

NRC Publications Archive Archives des publications du CNRC

Tour guiding at IOT: Summer 2005

Fry, S.

For the publisher's version, please access the DOI link below. / Pour consulter la version de l'éditeur, utilisez le lien DOI ci-dessous.

Publisher's version / Version de l'éditeur:

<https://doi.org/10.4224/8895086>

Student Report (National Research Council of Canada. Institute for Ocean Technology); no. SR-2005-11, 2005

NRC Publications Archive Record / Notice des Archives des publications du CNRC :

<https://nrc-publications.canada.ca/eng/view/object/?id=92822f21-7405-45d5-a4ea-f39442cf9b86>

<https://publications-cnrc.canada.ca/fra/voir/objet/?id=92822f21-7405-45d5-a4ea-f39442cf9b86>

Access and use of this website and the material on it are subject to the Terms and Conditions set forth at

<https://nrc-publications.canada.ca/eng/copyright>

READ THESE TERMS AND CONDITIONS CAREFULLY BEFORE USING THIS WEBSITE.

L'accès à ce site Web et l'utilisation de son contenu sont assujettis aux conditions présentées dans le site

<https://publications-cnrc.canada.ca/fra/droits>

LISEZ CES CONDITIONS ATTENTIVEMENT AVANT D'UTILISER CE SITE WEB.

Questions? Contact the NRC Publications Archive team at

PublicationsArchive-ArchivesPublications@nrc-cnrc.gc.ca. If you wish to email the authors directly, please see the first page of the publication for their contact information.

Vous avez des questions? Nous pouvons vous aider. Pour communiquer directement avec un auteur, consultez la première page de la revue dans laquelle son article a été publié afin de trouver ses coordonnées. Si vous n'arrivez pas à les repérer, communiquez avec nous à PublicationsArchive-ArchivesPublications@nrc-cnrc.gc.ca.

DOCUMENTATION PAGE

REPORT NUMBER	NRC REPORT NUMBER	DATE	
SR-2005-11		August 2005	
REPORT SECURITY CLASSIFICATION		DISTRIBUTION	
Unclassified		Unlimited	
TITLE			
TOUR GUIDING AT IOT – SUMMER 2005			
AUTHOR(S)			
Stephanie Fry			
CORPORATE AUTHOR(S)/PERFORMING AGENCY(S)			
Institute for Ocean Technology, National Research Council, St. John's, NL			
PUBLICATION			
SPONSORING AGENCY(S)			
Institute for Ocean Technology, National Research Council, St. John's, NL			
IOT PROJECT NUMBER		NRC FILE NUMBER	
KEY WORDS		PAGES	FIGS.
Advertising, PSA, Tour Script		13	2
			0
SUMMARY			
<p>This report discusses the methods of advertisement used, how I kept organized, the tour script used, and some advice for future tour coordinators. There are also statistics for the summer, and a few suggestions for IOT.</p>			
ADDRESS			
National Research Council Institute for Ocean Technology Arctic Avenue, P. O. Box 12093 St. John's, Newfoundland, Canada A1B 3T5 Tel.: (709) 772-5185, Fax: (709) 772-2462			



National Research Council
Canada

Conseil national de recherches
Canada

Institute for Ocean
Technology

Institut des technologies
océaniques

TOUR GUIDING AT IOT – SUMMER 2005

SR-2005-11

Stephanie Fry

August 2005

TABLE OF CONTENTS

Introduction.....	P. 2
Advertising.....	P. 2
Keeping Organized.....	P. 4
Tour Script.....	P. 5
Advice for Future Tour Coordinators.....	P. 9
Statistics.....	P.10
Other Projects.....	P.12
Suggestions.....	P.13
Conclusion.....	P.13

INTRODUCTION

For my first work term with the University of Ottawa I was employed by the National Research Council Canada – Institute for Ocean Technology as a summer tour coordinator. This position gave me the chance to meet people from all over the world and teach them about what the institute does and how the research that it does is very important to marine vessel performance and the safety of the people onboard.

My primary task for this position was giving tours, but to do this getting the word out to the general public, tourists, camps, and conferences that we do give FREE tours was necessary. One way that I accomplished this task was by making and distributing posters and brochures throughout the city to many tourist and public destinations. I also made public service announcements and aired them on radio and television stations, and called/faxed/e-mailed summer camps and conferences to tell them about what we do and that our tours are FREE.

As the summer went on I was responsible for keeping organized, taking bookings, calling to confirm tours (always a good idea for larger groups), and giving tours.

