



RoboCupJunior Dance Rules 2014

RoboCupJunior Dance Technical Committee 2014:

Shoko Niwa - CHAIR (Japan), chocola@fc4.so-net.ne.jp
Nicky Hughes (UK), n.a.hughes@gmail.com (general co-chair)
Li Shi (China), leeshi2006@gmail.com
Lisbeth Uribe (USA), luribe@thescook.columbia.edu
Rui Baptista (Portugal), ruivcbaptista@hotmail.com
Sara Iatauro (Canada), siatau@gmail.com

These are the official rules for RoboCupJunior Dance event 2014. They are released by the RoboCupJunior Dance Technical Committee. These rules have priority over any translations.

The following dance rules provide a framework for how to structure a robot dance performance. **Changes from 2013 rules are highlighted in red. The rules have changed significantly for 2014 so teams should make sure they study the new rules.**

PREFACE:

Robot dance means that one or more robots and humans come together with music and move in creative harmony. RoboCupJunior Dance allows teams to present a 1 to 2 minute creative stage performance using autonomous robots that the teams have designed, built and programmed. The Dance challenge is intended to be very open-ended! Teams are encouraged to be as creative, **innovative** and entertaining as they can.

Robot dance performances are marked based on the score sheet that has been published along with this dance rules. Judging will be conducted in three styles during the international event and there is a particular score sheet for each judging. The purposes of each judging are as follows:

- **Technical Interview** is an interview examination in which all robots and programming are judged against technical criteria. Creative and innovative aspects are rewarded with higher scores. Also judges are interested in determining students' understanding of the robotic technologies they have used. Teams must show authenticity and originality with regard to their robots and performance in this interview.
- **Original Dance Performance** is an individual team's stage performance in which a performance routine is judged according to creative, innovative and entertainment criteria. Teams must show originality, creativity and innovation throughout their performance routine. It is important for teams to execute and demonstrate what they have planned. It is expected that all participating teams perform their performance at their best.
- **SuperTeam Performance** is a spontaneous robotic dance performance created by cooperating teams. Teams are given a short period of time for collaboration at the competition venue. In this limited time, the SuperTeam teams must create a new performance that incorporates the work of each participating team. SuperTeam teams are encouraged to create an exciting and entertaining performance that entertains the audience and express their friendship. It is hoped that all participating teams will demonstrate how well they have collaborated and worked together.



The SuperTeam Performance is a special program for the international event and is not obligatory for regional events. The rules of the SuperTeam Performance are not described in this dance rule document. Team members who participate in the international event are strongly encouraged to look over the Dance SuperTeam rules 2014 before embarking on their journey.

1. GENERAL INFORMATION

1.1. Requirements

- 1.1.1. All team members must be the correct age for the primary and secondary categories as stated on the RCJ website <http://rcj.robocup.org/about.html> under "Ages".
- 1.1.2. The maximum recommended number of 'human' members allowed on each team is 10; the minimum is 2. Any deviation from these numbers must be referred for adjudication to the Chief Judge before registration.

1.2. Download

The dance rules, score sheets, and all forms of documentation can be downloaded from the official RoboCupJunior website (<http://robocupjunior.org/>). Teams are encouraged to study the score sheets **in detail** in order to understand how they will be scored.

2. PERFORMANCE ROUTINE

2.1. Overview

The main emphasis of the **Dance challenge** is the technical aspects of the robot design and construction (including sensors and actuators) and the programming that creates the performance. The RoboCupJunior Dance Technical Committee would like to encourage teams to be creative, innovative and take risks in their use of technology and materials when creating their performances.

2.2. Kind of performance

- 2.2.1. Teams can choose to create either a Dance or a Theatre performance.
 - **Dance** is a performance closely synchronized to the music. The robot(s) and humans are required to move in time to the beat or rhythm of the music selected in the same way that a human may listen to the beat of music and dance to it. The Dance assessment focuses on the choreography and movement of robot(s) and humans synchronization to music beats.
 - **Theatre** is a performance in which the robots and humans tell a story or act out a play that is supported by music. Theatre assessment is focused on the overall theatrical performance. The performance will be judged by how effectively the robot(s) are used to present a theatrical theme. Examples: Nursery rhymes, movie-inspired performance, sporting theme, sustainability theme etc.
- 2.2.2. **Before creating a performance routine, teams must carefully decide the performance category (Dance or Theatre) so that teams can clarify the aim of their performance.** The following guidelines can help teams make the category decision:

A Dance performance will:

- Use music as an integral part of the performance with deliberate, accurate and synchronized movements to music.

