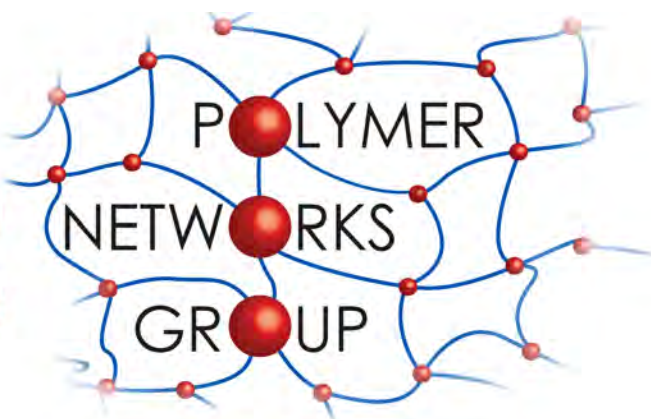




PNG2016

Stockholm, June 19-23



23rd Polymer Networks Group meeting Programme and Book of Abstracts



#png2016atKTH

Cover photos by:
Kungl. Ingenjörsvetenskapsakademien
Yanan Li



SUMITOMO BAKELITE CO., LTD.



Carmeda



Beckers

Welcome to PNG2016!

Dear Colleagues,

It is a great pleasure for me to deliver the greeting to the 23rd Polymer Networks Group Meetings, PNG2016, Stockholm.

Founded in 1975, PNG is an independent international organization for the promotion of international contacts and stimulation of research in the important field of polymer networks. This is mainly done through PNG biannual meetings, which, during the past four decades, have brought into contact a large number of scientists and engineers from many countries, and stimulated scientific exchanges between the East and the West.

PNG Meetings have a long history over 40 years, starting in 1975 jointly at CRM Strasbourg by Profs. H. Benoit, G. Hild and at Freiburg by Profs. W. Burchard, H. J. Cantow. Please note that 1975 was the next year Prof. Paul J. Flory was awarded to Nobel Prize in Chemistry (1974). It is well known that Prof. Flory was one of the pioneers of chemistry and physics of polymer networks, such as theories of gelation, rubber elasticity, swelling equilibrium. He himself gave distinguished contributions to PNG meetings. Since then, polymer science became a world-wide well-recognized science, and the science on polymer networks did too. PNG meetings have been a gateway-to-success as well as saloon for the community of scientists interested in polymer networks.

Today, sciences and technologies on polymer networks are growing rapidly, covering not only fundamental chemistry and physics, but also biology, pharmacy, agriculture, medicine, food science, civil engineering, and so on. Furthermore, interdisciplinary sciences related to polymer networks have shed a light in various fields of sciences and industries.

Last, but not the least, I would like to express my sincere thanks to the chairman of PNG2016, Prof. Eva Malmström Jonsson and the members of the organizing committee.

Mitsuhiro Shibayama
Professor
Chairman PNG
The University of Tokyo, Japan
www.polymernetworksgroup.org



Organization

Organizing committee

Eva Malmström (Chair)
KTH Royal Institute of Technology, Sweden

Linda Fogelström (Co-chair)
KTH Royal Institute of Technology, Sweden

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DTU, Denmark

Bjørn Torgeir Stokke
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General information

Scientific programme

Plenary lectures, keynote lectures and oral presentations, as well as the poster session, will be held in close proximity to each other in the E-building, entrance from Lindstedtsvägen 3 or Osquars backe 2. Poster contributions are welcome. The size of the poster screens is 90 x 190 cm (portrait; W 90 cm, H 190 cm). Posters presenters are encouraged to put up their posters already on Monday June 20 and leave them up until the closing of the conference.

Exhibition

The exhibition will be held in close proximity to the conference in the E-building, entrance from Lindstedtsvägen 3 or Osquars backe 2.

Lunches

Conference lunches will be served at Restaurant Q, Osquardas väg 4.

Coffee breaks

Coffee breaks will be held in the mornings and in the afternoons in close proximity to the conference in the E-building, entrance from Lindstedtsvägen 3 or Osquars backe 2.

Travel information

Information about local transportation: buses, metro (“tunnelbana”), commuter trains (“pendeltåg”).

How to travel with bus/metro/commuter trains:

Option 1: Buy an electronic card and load any number of single tickets or passes (24 h, 48 h, 72 h, weekly passes). Electronic cards are 20 SEK to buy (debit or credit card only) at SL Center (T-Centralen station and other major stations like Slussen, Fridhemsplan, and Tekniska högskolan), as well as in convenience stores such as Pressbyrån inside the train stations (always check for the SL logo!).



