

Restoration & Conservation of Heritage Structures & Older Buildings

**A Three-day Technical Conference
& Tabletop Trade Show**



**Crowne Plaza Hotel
Hamilton, Ontario
Tuesday ~ Thursday, 5th ~ 7th May 2009**

Restoration & Conservation of Heritage Structures & Older Buildings

CONFERENCE DESCRIPTION

Over the last few decades, professional restoration and conservation of older buildings and structures has become recognized as a “stand alone” discipline requiring very specialist knowledge and expertise ~ particularly for historically valuable and architecturally significant structures. This three-day conference will evaluate traditional construction materials and techniques and highlight the importance of understanding the impact they can have on durability aspects. Additionally, the program will examine the many advances in technology that have occurred over recent years, together with how these can provide considerable benefit to the conservation and restoration industry.

The presenters' experiences will be used for many of the topics that will be covered over the three days. Various deterioration mechanisms will be identified, together with the way in which failure to understand them can impact on the development of an effective restoration and protection strategy. Key structural aspects will also be reviewed.

Actual examples with case studies will often be used to highlight failures, defects or deterioration that can often be caused by the selection of incorrect materials and techniques.

WHO SHOULD ATTEND

The program is ideally suited for Owners, Property and Facility Managers, Engineers, Architects, Consultants, Inspectors and Technicians, Contractor's Supervisors and Foremen, Materials Suppliers' Sales and Technical Personnel and Trainees. In fact, the conference is ideally suited for anyone who wishes to understand the basic requirements for effective and long-lasting restoration and conservation of structures and buildings.

WHY YOU SHOULD ATTEND

In today's business world, reducing risk and avoiding liability are key factors that should be of great concern to everyone. The topics covered within the program have been designed to facilitate learning from the current proven state-of-the-art, so that we can learn how to avoid repeating past mistakes.

SPECIAL FEATURES

The conference topics will be presented using digital slide projection with extensive use of photographs, charts and graphs to illustrate the various topics. Presenters have been requested to provide educational information without commercial content.

MANUAL & CD ~ A purpose-designed manual for the conference ~ containing comprehensive educational information, photographs and technical data ~ will be provided to each registrant, together with a CD containing the conference binder in pdf format. The cost for both the manual and CD are included in the registration fee.

LUNCH ~ A Buffet Lunch will be provided for all three days ~ the cost of which is also included in the registration fee. Registrants are encouraged to use this opportunity to meet and greet other participants and share their masonry related experiences.

PANEL SESSIONS ~ Although questions and comments are welcomed at any time during the topic presentations, at the end of each day there will be a panel session, during which registrants will be invited to ask questions, or enter into discussions and debate. Questions to the presenters may be oral or in writing.

TABLE TOP TRADE SHOW ~ In conjunction with the Conference, a table top “no frills” Trade Show will be held for attendance by registrants before and after the conference presentations and at breaks. Companies may register to exhibit at the Trade Show by completing and submitting the registration form.

INSPECTION TOUR ~ The conference location is a short drive from the Cathedral of Christ the King and associated Diocese of Hamilton buildings. A walking tour will take place during the second day to inspect these magnificent buildings and examine many of the features discussed during the conference program.

ATTENDANCE ~ Attendees may register for either two-days or three-days (Please note: hand-out materials will only be provided for the days of attendance) Group discounts are available - Space is limited, so please register early.

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PROGRAM

Day One ~ Tuesday, 5th May 2009

8.00 - 8.30 Registration- Muffins, Danish, Tea & Coffee provided

8.30 **Welcome & Introductions ~ Paul Jeffs, PJ Materials Consultants Ltd**

8.45 **Masonry Defects and Deficiencies - Types and Causes ~ Paul Jeffs**

Deterioration and damage of masonry often begins early in its life with poor detailing and/or inadequate construction practices, but can continue to be accelerated by inappropriate restoration materials and practices. This opening presentation reviews many examples of masonry deterioration caused by poor design and practices - including those concerning flashings, weepers, shelf-angles, waterproofing, etc - and highlights details that provide better durability. Examples of inappropriate original and restoration materials and practices are also discussed.

