flores



K'IN WUCHUQ'A PA SAMAJ XINCH'EK TIJONIK CHI RE RUB'ANIK JALAOJ SAMAJIB'ÄL

Ri samaj xiruto' pa nuk'aslemal, tikirel chi re nutijonik pa Nima Tijob'al. Pa Joq'o' waqi' jun'a xinjikb'a' nuch'ob'onik. Rik'in rupoqonal, wuchuq'a' waqxaqlajuj nujuna' xinch'ek nutijonik chu kojol taq q'ij richin ajlab'al pa Tijob'al Amaq' richin Ajlab'al rik'in K'aynik "América". Pa oxlamb'al q'ij nimaq'a' nik'ul ruxe' tijonik richin nimatjob'al richin rub'anik jalajoj samajib'al pa Nima Tijob'al San Carlos richin Iximulew (USAC) richin nab'ey tojtob'enik. Yin pa tijonik chojmirsaxik tiqaq'ij sábado, pa taq domingo yentijoj chi re rub'insaxik chuqa' runuk'ik samaj. xinrayij ruwäch: Tijonel.

Nutijoxik xirub'insaj k'a pa ruwi', ruk'ux iximulew, Villa Nueva, k'a Amatitlán. Pa Joq'o' wuqu' jun'a xinmaj nutijonik pa Rachoch Tz'ukursanel richin USAC. Pa taq jun'a xinwinb'ej wi nimaq'a', waran, rujachik samaj, nimaq taq b'ey nib'ib'ej pa taq ch'ich', k'o jantaq pa taq sábado chuqa' domingos pa saqwachinel pa Nima tijob'al pa ikim richin iximulew (ITUGS) pa Palin Itzkuwintlan.

Pa rik'isb'al xinch'ek nuwujil richin Winaqirsanel k'ayij, k'a ri' xisamaj pa Tijob'al richin Tz'ukursanel Aq'om pa USAC. Chi re rusamajixik kichin ri xkich'ek kitijonik, k'a majanaj tari yin tijonel saqwachinel pa INDETEIQ xk'uje' pa nuq'a' rusolik ruwäch saqwachinel richin Tijob'al winaqirsay aq'om richin "Ruk'utuxik achike' nirajo'. Ruwachulew chuqa' ru ichinaxik ruchi' taq wachinaq richin na chojmij kan jurayil".

Chuqa'yink'o pa mokaj winaqirsay Runuk'ik ruwech Amaq' k'in k'ak'a' na'oj, wakamin yin k'amol kib'ey pa mokaj richin puwaqil k'in pajb'aj samaj.

Pa Joq'o' b'eleje' jun'a', xito'on chire k'iy tijonik, xinwichinaj rutz'etik numa ri rusamaj pa tijob'al chi re Winaqirsay Aq'om. Xujaq rub'ey nusamaj, Xinb'en chik jun nima tijonik richin ichib'al, nuk'uj, rusamajixik ruwachulew pa Rachoch winiqirsanel jay.

Wakamin yin tijoxel richin nima tijonik saqwachinel chi rij tijonik richin ruwachulew pa rachoch tzukursanel. Yin k'amolb'ey pa amaq' chi rij samaj pa jalajoj taq amaq' chirij kamonin sakinen richin Unión Europea rik'in Caribe richin rusamajixik ri q'ayis. Waqxaqi' jun'a' yin tijonel richin tijonik chi rij kik'aslemal ri k'o kik'aslen.

Yin te'ej, ajxijilon, ach'alal, qachib'il q'i' ri k'o qatamab'äl. Majun rub'anun ta achike rujatzul qab'anikil, ja ri' koch'onik pa samaj, ja ri' niy'o' qaq'ij ruma chi ronojel tijb'äl ruq'ijul k'o ru tojb'alil.

Marilyn Canibel
Rojas Maldonado



RUTZ'AQTISAXIK WACHIK' TIJONIK CHIRIJ OYONIB'AL

Ri ruwachulew jalan ri saqchb'al k'u'x nuya' chiqawech. K'o nquruya' pa qu'uj mayoj, k'o jun q'ij xintz'et jun ti k'aslen ch'akulaj. Ma kanimaj ta ri taq chikopil re' janila rk'ayewal ki'z'etik chuqa' kib'anikil janila utz runuk'ik ki' kib'anun.

Ronojel re' xin wetamaj ruk'in nute', yin nab'ey chike ri ajpjajay xib'e pa Nima Tijob'al. Nute' xuk'ut chinwech muxanen, jantaqil k'o xib'in ri'il chuwe.

Taq k'a yin k'ona' pa rukan tijonik xinch'ak jun q'ana puwaq retal nutijonik taq xnimaq'ijux pa Nima Tijob'al San Carlos (USAC) chirij xinwetamaj wi chi k'o Nima Tijob'al Harward chuqa' ri Tijob'al richin ru Tz'ukik Samajib'al pa Massachusetts (MIT) chirij xin tz'et wi, chi tikirel nasamajij ruq'omaxik ch'akulaj richin niwinaqir chik jumul ri ch'akulaj, ma ruyonta achi'el niqatz'et pa taluwech.

Xinch'ob' nutijonik chirij Rub'anikil aq'om ruk'in Ruchikopil Yab'ilal pa Nima Tijob'al del Valle de Guatemala. Xinnojj chi ruk'in ri' nwetamaj achike kib'anikil tak chikopil xib'ib'el kitz'etik.

