

MODELING, IDENTIFICATION AND CONTROL

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The number of articles in each issue will vary, but the number of pages in each issue will never be less than 32.

MIC STATISTICS NOVEMBER 2009

OVERALL STATISTICS SINCE 1980 INCLUDING CURRENT ISSUE

| | |
|---|-----|
| Total Number of Articles | 443 |
| Number of Unique Authors | 472 |
| Number of Unique Research Institutions | 115 |
| Number of Authors with More than 1 Article | 121 |
| Number of Authors with More than 2 Articles | 63 |

TOP AUTHORS

| Author | Contributions |
|-------------------------------|---------------|
| 1. Jens G. Balchen 1980-2003 | 50 |
| 2. Olav Egeland 1984-2007 | 31 |
| 3. Thor Inge Fossen 1988-2009 | 29 |
| 4. Bjarne A. Foss 1983-2007 | 27 |
| 5. David Di Ruscio 1989-2009 | 15 |
| 6. Rolf Henriksen 1980-2000 | 14 |
| 7. Sigurd Skogestad 1991-2008 | 14 |
| 8. Tor A. Johansen 1992-2008 | 10 |
| 9. B. Lie, K.M. Mjelde | 9 |
| 10. K.Y. Pettersen, M. Hovd | 8 |

TOP INSTITUTIONS

| Author | Contributions |
|------------------|---------------|
| NTNU, ITK | 190 |
| SINTEF | 58 |
| NTNU, Other Dep. | 34 |
| Telemark (HiT) | 28 |
| IFE | 23 |
| NTNU, Chem. Eng. | 17 |
| ABB | 14 |
| Norsk Hydro | 14 |
| FFI | 13 |
| CMR, CESOS | 11 |

TOP DOWNLOADS 16.12.2009

| Author | DOI |
|-----------------------------|------------------------------|
| 1. H.R. Karimi | mic.2009.1.3 |
| 2. T. Perez and T.I. Fossen | mic.2009.1.1 |
| 3. C. Holden, et al. | mic.2007.4.1 |
| 4. M. Breivik, et al. | mic.2008.4.2 |
| 4. T. Perez and T.I. Fossen | mic.2008.3.2 |
| 6. S. Skogestad | mic.1997.3.1 |
| 7. D. Sui, et al. | mic.2009.1.2 |
| 7. J.G. Balchen et al. | mic.1980.3.1 |
| 9. T. Lid and S. Skogestad | mic.2008.4.1 |
| 10. E.M.B. Aske, et al. | mic.2008.3.3 |
| 10. R. Skjetne, et al. | mic.2004.1.1 |

TOP CITED ARTICLES

| ISI citations: Author | DOI |
|---------------------------------|------------------------------|
| 41: J.G. Balchen et al. | mic.1980.3.1 |
| 40: T. Larsson and S. Skogestad | mic.2000.4.2 |
| 32: T.A. Johansen and B.A. Foss | mic.1992.1.3 |
| 25: D. Kugiumtzis, et al. | mic.1994.4.1 |
| 23: S. Skogestad | mic.1997.3.1 |
| 20: S. Grimsen et al. | mic.1987.1.8 |
| 19. D. Slagstad et al. | mic.1990.4.1 |
| 19. W. Ebenhöh | mic.1980.2.2 |
| 18. B. Lillekjendlie, et al. | mic.1994.4.2 |
| 17. T. Ozanian | mic.1995.2.1 |
| 17. Z. Kowalik | mic.1981.4.2 |
| 17. D. Slagstad | mic.1981.3.1 |

WEBSITE STATISTICS

| Month | Page Loads | Unique Visits | First Visits | Return Visits | DOI 1 | DOI 2 |
|------------|------------|---------------|--------------|---------------|-------|-------|
| Nov 2009 | 1545 | 666 | 538 | 128 | 234 | 0.53 |
| Oct 2009 | 1950 | 709 | 574 | 135 | 233 | 0.53 |
| Sep 2009 | 1497 | 477 | 338 | 139 | 231 | 0.53 |
| Aug 2009 | 1037 | 285 | 214 | 71 | 217 | 0.50 |
| July 2009 | 1209 | 344 | 293 | 51 | 196 | 0.45 |
| June 2009 | 1474 | 446 | 360 | 86 | | |
| May 2009 | 2416 | 474 | 337 | 137 | | |
| Apr 2009 | 1275 | 311 | 196 | 115 | | |
| March 2009 | 2275 | 354 | 194 | 160 | | |
| Feb 2009 | 812 | 52 | 27 | 25 | | |

DOI 1 = Total number of DOI forward links for all articles

DOI 2 = Average number of DOI forward links per article

EDITORIAL

During the last 8 months every single MIC article of a total of 443 has been uploaded to the new web server. During this process, I have had the opportunity to read many of the papers and the editorials of MIC dating back to 1980. There is a wealth of information in these documents, and I hope that by making MIC available as open access, the journal will get the recognition it deserves. One article stands out during these 30 years - Jens G. Balchen, Nils A. Jenssen, Eldar Mathisen and Steinar Sælid, "A Dynamic Positioning System Based on Kalman Filtering and Optimal Control", 1980, Vol. 1, No. 3, pp. 135-163, [doi:10.4173/mic.1980.3.1](https://doi.org/10.4173/mic.1980.3.1). Not only is this paper the most cited of all MIC articles and it is currently number 7 on the top download list, but it also formed a theoretical foundation for new applications which today have grown into a significant marine industry in Norway. The paper sets a very high standard for research impact of future MIC articles.

