May 2020

OfficeHours_IS4_20160324_Seg01.pdf

Setting: It is an informal interview that was probably spontaneous due to lack of students showing up at office hour. The questions asked were a bit odd.
Participants: Two people. I1 is in blue and is a girl sitting closest to the camera. IS4 is the boy in a very furry looking jacket with glasses.

0:00

Xxx I1: hi [how are you?
Xxx IS4: [hi
Xxx fine:
xxx uh yea
Xxx I1: so long has it been since we last talked right?
Xxx IS4: yes long time (.) has passed.
Xxx uh (.)
xxx I think we haven't-
Xxx we haven't had the this talk for months?
Xxx I1: yea
Xxx ((both nods and IS4 kind of grunts in agreement))
Xxx for months now.
Xxx today ah
Xxx I want to know more about your field
Xxx IS4: your- my- my
Xxx I1: your field
Xxx IS4: [my field
Xxx I1: [your major [yea
Xxx IS4: [oh major
xxx uh
Xxx I1: could you just tell me a little background?
Xxx and then we can take it from there.
Xxx IS4: okay so my (.) okay you know my
Xxx I i:n AMS department and
Xxx u:h (.) more specifically I am in the
Xxx computational applied math track.
Xxx computational applied math.
Xxx it is uh it is field that
Xxx deals with the: computational (.) method to deal xxx with
Xxx some (.) numeric to do some numeric problems
Xxx like solving some-
Xxx solving som:e- equations numerically.
Xxx whi- which means that it is not-
xxx not a traditional way to (.)

Xxx like (.) uh: solving an equation analytically.
Xxx so(.)a- a- all we need to use is use the computer
Xxx to give the numbers of-
Xxx to- to- to- get the numbers of solutions of- in
Xxx equation
Xxx so that's how uh-
Xxx I think that's the (.) I think that's the
Xxx most of the research programs in computational
xxx applied math
Xxx (.) track
Xxx ((I1 nods))
Xxx so-
Xxx I1: so
Xxx you know I- I took computational linguistics
Xxx IS4: yea
Xxx I1: the major goal of computational linguistics was
Xxx you know it- it- it's not like the uh uh um-
Xxx eh-eh- natural uh language processing
Xxx we're trying to understand how language
Xxx ((IS4 doesn't seem too interested))
Xxx really works so
Xxx do-do you know google translator?
Xxx it [does such a poor
Xxx IS4: [yea yea
Xxx I1: job you know transla:ting.
Xxx Is4: yea… ((he doesn't seem to know why she's talking
xxx about this…but I was lost when I watched 1st time
Xxx as well))
Xxx I1: because it's based on simulations
Xxx y-y-you know it's just
Xxx creates so many simulations
Xxx a-and then it- it gives you some kind of (.)
Xxx translations.
Xxx but in linguistics in computational linguistics
Xxx we are really trying w- to know how language works
Xxx so we c- can give some more accurate ((nods))
Xxx (.) <simulations>.
Xxx IS4: so-
Xxx I1: can you tell me about computational-
Xxx computation- computation- and how it deals with
Xxx something like language?
Xxx ((that's a really difficult question!!))
Xxx IS4: li-like language? Uh uh I don't know.
Xxx I don't know.
EVC wh what the word- what computation can used in

xxx can be language processing. ((seems hesitant))
Xxx I- I- I- I don't
3:00
Xxx I1: so so from your (.) pre- preuh- prescriptive
Xxx ((I think she meant perception, but I hear
Xxx prescriptive … thoughts ?))
Xxx how can we deal with language processing?
EVC IS4: language processing… um:
xxx hhh
Xxx ((sighs and makes a confused face))
Xxx um maybe (.) I think
Xxx as far as I: am concerned eh I think
Xxx statistics can be used in language processing.
Xxx ((doesn't seem too sure of his answer))
Xxx I know many translating is- um
Xxx is conducted in a statistical way.
Xxx I mean uh: for example
Xxx if- if word (.) e:h the meaning of a word
Xxx is u:h depends strongly on the context it is in
Xxx I1: mhm
Xxx IS4: uh- I mean if- uh
Xxx so statistics is- uh statistics it uh
Xxx ge-ge- get the data net when eh-
Xxx when a word gives this meaning.
xxx and when a word gives [another meaning
Xxx I1: [mhm
Xxx IS4: so if we use computation to: uh
Xxx make some statistic on the:
Xxx on how the word
xxx or how the sentence works
Xxx I think it will- it will give us-
Xxx it will give us a more
Xxx accurate way to translating.
Xxx I think I think the computation
Xxx and the statistics is
Xxx m: uh is uh- it's a valuable method.
Xxx I think it is.
Xxx ((IS4 scratches his head and I1 nods))
Xxx I1: so (.) uh (.) that's one point.
Xxx can- can you tell me about (.)
Xxx some very interesting advances
Xxx in your field?
Xxx IS4: uh my uh-
Xxx let me talk about my group.
Xxx ok so my group is dealing