Xqamaj tijonik k'in ruk'ayewal, xink'oxaj wawe' pa Iximulew majun samjib'äl ri nik'atzin chi qe pa samaj akuchi' yesaqwachix wi chikopi' yetz'uman. Nute' xirutijoj chire muxannen rumari xitikirel xin kanuj. Xqa kamonij runuk'ik jun moloj ri'il akuchi' xqaya rupeyonik ri ajq'omanel Juan René Álvarez Dominguez ajiximulew k'o runa'oj chirij q'omaxik rute' ch'akulaj pa Nima Tijob'al richin Cambridge Massachussets. Chiri' xuk'ut wi rusamaj chire saqwachinen chirij ru k'iytisaxik ruchikopil qasab'al ruki'il kik'el ri nutz'ila' qach'ab'akil rik'in rute' chikopil re'.

Nim xuq'ajuj chiqe pasamaj ruk'in ajq'omanel Álvarez xinwichinaj nurayb'en taq yinq'axel yik'uje pa rachoch saqwachinen pa nima tijob'al, k'o chik jun rk'ayewal xin k'ulwachij, xqa qajb'ej ri nimlaj yab'ilal, xuq'at rusamajixik nuch'oj.

Wi ma tikirel ta rutz'etik chikopil, ruk'amon chi rije' yepe wil' in. Xin k'utuj apön chire ri q'omanel Álvarez yerutaq pe ri chikopil pa Iximulew, yiruto' chire ki k'iytisaxik. Keri' taq xalex rutz'ib'axik ruwujil nutijonik: ruk'ojlen ri tzuqunik ri k'o rub'ixikil k'in jun retal pa jun wechb'al Dec 1 ruk'in ri chikopil B richin qach'ab'aqil k'o chiqapän. Rik'in ruto'onik ri q'omanel Álvarez chuqa' ri q'omanel Pamela Pennington, tikirel xinkusaj pa nab'ey cholaj ri chikopil yetz'uman pa ruk'ojulb'al, ri tikirel kiq'omaxik k'in ruchikopil yab'ilal.

Pa ri juna' Joq'o' junk'al ka'l', xib'e pasamaj pa nima Tijob'al richin Pennsylvania, pa jun k'ak'a' saqwachinel jay. Xin tz'aqtisaj wachik chire rusamajixik ruq'omal ch'akulaj. Wakamin nik'iytasij ruchikopil richin kik'el k'o pa ru ch'ab'aqil qapän ri yalex ruk'in jun te'ej, yek'iyer iqal pa ch'akulaj chire ru k'iytisaxik, achi'el ri CRSPR – Cas9.

*Miriam Israeli
Galicia Silva*



RUCH'OB'IK RUNUK'IK TIJOXIK CHIRIJ RUWACHULEW RIK'IN RI WINAQI'

Ri chikopi'chuqa ri rk'ayewal kichin winaqi' pa Iximulew yari ka'i' rk'ayewal alenaq nu k'u'x chire retamaxik. Ri nab'ey ru ch'akulan ri' rk'e ri ruwachulew, ni rayb'en pë kan k'a pa un ch'utinal, ri xki k'ut pë ri nata', nute' chinuwech. Ri nute' k'ayin ch'utin nä xuk'utpe chinuwech rukemelaxik ri Qate' Ulew. Nich'ob' chi kan ruk'amompë ri' rik'in ri qajatzul maya k'iche', xuk'äm nub'ey chire rutijoxik wi' chi rij richin ma niqasach kan q'i' rik'in ri ruwachulew.

Ri k'atzinel chuwe yin jari ruk'ayewal kichin winaqi' petenaq wi ri nutijoxik. Ruk'u'x tijoxik k'in ch'aqä' chik pa ri tijob'äl Asunción. Ri nuq'axan pe chupän ri tijob'äl ri' xujäq nuwech chi re rutz'etik ri nuk'ulwachin ruk'aslen rqa Iximulew. Keri' rub'anikil ri tijob'äl Asunción, ri tijob'äl ri' k'amön pe rub'ey kuma nimanel ajch'ab'äl, xuk'asöj nuna'oj ruma chi xa rujech'ün ri' ri k'aslemäl chuwäch ri qa amäq', jantapë ruk'ayewal nki q'axaj ri winaqi'. Chuqa' chiri' xk'astaj wi nuna'oj, roj winaqi' tikirel ni qa jalwachij ruwech.

Taq xapön ru q'ijul chi nichä' ri nutijonik, nuch'ob'onik kan choj rusuq'un ri' chinwech. Nirayb'en jun tijonik ri nuya' q'ij chuwe yik'uje' chuniqajal rk'e rqa ruwachulew, jak'a ri jun chik, jari nuya' q'ij chuwe richin yento' ri winaqi'.

Janila' xinwajo' ri tijonik kichin ri Chikopi' chuqä rk'ayewal kichin Winaqi'. Taq xib'e pa jun pa Nima Tijob'al pa Iximulew richin nicha' nutijonik, k'o ka'i' nimäq taq tijob'äl nkitzujuj tijonik chi rij rub'anikil k'aslemäl. Kan richin chanin xin ch'ob'ola' chi jari niwajob'ej. Xinch'öb' chi ma ruk'ayewal ta nib än chire nutijonik chi kij chikipi' pa qaruwachulew, chuqa' ri qak'aslen. Niwetamaj k'ari' akuchi' ruk'amonwi ri' rub'anikil ri k'aslen chuwech ri ruwachulew.

