

The Canada Science and Technology Museum  
presents

**A Virtual Exploration Guide  
to the  
Canadian Science and Engineering  
Hall of Fame**

**Section 2: Members in Canadian Society**



## Introduction

To fully appreciate the contributions of Hall of Fame Members, it's important to understand their times and the world in which they lived. These activities will help students learn about a Hall of Fame Member's place in Canadian geography and history.

### Resources for the Activities

Students will have to do some research into the lives of various Hall of Fame Members to complete these activities. Biographical notes for Hall of Fame Members are available at the Canadian Science and Technology Hall of Fame website at:

[http://www.sciencetech.technomuses.ca/english/about/hallfame/u\\_main\\_e.cfm](http://www.sciencetech.technomuses.ca/english/about/hallfame/u_main_e.cfm)

Worksheets for all activities are included in this file.

### Activity 2.1: Locating Birthplaces and Places of Work

(Recommended for Grades 4 to 6)



Have students locate selected Members' birthplaces and workplaces on copies of the *Member's Birthplace and Place of Work* worksheet, shown as a thumbnail image to the left. Use an atlas or an on-line map service to find the positions of towns and cities on the map.

Remember that not all Members were born in Canada! Their birthplaces could be recorded in the "off-shore" areas of the map. Alternatively, you may want to mark a non-Canadian birthplace on a world map.

There are many atlas and map services accessible on the Internet. Some useful ones are:

Canadian Geological Survey

[http://gsc.nrcan.gc.ca/index\\_e.php](http://gsc.nrcan.gc.ca/index_e.php)

National Geographic Map Machine

<http://plasma.nationalgeographic.com/mapmachine/>

World Atlas

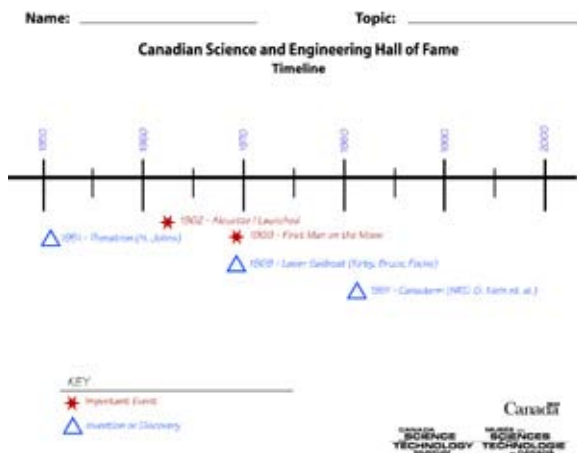
<http://www.worldatlas.com>



## Activity 2.2: Timelines

(Recommended for all grade levels)

Timelines are valuable tools for determining relationships between events in history. Many different types of timelines can be constructed, using the blank timeline worksheet,



shown here as a reduced-size thumbnail. Time intervals can be selected as needed. You can print multiple timeline sheets and attach them end-to-end to form a long, detailed timeline. Additional blank pages can be attached to the bottom of the timeline form to provide space to record more events.

The worksheet kit includes a full-sized example timeline to give you and your students some hints on setting up timelines. We've used one symbol to indicate the dates of discoveries or inventions, and another symbol to indicate important dates. You can

also draw bars showing periods of time, such as a scientist's lifetime.

We also provide a simple data sheet for students, allowing them to record and organize information for their timelines.

### Resources for Building Timelines

The worksheet package includes a list of Hall of Fame Members. This is a good starting point for most timelines you may want to prepare. Another source for Canadian-themed timeline data is the *Time Machine* game at the CSTM web site's **Kid's Zone** web page at: [http://www.sciencetech.technomuses.ca/english/schoolzone/timeline/timeline\\_en.cfm](http://www.sciencetech.technomuses.ca/english/schoolzone/timeline/timeline_en.cfm)

Excellent timelines are available at the HyperHistory Online Project website at:

[http://www.hyperhistory.com/online\\_n2/History\\_n2/a.html](http://www.hyperhistory.com/online_n2/History_n2/a.html)

These timelines can be useful both as examples and as reference resources.

### Suggested Timelines

Here are a few possibilities to get you started:

**Lifetimes:** Choose several Members and mark their lifetimes on your timeline. If you wish, you can add markings showing important events in their lifetimes.