Option 2: Buy a single ticket at a vending machine in the stations within Stockholm (debit or credit only, no cash).

Option 3: Buy tickets at the metro/commuter train booth (more expensive than Option 1).

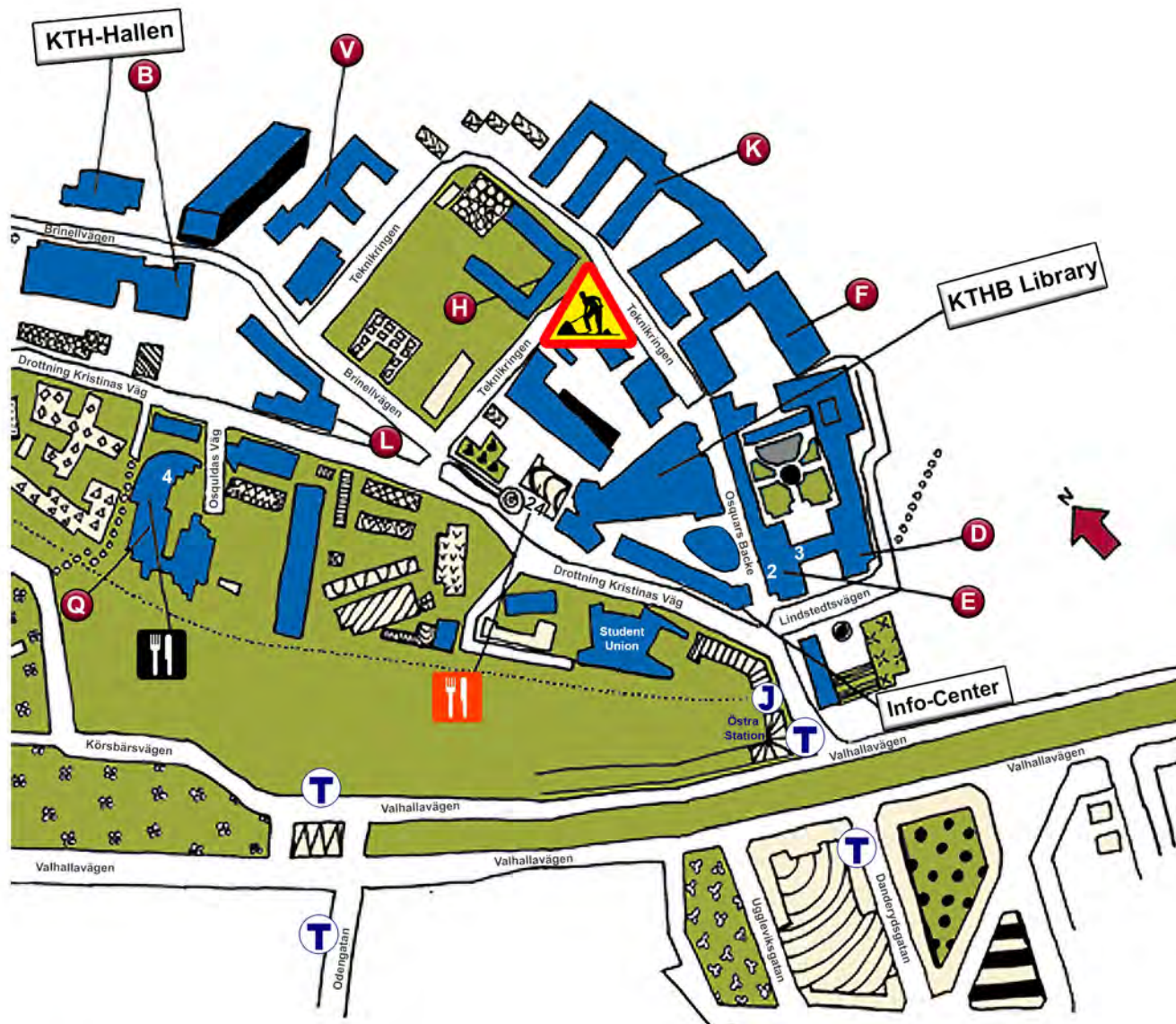
How to plan your journey (enter either a metro station or an address): www.sl.se/en/








Internet access

To gain internet access please find the network “KTH Conference”.

Use the password “hHgF3bSa” to log in.