Yin tijonel chirij k'aslemal, k'o nuna'oj chire rusamajixik ruk'u'x saqwachinen ri nikusax. Xel nuk'u'x chirij ri kamonin samaj pa taq mokaj, runuk'ik retamaxik chuqä ruto'ik ruwech ri jalajoj taq k'aslemal ri k'o chuwech ri qa juyub'al. Xin kusaj wuchuq'a' chire kito'ik ri jalajoj ruwech taq samaj ri tikirel nujalwachij ruwech ki k'aslen ri winaqi' pa taq jalajoj mokaj k'in ru kemelaxik ri taqäl chiqij pa qa juyub'al.

Ri tijonel re', xuwichnaj rutz'etik jalajoj taq juyu' taq'aj chuqä ri utzilaj taq winaki' ri ek'o chuwech ri qa amaq', alenaq nuk'u'x chire chi wawe' pa Iximulew xalexwi.

Paola Nicté

Cotí lux



RUSAKIXIK XUMANIL WINAQ

Ri ruch'amil Ch'akulaj (ADN) ma na nimaj ta ¿Maninta rub'anikil xa pa oxi' taq tz'ib' k'owi, chirí' nalitejwi ronojel rub'anikil jun winaq? ¿Achike ruma ri winaq tikirel chi re ru q'alajirsaxik ronojel k'o panewal chire qa xumanil? Rulesaxik chu saqil jari ri samaj nimajon rusolik rij, k'o pa kiq'olb'al ri ak'wal chire ruk'utuxik, k'a jantape nuwil ru k'ulb'exik ri nirajo' ni retamaj.

Rujatzul ch'akulaj nuq'alajirsaj kematz'ib', k'o chi nuk'anuj rub'eyal ronojel q'ij. K'a k'ona ri jani tel chusaqil ri ruk'amonpe ri oxi' taq tz'ib' ADN. Achi'el nub'en ri samajel nuk'ot ruxe' ulew chire rukunuxik q'enapuwaq, kiri' nkib'en ri mokaj chire rukunuxik rub'eyal chire retal b'aqilaj richin nich'ob'otej chikiwech rub'anikil ruk'aj, richin nalitej ronojel rub'anikil chusaqil achike rub'anik jun winaq, jun yab'ilal. Ronojel re' tikirel ruma ri k'ak'a' taq samajib'al nuya' chusaqil rub'anik ri ADN kichin ruk'iyal winaqi' tikirnaq pe kuma ri mokaj winaqi k'o ruk'u'x na'oj kuk'in, kimolon ruchi' jun b'eyomel na'oj chi rij ri qawinaqlal.

Qitzij nawi, yin jalan chi kiwech ri wichib'il, yin manja ta ri' xintijoj wi chire, wakamin jari' nisamajij. Ri wetaman yin jari chirij ru na'ojil winaq. Xin wetamaj achike nub'en jun taq nub'il rusolik ruwech ru na'oj, achi'el ri winaqi' chuqa' ri kematz'ib'.

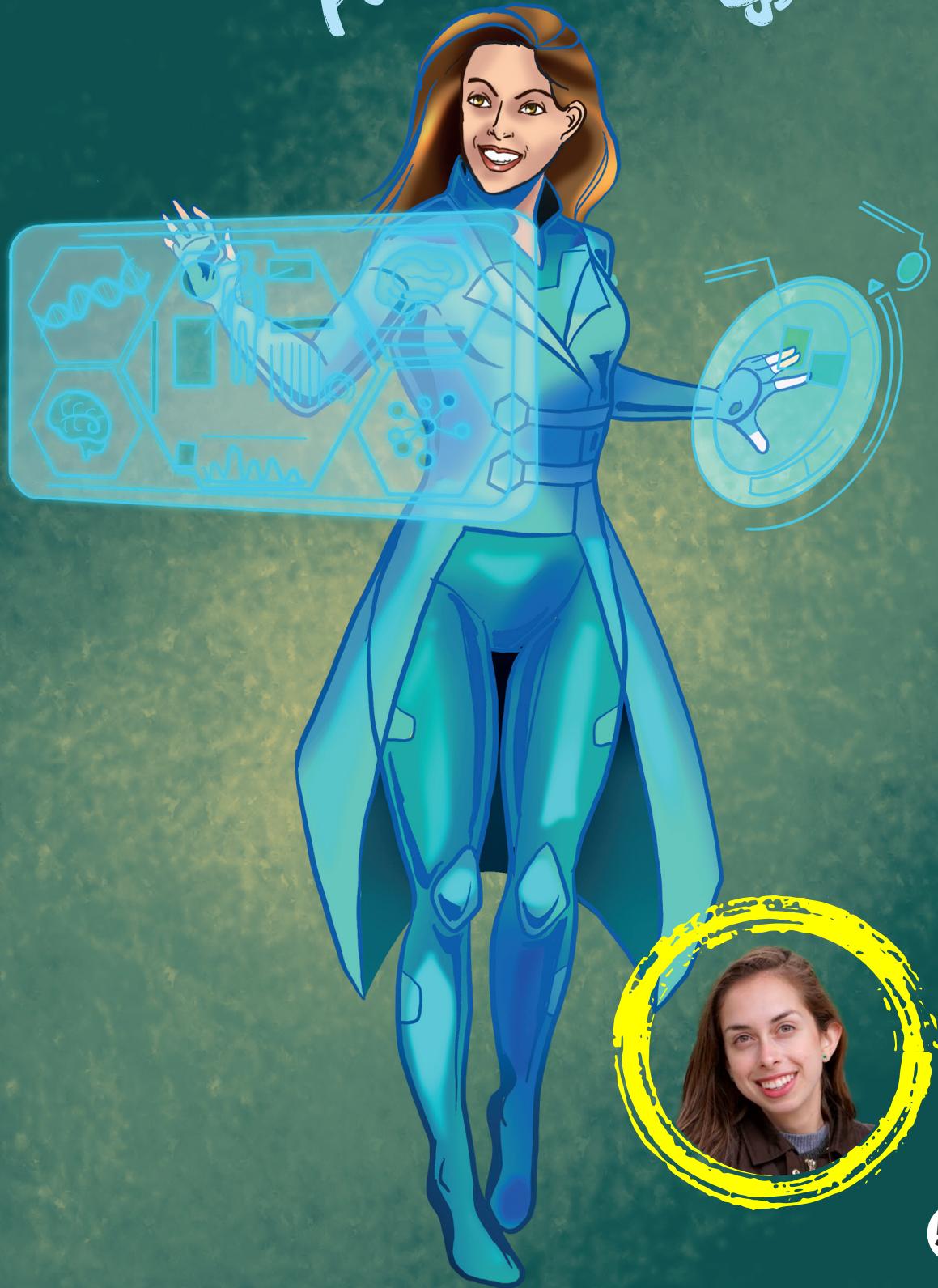
K'o jun q'ij xkiya' runuk'ik ri ajlab'al richin nokisex chire rub'anikil ch'akulaj, xin kusaj ri wetamab'al chirij kematz'ib' chi re ru nab'exik ri k'utunen chi re xumanil.