- Use choreography of the robots to music as the focus of the performance.

A Theatre performance will:

- Use movement and music to create a performance that tells a story. Music is used as background to supplement the performance.
- Use a story as a focus of the performance.

2.3. Music

Teams can use any kind of music for the performance. Teams are encouraged to select music that entertains the audiences or represents an atmosphere of the performance theme.

2.4. Duration

The duration of the performance routine must be no less than 1 minute and no more than 2 minutes.

2.5. Stage

- 2.5.1. The size of the performance stage area will be marked in a rectangular area of 6 x 4 meters (m) for robots with the 6m side facing the judges.
- 2.5.2. The boundary of the performance stage area will be marked with a 50 millimetre (mm) black tape-line, surrounded by a 20mm red tape line. Teams are allowed to use the black and red line tape boundary to program a robot to identify the performance stage area.
- 2.5.3. The floor provided shall be made of flat (non-glossy) white painted MDF (compressed wood fiber).

2.6. Scenery and presentations

- 2.6.1. Teams are encouraged to provide their own scenery.
- 2.6.2. Teams are encouraged to provide a visual or multimedia presentation as part of their performance. This can take the form of a video, animation, slideshow etc. Teams are encouraged to be creative when designing the presentation. Organizers will try their best to provide a projector and a projection screen for teams wishing to incorporate a presentation as part of their performance.

2.7. Human team members

- 2.7.1. Human team members are encouraged to perform with their robots. There is no penalty for humans not performing with their robots.
- 2.7.2. Human performers may be inside and outside the marked area.
- 2.7.3. The only physical contact humans may have with their robots is to start the robot(s) at the beginning of a performance **routine**. One human team member or several members using multiple robots and props may start each robot, either by hand or by remote control.



2.8. Content

Any performance that includes violent, military, threatening or criminal elements will be excluded. Any team using an inappropriate name or logo will also be excluded. Participants are asked to carefully consider the wording and messages communicated in any aspect of their performance. What seems acceptable to one group may be offensive to friends from a different country or culture.

2.9. Security and safety

- 2.9.1. In order to protect participants, RoboCupJunior officials and bystanders, routines may not include explosions, smoke or flame, use of water, or any other hazardous substances.
- 2.9.2. A team whose routine includes any situation that could be deemed hazardous, including the possibility of damaging the stage, must submit a report outlining the content of their dance routine to the Chief Judge BEFORE arriving at the competition. The Chief Judge may also request a demonstration of the activity before the stage performance. Teams not conforming to this rule may not be allowed to present their routine.

2.10. Authenticity and originality

The performance is to be unique and have never been used in a RoboCupJunior dance competition in any previous years' at national or international competitions. Teams are encouraged to carefully check that all robots, props and costumes conform to this rule.

2.11. Additional instructions for creating a performance

- 2.11.1. Teams are strongly encouraged to program their robot(s) to begin the performance routine a few seconds after the music starts as it is extremely difficult to judge precisely when the music will sound after the audio source is started. Teams may find it useful to include a "beep" at the beginning of their music as a start signal.
- 2.11.2. Teams are encouraged to practice on the same flooring type to have a better simulation for robot conditions and reduce the set-up time at the RoboCupJunior competition.

3. ROBOTS

3.1. Robot technology

Any technology can be used to create the robots. Teams are encouraged to use technologies creatively. Innovative or unusual use of technology (including sensors) is encouraged and will be rewarded. For example laptops, notebooks, mobile phones, tablets, Raspberry Pi and other similar devices MAY be used as robotic controllers but no mains power should be used while on stage. Teams are encouraged to use technology in unusual, innovative or inspired ways to create an engaging performance. If you are unsure whether the technology you are using is appropriate please contact the Chief Judge before the competition.



3.2. Size

Robots may be of any size. Any robot(s) or prop(s) taller than 4 meters from the stage floor must be discussed with the judges and permission sought.

3.3. Number of robots

There may be any number of robots on a team. However, using multiple robots does not necessarily result in obtaining higher points.