Other than the tour guiding I was given some projects to keep me busy. Some of which included: making an e-book CD-ROM for the Computational Fluid Dynamics conference which was being held in St. John's this summer, updating the who's who internal web page, making a generic English and French IOT presentation, and updating the research posters which are on the wall down by the employee entrance.

There were many skills that I have acquired or improved throughout my work term and they include: public speaking, French skills, organizational skills, Adobe Acrobat, MS Word, MS PowerPoint, MS Excel, and digital photography.

I was also able to meet all of my work term objectives (which I had to set for my coop guidelines), which include learning about different research activities that IOT has done or are doing, attending engineering seminars, attending French classes, improving computer skills, and working on public speaking/relations.

For future tour coordinators, it may seem a bit intimidating in the beginning but stick with it, after your first few tours it keeps getting easier and with each tour you will learn something new. Just keep yourself organized and you will have a great summer, and you will get to meet some very interesting people from all around the world.

ADVERTISING

To get the word out in summer 2005 for tours I used a few different ways which include:

POSTERS

A landscape poster with colorful pictures of the ice tank, models, and the offshore engineering basin was created. I made sure that the words FREE TOURS stood out, and there was also contact information at the bottom along with times and dates of tours. A copy of this poster is located at the end of the report.

To make the poster landscape, under File select page setup and under the tab "layout" select landscape. These posters were put up all around campus, the Aquarena,

the Arts and Culture Centre, and the Mount Pearl Library. I think that PowerPoint would have been easier to use because you can manipulate the pictures easier.

BROCHURES

A double-sided brochure with pictures was developed with information about the institute, contact information, and what the visitors will see if they come in for a tour. Microsoft Word has a great template for doing this. Go to File->New->Publications->Brochure. All you have to do is add your words and pictures.

Since we were unsure of our advertising budget at the beginning of the summer, the brochure was printed at IOT. If you are going to be printing at IOT select print->select printer->Properties->Layout (select Landscape, and under double-sided printing select Flip on Short Edge because if you select Flip on Long Edge the printing will be upside down on the opposite side). Always do a test page to make sure that it is printing properly.

Printing brochures at IOT has another strong point in that you only print how many brochures you need and therefore at the end of the summer you are not left with piles and piles of leftovers.

BIG SIGN

A big sign was placed on the front lawn advertising tours, ask Derek Yetman who to contact and get it put up as early as possible. Some people driving by notice that we do free tours and come on in.

FRIENDS OF PIPPY PARK

Every year the Friends of Pippy Park Newsletter features us and says that we offer free tours to the general public. They will probably be in contact with the future tour coordinator in late May for the correct e-mail address and phone number.

PUBLIC SERVICE ANNOUNCEMENTS

Radio stations provide free public service announcements. This year I contacted OZFM, VOCM, KROCK, HITSFM, VOAR, Coast101.1, and VOWR. Some radio stations will give you an e-mail address and you just e-mail it to them and let them know how long you want the public service announcement to run for, others you have to fax it to them weekly.

I also contacted Rogers Cable 9 who asked for my e-mail address and they sent me the form to fill out the PSA. It can only be up to 6 lines in length or 150 characters, so a lot shorter than the PSA that I used for radio.

I also placed a PSA in the Evening Telegram's GoGuide, which is in Thursday's issue of the paper, this is free and all you have to do is e-mail the telegram. This PSA brought in a lot of people especially locals. I only put it in three issues of it in the paper in August, so maybe next summer start off earlier and you will definitely get a lot more calls.

Here is a sample of my PSA:

"The NRC Institute for Ocean Technology presents free tours of its facilities until August 31st, 2005. Come and see the world's longest ice tank, where scale models are built, and an indoor ocean! Tours are available Monday to Friday, from 9am to

4:00pm, until August 31st. The Institute for Ocean Technology is located on MUN campus. To book your free tour, call 772-4366.”

CALL-OUTS/E-MAILS

Another great and effective way to get people into the building is to call or e-mail organizers of summer camps. I e-mailed the Boys and Girls Club, Future Set (a science camp at Memorial University), Marine Pursuits (a summer camp at the Marine Institute), City of St. John’s Summer camp coordinator she contacted many organizers, Portugal Cove/St. Phillips Camp, CBS camps, and the YMCA-YWCA camp coordinators, and many more. These e-mails accounted for a lot of tours with a lot of children. Future Set camps scheduled two tours almost every week. These kids tended to be well behaved and interested in science.

NEWFOUNDLAND TOURISM GUIDE

Derek Yetman places an ad in the Newfoundland tourism guide every year advertising our tours. This is normally done early, so future tour coordinators should not have to worry about this. This ad brought in a lot of people.