Xxx uh: is dealing with the:
Xxx problems with the parachutes.
Xxx I1: okay
Xxx IS4: we: uh- we simulate how the
Xxx all the parachute can- (.)
Xxx can- uh you know-
EXA uh pass down
Xxx ((moves hand down))
Xxx uh uh for-
xxx for how the parachute fall.
Xxx and uh- how the air flow
Xxx uhm: performs when the parachute like spread out
Xxx or: what how uh the-
xxx parachutists um will um
Xxx behave when he's (hang) by the springs.
Xxx so that's we- we-
xxx we use the differential equations
Xxx to: analyze the airflow.
Xxx and we use-
xxx and we use our compu- uh
6:00
Xxx our code-
xxx our packages to simulate the-
Xxx like the powers-
xxx the powers status of the parachute.
Xxx and and we can
Xxx we can se-
Xxx we can computation simulate
Xxx how it is the parachute stable
Xxx or a: a safe
Xxx safe parachute.
Xxx I1: ((nod)) so you're uh- the goal
Xxx of you know
Xxx of the thing you're doing now is to make
Xxx very accurate measurements
Xxx so people don't die when they uh use the
Xxx parachute.
Xxx IS4: yeah I think it's just not no no n- not dying
Xxx ((chuckles))
Xxx the more I think the most important concern is
Xxx um: ((makes noise when mouth like s:))
Xxx is the like the speed or the
Xxx material of the parachute.
Xxx I1: so you want to make the parachute more safe?
Xxx is that what you're saying?

Xxx IS4: y:ea safe safe is one concern and
xxx <we- we- we- want to know> how the parachute will
xxx uh: (.)
Xxx will move or how the parachute will behave
Xxx i- in- in this falling process
Xxx so w- in in fact the most eh
Xxx yes and we want to know everything
Xxx that will happen when the parachute
Xxx spread out and fall.
Xxx so .hhh ((breaths in)) I think our main goal
Xxx is just simulating.
Xxx simulating the every details of the
Xxx whole process.
Xxx I1: so w- what is your addition?
Xxx to: you know
Xxx people have been using the parachute for so many
xxx years
xxx IS4: yea
xxx I1: so what would be your addition
xxx what would be the new thing that you're
xxx going to be working on?
Xxx ((I feel like I1 didn't really listen to IS4…
Xxx or maybe she didn't understand him?
Xxx he said earlier that the team was just
Xxx working on a simulation… and equations))
Xxx IS4: um: I think it is eh: ho- how can we uh:
Xxx how uh: how can we measure the:
Xxx um:
Xxx you know
xxx i-i- in many times the (.)
Xxx trajectory of the parachutes
Xxx we cannot predict,
Xxx we cannot predict how
Xxx i-i-if this parachute will like u:h
Xxx (.) make a spira:l ((makes spiral hand move))
Xxx trajectory
Xxx or make a unpredictabl:e curve in the air.
Xxx so w-we want to know how it will
Xxx how it will behave in this whole process.
Xxx since we since we know ho-how it moves
Xxx we can-
xxx >can try to control it<
Xxx and we can um: so this is one concern
Xxx another concern how
Xxx you know the parachute (.)