10.00 *Coffee & Conversation ~ Please visit the Table Top Trade Show*

10.30 **Designing & Implementing a Restoration Strategy ~ Paul Jeffs**

Successful conservation and restoration of heritage structures depends on many factors, each as important as the other. This presentation evaluates the fundamental principles that are essential for the development of effective remedial strategies. Factors affecting inspection, diagnosis and cause analysis, as well as material and method determination will be discussed. Non-destructive testing and monitoring techniques that can provide valuable information during the investigative process will also be discussed.

12.00 *Working Lunch Break ~ Please visit the TableTop Trade Show*

1.00 **Re-Roofing Options & Considerations ~ Philip Hoad, Applied Roof Technology Ltd**

Although traditional roofing materials have typically provided long service, older buildings will eventually require re-roofing. This presentation examines the options that should be considered when materials and methods for re-roofing are under evaluation. In particular, material options will be discussed, including slate, tile, wood, metal and artificial mediums, together with critical considerations affecting their selection.

2.00 **Grouting Destabilized Core Rubble Masonry - The Old and the New ~ Paul Jeffs**

The destabilization of older walls due to the deterioration of the inner core rubble - between the exterior and interior wythes of masonry - can be a major concern, and the remedy is often to grout hidden voids within the loosely bound rubble. Consolidation strategies and techniques must be sensitive to the need to satisfactorily fill the voids using adequate pressure, while maintaining the integrity of the masonry - both during and after the grouting operations. This presentation will review traditional grouting methods as well as modern materials and techniques that are available for effective consolidation and actual case histories will be used. The presentation will also evaluate the many factors that should be considered, including structural stability and pumping techniques, as well as grout materials and mix design.

3.00 *Coffee & Conversation ~ Please visit the Tabletop Trade Show*

3.30 **Wall Anchoring, Reinforcing & Stabilizing Systems ~ Stephen Franks, Blok-Lok Limited**

This presentation evaluates the options and considerations that should be evaluated when faced with the need for stabilizing and/or strengthening heritage structures and older buildings that have suffered from damage caused by overload, differential movement, inner core rubble or collar joint deterioration, missing or corroding wall ties and anchors, etc. Available systems are discussed together with key factors that should be considered.

4.30 **Panel Discussions, Questions & Debate ~ All Available Presenters**

Although questions are welcomed at any time during the presentations, this forum is provided to facilitate discussions relating to any of the topics discussed during the day. Questions or comments may be made orally or in writing.

5.00 *Close of Day One*

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Day Two ~ Wednesday, 6th May 2009

- 8.30 **Repointing Masonry Walls - Matching the Techniques for Success or Disaster ~ Paul Jeffs**
The incorrect selection of materials and techniques for repointing has the potential to accelerate the deterioration of masonry structures more than any other process - apart, perhaps, from incorrect cleaning practices. This presentation evaluates the choices of mortar and repointing techniques that can have adverse effects - or can provide effective long term performance.
- 10.00 *Coffee & Conversation ~ Please visit the Table Top Trade Show*
- 10.30 **Damaged Masonry Units - Should They be Replaced, Repaired or Strengthened? ~ Paul Jeffs**
Badly deteriorated masonry units are often left unrestored as part of a restoration strategy which attempts to maintain the weathered appearance of older buildings - particularly if they are classified as heritage structures. However, to maintain durability, selected repair is sometimes a justifiable option while, on other occasions, replacement is the best course of action. This presentation evaluates the key factors to be considered in the decision making process and explores techniques - old and new - which can be used to repair or strengthen masonry units and retard the decaying process.
- 11.15 **Prepackaged Mortars for Heritage Masonry ~ Scott Pearson, King Packaged Materials Company**
Modern restoration and conservation practices often require traditional materials to be used for sensitive masonry fabrics. This can present challenges when selecting mortars for such techniques as re-pointing, bedding and pointing, re-surfacing and repair and other applications - particularly when requirements for colour matching, air entrainment, reproducibility, etc are important. This presentation examines the role that prepackaged materials can play in achieving the desired results, evaluates the benefits provided and reviews factors that should be considered.
- 12.15 *Working Lunch Break ~ Please visit the TableTop Trade Show*
- 1.15 **Preservation & Restoration of Traditional Windows ~ Arthur J Femenella, Femenella & Associates**
This presentation examines critical considerations for the preservation and restoration of traditional windows and their functional and decorative features. Techniques and procedures for consideration when faced with the challenges of deteriorating valuable glazing are discussed, particularly stained and painted glass, together with the impact of modern protective glazing.
- 2.15 **Panel Discussions, Questions & Debate ~ All Available Presenters**
Once again, this forum is provided to facilitate discussions relating to any of the topics discussed during the day. Questions or comments may be made orally or in writing.
- 3.00 *Coffee & Conversation ~ Please visit the Table Top Trade Show*
- 3.30 **Tour of Cathedral of Christ the King, (interior and exterior) and the Exterior of the Bishop's Residence & Rectory**
The Diocese of Hamilton has kindly given permission for conference registrants to tour the complex to review examples of the challenges facing the designer and practitioner when deterioration of the exterior fabric has occurred. Previous restoration work will be highlighted, as well as current and future planned work.
- 5.00 *Close of Day Two*