WORD OF MOUTH

I also told many friends and family about what the institute does, and that we give free tours. This also accounted for many tours this summer. As well, there are many people around the world who have been here before and they would tell others.

KEEPING ORGANIZED

Being organized helps with everything in your life and especially with a job like this one. Being the tour coordinator there will be a lot of phone calls, bookings, cancellations, and records to be kept. The ways in which I kept organized included:

- 1) Using a day planner so that you have a hard copy of the times, names, and phone numbers of tours, meetings, and seminars. This is good because when someone calls you just look up the date and then you know if you have time for them.
- 2) Using the calendar function in Microsoft Outlook. I liked using this program because it would remind you 15 minutes before a tour/seminar and then you would not be late.
- 3) Using excel spreadsheets. I used two different ones, one for keeping track of the dates, how many people on a tour, what country they were from, and how they found out about us, and a second sheet for keeping track of brochures that I distributed. In the first spreadsheet on the second tab I kept track of how many people came per week and per month. In the other spreadsheet I kept track of the number of brochures and posters that were distributed. I used to update the spreadsheet after every tour. Then I could check if the numbers matched up. First I would fill out the first sheet, then go to the second sheet for the weekly and monthly lists then fill out where they were from and how they found out. The total of people should always add up to be the same. (I am a little neurotic when it comes to spreadsheets and everything being up to date). You might want to do this in a different way but I found this the best for me.

Some coordinators in the past have had a sign in sheet at the Commissionaire's desk where visitors would fill out all of their information.

4) Using an answering service. If you are out doing tours or out of the office for any other reason it is great having an answering service. People will call and leave you names, phone numbers, and times which they would like to come in.

5) Something else that I found helpful was to e-mail Gerry Trepanier, the Commissionaire, at the beginning of each week letting him know when tours were coming in as well as how many people were in each tour for the whole week. This makes it easier for everyone because if you are on a tour with a group and another group comes in early Gerry could start the movie and it also lets him know who is coming into the building. After a month Gerry made up his own calendar for the tours and I just e-mail him a list of everyone that I had booked up to that point, then I would e-mail him any additions or changes. This worked out very well, Gerry will tell you that himself, it helped me out as well because if I was on a tour and people came in he could let them know when I was available. If he is still there next summer he will probably do the same.

If all of these steps to keep organized are followed you will definitely have a stress free summer, well at least with the organization part of it!

TOUR SCRIPT

In my first week here I typed up my own tour scripts in both English and French, this helped me learn and memorize all of the facts. I suggest you do the same. Here is the copy of my English tour Script.

Welcome to the Institute for Ocean Technology

My name is Stephanie and I will be your guide today. If you have any questions please do not hesitate to ask, and I will try my best to answer them for you.

Before we get started I will have to let you know that cameras and/or other equipment capable of taking photographs are not permitted in this building and will have to be left with Gerry Trepanier, the Commissionaire, and will be picked up on the way out (Gerry normally does this part).

I have a short seven-minute movie to show you what we do because we may not get to see any tests being performed or there may be a facility that is closed due to confidential work.

There are two components to our work:

- 1) To conduct government funded research for Canadian departments such as the Coast Guard and National Defense.
- 2) We carry out paid commercial work for industry clients, who pay us through our commercial partner – Oceanic Consulting.

We do evaluations:

- 1) On board the actual vessels
- 2) With physical models in our indoor tanks

3) By computer simulation

You are very lucky today because all of the tanks and the shops are open to the public.

OR

I am sorry to let you know that the tanks/shops (specify which one(s)) is/are closed for the day because of confidential testing.

Please follow me down the hall and we will get started with the tour.

PICTURES

This wall shows some of the vessels that have been worked on here at IOT; they include yachts, fishing boats, passenger ferries, offshore shuttle tankers, navy ships, cargo ships, and various others.

To the left we have barges, transport ships, and cargo ships. In the center we have yachts. Many yachts have been tested here and the one in the middle is the Alinghi, which is a Swiss yacht who won the America's Cup race in 2003. Also the yacht below it is the Oracle-BMW who placed 2nd in the same race had its testing done here.

On the other wall we have pictures of submarines, bridges and oilrigs which some or all of the parts were tested here.

Bridges: The cones on the base of the confederation bridge, which links New Brunswick with Prince Edward Island were tested here. Since this bridge is the longest bridge over ice-covered waters in the world, the Northumberland straight, they needed to test the cones of the bridge in ice conditions so that the bridge itself does not get damaged. The ice will flow up the side of the cone and will break under its own weight.