**Lifetimes in History:** Make a timeline with important historical events mark. Decide on a theme for historical events — for example, major advances in transportation (the railroad's "Last Spike," the first powered flight etc.) Add the life spans of several Hall of Fame Members.

**Important Achievements:** Choose several Members and mark the dates of important achievements in their careers.

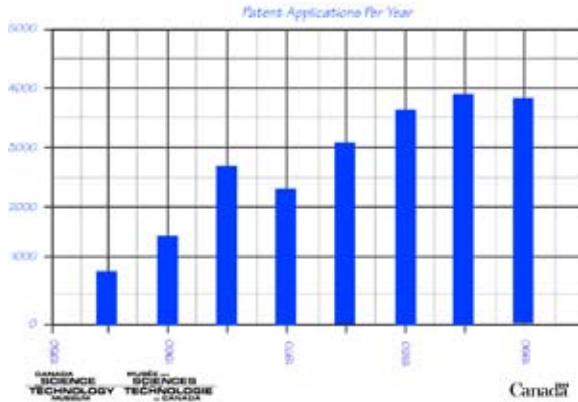


### For More Advanced Students

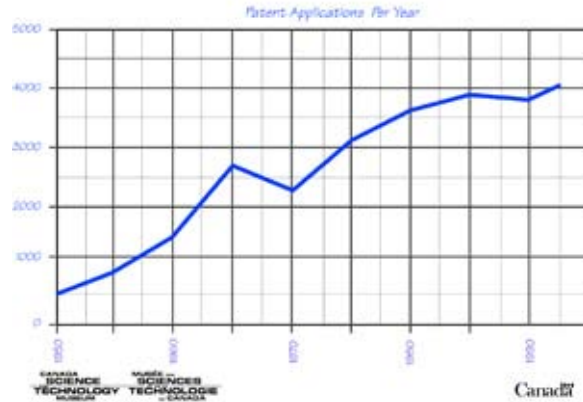
Use the graph worksheets to plot technological trends over your timeline period. You'll find example sheets showing a bar graph and a line graph of some simulated data on patents issued over a period of time.



Name: \_\_\_\_\_ Topic: \_\_\_\_\_  
Canadian Science and Engineering Hall of Fame



Name: \_\_\_\_\_ Topic: \_\_\_\_\_  
Canadian Science and Engineering Hall of Fame



Here are a few suggestions for technological trends to examine:

- Number of patents awarded per year;
- Number of people making use of inventions per year (for example: how many cardiac pacemakers were implanted each year?);
- Number of digital cameras purchased per year;

## Activity 2.3: Biographies

(Recommended for all grade levels)

Choose several Members and prepare biographical dossiers for them, using the *Dossier*

Name: \_\_\_\_\_



Canadian Science and Engineering Hall of Fame  
Member Dossier

 J.Q. Hoffer  
1923 to 2005  
Inducted in 2006  
Developed the *Alacerta* genetic sequence mapper.

Biography

Born in Littleville Nova Scotia, eldest of four children and served in the Royal Canadian Navy during World War II. Earned B.Sc. degree in chemistry at Maritime University, then M.Sc. and PhD degrees in Biochemistry at Central University. Dr. Hoffer went on to lead the Genetics Mapping Department at Central University. Married P.K. Hoffer in 1947, and had two children, both of whom went on to work in Canadian bio-engineering fields.

Achievements

- Appointed Officer of the Order of Canada in 2001.
- Holder of six patents for biomedical equipment.
- Co-founder of the Young Canadian Scientists Foundation.
- On the Board of the Queen Elizabeth Society for 22 years.
- Sponsored the Hoffer Scholarship for academic and engineering students from low-income families.

Canada Science and Technology Hall of Fame

*Form* worksheet, shown here as a thumbnail image. Basic information and portraits can be found in the Hall of Fame website, or you can search for additional information in encyclopedias or on the Internet. If you'd like a more involved project, this sheet can be the first page of a Member's dossier. Subsequent pages depend on the grade level of your students.



### For junior students

Draw a picture showing a Hall of Fame Member's invention or innovation, or showing how a Member's achievement might have affected Canada.