3.4. Costumes

Costumes for robots are encouraged. **Additional** points will be awarded **if the costumes are handmade by the competitors.**

3.5. Communication

3.5.1. During the performance, any robot on stage may communicate with another robot on stage from the same team. There must be no communication with off-stage devices. The source of communication must be infrared (IR), Ultrasonic, Bluetooth and ZigBee. It is the teams' responsibility to be aware that their communication does not interfere with other teams' robots when practicing or performing.

3.5.2. No team is permitted to use radio frequency (RF) signals (like Wi-Fi or "radio control") as this may interfere with robots in other leagues. The only exception is the use of ZigBee. Take care to make sure you are not using any radio frequency signals as part of remote control of the robots; Teams have inadvertently used radio frequencies in the past. If you are unsure please check with the Chief Judge before your performance.

3.5.3. Teams with robot communication **MUST** explain the communication to the judges at the Technical Interview.

3.6. Control

3.6.1. Robots must be controlled autonomously. No member of the team may make physical contact with the robot during its performance **UNLESS** the contact has been discussed and approved by the judges **PRIOR** to the performance.

3.6.2. **Human interference and interactions with robots' sensor might be judged as a kind of remote control. If a team plans to use this in their performance routine, it must be discussed and approved by the judges prior to the performance.**

3.6.3. Robots may be started manually by human contact or with remote control (**see 3.5**) at the beginning of the performance. See also 2.7.3.

3.7. Additional instructions for designing and constructing robots

3.7.1. Under no circumstances will mains electricity be allowed to use on the stage. This includes the use of mains electricity for robots, scenery and props.



- 3.7.2. While floor joints will be taped to make them as smooth as possible, robots must be prepared for irregularities of up to 3 mm in the floor surface. Whilst every effort will be made to make the stage flat this may not be possible in all venues. Teams should be prepared for some irregularities in the surface of the stage.
- 3.7.3. **Although** The RoboCupJunior organizers endeavour to make variable lighting including spotlights available, we cannot guarantee direct or intense spotlights to be available. **In the same way**, teams should not expect the performance stage area to necessarily be able to be darkened. It is recommended that teams design their robots to cope with variations in lighting conditions, as lighting naturally varies from venue to venue. Teams should come prepared to calibrate their robots based on the lighting conditions at the venue.
- 3.7.4. Teams using compass sensors should be aware that metal components of the staging may affect the compass sensor readings. Teams should come prepared to calibrate such sensors based on the conditions at the venue.

4. PREPARATIONS FOR THE EVENT

4.1. Music data

- 4.1.1. Teams must provide their own audio music source. Teams are strongly encouraged to bring a good quality audio music source file since their evaluation also depends on the music quality.
- 4.1.2. The preferred transport method is to place the sound file on a memory stick as a MP3 file. The memory stick should be clearly labeled with the team name and category (primary or secondary) and should hold only the MP3 file. It is essential that the music should be given to the RoboCupJunior officials acting as sound technicians before the team's practice period. Teams are encouraged to bring multiple copies of the audio source file.
- 4.1.3. The music should start at the beginning of the audio music source with a few seconds of silent lead-time.

4.2. Documents

- 4.2.1. A **Technical Sheet** should be carefully completed by each team for each robot. The Technical Sheet (as a document) will be posted online with the score sheets. **This is similar to a resume for each robot. Every team must prepare one sheet for each robot.** The technical sheet gives teams the opportunity to explain the technical aspects of each robot to the judges.
- 4.2.2. Teams should complete a **Stage Script** describing the dance movements of the robots during the overall performance.
- 4.2.3. The Technical Sheet(s) and the Stage Script must be submitted to the judges before judging. These documents should be sent to the Chief Judge via email before departing to the event. **Teams who could not send these documents must hand those to the judges as soon as possible on arrival to the competition venue.**

4.3. Poster display

- 4.3.1. Teams will be given public space to display a poster board. The size of the poster should be no larger than A1 (60 x 84 cm). The poster should be brought to the Technical Interview. After the interview the poster should be displayed in the designated location.