Oilrigs: (Floating, Production, Storage and Offloading) a.k.a. FPSO. Some of the FPSO's that were tested here are the White Rose and Terra Nova. Hibernia's gravity based system was tested here, as well as other rigs.

We have done work on many underwater vehicles, lifeboats and evacuation systems.

We will now visit the Fabrication Shop, which is the first step in the creation of the models.

FABRICATION SHOP

The materials used in the construction of models range from fiberglass to Styrofoam. The majority of them are built from Styrofoam, which are in the form of sheets.

First the sheets are glued and stacked into the rough outline of the vessel that is to be created, then it goes into the computerized milling pit. The milling pit is automatically controlled and cuts the outline of the vessel into an exact outline of the model that we are building. Fiberglass and paint are then applied for the exterior finish.

Note: This shop was closed throughout summer 2005, but in the movie room there was a display that shows the four stages of model hull development, so I used this to explain this shop.

We will now enter the second stage of model creation.

MACHINE SHOP

When the hull is complete we move it in here for the making of the model parts and other equipment needed for the test series. The machines in this room are computer controlled for enhanced accuracy. This accuracy is needed because the tiniest flaw in a model size vessel will be a major defect in a full sized vessel.

In the closed area to the right there are computerized drill presses, lathes, precision metal cutting machines.... etc.

Most machines are accurate to 1/1,000 of an inch, and the surface grinder is accurate to within 1/10,000 of an inch, we need this accuracy because we are making models, and if there is a small problem in the model then there will be an even larger one in the actual vessel

The boring mill is a computerized machine, which bores holes and grounds down material that is used in the creation of the equipment. This machine came to IOT from Romania in 2002 it is a 5-axis machine that is extremely precise to 1/1,000 of a degree.

The floor in this room is built from wooden blocks 10 cm deep that are packed with sand, glued together with epoxy and elastic bands surround the blocks. There are four reasons for using this floor:

- 1) It causes the absorption of vibrations so that a machine does not get any errors due to the vibration of another machine.
- 2) It is easier on the backs of workers.
- 3) If something is dropped it will not be damaged as badly.
- 4) It is easier to install new machines/equipment.

The trim tank is where models go before they go into the real tanks. This tank lets us know if the vessel is in balance and is in the right depth in the water. If the vessel is not in balance or in the right depth of water we will add weights until it is.

MODEL PREPARATION SHOP

This is where the instrumentation is installed in the models for measuring the performance of the ship or vessel. This instrumentation can range from dynamometers to load cells to pressure transducers. These instruments measure the forces produced by the waves, ice, and wind as the models are being evaluated in the tanks.

ICE TANK

Before we enter the ice tank I would like to show you some pictures of expeditions that our staff have gone to test the ice in various parts of the world. The ice is tested all around the world because there is a change in the composition of the ice, density, temperature, and thickness.

Before entering the tank I should let you know that there is a mild smell of ammonia due to the cooling system and I should tell you to stay away from the edge of the tank, for safety reasons as well as there is grease on the rails and you do not want to ruin your pants. The temperature in the tank is (?? Look at the thermometer on the wall).

This is the longest ice-tank in the world. It is 90m long, the testing area is 76m, 3m deep, and 12m across.

Since the properties of ice vary all around the world, we have to be able to model our ice and change it whenever we are testing something depending on where it is going to be used, and its scale. Instead of using water in our ice tank we use a solution called EGADS, which stands for ethylene glycol, aliphatic detergent, and sugar. To change the density of the solution we will bubble air into the tank and these air bubbles will get caught in the mist as it is freezing to make the ice less dense.

To make the ice we first put down a thermal wall and drop the temperature on one side to -20 to -30 degrees Celsius, then we spray a mist of water over the solution, ice crystals form, gather on ice and start to form a uniform ice sheet. 3.5mm of ice can be made in an hour to a max of 150 mm.

This Tank can hold 3.5 million liters of EGADS.

Some vessels that are tested here are icebreakers, the cones at the base of the Confederation Bridge, and we also do still water testing here.

OFFSHORE ENGINEERING BASIN

This tank is 75m long, 32m wide and 4m deep. As you can see there is no tow carriage like in the ice tank because this tank is used for vessels, which are placed in the centre of the tank by the crane, maneuvered by remote control, or autonomous vehicles.

There are 168 wave panels which are individually computer controlled, wind generators, and a 1000HP generator for creating current.

The metal meshing, “the beach”, is used to absorb the wave energy. This is used so that we can keep the same wave pattern that we are trying to model.

This tank can hold 5 million liters of water.

Vessels such as Hibernia, White Rose, and Terra Nova did their testing here. As well scenes from *The Shipping News* and *Rare Birds* were filmed here.