Map KTH Campus



-  The E-building,
 Presentation programme and poster session, floor 2
 Enter from Lindstedtsvägen 3 or Osquars backe 2
-  The Q-building
 Conference lunches will be served at "Restaurang Q"
 Enter from Osqudas väg 4
-  Syster O Bror
 Get Together will take place here
 Enter from Drottning Kristinas väg 24
-  Metro entrance
 When arriving, please follow directions towards **Tekniska högskolan**
-  Commuter train entrance
-  Construction Site

Social programme

Get-together

On Sunday, June 19, there will be a get-together at 18.00 at the restaurant "Syster O Bror", Drottning Kristinas väg 24, on KTH Campus.

<http://www.systerobror.se/>

Reception in the Stockholm City Hall

On Monday, June 20, the City of Stockholm is hosting a reception in the Stockholm City Hall to honour the Conference delegates.

The Stockholm City Hall, situated in the heart of Stockholm city at Hantverkargatan 1, is probably the city's most famous landmark with its 106 meter high tower, created by the architect Ragnar Östberg, featuring the Swedish coat of arms, three crowns, on top. The City Hall was inaugurated on Midsummer's Eve in 1923 and is considered as one of the prime examples of national romantic spirit in Sweden. It is the home of the Municipal Council but also the host of hundreds of events and celebrations each year. The most famous event hosted in the City Hall is the world famous Noble Prize Banquet, which is held each year on December 10 in the magnificent Blue Hall.

The reception organized for PNG2016 is free of charge but you will have to bring the ticket which is provided upon arrival to Stockholm.

Poster session

On Tuesday, June 21, there will be a poster session with snacks and refreshments, organized in close proximity to the Conference on Campus KTH.

Conference dinner

On Wednesday, June 22, the PNG2016 Conference dinner will take place at Tekniska museet, Museivägen 7.

Travel directions

To City Hall (Stadshuset) from Tekniska högskolan (KTH):

Address to City Hall: **Hantverkargatan 1, Stockholm**

Take the metro, red line 14 towards Fruängen going south from Tekniska högskolan.
Exit at T-centralen and take the escalators up to Centralstationen, Vasagatan.
Walk to Hantverkargatan 1 or take bus 50 going towards Hornsberg at bus stop Centralen (Vasagatan) outside the entrance of Centralstationen.
Exit the bus at stop **Stadshuset** (next stop after Centralen).

To Tekniska museet:

Address to Tekniska museet: **Museivägen 7, Stockholm**

- From T-centralen and Centralstationen:

Take bus 69 going towards Blockhusudden/Kaknästornet from bus stop Centralstationen (Klarabergsviadukten). Exit at bus stop **Museiparken**.

- From Tekniska högskolan/Östra station (KTH):

Take bus 67 from Östra station across the street (Valhallavägen) from KTH towards Skansen.
Exit at bus stop Strandvägen.
Cross Strandvägen to the bus stop and take bus 69 towards Blockhusudden/Kaknästornet.
Exit at bus stop **Museiparken**.

Conference programme

SUNDAY June 19

18.00 - ca 20.00 Get-together, Restaurant Syster O Bror

MONDAY June 20

08.00 - 09.00 Registration
09.00 - 09.30 Opening, E1
09.30 - 10.15 Plenary lecture, E1
10.15 - 10.45 Coffee
10.45 - 12.05 Oral presentations, E1 & E2
12.05 - 13.20 Lunch
13.20 - 14.05 Plenary lecture, E1
14.05 - 14.35 Keynote lecture, E1
14.35 - 14.40 Break
14.40 - 15.20 Oral presentations, E1 & E2
15.20 - 15.50 Coffee
15.50 - 16.35 Plenary lecture, E1
16.35 - 17.05 Keynote lecture, E1
17.05 - 17.25 Oral presentations, E1
18.30 - Reception, City Hall

TUESDAY June 21

09.00 - 09.45 Plenary lecture, E1
09.45 - 10.15 Keynote lecture, E1
10.15 - 10.45 Coffee
10.45 - 12.05 Oral presentations, E1 & E2
12.05 - 13.20 Lunch
13.20 - 14.05 Plenary lecture, E1
14.05 - 14.35 Keynote lecture, E1
14.35 - 14.40 Break
14.40 - 15.20 Oral presentations, E1 & E2
15.20 - 15.50 Coffee
15.50 - 16.35 Plenary lecture, E1
16.35 - 17.35 Oral presentations, E1
17.45 - 19.45 Poster session