### For more advanced students

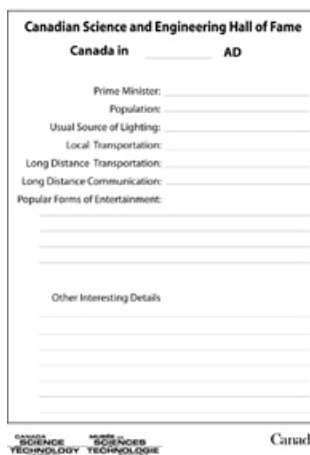
Prepare a short essay on the life and work of a chosen Member.



## Activity 2.4: A Day in the Life of a Hall of Fame Member

(Recommended for all grade levels)

Name: \_\_\_\_\_



Canadian Science and Engineering Hall of Fame  
Canada in \_\_\_\_\_ AD

Prime Minister: \_\_\_\_\_  
Population: \_\_\_\_\_  
Usual Source of Lighting: \_\_\_\_\_  
Local Transportation: \_\_\_\_\_  
Long Distance Transportation: \_\_\_\_\_  
Long Distance Communication: \_\_\_\_\_  
Popular Forms of Entertainment: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Other Interesting Details  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Canada Science and Technology Hall of Fame

It's important to understand the times in which Hall of Fame Members lived and worked. Things we take for granted today may not have even existed in their lifetimes!

Have students select a Member and learn about Canada and the world as the Members experienced them. By doing the research needed to fill out the *Canada in xxxx AD* form in the worksheet package, students will form an appreciation of what it was like to live in those times.

This worksheet suggests a few things to consider. For example, how did most people communicate — by telephone, by mail or with the up-to-date methods we're used to? What did people do for fun? Could they have watched TV, or did families gather around the radio? How did people travel long distances — trains, aircraft, cars, or even horses?

Try to imagine how Hall of Fame Members might have worked and lived during their lifetimes and careers. To get you started, here are a few questions to consider:

- What kind of obstacles (e.g. social, economic, physical) might the Member have had to overcome?
- Would the Member's work have been well known in the general population, or known mostly to specialists?



### For More Advanced Students

More advanced students may want to consider statistics, such as:

- Life expectancy;
- Leading cause of death (very revealing with regard to medical sciences);
- Income per capita;
- Proportion of rural to urban population;



It might be useful to use the graph worksheets to plot changes in these indicators over a Member's lifetime.

### Activity 2.5: Impacts on Canadian and International Society

(Recommended for all grade levels)

Hall of Fame Members are chosen not just for their superior abilities in their chosen fields but for their contributions to society as a whole. Select a Member and learn about that Member's work. Write a short essay on how that work made a lasting impact on Canada and the world at large.

Here are a few questions the get you thinking about what kind of effect a Member's work might have had on society.

- How long might it have taken for the Member's work to affect "average" Canadians? For example, the CCD (Charge-Coupled Device) image sensor, was invented in 1969. Only in the last few years have digital cameras become widely available at affordable prices.
- Would the Member's work have helped improve Canada's reputation in the world?
- Did the Member become wealthy from the work? Do you think that mattered very much to the Member?



### Special Topic: Women in Science and Engineering

We take it for granted that women can be scientists or engineers. It was remarkably late in the 20<sup>th</sup> century that any significant number of women went into scientific fields. Until quite recently, women who dared to enter such fields faced considerable challenges in their professional and personal lives.

Research the life and times of one of the female Hall of Fame Members. Try to include some of the societal roles expected of a woman during that Member's career.

As one important example, when were Canadian women first permitted to vote? The "Famous Five" (Emily Murphy, Henrietta Muir Edwards, Louise McKinney, Irene Parlby, and Nellie McClung) fought to have women recognized as "persons" under the law. You can discover more about their efforts at the Famous Five website:

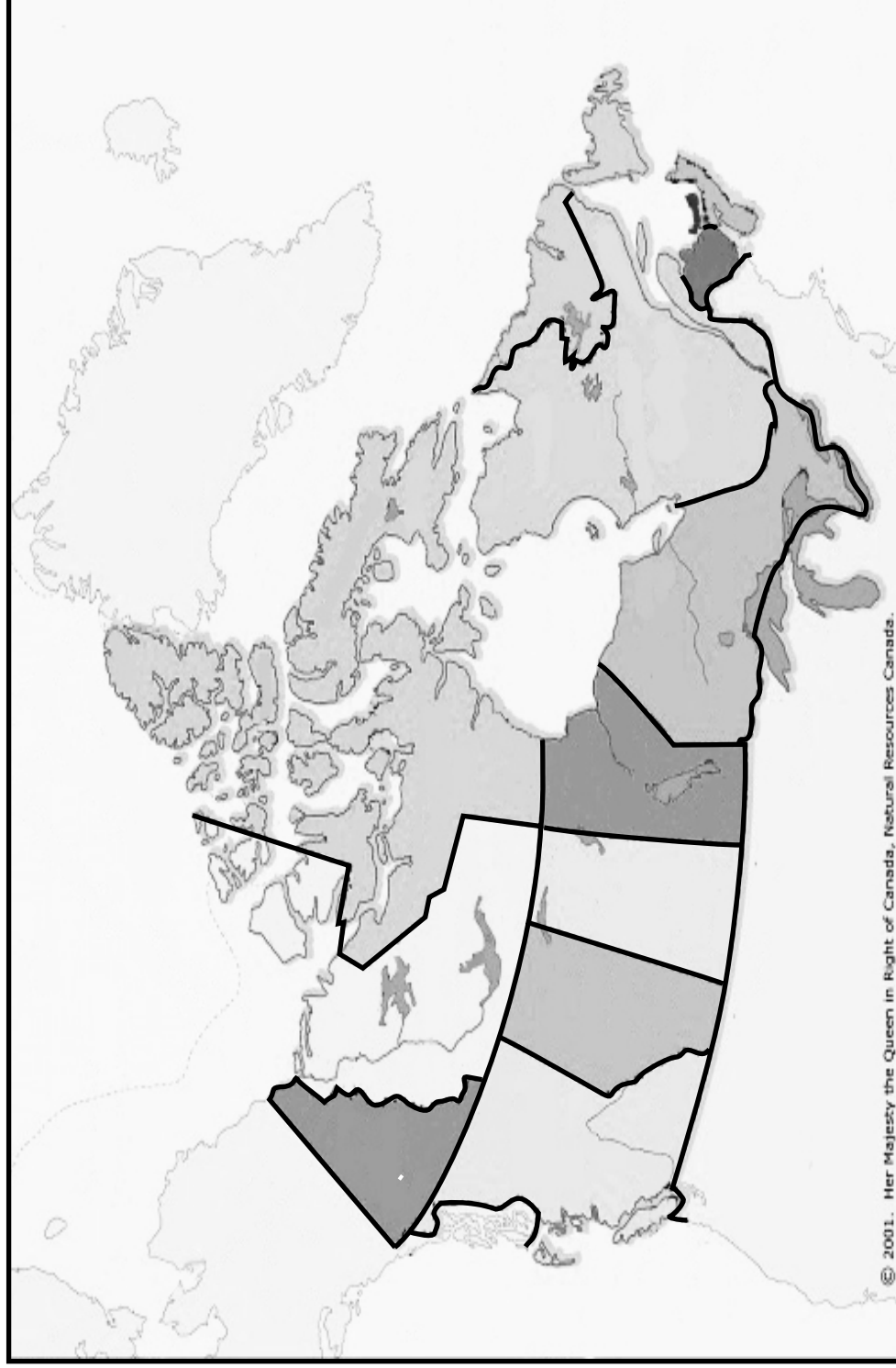
<http://www.abheritage.ca/famous5/>



Name: \_\_\_\_\_ Member's Name: \_\_\_\_\_

# Canadian Science and Engineering Hall of Fame

## Member's Birthplace and Place of Work

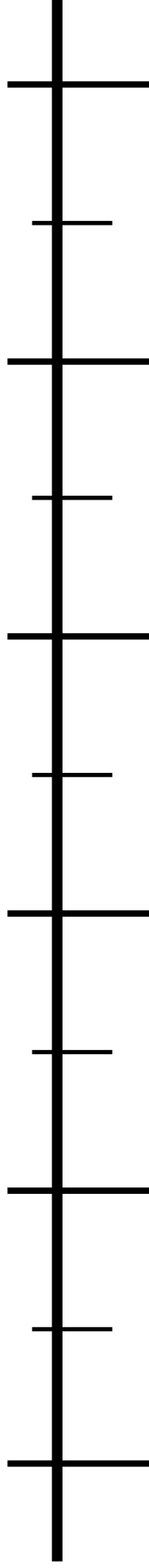


Legend \_\_\_\_\_

Name: \_\_\_\_\_

Topic: \_\_\_\_\_

# Canadian Science and Engineering Hall of Fame Timeline



KEY \_\_\_\_\_







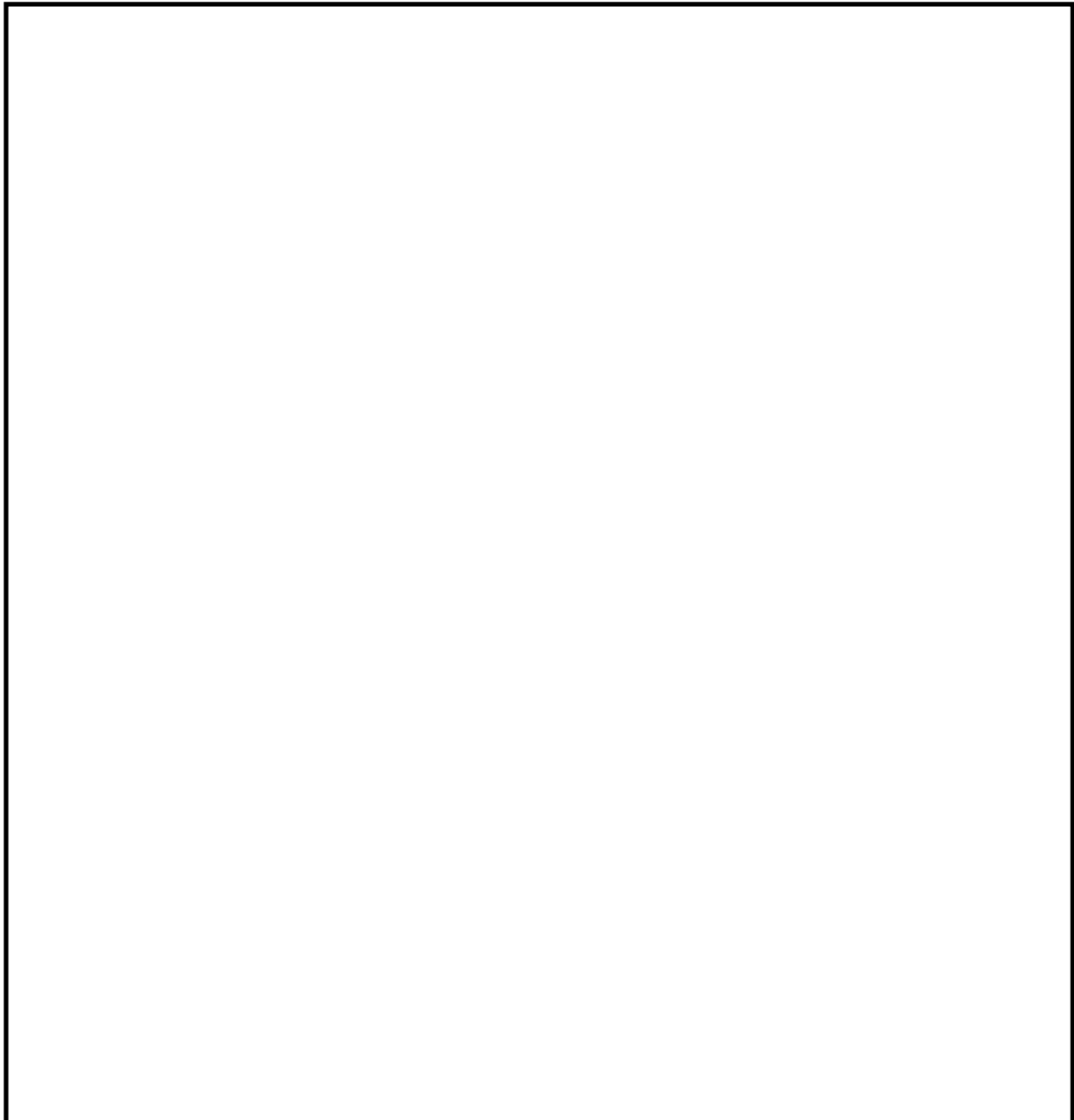
**Name:** \_\_\_\_\_

## **Canadian Science and Engineering Hall of Fame**

*Member's Name* \_\_\_\_\_