THE TOWING TANK

This tank is 200m long, 12m wide and 7m deep. Since this tank is so long the curvature of the earth must be taken into consideration, because if not there would be an inconsistent amount of water under the hull then there would be in nature and this could cause problems once the vessel gets out onto the ocean.

The carriage can send vessels down to the end of the tank at a speed of 10 m/s (36km/hr). Models are tested for resistance and propulsion to cut back on friction. The America’s Cup models were tested here.

Tests can be conducted in calm water or in waves. Only single direction waves can be made which are from 0.5m to 40m in length and up to 1m high.

The parabolic beach absorbs wave energy so the waves do not come back and created disturbances in the waves that they are creating.

This tank can hold 17 million liters of water.

Note: In both the Offshore Engineering Basin and the Towing Tank we use fresh city water. The reason why we do not use salt water is because the salt can cause corrosion. There is a difference in the density of salt and fresh water and we account for that by using mathematics. As well since salt content is different in different areas of the world we would have to account for this difference either way.

CAVITATION TUNNEL

This tunnel is used to test propellers, fins and other extended parts of vessels. Cavitation is the formation of air bubbles in a moving liquid. Cavitation causes noise, vibrations and erosion of the part so we want to reduce the effects cavitation, and we can do so by changing the shape, size, or material of the part.

I hope you enjoyed the tour. If you have any questions feel free to ask me and I will do my best to answer them.

ADVICE FOR FUTURE TOUR COORDINATORS

When booking tours give at least one hour per tour, normally tours run about 35-45 minutes, but some can be an hour or more, especially if there is testing going on. You will need time between tours to rest your vocal cords or get a glass of water.

Try and keep tours to a minimum of 15-20 people, it is hard to fit more than that comfortably in certain areas, as well it is easier to talk to smaller groups and keep track of them.

With day camps, try to book tours for children of at least 10 years old. Children who are younger either do not pay attention as well or most likely do not understand what it is that you are explaining. As well make sure there are a comfortable amount of counselors or leaders with them so that the children will listen to you and your safety instructions.

You will get a lot of questions asked on tours. In the beginning I would generally get new questions that I did not know the answers to on the tours. I would suggest that when someone asks you such a question that if there is someone in the area that might know the answer to ask them. If not, once you are finished your tour find it out. It is very likely that someone on another tour might ask the same question. I had a lot of questions about Hibernia in the beginning so I went on Hibernia's web age and found out all sorts of neat facts about the rig.

Try and keep it simple, and your schedule flexible for changes in time. I did not set up times in a day to book tours, I would work it around the people who were coming in. But you can always do it differently.

When distributing your brochures around town you will be taking cabs, make sure to bring a few extra brochures for the cab drivers as they see many tourists and they will give brochures to them.

Also, it is a good idea to get started with your report as early as possible. Then at the end of the summer you will have less to worry especially if you have a lot of tours scheduled.