Xxx the- the material to- (.) to uh-
Xxx of the parachute
Xxx it has very porous-
xxx like the holes in the
Xxx in the parachute.
Xxx I1: uhuh
EXA IS4: so we can- we can- so-
EXA in fact it is some kind of ((a parameter))
Xxx o-of this parachute
Xxx and uh
Xxx once we uh: um:
9:00
Xxx and by- by change this (parameter)
Xxx like th-the (side) of the holes
Xxx or the: density of the holes.
Xxx we can make the parachute like fall w-
Xxx fall with the different spee:d or
Xxx fall with with different kind of wi-
Xxx with different kind of uh trajectory
Xxx so.
xxx um I think-
Xxx I think um yeah if if we simulate-
Xxx we can simulate uh
Xxx like we can bu-built the whole processing
Xxx on computer we can (.) we can know-
Xxx we can know- how (equip)
Xxx how we can use the parachute.
Xxx so I think that's the point,
Xxx I1: so-
Xxx IS4: the ultimate goal is to to simulate the whole
Xxx process.
Xxx I1: so so you're trying to make the parachute like
Xxx more controlled and less unpredictable?
Xxx IS4: yea yes
Xxx I1: ok:
Xxx IS4: b-because the like airflow along the parachute
Xxx is very unpre-
Xxx I1: yeah that's [right
Xxx Is4: [is very unpredictable
Xxx so we don't want the parachuters to fall down
Xxx in a place that we can't find,
Xxx or or some um:
Xxx unpredictable se- consequences.
Xxx so we need to simulate each
Xxx as- as accurately as we can.

Xxx I1: that's nice
Xxx IS4: yea
Xxx I1: so have you ever been?
Xxx IS4: uh:
Xxx I1: have you ever used a parachute?
Xxx ((IS4 doesn't answer the question))
Xxx IS4: n- uh yeah it's almost in the computer-
Xxx computational simulation now
Xxx and it is uh we use (.)
Xxx yeah it is-
Xxx the ((unclear)) is a 3 year-
xxx 3 year research.
Xxx so we don't we don't- (.)
Xxx we still have time to do this.
Xxx and we- we- we- now we will
Xxx ge- get some uh:
xxx you know some
Xxx temp(.)porary results.
xxx uh
Xxx yea and then there's a long way to go.
Xxx I1: that's nice
Xxx IS4: yea
Xxx I1: so um: is the
Xxx nowadays there are so many different technological
Xxx advances
xxx that are exciting.
Xxx can you tell me more about em:
Xxx some technological um you know
Xxx things that have attracted your attention?
Xxx IS4: technological uh:
Xxx I1: something impressive?
Xxx IS4: I think now technological improvement
Xxx are mostly in the compu-
Xxx you know the IT industry I think.
Xxx so like uh: (.4) uh let me-
Xxx uh let me think ((pause))
12:00
Xxx like reality enhancement or,
Xxx do you know the-
Xxx technology that has spread out on the internet
Xxx that the-
xxx uh:
Xxx the reality enhancement let me look at- to build-
Xxx to use some- to use some technology device
Xxx to enhance your view viewing sense

Xxx of the world.
Xxx ((I1 seems like she wants to say something
Xxx so- let me uh:
Xxx uh I: have come across a- a video
Xxx that (.2) uh:- the-
xxx the: this technology creates like-
Xxx creates a shark.
Xxx in the room and it lo-
Xxx it looks very real
Xxx so it is-
Xxx I1: so do people like wear goggles? ((motions
xxx glasses))
12:00
Xxx IS4: y:ea the um:
Xxx the most amazing thing is that you don't need
Xxx you don't need a glass or something.
Xxx I1: uhuh so how-
Xxx IS4: so- so we can see it in- in the video.
Xxx and we we just use our eyes
Xxx we can see it.
xxx so it is (.)
Xxx yeah it's incredible.
Xxx an um: it is- it is shock.
xxx and uh
Xxx it comes out from-
Xxx jumps out >from the sea<
Xxx it is very 3D real viewing (.) experiences.
Xxx and- and it is called-
Xxx now it is called reality enhancement.
Xxx IS4: yeah and [I think
Xxx I1: °[reality enhancement°
Xxx IS4: yea and-
xxx this techno-
Xxx this technology is still being developed.
Xxx and I think it will be (.)
Xxx the:- the (.) product that can be used for people.
Xxx <I think> it's (.) soon
Xxx think to be seen.
xxx <I think we can see it soon.>
Xxx I1: bu-bu-but don't you think it's: kind of dangerous
Xxx to develop such a thing?
Xxx IS4: I don- uh may:be (.)
xxx I don't know.
Xxx it- <I don't know>.
xxx it depends how people use it.