WEDNESDAY June 22

09.00 - 09.45	Plenary lecture, E1
09.45 - 10.15	Keynote lecture, E1
10.15 - 10.45	Coffee
10.45 - 12.05	Oral presentations, E1 & E2
12.05 - 13.20	Lunch
13.20 - 14.05	Plenary lecture, E1
14.05 - 14.35	Keynote lecture, E1
14.35 - 15.05	Keynote lecture, E1
15.05 - 15.35	Coffee
15.35 - 17.15	Oral presentations, E1 & E2
19.00 -	Conference dinner

THURSDAY June 23

09.00 - 09.45	Plenary lecture, E1
09.45 - 10.15	Keynote lecture, E1
10.15 - 10.45	Coffee
10.45 - 11.45	Oral presentations, E1
11.45 - 12.05	Closing
12.05 - 13.20	Lunch

Detailed conference schedule

Monday, June 20

08.00 - 09.00	Registration	
Opening/Plenary session, E1 <i>Chair: Eva Malmström</i>		
09.00 - 09.30	Opening Prof. Per Berglund, Vice Dean of Faculty	
09.30 - 10.15	PL-1 Mitsuhiro Shibayama <i>"Exploration of Ideal Polymer Networks"</i>	
10.15 - 10.45	Coffee	
Oral session I, E1 <i>Chair: Dominique Hourdet</i>		Oral session II, E2 <i>Chair: Olga Philippova</i>
10.45 - 11.05	O-1 Li Jia <i>"Particulate Beta-Sheet Nanocrystal-Reinforced Supramolecular Elastomers"</i>	O-5 Ferenc Horkay <i>"Gel-like Properties of Cartilage Proteoglycans"</i>
11.05 - 11.25	O-2 Anders Egede Daugaard <i>"Thiol-ene thermosets exploiting surface reactivity for layer-by-layer structures and control of penetration depth for selective surface reactivity"</i>	O-6 Bjørn Torger Stokke <i>"A new strategy for ionotropic alginate gelation applied in microfluidic assisted homogeneous bead synthesis and cell immobilization"</i>
11.25 - 11.45	O-3 Karel Dusek <i>"Polymer Networks from Nanosized Multifunctional Precursors"</i>	O-7 Stevin Gehrke <i>"Chitin-binding proteins induce bi-macromolecular microparticle formation: inspirations from insect cuticle for hierarchical self-assembly"</i>
11.45 - 12.05	O-4 Xiang Li <i>"Dynamics of nano-particles in polymer networks near gelation point"</i>	O-8 Oshiaki Yuguchi <i>"Structural formation and gelation of neutral polysaccharides as observed by small angle X-ray scattering"</i>
12.05 - 13.20	Lunch	
Plenary/Keynote session, E1 <i>Chair: Ferenc Horkay</i>		
13.20 - 14.05	PL-2 Béla Iván <i>"Amphiphilic Conetworks as a New Material Platform of Bicontinuous Nanophasic Macromolecular Assemblies, Intelligent Gels and Unique Organic-Inorganic Nanohybrids"</i>	
14.05 - 14.35	K-1 Filip Du Prez <i>"New Generation of Vitrimers: Permanent Polymeric Networks with Glass-like Fluidity"</i>	
14.35 - 14.40	Break	
Oral session I, E1 <i>Chair: Mikael Hedenqvist</i>		Oral session II, E2 <i>Chair: Anders Egede Dugaard</i>
14.40-15.00	O-9 Miroslava Duskova-Smrckova <i>"Interpenetrating Network Hydrogels: Roles and Fates of Network 1 and Network 2"</i>	O-11 Orsolya Czakkell <i>"Mechanical and thermoresponsive properties of PNIPA - graphene-oxide composite gels"</i>
15.00 - 15.20	O-10 Bradley Olsen <i>"Anomalous Self-Diffusion in Physical Polymer Gels"</i>	O-12 Pitchaya Treenate <i>"Crosslinker Effects on Properties of Hydroxyethylacryl Chitosan/Sodium Alginate Hydrogel Films"</i>
15.20 - 15.50	Coffee	

Plenary/Keynote session, E1

Chair: Heikki Tehnu

15.50 - 16.35

PL-3 James Lewicki

"A Multi-scale Experimental and Computational Approach to Studying Network Dynamics in Complex Polysiloxane Elastomers"

16.35 - 17.05

K-2 Jürgen Groll

"Dynamic Polymer Networks for Biofabrication: General Strategies and Specific Examples"

Oral session, E1

Chair: Heikki Tehnu

17.05 - 17.25

O-13 Nobuyuki Takahashi

"Mesoscopic structural order in hydrogen bonding liquid"