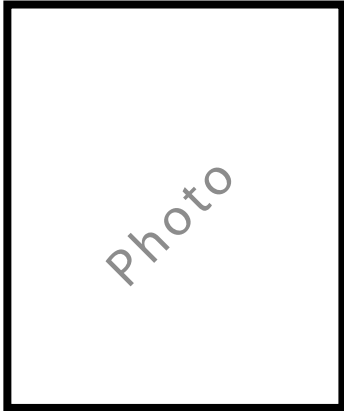
*Member's Achievements* \_\_\_\_\_

Use this space to sketch the member's development or to show how the member's work affected Canada.



Name: \_\_\_\_\_

## Canadian Science and Engineering Hall of Fame Member Dossier



\_\_\_\_\_  
\_\_\_\_\_

Inducted in \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

### Biography

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Achievements

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Name: \_\_\_\_\_

## Canadian Science and Engineering Hall of Fame

Canada in \_\_\_\_\_ AD

Prime Minister: \_\_\_\_\_

Population: \_\_\_\_\_

Usual Source of Lighting: \_\_\_\_\_

Local Transportation: \_\_\_\_\_

Long Distance Transportation: \_\_\_\_\_

Long Distance Communication: \_\_\_\_\_

Popular Forms of Entertainment:

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Other Interesting Details

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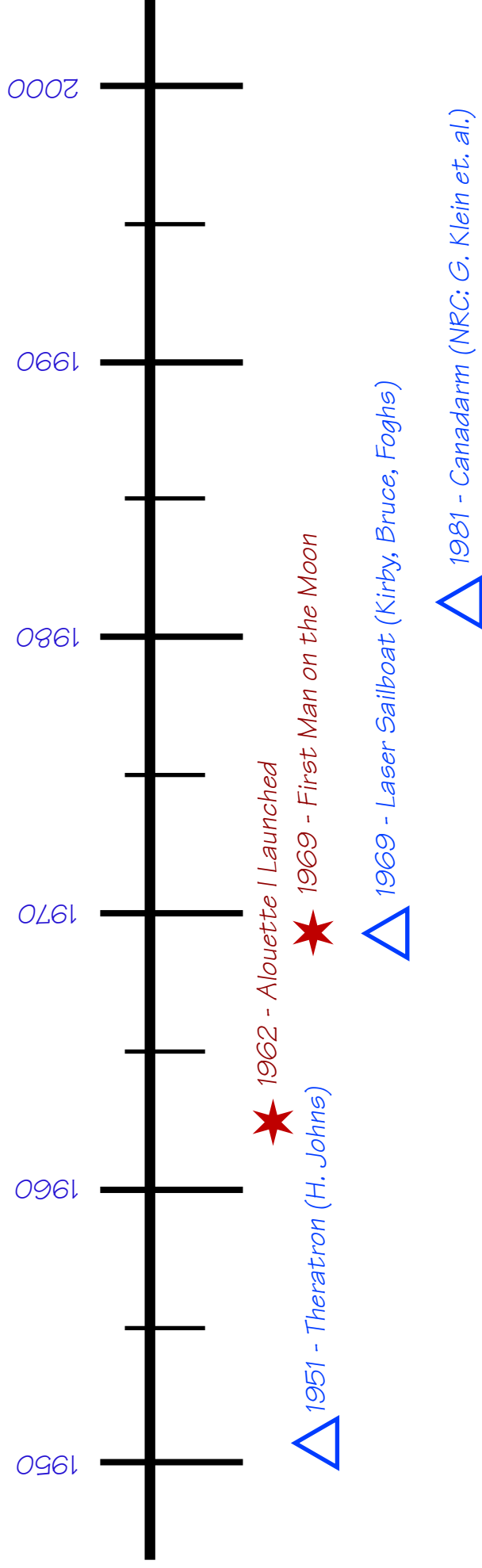
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Name: \_\_\_\_\_