CONFERENCE LOCATION

Crowne Plaza Hamilton
150 King Street East, Hamilton, Ontario, Canada, L8N 1B2
Toll Free: 1-888-528-3451 Phone: 905-528-3451 Fax: 905-522-2281

Located between main intersections John Street North & Wellington Street
For map please google map the address or use the location page on the hotel web-site
<http://www.cphamilton.com>

Attendees at the Conference are responsible for their arrangements for overnight accommodation.
The Crowne Plaza rate for attendees is \$139.00 for a standard room.
Please quote attendance at the conference to secure this rate.

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Day Three ~ Thursday, 7th May 2009

8.30 Cleaning Masonry - The Benefits and the Cautions ~ Paul Jeffs

Some experts claim that if masonry cleaning cannot be undertaken without strong justification it should not take place at all. However, there are many occasions when cleaning is justified and the most important consideration then surrounds the selection of a system which effectively does the job without damaging the underlying fabric. This presentation examines the principles surrounding the decision making process, evaluates traditional cleaning, and looks at the latest techniques.

9.15 Considering Structural Aspects & Implications ~ Will Teron, Tacoma Engineers

Damage, deterioration and defects within the exterior fabric of buildings and structures can often be caused by structural inadequacies. For example, a structural deficiency can sometimes cause cracking which subsequently leads to poor durability. For example, sometimes insidious corrosion of hidden metal components or embedments can be contributing to problems that may eventually become more serious.

10.15 Coffee & Conversation ~ Please visit the Tabletop Trade Show

11.00 Protective Surface Treatments - the Facts and the Fiction ~ Christopher Perego, BASF

The practice of applying sealers and coatings to masonry has not been widely acclaimed by many experts. In addition, past treatments have often caused more problems than they have resolved. However, modern penetrating, "breathable" sealer technology can provide excellent protection without harmful side effects - and some surface coatings can beautify otherwise drab and weathered concrete masonry, while bridging cracks and permitting adequate moisture vapour emission. This presentation examines why prejudice against treatments exists today and attempts to provide assurances that may justify increased use in the future - for certain situations - while also highlighting the dangers associated with incorrect selection.

12.00 Working Lunch Break ~ Please visit the TableTop Trade Show

1.00 Addressing the Result instead of the Cause ~ Paul Jeffs

This presentation highlights the oldest reinforced concrete lighthouse in North America as an example of how addressing the result of deterioration of some structures - instead of analysing the causes of the problem - can often fail to provide the answer. The case study documents the history of the construction and restoration of the lighthouse since the beginning of this century and uses the strategies discussed to illustrate some interesting aspects that can be applied to almost all masonry structures requiring restoration.

2.00 Putting Theory into Practice - Some Case Studies ~ Paul Jeffs

This presentation concludes the conference by highlighting actual projects that have applied the theories and technologies illustrated by the various presentations that have been covered within the program. The studies will illustrate all stages of project specific restoration, including the investigation stage, the development of the restoration strategies and the way in which the work was carried out. Completed in 2008, the Church of Our Lady Phase I - Tower Restoration project in Guelph will be just one of several projects included as a case

3.00 Coffee & Conversation ~ Please visit the Tabletop Trade Show

3.30 Putting Theory into Practice - Some Case Studies ~ continuation

4.00 Panel Discussions, Questions & Debate ~ All Available Presenters

This final forum is provided to facilitate discussions relating to any of the topics discussed during the day. Questions or comments may be made orally or in writing.