18.30 -

Reception, City Hall

Tuesday, June 21

Plenary/Keynote session, E1

Chair: Filip Du Prez

09.00 - 09.45	PL-4 Chi Wu <i>"Single-Particle Tracking Micro-rheometer – Magnetic Tweezer Marries Total Internal Reflection Microscope"</i>
09.45 - 10.15	K-3 Anne Skov <i>"Interpenetrating networks based on covalent and ionic networks facilitating self-healing"</i>
10.15 - 10.45	Coffee

Oral session I, E1

Chair: Kazunari Akiyoshi

Oral session II, E2

Chair: Marco Sangermano

10.45 - 11.05	O-14 Sebastian Seiffert <i>"Soft Sensitive Matter: Structure, Dynamics, and Function of Supramolecular Polymer Gels"</i>	O-18 David Diaz Diaz <i>"Gel networks as confined microenvironments for photochemical reactions that are inaccessible in solution under mild conditions"</i>
11.05 - 11.25	O-15 Patrice Bourson <i>"Advantages to do in-situ measurements by Raman spectroscopy and coupling with other techniques for the determination of physico-chemical properties of polymers"</i>	O-19 Viktor Granskog <i>"Linear-Dendritic Macromolecules as components in Biomedical Soft Tissue Adhesives"</i>
11.25 - 11.45	O-16 Juan Baselga <i>"Chemically modified hybrid thermosets: elastic behavior in"</i>	O-20 Morten Jarlstad Olesen <i>"Hydrogels as hosts for Substrate Mediated Enzyme Prodrug Therapy"</i>
11.45 - 12.05	O-17 Pierre Millereau <i>"Enhanced mechanical properties in multiple network elastomers"</i>	O-21 Felix Schacher <i>"Interface Design using Block Copolymers: Crosslinking and Interpolyelectrolyte Complexation"</i>

12.05 - 13.20	Lunch
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Plenary/Keynote session, E1

Chair: Anders Hult

13.20 - 14.05	PL-5 Dominique Hourdet <i>"Macromolecular assemblies in aqueous media: from controlled rheology of polymer solutions to mechanical reinforcement of covalent hydrogels"</i>
14.05 - 14.35	K-4 Kazunari Akiyoshi <i>"Self-Assembled Nanogel Tectonics for Advanced Biomaterials"</i>
14.35 - 14.40	Break

Oral session I, E1

Chair: Berit Løkenstrand

Oral session II, E2

Chair: Karin Odelius

14.40 - 15.00	O-22 Kenji Urayama <i>"Rheological Behavior of Dense Suspensions of Thermo-Responsive Microgels"</i>	O-24 Geng Hua <i>"Biobased hydrogels for metal ion waste water treatment"</i>
15.00 - 15.20	O-23 Tobias Ingverud <i>"Hydrogel composites of cellulose nanofibrils and thermoresponsive cationic block copolymers as electrostatic macrocrosslinker"</i>	O-25 Masaki Nakahata <i>"Highly Flexible, Tough, and Self-Healable Supramolecular Polymeric Materials Using Host-Guest Interaction"</i>

15.20 - 15.50	Coffee
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Plenary session, E1

Chair: Costas Patrickios

15.50 - 16.35

PL-6 Molly Stevens

"New polymer based approaches for biosensing and regenerative medicine"

Oral session, E1

Chair: Costas Patrickios

16.35 - 16.55

O-26 Ben Bin Xu

"A new microfluidic switch technique by controllably buckling Stimuli-responsive polyelectrolyte hydrogel thin layer"

16.55 - 17.15

O-27 Daisuke Aoki

"Synthesis of Rotaxane-Cross-Linked Polymers Using Macromolecular [2]Rotaxane Having Hydrophilic Axle Component as a Vinylic cross-linker"

17.15 - 17.35

O-28 Apichaya Jianprasert

"Study on crosslinked structure and thermal properties of polymer networks based on Tung oil and PVA with different catalytic systems"

17.45 - 19.45

Poster Session

Wednesday, June 22

Plenary/Keynote session, E1

Chair: Søren Hvilsted

09.00 - 09.45	PL-7 Francoise Winnik <i>"Biological responses to chitosans substituted with zwitterionic groups"</i>
09.45 - 10.15	K-5 Alexander Zelikin <i>"Poly(vinyl alcohol) physical hydrogels: New Vista on a Long Serving Biomaterial"</i>
10.15 - 10.45	Coffee