xxx ↑I think first it will be very expensive so
Xxx I think it will not be very common.
Xxx an:d uh I think people will just use it for
Xxx like in entertainment industry,
Xxx or: something else.
EVC so I don’t think I don’t think it w-
EVC it be very (.3) it’ll be very uh:
EVC .hhh y:ea uh: (.)
Xxx it’s hard to say.
Xxx le- let us just see,
Xxx what will happen.
Xxx I1: I th-think it just sounds so real
Xxx you’re not [even the glasses ((makes goggle motion))
Xxx IS4 [yea yea
Xxx and uh and uh and I
Xxx <this technology can be used in> some (.) games
Xxx video games
Xxx or:
15:00
Xxx m-
xxx phones
Xxx mobile phone games
Xxx and it can- it can create some very:
Xxx real experiences for people to
Xxx to play the game.
Xxx yea so um it will be very:- (.)
Xxx uh: it is a milestone in the game industry
Xxx I think.
Xxx I1: yea
Xxx if they can create that game for something like
Xxx (.) Call of Duty
Xxx (.)
Xxx IS4: ((laughs)) yea
Xxx I1: it be like-
xxx yea.
Xxx IS4: yea it will make them MA:D I think.
Xxx I1: ((both nodding))
Xxx that’s why I’m telling you it might be a
xxx little [dangerous
Xxx IS4: [yea
Xxx I1: if you think about it.
Xxx IS4: but- but I-
xxx yea no <but considering that>
Xxx it has not come into (.) uh: very: popular
Xxx like (.) in the (.) industry.

Xxx <(it has not come into the industry)>
Xxx so I think the most-
Xxx it is mostly still in the-
xxx lab I think.
Xxx it hasn't come into the product line so-
Xxx (.2) we- we- we- still have time to wait for-
Xxx to see how it will go.
Xxx where it will go.
xxx yea
Xxx I1: ((nod)) k
Xxx a few weeks ago I went to a- a-
Xxx john kennedy space center
Xxx IS4: john o
Xxx I1: and I ah watched so many videos.
xxx and one of the videos was about the uh
xxx challenger that exploded
Xxx before it took off.
Xxx it is was- you know really sad.
Xxx people haven't done accurate math
Xxx because of that people lost their life.
Xxx do you a-a-a know that incident?
Xxx Is4: oh uh do you mean the explosion of the-
Xxx I1: yea:
Xxx IS4: yea
Xxx I1: ((unclear space something?))
Xxx IS4: yes
Xxx I think its called Columbia?
Xxx is it?
Xxx I1: uh there was Columbia and there was challenger,
Xxx in the 80 96 or [something.
Xxx IS4: [yea yea yea
Xxx I heard that.
Xxx uh uh um:
Xxx I heard it is-
xxx it is just because
Xxx these ah ah accident is (.) uh: is due to a screw?
Xxx I1: a screw?
Xxx IS4: yea but-
xxx I-I I my story is this
Xxx so it is just a screw like something is wrong
xxx with the screw
Xxx <and the whole spaceship just exploded>.
Xxx I1: y: y:ea
Xxx IS4: yea but um:
Xxx but I think it would um:

Xxx I don’t know how it relates to the math
Xxx but I think I think it did.
Xxx I1: well maybe the math wasn’t accurate enough
Xxx <to know [where to put the screw you know
Xxx IS4: [yea yea yea
xxx I1: where it should be> [maybe I don’t know
xxx IS4: [y:ea
xxx yea but uh but we don’t know the details
xxx [so
xxx I1: [yea
xxx IS4: we cannot- we cannot-
xxx not uh: um:
xxx give our uh too many uh-
xxx eva- uh
xxx (.) too many like uh:
18:00
xxx (.2) judgements to the-
xxx to the thing
EVC because we don’t know the details
EVC I think- but
EVC but uh:
EVC you know (.)
EVC but if everyone: can (.)
xxx do their- do their work very carefully
xxx I think the spaceships >is safe enough<.
xxx because we have we have
xxx sent so many spaceships to the space.
xxx and most of them (.) are doing good.
xxx so that means our theories is right.
xxx we we are on the right way.
xxx so: the important thing is to
xxx we do our uh job very carefully.
xxx and uh
xxx check it again and again.
xxx and w- especially when uh when there uh
xxx there are people in the spaceship.
xxx I1: mhm
xxx IS4: so we need to-
xxx we can never be too careful in-
xxx I1: k so uh are there (.) more variables,
xxx to account for,
xxx if you are
xxx you know are studying,
xxx now you’re working with parachutes.
xxx IS4: yea