Taq xmajtaj pe ri k'ayewlaj yabilal, ruk'iyal wuj xinsik'ij chirij rub'anikil ch'akulaj. Ruk'iyal xoj tz'ape pa jay matikirel ta nich'ob'otej chiqawech, ruchikopil man q'alaj ta janila ruk'ayewal rumajon. K'a ma jaru' ta q'ij nk'ulun nuwujil pa Nima Tijob'al, xik'uje' kik'e tz'alwachinele' pa Nueva York xinsakij rij ruchikopil ri yab'ilal ri nutz'ilá' runuk'ik qach'akul. Jari' nab'ey samaj xinb'en chi rij sakinen k'a ri' k'a ma wetaman ta rukusaxik chay samajb'al richin 3D akuchi' k'o wi rute' ch'akulaj.

Ka'i' junta chik nimajon pe samaj pa tijob'al chi re rusakixik rij ruk'aslemal ri aq'om richin Gladstine, California. Chupän ri q'ij ri' xintz'uk rub'anik jun ajlanik richin tikirel natz'et retamaxik rub'anikil ki siloxik jalajoj k'aslemal ch'akulaj.

Ri jun chik xalkät, jun Nimatijonik chirij K'aslemal q'exnaq pa kematz'ib'. Kan pa Estados Unidos yin k'owi nirayb'en jari qasamaj kuk'in ajiximulew chuqa' ajb'ayala ri k'o ruk'u'x na'oj kuk'in richin nqakusaj pa qa samaj yeruto' ri tinamit akuchi' oj alexnäq wi.

*Paulina Maria
Paiz Meneses*



RUSIK'IXIK NA'OJ RICHIN SAWACHINEN

Rusik'ixik wujil winaqirisanen nk'amompe pa walk'alil, xinojj q'a ri tz'ib' nitzijon wik'in, taq xink'is rusik'ixik richin pa tijob'al, xinqaj sik'awuj, xuya'sachb'al k'u'x chire nute', ronojel ri wuj nisik'ij nitzijon chirij rub'anikel ki meb'a'il ri winaqi' ri maniq'axta chuwech ri nute'.

Taq nimajon nisik'inem chuqa' yenjoq'ola' ri watz'ab'äl richin ninuk' chik junb'ey, k'o chik beleje' nujuna' xinch'ob' nitijoj wi chire kib'anikil ri winaqi', k'a jantape xin wichinaj, xisamaj richin nitojb'ej nutijonik chuqa' yito'on apö chi re ri nisach pajay.

Yakikot ruma retamaxik, ri tijonik ma k'ayewal ta xub'en chinwech. Nab'ey pa tijob'al, k'ari' xinwil to'onik richin pa Nima Tijob'äl, tikirel xinwichinaj ri wachik' richin nutijonik, xin wichinaj tijonik chikij ri winaqi', jun chik chi rij kik'aslema'l winaqi'. Ri tijonik xu saqirsaj nuna'oj, nityoxij chi re nusamaj matojom pe chi re runuk'uxik wujil rucholaj tijonik richin sawachinen kichin tijoxela'.

Rukunuxik rajil jun saqwachinen achi'el rub'nb'el jun b'ey papik ruwech. Chi ri' xinwil wi rub'eyal, k'atzinel yak'uje'ok kuk'in ri nuk'uj taq ri'il. Wakamin yin k'o'ok kuk'in jun mok'aj k'amol b'ey richin Iximulew rub'i' Scholars Netwokrk, chuqa' kuk'in jun mokaj chik richin Iximulew ri Nuk'uj kichin ixoqi rub'i' Rosoloik Ruwech Na'oj richin Ruwachulew (OWSD) yin k'o kuk'in jun chik Nuk'uj rub'i' Moloj ri'il richin Rusolik Ruwech Ronojel ruk'in kito'onik ruk'iyal Qomanela' chi re Rutz'etik ruk'in jalajoj na'oj chi rij K'aslema'l pa tinamit Ixil Neb'aj, K'iche'. Kan majun xkiq'ato' k'a jantape xti wichinaj.

Wakamin nisamajij rukunuxik rajil ri k'ak'a' na'oj. Yin petenaq chire runuk'ik s amaj richin Nima Tijob'al, nqa kamonij rutz'etik runuk'ik saqwachinen, panik'aj qa saqwachin kuk'in ri ixoqi'. Ri ajlanik ma nisachta, rumari k'atzinel nqa wichinaj ronojel rub'eyal napön apö chiqawech, kan k'o'ok jun ixoqa chire rucholik ri k'o ru tamab'äl chi rij rusamajinen.