4.30 Close of Conference

NOTE: Every attempt will be made to meet the program schedule for timing. However, the actual length of each presentation will depend upon the number of questions raised by the attendees. The actual time of conference daily closing may therefore be extended if required. The order of presentations is also subject to change should poor weather interfere with the timing of the planned tour.

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PRESENTERS



Paul Jeffs

Paul Jeffs, PJ Materials Consultants Ltd ~ With over 40 years in construction related industries, Paul is an independent consultant who for the last 20 years has specialized in providing technical advice and services for the design, construction, restoration and protection of concrete and masonry structures. Paul provides courses across Canada for Dalhousie University's College of Continuing Education and is also a lecturer for the University of Toronto's Professional Development Centre, presenting modules which cover concrete and masonry for its Building Science Certificate Program. He also regularly presents public and in-house courses in the Middle East and has been a guest lecturer for several Canadian universities and associations. He has been a speaker at many conferences and has authored or co-authored numerous technical articles.

Will Teron, Tacoma Engineers ~ With over 20 years of engineering, construction and business experience, Will brings a practical and tested outlook to all his projects. His education includes a degree in Civil Engineering from University of Waterloo and a BA (Economics) from University of Western Ontario. Will leads his company's structural investigation projects, and has been involved in the assessment and restoration of many heritage landmark properties where the fusion of hard engineering science, construction knowledge and heritage restoration techniques is critical to developing holistic solutions. Will is actively involved with the restoration and conservation professional community and has recently been accepted as an Expert Member of the International Committee on Analysis and Restoration of Structures of Architectural Heritage, a Scientific Committee of ICOMOS.



Will Teron



Stephen Franks

Stephen Franks, Blok-Lok Limited ~ Stephen has more than 30 years experience in the construction industry. Graduating as an engineer in England, Stephen spent four years in the Middle East where he established a formwork rental company, and almost twenty years in South East Asia where his business evolved into a design and build construction company specializing in medium rise condominiums, and high rise commercial and industrial buildings. Since 2002, Stephen has been working with Blok-Lok Limited to develop their range of solutions for the restoration market. Drawing on his vast experience of problems encountered during construction, and using his inherent pragmatic approach, Stephen has been responsible for developing economic solutions to the many challenges encountered in a wide spectrum of buildings from historical restorations, to veneer stabilization of hurricane damaged facades.

Arthur J Femenella ~ Femenella & Associates. The president of the firm, based in Branchburg, New Jersey, Arthur (Art) has 32 years of hands on experience restoring thousands of stained glass windows, doors, panels, and artifacts. These projects have included works by Louis Comfort Tiffany, John LaFarge, Frank Lloyd Wright, Maitland Armstrong, and other artists of equal importance. Art enjoys solving difficult problems, especially when the objective is to restore beauty and grace to a work that has been ravaged by time and the elements. His responsibilities on projects has been as consultant or project manager, and often the hands-on work of a conservator. Art's practical experience, strong science background, and creative problem solving abilities make him unique in his field.



Arthur Femenella

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Scott Pearson

Scott Pearson, King Packaged Materials Company ~ has worked as a Technical Sales Representative for the organization since 2001. During this time he has developed a strong knowledge of restoration technology. He spends much of his time providing on-site technical assistance to construction and civil engineering clients in Ontario and the United States. Scott sits on the Board of Directors for the Building and Concrete Restoration Association of Ontario and is Vice President of the International Concrete Repair Institute, Michigan Chapter. King is a leading manufacturer of pre-packaged masonry mortars, shotcrete, grout and concrete repair mixes and participates in major masonry restoration projects in Ontario, Quebec and the Maritimes.