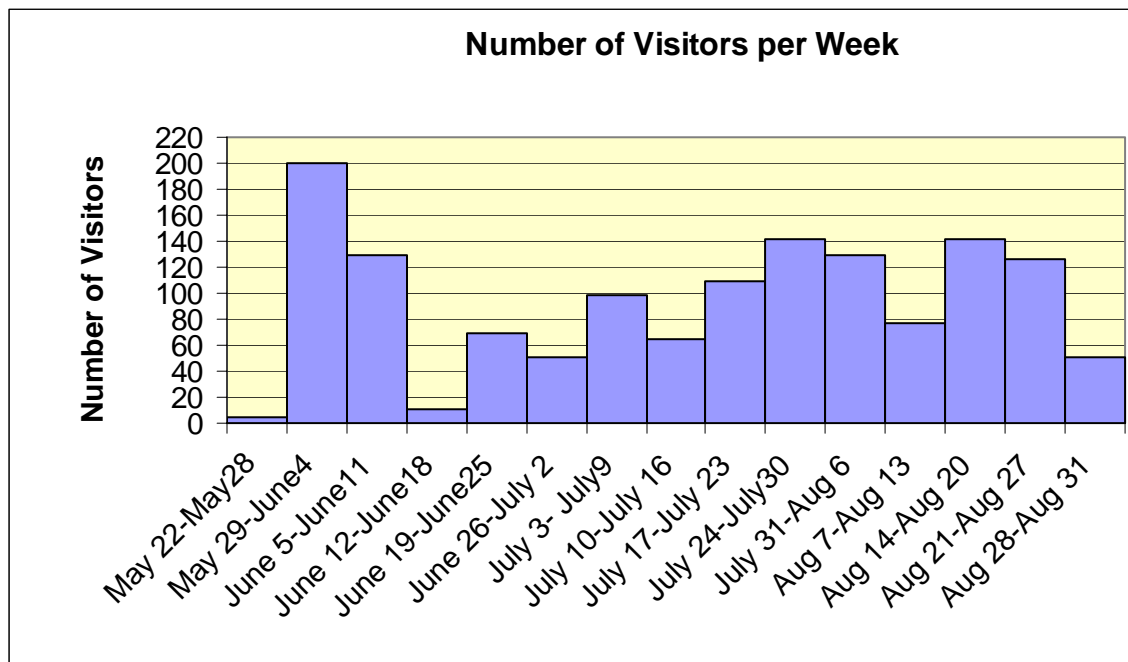
STATISTICS

Throughout the summer I kept statistics using spreadsheets of the tours given. These statistics will help future coordinators know when are the expected busiest times of the summer, which modes of advertising work, and where tourists come from.

We had a grand total of 1401 visitors who were from all different backgrounds and age groups.

WHEN WERE THE BUSIEST TIMES

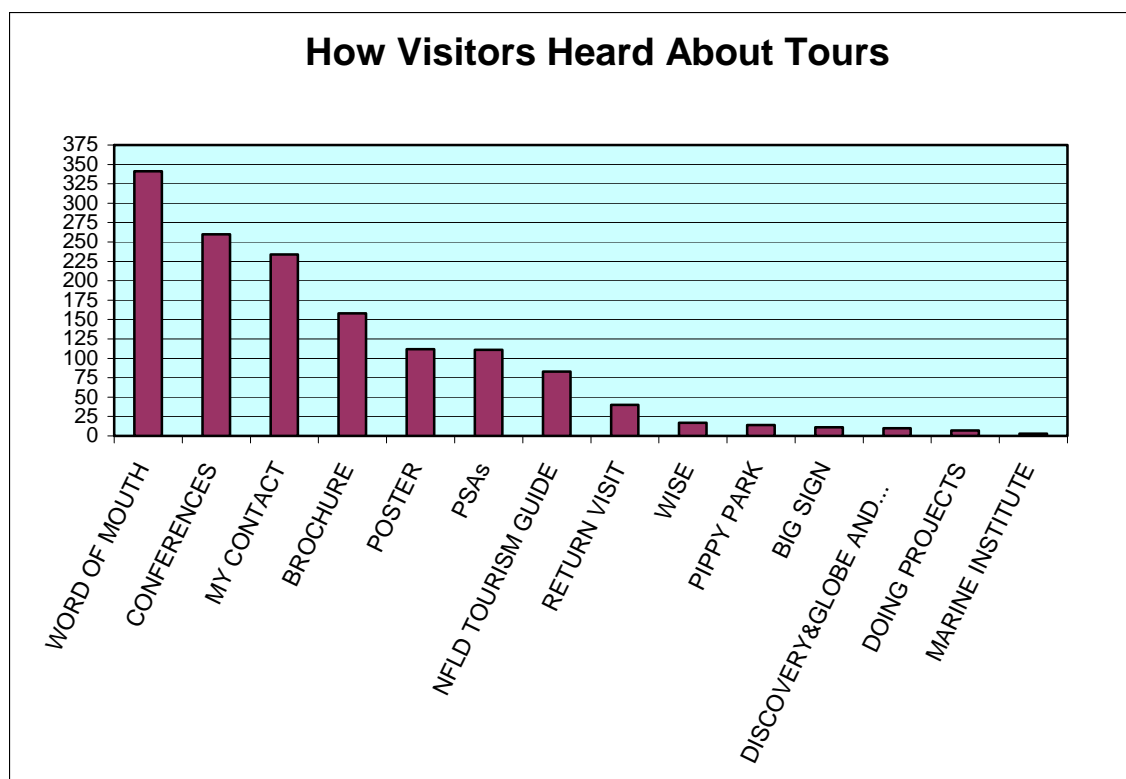
This summer started off busy because of the Canadian Municipalities Conference, which was in town, this brought in almost 200 people in my second week of work. The numbers slowed down a bit but then it became very busy by July and August. The week with the most tours was August 22-26 but groups were smaller and they were mostly locals.



The big jump in numbers in the beginning of the summer is due to the Canadian Municipalities conference.

HOW DID TOURISTS FIND OUT ABOUT US?

Most tourists found out about us through other people, or came with conferences. The advertising which proved to be the most effective was my contact and my brochures. Near the end of the summer I was getting many calls about the PSA which I put in The Telegram.