Pa ri Joq'o' kab'lajuj xinb'inaj Ixoq richin Nima Tijob'al k'o rutamab'al chirij saqwachinen richin ri juna' ri' ruma ri Tijob'al kichin Ixoqi', ri Nima Tijob'al San Carlos pa ri juna' Joq'o' junk'al ka'i' xukochij Retal Rusamaj rub'i' Rutaqonik Amaq' ruma Ch'ajch'oj Samaj, xya' chire ruma ri Q'atoj Tzij richin ri Samaj.

Wetaman kiwech ixoqi' nimaq kiq'ij, k'o jojun chike nitalun rutzijol rutz'ib'axik kib'anikil, ri ki talun rub'eyal ri saqwachinik chikij ri winaqi'. Rumari nib'ij: ronojel mul k'iyen yek'o ri ixoqi' chire ru saqwachixik ruwech k'ak'a' taq na'oj pa Iximulew chuqa' chuwech ri ruwachulew.

*Sandra Elizabeth
Herrera Ruiz*



K'ATZINEL TIJONIK CHI RIJ RUTZ'ILOXIK RUWACHULEW

Ruch'akul ri winaq nuk'ul ronojel, yink'uql nuk'u'x chi rij, xinya' kan nutinimit Chixot, B'oko, jantape yinekej kuk'in wach'alal. Chaq ruk'in jub'a', chaq'a' xik'astej ruma' nq'aq'an pa nuql. Richin aninaq xiya' ril, ruma' ri sib'il ri q'ayis xk'at ri k'oqa pasiwan.

Nich'upu' nuk'u'x chi rij ruxla' nqa jiq'aj, pa risiwan ri' jalajoj ruwech q'ayis nech'aqix kan, k'i y mul xink'asoj ri wach'alal richin tikitz'apij chi utz ki kayb'al chuqa' ruche' jay. Riye' nikib'ij chi majun nikisäq ta, xa yin ri niq'ax ruwi' nutzij, ruk'ulun chik chi ke, ruma' ri' niq'ax chaq keri' chi kiwäch ruchuwil ri sib' pa kikojulb'al.

Ri rutzijoxik rutz'iloxik ruk'aslemal ruwachulew k'ama jani' tok ki chiqa k'u'x. ri nutijonik yin chirij k'achelaj, jak'a pa Nimatijob'al xintijoj wi chire Ruk'aslemal Ritiko'm ruk'in juley chik Jalan Rutikik, kan qitzij nawi majub'ey xojtijoxta chirij rutz'iloxik ruwachulew, ruk'exik ruk'atanal, ruxtewul chuqa achike nib'an chire.

Yoj ruk'iyal winaqi' xojk'iype xqa nojj q'a chi kan kela' rub'anikil, jari' xqaya' ruq'ij, ma k'ota' jun xub'anta jun k'utunik. ¿Achike nub'en ri q'ayis chaq yeqajopij kan?

Xitzolin pa nutinamit, mak'ota' jun nich'akb'ej nurajil, mak'ota' nusamaj "kanta kjikil" xa ruyon ruyujik nuk'u'x , rik'in jun jikb'anen k'u'xlal nusiloj nunojib'al chi k'ona jun majani' tinb'en, richin yojruto' chi re rukunuxik na'oj richin niqachup ri ruk'ayewal ri k'o chiqakojol, ri tikirel chire jun k'exoj chiq'e' chiqa junjunal ri akuchi' yojalitej wi chuqa' ri yepetenaq chi qawäch.

Keri' taq xalexpe jun samaj Rujotay (xtz'uk chiqakojol)

1. Rusolik rub'eyal pa jun juna' jun "tijonik ch irij ruk'aslen ruwachulew jun mokaj tijonik " chi ke ri alab'oni' chuqa' ixtani".
2. Jun ru k'isb'äl tijonik xwitzir chi rij ri q'ayis, q'axnäq ruwi' pa nik'aj chi ri' niwinaqir wi pa Chixot achi'el ri rex q'ayis. Chuqa' yojrutz'ila' ri ya' nulatz'uj pe, nib'iycin k'o ruchuwil ruxla', xqamol ruchi' richin ni'qey qa iqal.
3. Xqanuk' jun moloj ri'il chi re ruch'ob'ik.

Kan jari' xin majpe rusamajixik pa Centro Esdras, chi re ruk'uwaxik rub'ey nuk'uj chi rij ruk'aslen ruwachulew. Chuqa' xink'am rub'ey rutz'ib'axik jun sik'awuj "Ch'akoj k'uqb'al k'u'xlaj chike' rwinaqi'" jun samajib'al ri nik'atzin chike mokaj ri k'uql kik'u'x ruk'ün ri Ajaw richin nikichajij ruwachulew. Ximil ruk'in ruk'u'x na'oj, na'oj richin rusamajixik, rub'eyal ri samaj kik'in mokaj, niqarayb'ej kan ta xtik'atzin chuqa' xtikusex ta pa taq ruk'iyal mokaj chuwäch ri amaq'.

*Sindi Benita
Simón Mendoza*



RI TIJONIK RUK'IN SAQWACHINEN RUSUTIN RIJ NUK'ASLEN

Taq nawajob'ej tijonik, ni jaqatej rub'ey richin natijoj awi, yin xink'is oxi' tijonik k'a jani kinapön pa Nima Tijob'äl. Janila ruk'ayewal nuk'am pe ri tijonik pa nima tijob'äl, xinya' kan nutinamit Chiantla pa Neb'ajul, xib'e pa ruk'u'x Iximulew.