Philip Hoad, Advanced Roof Technology ~ Philip has been in the roofing industry as a manufacturer, contractor and consultant for over 25 years, having worked in both the private and public sectors. In the public sector he worked with Public Works and Government Services Canada and Parks Canada at The Fortress of Louisbourg National Historic Site in Nova Scotia. He has extensive practical and technical experience in historic roofing and flashings with particular knowledge and skills in the traditional materials of Slate, Tile and Wood Roofing along with all types of Sheet Metalwork. Philip holds a bachelors degree from Greenwich University in London, England. He is a professional member of the Canadian Association of Heritage Professionals (CAHP) and the Association for Preservation Technology International (APTI), and has presented numerous seminars and demonstrations on heritage roofing and materials in both Canada and the USA. He currently resides in Wolfville, Nova Scotia.



Philip Hoad



Christopher Perego

Christopher Perego, BASF ~ Christopher has worked in the construction industry for 18 years. He is the Market Segment Manager for Building Restoration and Façades at BASF Construction Chemicals, where he is responsible for strategy and market development. Residing in the Minneapolis area, Christopher holds a bachelors degree from the University of Wisconsin. Throughout his career, Christopher has focused on protection and repair of concrete and masonry structures. He is an active member of SWRI, ACI, ICRI and CSI and he serves on the Board of Directors for the Twin Cities Chapter of CSI. Christopher is a frequent speaker at various industry events, including PACE 2008, the ICRI Fall 2008 Conference and ArcUS 2008.

TRADE SHOW DISPLAY REGISTRATION

REGISTRATION FEE

\$1,200.00 for three days + 5% GST (\$60.00) = \$1,260.00

Fee includes for one 8 x 4 table and conference registration for one person (please name below)

Additional attendees should register using the Conference Registration Form

Group discounts only apply for additional attendees

Attendee should remain on site for full conference

Registration Form

Company: _____

Mailing Address: _____

Postal Code: _____ Bus. Phone: _____ Fax: _____ Email: _____

Name of Attendee _____

Last Name

First Name

Initials

Position: _____

CONFERENCE REGISTRATION

Please photocopy this form and complete for each registrant.
Space is limited, so please register early ~ Late registrations may be
faxed or emailed, with payment mailed or presented at registration

Attendees may register for any two days or for the full three days ~ please
confirm the days of attendance to facilitate meal preparation

Please make your cheque payable to:
PJ MATERIALS CONSULTANTS LTD
and mail to:

11 Wagoners Trail, Guelph, Ontario N1G 3M9

CONFERENCE REGISTRATION FEE

\$625.00 for two days + 5% GST (\$31.25) = \$656.25

\$875.00 for three days + 5% GST (\$43.75) = \$918.75

Fee includes conference materials and lunches

GROUP DISCOUNTS

5% Discount ~ when two people from the same organization register *at the same time*

10% Discount ~ when three people from the same organization register *at the same time*

15% Discount ~ when four or more people from the same organization register *at the same time*

NOTE: The above discounts cannot be combined ~ Lowest qualified discount only will apply

(Examples of registration fee totals are shown below)

Registration Form

Dr. ☐ Mr. ☐ Mrs. ☐ Ms ☐ _____
Last Name First Name Initials

Mailing Address: Business ☐ Residence ☐ _____

Postal Code: _____ Bus. Phone: _____ Res. Phone: _____

Fax: _____ Email address: _____

Employer: _____ Position: _____

I will attend: Tuesday ☐ Wednesday ☐ Thursday ☐

Please check which two days or all three days

I will attend with _____ other person/s

For two or more registrations, fees need
only be detailed on one completed form

Group Discounted Registration Fee Calculations

2 people for 2-days = 2 x \$625.00 x 95% + 5% GST (\$59.37) = \$1,246.87
2 people for 3-days = 2 x \$875.00 x 95% + 5% GST (\$83.12) = \$1,745.62
3 people for 2 days = 3 x \$625.00 x 90% + 5% GST (\$84.37) = \$1,771.87
3 people for 3 days = 3 x \$875.00 x 90% + 5% GST (\$118.12) = \$2,480.62
4 people for 2 days = 4 x \$625.00 x 85% + 5% GST (\$106.25) = \$2,231.25
4 people for 3 days = 4 x \$875.00 x 85% + 5% GST (\$148.75) = \$3,123.75

Total = \$ _____