Topic: \_\_\_\_\_

# Canadian Science and Engineering Hall of Fame

## Timeline



### KEY

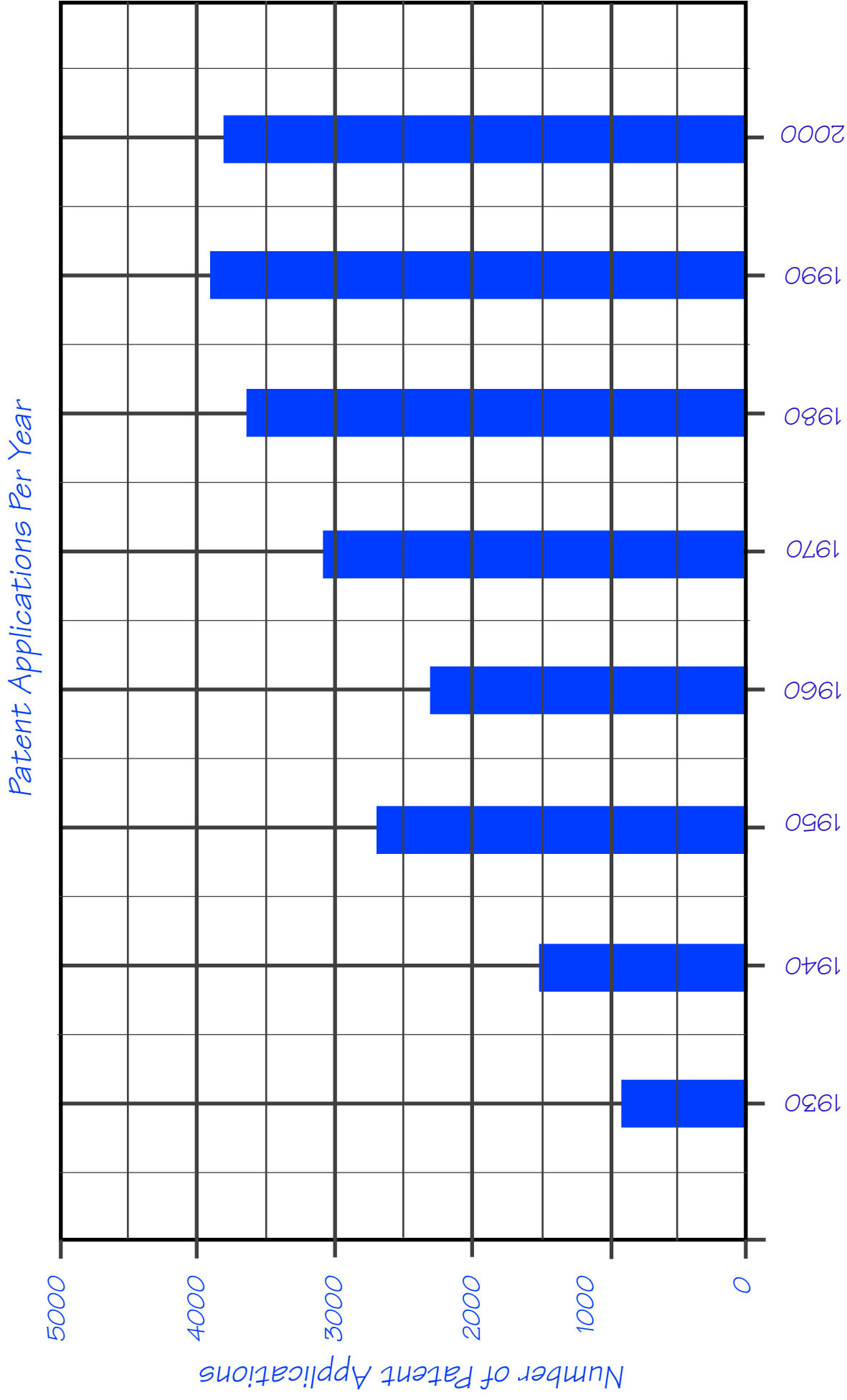
★ Important Event

△ Invention or Discovery

Name:

Topic:

# Canadian Science and Engineering Hall of Fame



Name: \_\_\_\_\_

Topic: \_\_\_\_\_

## Canadian Science and Engineering Hall of Fame