WHERE DID THEY COME FROM?

Tourists came from all around the world, but for the most part they were Canadians and Americans.

Canada-1215

USA- 151

England-6

Scotland-1

Cameroon-1

Singapore-1

India-1

Australia-3

Germany-6

Columbia-3

Denmark-2

China-10

Ireland-1

OTHER PROJECTS

Throughout the summer I was given a few different projects to keep me busy when I was not giving tours. Here are the projects and a little description of what they involved:

IOT PRESENTATIONS IN ENGLISH AND FRENCH

Lawrence Mak asked me to make a generic Powerpoint presentation in both English and French for staff members to use. It involved a bit of research about the facilities but most of it was information that I had acquired for my tours. We had slides which showed pictures of each tank and gave an explanation about the features of each facility. They are currently available in the n:\presentations\IOT Presentation-ENGLISH-Aug2005.ppt, and n:\presentations\IOT Presentation-FRENCH -Aug2005.ppt. Future tour guides can take a look at these presentations to help with learning some more about the facilities, and helping with the French part.

RESEARCH POSTERS

The posters which were on the boards going down towards the OEB were getting old, so Derek asked me to update them with current research information which is available online. They might need to get updated again next year so this could possibly be a little project for the next coordinator.

WHO'S WHO WEB PAGE

Mike Sullivan has made a link on the internal web page "Intranet" which has pictures of all people who work in the building. I started updating this web page to do so I went around and took some pictures of people and posted them on the web page. This is actually quite easy to do, well if the code is already written for you as it was in my case. All I had to do was take the pictures, crop them, save them in the right file, and copy and paste a line of code and add the proper file name of the picture and the name of the person. The hardest part, believe it or not was taking the picture and cropping it.

CFD 2005 CONFERENCE

Pengfei Liu, one of the researchers here, asked me to help him out with the Computational Fluid Dynamics conference that was being held in St. John's this summer. This was my largest project the summer, and made me realize how much work conference organizers have to do to get everything done in time. I had to take all of the papers given to him by the delegates, put them into pdf format, then make an e-book and copy it to a CD for distribution. To do this I made a table of contents where when you clicked on the title of the paper and then the paper would appear. As well I made an

Authors List, which was the same idea. There were approximately 75 papers and some papers had up to five authors.

I also helped create a “program and abstract book” which was to be given out to the delegates. This project involved doing a lot of formatting of pdf files and word documents so that everything looked right.

SUGGESTIONS

Some suggestions for IOT include:

- 1) I think that it is important to get high school or junior high students in for tours because many students in this city (including myself at that age) have no idea about this institute. I tried e-mailing some schools but by that time they had their activities booked up. If this is a priority of IOT then someone should e-mail schools early in April, and then we might be able to get these students in so they could find out if this is something that they might like to do when they get older.
- 2) This is a suggestion if there is going to be an advertising budget for next year. I find that many Newfoundlanders do not know about what this institute offers and never even heard that we gave tours. So if there are other ways of getting the information out it would be great! I found the PSA in The Telegram helped getting the locals attention; so maybe more advertising in the local media would help. Maybe radio ads or more ads in The Telegram.

Other than those few suggestions I did not have any major problems. The staff here were very friendly and were a great help.

CONCLUSION

All in all this was a great summer. I got to experience working and meeting people from all around the world. Learn great lifelong skills as well as attaining personal and academic goals.

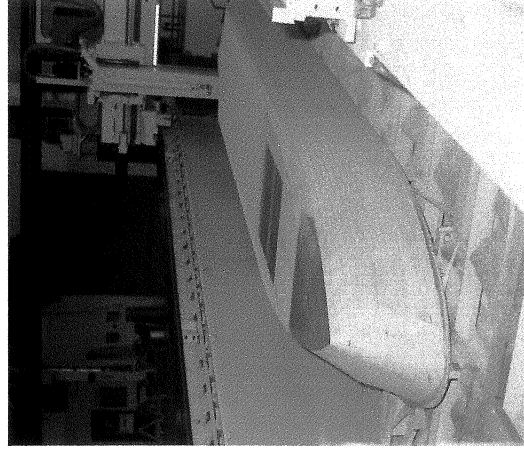
THE NRC INSTITUTE FOR OCEAN TECHNOLOGY

PRESENTS

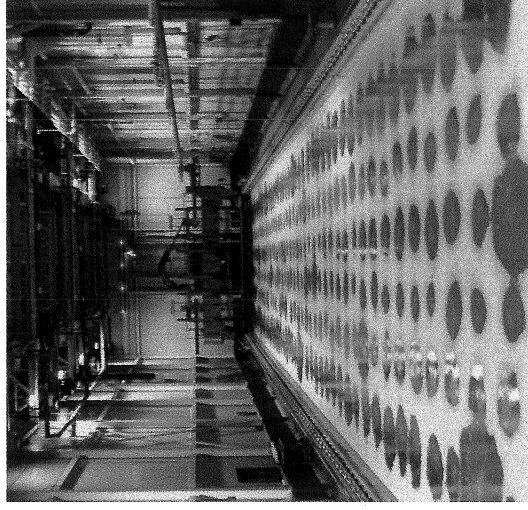
FREE TOURS!