- 4.3.2. The purpose of the poster is to introduce the team, explain the technology used in the robots and document the preparation work. Posters should be made in an interesting and entertaining format. They will be viewed not only by the judges, but also by other teams and visiting members of the public. The poster should provide information about the team and the development of the robot(s) **(in particular any innovative technologies that the team has used)**.
- 4.3.3. Areas that need to be covered include: team name, division (primary or secondary), a picture of your team, your country and your location in your country, a little about the area in which you live, pictures of the robot(s) under development at various stages and information about your robot technology. Also, please include any interesting or unusual feature about the team, robot, your background or your entry.
- 4.3.4. The poster display must be presented during the interview, and may be called upon to help establish the authenticity of a teams' performance.

5. TECHNICAL INTERVIEW

5.1. Procedure of the interview judging

- 5.1.1. All teams will have a 15 minutes interview judging during the competition.
- 5.1.2. Interviews will be judged by at least two RoboCupJunior officials.
- 5.1.3. **The Dance Interview Score Sheet is used in the interview judging.** It is strongly suggested for teams to read **the Dance Interview Score Sheet before** the interview to make good use of the interview.
- 5.1.4. **Teams should ensure that they bring all their robots, props, posters, and copies of the programs.** They should be prepared to demonstrate and discuss the use of all the sensors, electronics and technology that they have used. They should be prepared to demonstrate their robots and other technologies used.
- 5.1.5. **The documents the team must supply for the interview judging are the poster, a technical sheet for each robot, a stage script and listings of all programs.**

5.2. Demonstration during the Technical Interview

Teams are strongly encouraged to demonstrate their robots working during the Technical Interviews. Especially, the innovative or special functions of their robot(s), such as complex mechanisms for a dynamic movement, innovative use of sensor, or an original electronic/electrical device should be shown in front of the judges. Only a short amount of time will be available (maximum 5 minutes). Teams should be prepared to demonstrate the key features of their robots in this time.

5.3. Translator

Interviews will take place in English. If teams require a translator they should inform the local organizing committee by e-mail prior to the event to allow translators to be organized.

5.4. Second interview

If the judges consider it necessary, teams may be asked to complete a second interview. If this occurs the score from the second interview will be used to calculate **the total score of the individual team.**

6. ORIGINAL DANCE PERFORMANCE

6.1. Performance judging for individual teams

- 6.1.1. The stage performances will be judged by a panel of at least three officials. One of the performance judges is a RoboCupJunior official who judges the Technical Interview as well.
- 6.1.2. The Dance Performance Score Sheet is used in the Original Dance Performance judging.
- 6.1.3. All teams will be given 2 opportunities to perform their performances before the judges. The highest performance score will be used to calculate an **individual team's total** score.

6.2. Stage performance

- 6.2.1. Each team will have a **total of 5 minutes** for their performance. This time includes stage set-up, introduction and performance routine, including any re-starts due to factors under the teams' control. It does not include time needed for packing up and clearing the stage.
- 6.2.2. A judge starts a stopwatch when a team member steps a foot on the stage for the maximum five minute period and following 1 minute to clear the stage. If the time limit is exceeded due to circumstances outside the team's control (for example problems with starting the music by the technicians) there will be no time penalty. The judges have the final say on any time penalties.
- 6.2.3. A RoboCupJunior official will start the music and the audio visual/multimedia presentation for the **performance** routine.
- 6.2.4. Each team may perform one and only one Dance or Theatre performance routine. Some minor modifications (improvements) of the performance using the same music may be accepted. Any questions or concerns on performance and/or robot modifications at the venue should be discussed with the Chief Judge.

6.3. Stage setup time

Teams are strongly encouraged to use the time while they are setting up the stage for their performance to introduce to the audience the features of their robots, technology used and highlights of the robotic performance and to introduce their team. Any format is acceptable for the introduction including video, slideshow or a team member talking. The introduction must be within the total time allocation for the performance.

6.4. Clearing the stage

Following each performance, a team must fully tidy up the stage, pack up and remove any objects related to their performance. The performing team has a maximum of **one minute** to clear the stage after the end of their performance. The maximum time onstage is therefore six minutes.

6.5. Restarts

Teams are allowed to restart their routine if necessary, at the discretion of the judges. There is no limit on the number of restarts a team can perform within their 5 minutes performance time. Penalty marks will be deducted from the score. The team will be asked to leave the stage after 5 minutes.