Ri ch'akonik ri k'atzinel. Xinapön pa Nima Tijob'äl San Carlos pa ri juna' Kajq'o' wuqxaqlajk'al b'elejlajuj, xink'ul nuwujil richin K'amol B'ey Tijonik richin achochib'äl. Tikirel xinokel pa Tijob'äl kichin Tijonela' (EFPEM) xinch'äk Nuwujil richin Rukän tijonik chirij Ruk'u'x Ajlab'äl. Ruk'in nuwujil re' pa juna' Kajq'o' waqxaqlajk'al ka'i', xinch'ob' yinok pa Nima Tijob'äl richin retamaxik jun k'ak'a' tijonik, pa ri juna' kajq'o' waqxaqlajk'al b'eleje' xinch'äk nuwujil richin ruwinaqirsaxik jalajoj ruwäch samajib'äl. Ruk'in re tijonik re', tikirel xinök kichib'il tijonela' pa Nima Tijob'äl.

Roj yoj b'eleje' chi alaxik pa qachoch, akuchi xojtijox wi ruk'in nimaq taq pixa', ruk'in rukusaxik ejqalen, ajob'enik chi re tijonik chuqa' samaj.

Ri ka''i nab'ey tijonik xink'ul chila' pa Chiantla, Neb'ajul, kan k'o wi pa nu na'oj ma royon ta yin Tijonel, ruma ri' xib'a k'a pa ruk'u'x Iximulew chi re ri nutijoxik chi re nimaq taq tijonik, ri janila ni ch'upu' nuk'u'x chire.

Xinya' kan nutinamit ruma nutijoxik, richin niya' jun k'amb'äl tzij chi ke ri ixtani' pa nutinamit, tikitz'eta' chi roj ixoqi' tikirel niqach'äk jun chik ejqalen.

Ri ejqalen chupän nu k'aslemal nikusan chire tijonik chuqa' saqwachinen, jun winaq oxlajuj juna' majun rukojol chuya'ik tijonik, ni majompe pa tijob'äl Normal Centro América (INCA) chuqa' yin tijonel richin Nima Tijob'äl San Carlos (USAC) ri nu q'axb'en pe ri EFPEM.

Kamul xinok k'amol b'ey richin ruk'u'x Saqwachinel richin Tz'ukuy k'ak'a' na'oj, nab'ey pa ri juna' joq'o' b'eleje', k'a pa ri juna' joq'o' wo'o'lajuj, rukamul pa joq'o' b'elejlajuj ri k'a chi ri' na yin k'o wi.

Nitz'ib'an wuqk'al wujil chirij Nuk'uy Rub'eyal Winaqirisan Samajib'äl, yin k'amol b'ey chuqa' saqwachinel richin jun winaq lajuj runuk'ik rucholajil samaj richin ruk'u'x saqwachinik qa kamonin rupuwaqil richin Consejo Nacional de Ciencia y Tecnología (Concyt) ruk'in ki to'onik Ruk'u'x k'amol Rub'ey Saqwachinela'.

Telma Maricela
Cano Morales



XIN JIKB'A' RU SAKIXIK RIJ QAYA'

Xinaläx, k'iy pe pa ruraxal k'achelaj, pa raxonil kaj pa rumexul raqän ya'. Qak'amon q'i ruk'in qate' ulew, nirayb'en pa nuk'u'x chi re rukunuxik na'oj chi re ruto'ik ruchajixik.

Ri samajib'al richin nqasamajij qa raynik, jalajoj rub'anikil, ri qatamab'äl nk'utun richin.

Taq k'a yink'ona pa tijob'al, xin nojj chi k'atzinel niqa yonij ruwech jalajoj q'ayis pa qa tijob'al ri mak'ayewta ruk'waxik. Pa ri q'ij ri' jun ch'akoj xinkochij chuwäch ri amaq' chire ru k'ayb'äl ruwujil rutikik ral che', chu wachoch kan k'o q'aynaq q'ayis wik'in.

Nib'ij apö ri tijonik nik'u'xulaj retamaxik taq tikön chuwech ruwachulew, tijonik chirij Tijonik chirij q'aysal, Tijonik chirij rub'anikil, ronojel tijonik yiruto' chire retamaxik ru b'anikil, ronojel ruyuqen ri', achiike nub'en ri achin chire richin nujunimayij ri' chuwech, wi ma nuk'asojta runa'oj chire rutz'etik.

Wetamam pe chi niwajo' tijonik richin ruwachulew. Nuk'ulbexik, ¿achiike k'a tijonik nenb'ana' pa nimatijob'äl richin nitz'aqtisaj nutijonik? Xinwil rik'ulb'exil pa rucholaj tijonik taq xinapön chi la', xinjikb'a nutijonik taq xinsik'ij ru cholajil tijonik: Tijonik chi rij ruk'aslen ruwachulew.

Pa ri kaji' junta' re' xk'iyer nuna'oj chi rij ruwachulew. Xinwichinaj nutijoxik chi rij k'achelaj pa Chi Mutul, xinsaqwachij ri ya' ri choy Atitlán, ri juyu' Q'u'chumatan ruk'in retamaxik ru raxäl ulew pa Poloch'ik.

Xuk'ut chi nuwäch ri ruk'ulwachin qa'ixmulew, ruk'ayewal richin qa ruwachulew, ri tz'ilonik rumajon ruk'exik ri' ruwachulew ruma rutz'iloxik, nixule' njote' ruxtewul ru k'atanal pa taq juyu' taq'a.