COME AND YOU CAN SEE:

WHERE THE MODELS
ARE BUILT



THE LONGEST ICE TANK
IN THE WORLD



A SIMULATED
3-D OCEAN



FOR MORE INFORMATION, OR TO BOOK A TOUR PLEASE CALL: (709)-772-4366

OR E-MAIL: stephanie.fry@nrc-cnrc.gc.ca

TOURS ARE MONDAY-FRIDAY 9am-3:30pm UNTIL AUGUST 31, 2005
LOCATED ON MUN CAMPUS, NEXT TO THE ENGINEERING BUILDING
ACROSS FROM THE UNIVERSITY CENTRE

TOURS ARE OFFERED

MONDAY-FRIDAY

FROM 9 am-3:30pm

UNTIL AUGUST 31st, 2005

GENERAL INFORMATION

TOURS ARE OFFERED FOR
GROUPS FROM 1 TO 15
PEOPLE

CHILDREN SHOULD BE AT
LEAST 10 YEARS OF AGE
AND ACCOMPANIED BY AN
ADULT

TOURS SHOULD BE
BOOKED IN ADVANCED AT
(709)-772-4366

LOCATED ON ARCTIC
AVENUE, ACROSS FROM
MUN'S UNIVERSITY CENTRE

FREE PARKING FOR
VISITORS

SOME FACILITIES MAY NOT
BE ACCESSIBLE DUE TO
CONFIDENTIAL TESTING

TO BOOK A TOUR

CONTACT US

TELEPHONE: (709)-772-4366

OR

E-MAIL: stephanie.fry@nrc-cnrc.gc.ca



NRC-CNRC

National Research Council Canada

Conseil National de Recherches Canada

Institute for Ocean Technology
Arctic Avenue, P.O. Box 12093

St. John's NL

A1B 3T5

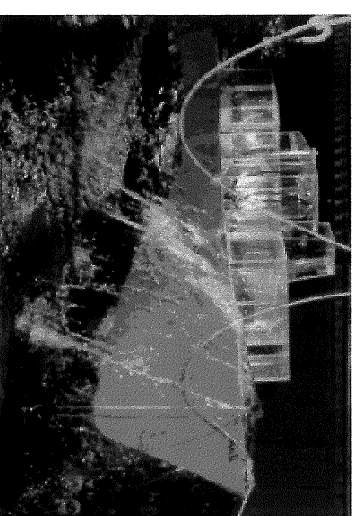
<http://fo-ito.nrc-cnrc.gc.ca/>

FREE TOURS!

PRESENTED BY:

THE NRC INSTITUTE
FOR OCEAN
TECHNOLOGY

*Canada's Centre for Ocean Technology
Research and Development*



COME AND VISIT. YOU WILL
HAVE FUN AND LEARN
SOMETHING AT THE SAME
TIME!



National Research Council Canada
Conseil national de recherches Canada

WHAT WE DO

- ✦ IOT was established in 1985 and we are Canada's national centre for ocean technology research and development.
- ✦ IOT does performance evaluation on board actual vessels, with physical models in our indoor tanks, and by computer simulation.
- ✦ IOT performs research to maintain a safe and efficient marine environment. It conducts tests on different systems such as: offshore oil and gas platforms, ships, aquaculture cages, and submarines.
- ✦ IOT is a world leader in ocean technology with some of the largest and best equipment available.
- ✦ IOT predicts and models the performance of various engineered systems in an ocean environment.

WHAT YOU WILL SEE

- ✦ Scale models being built.



- ✦ The longest ice tank in the world, along with a simulated 3-D ocean, and a tow tank where America's Cup yachts are tested.



WHY YOU SHOULD COME

- ✦ You will get to see research facilities that are unique to Canada.
- ✦ IT'S FREE!!!
- ✦ You will enjoy a fun and educational tour.



BOOK YOUR SUMMER TOUR TODAY!!!

CALL: (709)-772-4366

OR

E-MAIL:

stephanie.fry@nrc-cnrc.gc.ca