xxx I1: will there be more variables
xxx to eh: to account for if you study the spaceship
xxx IS4: uh: the spaceship (.)
xxx I1: how it launches
xxx and …
xxx IS4: y:ea but I think-
xxx I think to send a spaceship is a very large
xxx project.
xxx I1: yes
xxx IS4: so everyone- everyone people I think it is
xxx everyone single man can <only be responsible
xxx for only a small part of this project so>
xxx if I-
xxx if I'm in this project
xxx I don't know what I am- what I am- (.2)
xxx what- what I will work for.
xxx but I think it is just a <small part of this
xxx project and uh>
xxx use my math and (.)
xxx um: (.2) ((he is thinking))
xxx yea I think um: the the important thing is to just
xxx use my knowledge and do the do the
xxx things that I need to
xxx do and as a whole.
xxx uh many people if-
xxx if there are many people are doing this
xxx and we check-
xxx we check each other's work
xxx then the whole whole project will be good.
xxx I1: alright let me ask you a related question.
xxx if I- I ask you to choose one part of the
xxx spaceship=
xxx IS4: =yea
xxx I1: to be in charge of
xxx IS4: °in charge of°
xxx I maybe-
xxx maybe to predict the trajectory of the
xxx spaceship,
xxx I1: mhm
xxx IS4: but I think- I think thi-
xxx this is more-
xxx most relevant topics to my field.=
xxx I1: =mhm
xxx yea (.) so
xxx I think if deal with <u>this</u> (.) problem

xxx the um work I will do is to:
xxx >equations<.
xxx I think there'll be equations,
21:00
xxx and taking to every parameters, and- (.)
xxx and I think- ((nods)) (.2)
xxx um: yes I think-
xxx I can predict the trajectories
xxx I- I- if we can solve the
xxx >partial differential equations<
xxx as as accurately as we can.
xxx and these trajectory ((pause))
xxx um and how-
xxx how the fuse-
xxx uh how the fuse can-
xxx or how the forces can-
xxx can change the trajectory.
xxx yea I think if- if I-
xxx if I'm into this field
xxx I-
xxx I will do these things.
xxx I1: that is ↑so coo:l.
xxx IS4: but ((laughs)) yea its (.) I think it's cool.
xxx I1: just give me a second ((leaves for a bit))
xxx so: okay
xxx um: how realistic you think the idea of creating,
xxx a robot that is [like a human,-
xxx IS4: [ah
xxx a robot you you mean the-
xxx I think you also heard the (alpha-go)?
xxx who played the (.)
xxx who played the: chess with the Korean (.)
xxx do- do you know that news?
Xxx I1: mhm
Xxx IS4: (alpha go) it is a robot-
Xxx it is a robot playing with a human player.
Xxx I1: mhm
Xxx IS4: and it he-
xxx the robot wins with the 4 1.
Xxx I1: oh wo:w
EVC IS4: he wins 4- (.)
EVC 4 place in a 5 place.
Xxx I1: so you were saying.
Xxx IS4: yea ye-
Xxx I1: in other words he's thinking like humans!