6.6. Penalties

- 6.6.1. If a team exceeds the time limits explained in 2.4, 6.2 and 6.4 the team will be penalized by the loss of marks.
- 6.6.2. If the entire body of a robot (main body of robot not including any large extensions from the body) moves outside the marked boundary of the performance area the team will receive a penalty score. If in doubt please consult with the Chief Judge for clarification of “robot body” in relation to your robot design.
- 6.6.3. **Physical contact between a human and a robot or human interference to robots' sensor will be penalized by the loss of marks.** If contact between a human and a robot is part of the performance, the interaction must be discussed with and approved by the judges BEFORE the performance to ensure all the robotic performance is autonomous and aware.
- 6.6.4. Unless a problem is not the fault of the team, any restart will result in a score penalty.
- 6.6.5. Teams who, in the opinion of the judges, have knowingly produced duplicate robots, costumes, props or performance movement (duplicate music is allowed) of another team or reused previous years' robots, costumes, props or performance of the same team will be subject to penalties. Penalties range from score reduction to a maximum penalty of exclusion from the competition.

6.7. Preparation for the stage performance

- 6.7.1. It is the responsibility of the team to ensure that the music is playing correctly before their first performance by liaising with the RoboCupJunior officials.
- 6.7.2. Teams should ensure that any presentation is displayed correctly before their first performance by liaising with the RoboCupJunior officials.
- 6.7.3. Depending on the configuration of the dance stage and the sound system at the venue, it is possible that the human starting the robot will not be able to see the RoboCupJunior official starting the audio source; and vice versa. Teams should come prepared for these conditions.

6.8. Practice on the main stage

- 6.8.1. The main performance dance stage will be made available for teams to practice on. In fairness to all teams who may wish to practice, a booking sheet will be used to reserve the stage for a short practice time. Please be respectful of the allocated time.
- 6.8.2. The last team to practice on this stage before performance time starts must fully clean up the stage and clear the stage area at least 3 minutes before the performance start time.

7. JUDGING AND COMMENDING

7.1. Judging criteria

The mark's criteria of judging are as follows:

- **The Technical Interview:**
 - Design
 - Construction
 - Use of electronic devices



Use of sensors
Programming
Evidence of authenticity

- **The Original Dance Performance:**
Choreography and storytelling
Entertainment value
Effective use of technology
Execution of performance
Judge's discretion

7.2. Totaling

The total score of each team is calculated by combining the scores from the team's Technical Interview and Original Dance Performance.

7.3. Prizes and awards

7.3.1. The following prizes will be awarded in each age category (primary and secondary):

- **The RCJ International Dance team of the Year** is awarded to the team with the highest combined total of the Technical Interview and the Original Dance Performance scores.
- **The RCJ International Dance SuperTeam of the Year** is awarded to a SuperTeam that gained the highest SuperTeam performance score.

7.3.2. Awards will also be given to individual teams in the following categories:

Best Design
Best Construction
Best Use of electronic devices
Best Use of sensors
Best Programming
Best Stage Performance

The awards will be awarded based on both the Technical Interview and the Original Dance Performance scores at the discretion of the judges. Individual teams can receive only one award.

7.3.3. There will also be certificates awarded for the following categories:

Best Team Collegiality: This award goes to the team who, by popular vote, has given the greatest support to the other teams – the support can be demonstrated in a number of ways, such as providing assistance with components, developing friendships and/or giving encouragement to other teams. The vote described in section 8.4.2 will be used for selecting the best Collegiality Award.

Best Poster: This award goes to the team who, at the discretion of the judges, has produced the best poster that describes the team and robot technology used.

Best Creative Presentation: This award goes to the team who, at the discretion of the judges, has produced the most creative and technically interesting digital display that supports and enhances the robot performance. This could be a video, slideshow, images or any other form of digital product that is displayed during the performance.



Best Novice Team: This award goes to the primary and the secondary teams who have placed highest in the competition overall and have not received another award, and where ALL members of the team are competing at RCJ international for the first time (this does not include a team having a team member(s) who has (have) competed in other RCJI categories).

- 7.3.4. No one team shall receive more than 3 prizes, awards and/or certificates excluding the SuperTeam awards.

7.4. Feedback

RoboCupJunior is an educational project. It is important that team members learn from their experiences with RCJ, and have the opportunity to improve in later years if they so choose. The organizers will provide feedback on each team's performance at the conclusion of competition. The sheet will indicate to the team their areas of strength and also areas needing improvement. It is important to note that these sheets are not to be used to debate positions, decisions or competition scores with the judges.