Ri nab'ey samaj xinb'en chirij ruch'akik nutijonik, chi rij ri choy Amatitlán chi re rukolik. Xqakamonij rusamajixik kuk'in jun mokaj ixoqi' ri kan xqak'u'xulaj. Ri retamaxik nub'en ka'l'qak'u'x chi rij. Qitzij matikirel ta ruma kan lawalo' chik rub'anun pa ruq'a' ri tz'il. Ruma k'a rk'ayewal, xin ch'ob', k'a k'ona tijonik niwajo', tikirel nwetamaj pa jun chik amaq' Xinkochij k'iy to'onik pa Unión Europea xujaq nub'ey chi re tijonik chi rij ya' ri kan xa ruyon ri' xintz'et chi la' pa amaq' Belgica.

Rutz'etik ch'aqa' rub'eyal chik pa jalajoj tanaj chire retamaxik, xinch'ob' chi nik'atzin k'iy puwaq chire rusamajixik taq naya' pa rucholajil rukolik ronojel ri k'o chuwachulew. Yin k'ona' pa tijonik chire ruq'atik ruwech, ruma k'a ruya'on ri' panub'ey.

Virginia Mosquera Salles



JEB'ËL KIB'IXIK

Verenisse Sarahi Mérida Alvarado

Tijoxel chi re Retamab'äl Winaqirem chupam ri Nimatijob'äl del Valle richin Iximulew, tzu'talel rik'in ri jalajöj rumolaj chi re ri samaj "Ruk'atenal Ruwachulew chuqa' rik'a'tzinel ya'öy rub'ixik ri na'oj chi re rusamajib'äl retamab'äl winaqirem" chupan ri molaj Space App Challenge richin ri NASA. Yutzukuj rusamajixik runuk'ulik ruk'ayewal chi re k'ak' taq samajib'al chuqa' na'ojib'al.



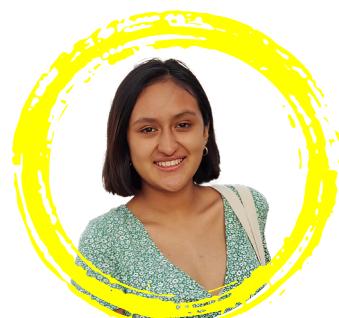
Maria Mercedes Zahgi García

Yalan etaman ruwach chupam tijonem samaj STEM, chuqa' rusamaj kik'in konojel ixoqi' ütz k'a ri' yek'oji' chupam ri rub'anik jalajöj chuqa' nimäq taq samaj. K'amöy b'ey richin k'ayib'äl jalajöj täq wachinaq chi re Almighty Tech chupam rulewil TEC richin Nimatijob'äl del Valle, Kemasamaj, Kamana'ojib'al chuqa' Kematz'ib' chupam Nimatijob'äl Francisco Marroquín.



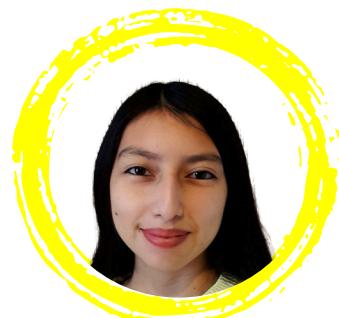
Jimena Ixcot Samayoa

Aj mayab' K'iche' ixöq, rija' ch'akon pa jun cha'onik chupam e ka'chuy lajq'o' winäq ütz k'a ri' ntok chupam ri l'École Polytech, Montpellier, Francia, chi re retamaxik No'jk'ay Lob'. Oxi' juna' k'ow chupam na'oj ajilab'anem.



Arianée Abigail Enriquez Contreras

Tijoxel chupam ri tijob'äl Monte María, k'oje' chupam ajilanem ejtz'anem; xaläx pa ruk'u'x ajilanem matiyox chi re rajtij rija' k'amow richin chupam ri ajilanem ejtz'anem. K'o chupam na'ojib'al molaj Gauss-Galois rije' nkirayij nkik'ut ajilanem tz'anem chi ke winäq richin Ab'ya Yala pa kematz'ib' chuqa' pa sapanik.



MOLAJ YETO'ON

New Sun Road en Guatemala

K'ak' Q'ij B'ey pa Iximulew. Ajna'ojib'äl ajiximulew Susana Arrechea, xutz'ukarísäj pe rusamajixik ri Centros Comunitarios Digitales chupam ri Molaj K'ak' Q'ij B'ey pa Iximulew; jun molaj richin ruwachulew nusamajij ruchuq'a' k'amasaq'il chuqa' kemasamäj chi re kito'ik k'iymem puwaqil kichin ri ixoqi' epetinäq pa komon.

Pa juna' joq'o' ka''i' Centros Comunitarios Digitales e k'o pa junk'al komon pa Alta Verapaz chuqa' Xinab'ajul, rije' e k'o ka'q'o' lajk'al ixoqi' chuqa' ixtani' e richin mayab' Q'eqchi' tinamital.



Centro de Capacitación Vocacional de Barefoot College en Guatemala

Tijobäl Ajtij Samajib'äl richin Barefoot College chupan Iximulew Barefoot College Setul yerutijöj ixoqi' e petinäq chupam jalajöj taq tinimít utz ye'ok ajsamajel q'ij. Chupam Iximulew xwinaqir ri Tijob 'äl Samajib'äl richin Barefoot College, rija' molaj yerutijoj te'ej q'ij üta k'ö nkisamajij ruchuq'a q'ij chi re kik'aslen, utz man ta kib'e pa nik'aj chik k'ojlemal man ta ketaman rije' ixoqi'

Chupam ri juna' joq'o' lajk'al xe'el najb'ey molaj te'eja' ajsamajel q'ij e richin K'iche' tinamital chuqa' Xinab'ajül.