Xxx IS4: yea he’s maybe better than [humans.
Xxx I1: [((nod))
Xxx yea do you think it’s realistic,
Xxx to be optimistic that we can one day,
Xxx we can create a robot that would
Xxx have some- (.)
Xxx in addition to aptitude-
Xxx can we create a robot that fee:ls?
Xxx (.2)
Xxx IS4: feels uh:
Xxx I1: that understands-
Xxx IS4: yea you mean-
Xxx I1: feelings.
Xxx IS4: yea you mean uh feel the pains? or the
Xxx [happiness or sadness
Xxx I1: [emotions
Xxx IS4: emo[tions
Xxx I1: [yes
Xxx IS4: uh uh
Xxx I1: do do you think emotions can be (.)somehow coded?
Xxx IS4: that’s uh very ((laughs))
Xxx that’s very=
Xxx I1: =abstract
Xxx I don’t know the-=
Xxx IS4: =yea it’s a very eh complex topic.
Xxx complicated topic I think.
Xxx uh: ((pause)) hm:
Xxx emotions
Xxx because in fact we don’t-
Xxx because in fact we don’t know-
xxx we don’t know the emotions of emotions of humans
xxx in fact.
24:00
Xxx so we don’t know much about ourselves now.
Xxx so I don’t think-
Xxx so I think the first ways to:- (.2)
Xxx to do some (.) deep analysis on ourselves.
Xxx and then only- only- only when we know- (.)
Xxx <know enough knowledge about ourselves>
Xxx can we can we create something like ourselves.
Xxx because we we don’t know how- how- (.)
Xxx yes in fact we- we don-
xxx we don’t know how do we sense now.
Xxx >how do we sense the happiness now<.
Xxx we don’t know the mechani- mechanics behind this.

Xxx we only know that we are composed of atoms,
Xxx or mole uh-[uh- molecules.
Xxx I1: [molecules
Xxx IS4: but we don’t know why,
Xxx when they gather uh like human body,
Xxx and we can think,
Xxx we can sense,
xxx we can get the happiness,
Xxx sadness,
xxx madness,
xxx or something else.
Xxx so (.) we- we don’t know all the: (.2)
Xxx <yeah in fact we know nothing about ourselves
Xxx in- in- in this field>.
Xxx so: I don’t think-
xxx I don’t think we can create robot (.) that can
xxx feel.
Xxx before we-
Xxx before we do some- (.)
Xxx have some improvement of knowledge about
Xxx ourselves.
Xxx I1: °o:k=
Xxx IS4: =it’s a long time.
Xxx to
xxx go.
Xxx I1: hm
xxx so ((pause))
Xxx eh eheh can you-
xxx can you talk to me about (.3)
Xxx so you’re saying
Xxx human emotions are very [are very [complex
Xxx IS4: [yea [com yea
Xxx I1: so eh- eh- now as human we-
xxx we can create a
Xxx robot that would [excel and do some [math
Xxx IS4: [yea [yea
Xxx I1: mathematical-
Xxx IS4: yea yea
Xxx I1: uh equations
Xxx what other (.) you know
Xxx ca can you tell me more about more other advances
Xxx when it comes to robots and [things ((unclear))
Xxx IS4: [robots
Xxx uh: robots
Xxx like u:h (.2)

Xxx we can only some- (.2)
Xxx now the- um:
Xxx the ((something))(tier) of the robot industry
Xxx I think is let them do something
Xxx that you ask them to do.
Xxx like to do some (.) housework,
Xxx or: playing some: playing some games
Xxx and
Xxx use some use some algorithm to
Xxx to uh play a game.
Xxx and even-
Xxx and even ((unclear)) ourselves.
Xxx but when uh:
Xxx so I think I think it's all we can do.
Xxx if- if we want to really
Xxx uh let the robot to behave like human.
27:00
Xxx or sense like human feel like human.
Xxx it's impossible i- in our-
Xxx in current stage.
Xxx I1: m:
Xxx IS4: so: >the only thing we can do is to let the<
Xxx robot to do with some programs.
Xxx do some things for us
Xxx it is a (procedure) that we have set up in
Xxx our minds.
Xxx that's all me we can do.
Xxx now.
Xxx I1: um: alright,
Xxx um so you talk to me about a project that you
Xxx are working on.
Xxx ↑parachute
Xxx um can you talk to me about uh what people are
Xxx doing in your-
xxx in your department?
Xxx IS4: °my department°
Xxx I1: some interesting things
Xxx IS4: °some interesting° ((laughs))
Xxx I don't know eh:
Xxx ((pause)) .hhh
Xxx because I don't know much about-
Xxx I don't know much about the details of the-
Xxx I- I- I only- I only know some
Xxx like what papers they publish,
Xxx or just like this