8. CODE OF CONDUCT

8.1. Spirit

- 8.1.1. It is expected that all participants, students and mentors, will respect the RoboCupJunior mission. In addition, participants should keep in mind the values and goals of RoboCupJunior.
- 8.1.2. It is not whether you win or lose, but how much you learn that counts. You will really miss out on a lifelong learning experience if you don't take this opportunity to collaborate with students and mentors from all over the world. Remember this is a unique moment!

8.2. Fair Play

- 8.2.1. It is expected that the aim of all teams is to participate in a fair and clean competition.
- 8.2.2. Humans that may cause deliberate interference with robots or damage to the stage will be disqualified, if part of a team. If not part of a team they will be ask to leave the venue.
- 8.2.3. The team is responsible for removing all debris left from their routine that may interfere with the performance of subsequent activities.
- 8.2.4. Remember: Helping those in need and demonstrating friendship and cooperation are the spirit of RoboCupJunior as well as making the world a better place.

8.3. Sharing

- 8.3.1. It is understood that RCJI events with rich technological and curricular developments should be shared with other participants after the competition.
- 8.3.2. Any developments may be published on the RoboCupJunior Web site following the event.
- 8.3.3. Sharing information furthers the mission of RoboCupJunior as an educational initiative.



8.4. COLLEGIALITY

- 8.4.1. Each participating team will have one vote to nominate the team that displayed the greatest cooperative interactions and shared support with other teams. Please refer to section 7 for Collegiality Award.
- 8.4.2. In keeping with the spirit and collegiality aspects of RCJI, the organizers will provide a party for all team members, mentors and supporters. It is strongly requested that all such individuals delay their departure sufficiently to attend the party, even if the event is held after the finals and prize giving ceremony. The organizers request all team members bring business-sized cards to share with other teams at the party. These cards could include the team name, its members' name(s) and contact details, so students can remain in contact with each other after the event. This is optional, but encouraged. It is also requested, but not compulsory, for team members to wear either national dress, or some icon that identifies them with their country. This can be done in a humorous manner, such as an animal mascot from their country or another creative idea.

8.5. Behavior

- 8.5.1. All movement and behavior is to be of a subdued nature within the event venue.
- 8.5.2. Competitors are not to enter set-up areas of other leagues or other teams, unless expressly invited to do so by other team members.
- 8.5.3. Participants who misbehave may be asked to leave the building and risk being disqualified from the event.

8.6. RoboCupJunior Officials

- 8.6.1. The officials will act within the spirit of the event.
- 8.6.2. The RoboCupJunior officials shall not have close relationship with any of the teams in the age group they judge.

8.7. Mentors

- 8.7.1. Mentors (defined as teachers, parents, chaperones, translator or any other non team-member) are not allowed in the student work area except to assist carrying equipment in or out of the area on the arrival and departure days.
- 8.7.2. If a problem is encountered with a computer or other device that is clearly beyond the reasonable ability level of a student to repair, a mentor may request permission from the organizers to enter the work area for the sole purpose of advising on that repair. They must leave the work area immediately after this is completed. Rule 8.7.1 still applies at these times.
- 8.7.3. Mentors are not allowed to set up equipment on stage, as this should be the responsibility of team members. Organizers will assign volunteers to teams that need an assistant for stage set-up. Teams should request this assistance to the officials.
- 8.7.4. A mentor found in the student work area without an acceptable reason may lose his/her access to the venue and the team will be penalized.
- 8.7.5. A mentor found to be involved with mending, building or programming the robot(s) and/or directing choreography may lose his/her access to the venue and the team marks will be penalized. This applies to both the "individual" and "super team" competitions.



9. ADDITIONAL INFORMATIONS

9.1. Information about the event

- 9.1.1. Teams will be responsible for checking for updated information during the event. Updated information will be provided on notice boards in the venue and (if possible) on the RoboCupJunior website. The updated information will be announced at the beginning of the event and will be posted on the notice boards as well.
- 9.1.2. Newsletters will be disseminated during the event to ensure teams and mentors have the latest information.

9.2. Contact

Queries regarding the rules or their interpretation may be sent to the Dance 2014 Chair of the Technical Committee: Shoko Niwa (Japan), chocola@fc4.so-net.ne.jp.