Ch'a än täq ixoqi', Ch'a än täq tinimít.



Organización para las Mujeres en Ciencia para el Mundo en Desarrollo (OWSD Guatemala)

Kimolaj Ixoqi' richin Na'ojib'äl chi re Ruwachulew pa K'iymem (OWSD Guatemala) Ri molaj OWSD Guatemala ejuq'o' oxk'al oxi' ixoqi' ajiximulew e k'o chupam (e k'o chupam chuqa' chi rij Iximulew) chuqa' ajula' ixoqi' yalan ntel kik'u'x chi re kanonem chupam amaq', rije' e k'o chupam ri OWSD, rije' nkito' ruq'ijob'äl ri molaj.





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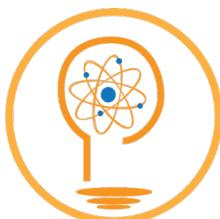


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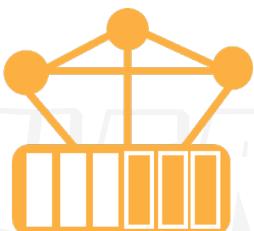
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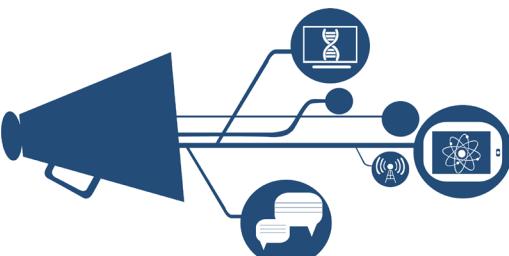
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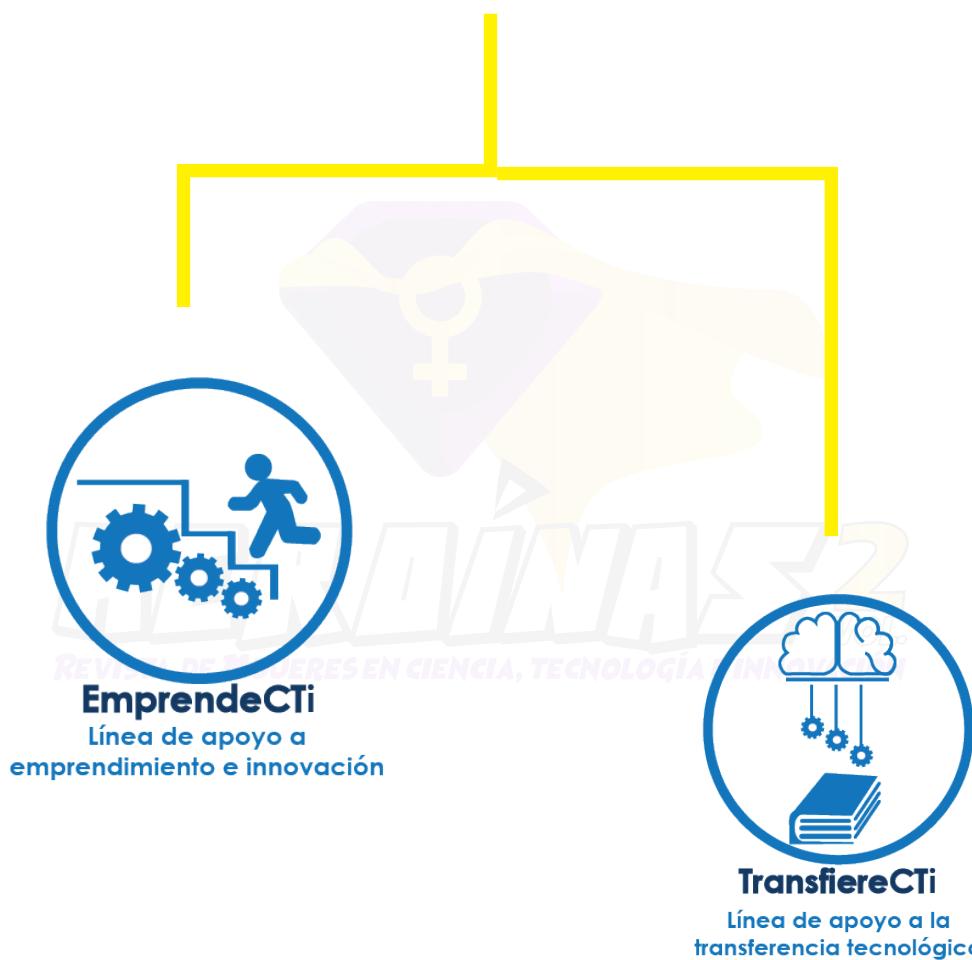
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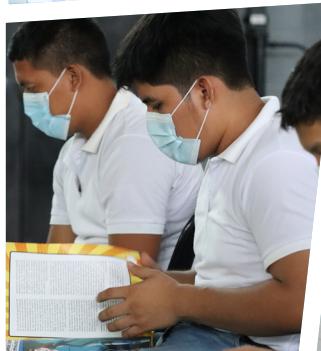


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CH'AKONELA' IXOQI'





YATZ'IB'AJ ACHOLK'ASLEN



Escanea y visita
nuestro canal



**TIJTÄB'AL JAY RICHIN IXTÄN
LOLA CHUQA' A LUCAS.**