Xxx very superficial knowledge about.
Xxx like in statistics
Xxx some people are dealing with the uh
Xxx the cancer. (.)
xxx how the-
Xxx the relations between the-
Xxx human genes ((points to own body))
Xxx ((I1 seems interested))
Xxx ((IS4 looks at her for a bit))
Xxx and uh: the tendency to get cancer.
Xxx I1: o:h
Xxx IS4: so I think that's- that's some yea
Xxx it is very-
Xxx it is in in very big paper
Xxx because it is published in (nature).
Xxx one of the one of the most (.)
Xxx important °journals°.=
Xxx I1: =prestigious
Xxx IS4: yea you know
Xxx like human uh it- it- it is deals with the
Xxx relationships between the- yea genes and cancer.
Xxx I1: so uh but we already know that heredity-
Xxx ((stutters))
Xxx IS4: yea of course they have some (.) uh
Xxx I-
xxx the only knowledge that I know is is about this.
Xxx of course in the papers there will be some
Xxx there more details and some-
Xxx I1: yea yea
Xxx IS4: some very (.) important discoveries.
Xxx but ah I I don't know much.
Xxx I- the only thing I know is that
Xxx I know is that this paper is published in nature.
Xxx ((he laughs))
Xxx I1: provides- provides some more evidence that
Xxx you know [genes [correlate with cancer.
Xxx IS4: [yea [yea
Xxx I1: ok it- it is you know so [cool to to know it it it
Xxx IS4: [yea
Xxx I1: to know more [about these things!
Xxx IS4: [yea
Xxx I1: and you know people people like me we don't
Xxx really know- really know the
Xxx (process) of math in doing all that.
Xxx IS4: math (.) uh (.) you know uh math-

Xxx I1: math physics [you know for us it's you know
Xxx IS4: [eh
Xxx eh I think math gi- gives the equations
Xxx and gives it how do we so solve the equations.
Xxx an:d (.) and statistics is a kind of math
Xxx you know.
Xxx the statistics eh you know.
30:00
Xxx so: in my- in my
Xxx take my group as an example.
Xxx the math plays plays the law to
EXA as the (understone) of all the simulations
Xxx because we need to-
Xxx if we want to-
Xxx if we want to know how the air flows.
Xxx we- we- we need math to- (.)
Xxx the math (.) is um:
Xxx pictures how how it-it flows.
Xxx because it it gives us the equations.
Xxx and it it gives the math to solve the equations.
Xxx and once we- we- we- we get the equations
Xxx get the solution of the equation:s
Xxx we can we can view it how it flows.
Xxx the equations like- <the equations can take in
Xxx consideration some terms like> the velocity of
Xxx the air
Xxx uh: or the or the everything else that the
Xxx density of the air and (.)
Xxx when we sol- solve these equations
Xxx we get- get the velocity of (.) the flow-
xxx the airflow.
Xxx and once we get the velocity of the airflow
Xxx we can we can picture it in a computer.
Xxx and we will uh see a very beautiful picture-
Xxx graph to simulate the-
Xxx simulate the air.
Xxx so that's how
Xxx that's how math eh: (.2)
Xxx be uh applied in our group.
Xxx I1: y:ea uh uh uh so um:
Xxx ((pause))
Xxx let me think of something
Xxx um: ((pause))
Xxx alright um it
Xxx can you- can you tell me more about you know

Xxx one of the courses you're taking.
Xxx and why you're so interested in that course.
Xxx IS4: uh: my uh:
Xxx ((pause))
Xxx uh:
Xxx I1: and if possible
Xxx what would be the you know um-
Xxx the things that (.) you know can take and apply in
xxx the real world.
Xxx IS4: yea uh I:
Xxx so one courses is the numerical analysis of the
Xxx partial differential equations just like I said
xxx before.
Xxx so it is-
Xxx it is um:
Xxx it teaches us how to-
Xxx (.)
Xxx yea it- it teaches us the very things that I
Xxx said just before so
Xxx how to how to solve the equations.
Xxx how to use computers
Xxx how to use methods
Xxx how to do algorithms to solve the equations.
Xxx and we will give numerical solutions.
Xxx and we can-
Xxx and once we give some meanings to the equations
Xxx like the airflow [or and anything else
Xxx I1: [mhm
Xxx IS4: we can-
Xxx we can- we can apply the equations-
Xxx a-a-apply the knowledge of this course to build
Xxx some to build some