Oral session I, E1

Chair: Alexander Zelikin

Oral session II, E2

Chair: Anne Skov

10.45 - 11.05	O-29 Yoshinori Takashima <i>"Photo stimuli responsive supramolecular and topological materials using host-guest complexes"</i>	O-33 Zhansaya Sadakbayeva <i>"IPN hydrogels of poly(2-hydroxyethyl methacrylate) and poly(2,3-dihydroxypropyl methacrylate) with tunable deformation responses"</i>
11.05 - 11.25	O-30 Eleonora Parelus Jonasova <i>"Studying processes leading to swelling of DNA-responsive hydrogels"</i>	O-34 Constantinos Tsitsilianis <i>"Recent trends in telechelic amphiphilic gelators: the use of random copolymers as building blocks for tuning the network properties"</i>
11.25 - 11.45	O-31 Takashi Miyata <i>"Rational Design of Molecularly Stimuli-responsive Hydrogels Using Supramolecular Crosslinks"</i>	O-35 Rémi Absil <i>"Ultrafast gelation of injectable reactive microgels: The power of TAD click chemistry"</i>
11.45 - 12.05	O-32 Heikki Tenhu <i>"Gold-decorated poly(N-vinylcaprolactam) gel particles"</i>	O-36 Stevin Gehrke <i>"Engineering glycosaminoglycan hydrogels to control swelling, moduli and fracture properties"</i>

12.05 - 13.20	Lunch
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Plenary/Keynote session, E1

Chair: Bjørn Torgeir Stokke

13.20 - 14.05	PL-8 Olli Ikkala <i>"Supramolecular functionalization of molecular and colloidal networks"</i>
14.05 - 14.35	K-6 Jacqueline Forcada <i>"Multi-stimuli-responsive nanogels for bio-applications"</i>
14.35 - 15.05	K-7 Marco Sangermano <i>"Cationically UV-cured functional polymeric networks"</i>
15.05 - 15.35	Coffee

Oral session I, E1 <i>Chair: Mats Johansson</i>		Oral session II, E2 <i>Chair: Miroslava Duskova-Smrckova</i>	
15.35 - 15.55	O-37 Chris Lowe <i>"Modelling Thermo-mechanical Aspects of Thermosetting Polymers and How Monomer Composition Impacts Properties"</i>	O-42 Olga Philippova <i>"Self-assembled nanogels of chitosan"</i>	
15.55 - 16.15	O-38 Per-Erik Sundell <i>"Multilayer coil coating - placing properties"</i>	O-43 Sami Hietala <i>"UCST-LCST double thermosensitive block copolymers"</i>	
16.15 - 16.35	O-39 Steve Howdle <i>"Acrylate and Methacrylate Polymers and Coatings Derived from Terpenes"</i>	O-44 Sada-Atsu Mukai <i>"Ring shape formation of nanogel-crosslinked materials by using non-equilibrium process"</i>	
16.35 - 16.55	O-40 Dirk W. Schubert <i>"Magnetic Liquid Silicone Rubber"</i>	O-45 Gaio Paradossi <i>"Temperature tuning of hybrid nanogels surfaces"</i>	
16.55 - 17.15	O-41 Aslihan Argun <i>"Nonionic Double and Triple Network Hydrogels"</i>	O-46 Aleksey Drozdov <i>"Structure-property relations for equilibrium swelling of cationic polyelectrolyte hydrogels"</i>	
19.00 -	Conference dinner, Tekniska museet		

Thursday, June 23

Plenary/Keynote session, E1

Chair: Mitsuhiro Shibayama

09.00 - 09.45	PL-9 Zhigang Suo <i>"Hydrogel as Tough Water"</i>
09.45 - 10.15	K-8 Berit Løkensgard Strand <i>"Tailoring alginates for tissue engineering applications by chemoenzymatic modification"</i>
10.15 - 10.45	Coffee
Oral session, E1 Chair: Michael Malkoch	
10.45 - 11.05	O-47 Tim Bowden <i>"Nucleophilic Polymers - formation of hydrogels, particles and scavenging of inflammatory mediators"</i>
11.05 - 11.25	O-48 Martin Wåhlander <i>"Next-Generation Matrix-Free Graphene Composites with Tuneable Orientation and Shape-Memory Effect"</i>
11.25 - 11.45	O-49 Jean-Paul Chapel <i>"Early Stage Kinetics and structure of Polyelectrolyte Complexes Studied by Stopped-Flow and Neutron scattering"</i>
11.45 - 12.05	Closing session, E1
12.05 - 13.20	Lunch