The MIC journal is again fully updated in [ISI Web of Knowledge](#), including Vol. 30, No. 1. The journal disappeared from ISI after the transition from printed to electronic edition in 2006. ISI now collects the information about new MIC articles via the [CrossRef](#) database. New articles in MIC are also starting to appear in Google Scholar at this link: <http://scholar.google.no/scholar?hl=no&q=1890-1328>.

The current issue introduces a short statistical summary of MIC, which we will continue in the editorial sections from now on. The issue also contains a short summary of the last Servomøtet, one of the oldest control meetings in the world which has been organised continuously since the first meeting in 1954.

Geir Hovland, Editor of MIC

NEWS IN BRIEF

Through its MAROFF program, the Norwegian Research Council has recently awarded a consortium of end-users, industrial companies, and R&D institutions funding for a 3-year project on unmanned aerial systems in the Arctic, running from 2009-2011. NTNU participates through its Centre for Ships and Ocean Structures, which contributes by developing advanced guidance and control algorithms based on its previous experience with unmanned maritime vehicles. NTNU is also responsible for developing maritime object detection and tracking algorithms. Specifically, Thor I. Fossen and Morten Breivik lead the NTNU R&D effort.

Short news items for future issues can be submitted to the editorial team. We are particularly interested in news related to authors of the journal.

THE SERVO MEETING (SERVOMØTET)

The Servo Meeting (Servomøtet) was organised for (most likely) the 64th time at StatoilHydro's research centre at Rotvoll in Trondheim, 20-21 October 2009 with a total of 150 participants. Servomøtet is one of the oldest control meetings in the world which is still active, organised for the first time at FFI, Kjeller on Jan 26, 1954. In fact, the first meeting was organised three years before IFAC and four years before NFA were founded. The list of past dates and venues is shown below. Information is still missing for the Servo Meetings organised in 1955-57. If any of the readers have this information, please contact the MIC editorial team.

| | | | | | | | |
|------------------------------------|-----------------|-------------|------|----------------------------------|--------------|-------------|------|
| 1. Forsvarets Forskningsinstitutt | Kjeller | 26.01 | 1954 | 33. Norsk Hydro | Porsgrunn | 26.10-28.10 | 1978 |
| 2. NTH/SINTEF | Trondheim | 28.05-29.05 | 1954 | 34. NTH/SINTEF | Trondheim | 01.11-02.11 | 1979 |
| 3. Chr. Michelsens Institutt | Bergen | 24.11-25.11 | 1954 | 35. Chr. Michelsens Institutt | Bergen | 20.10-21.10 | 1980 |
| 4. Sentr.inst.for ind.forskning | Oslo | ??..04 | 1955 | 36. NTH/SINTEF | Trondheim | 02.11-03.11 | 1981 |
| 5. ? | | | 1955 | 37. FFI/IFE/NFA | Kjeller | 10.11-11.11 | 1982 |
| 6. ? | | | 1956 | 38. NTH/SINTEF | Trondheim | 03.11-04.11 | 1983 |
| 7. Forsvarets Forskningsinstitutt | Kjeller | 29.11 | 1956 | 39. Norsk Jernverk AS | Mo i Rana | 19.09-20.09 | 1984 |
| 8. NTH/SINTEF | Trondheim | 13.05-14.05 | 1957 | 40. NTH/SINTEF | Trondheim | 06.11-08.11 | 1985 |
| 9. ? | | | 1957 | 41. Rogaland Distriktshøgskole | Stavanger | 15.10-16.10 | 1986 |
| 10. Norsk Hydro | Herøya | 21.05-22.05 | 1958 | 42. NTH/SINTEF | Trondheim | 29.10-30.10 | 1987 |
| 11. Chr. Michelsens Institutt | Bergen | 17.10-18.10 | 1958 | 43. IFI/PFI/SI | Oslo | 17.11-18.11 | 1988 |
| 12. Forsvarets Forskningsinstitutt | Kjeller | 10.04-11.04 | 1959 | 44. NTH/SINTEF | Trondheim | 24.10-25.10 | 1989 |
| 13. NTH/SINTEF | Trondheim | 16.11-17.11 | 1959 | 45. NFT/Simrad Albtr./NFA | Kongsberg | 15.11-16.11 | 1990 |
| 14. Chr. Michelsens Institutt | Bergen | 20.06 | 1960 | 46. NTH/SINTEF | Trondheim | 07.11-08.11 | 1991 |
| 15. NTH/SINTEF | Trondheim | 20.11-21.11 | 1961 | 47. NFT/Simrad Albtr./NFA/KIH | Kongsberg | 12.11-13.11 | 1992 |
| 16. Forsvarets Forskningsinstitutt | Kjeller | 18.03-19.03 | 1963 | 48. NTH/SINTEF | Trondheim | 28.10-29.10 | 1993 |
| 17. NTH/SINTEF | Trondheim | 13.11-14.11 | 1963 | 49. NFA/Hydralift | Kristiansand | 27.10-28.10 | 1994 |
| 18. Chr. Michelsens Institutt | Bergen | 27.04-28.04 | 1964 | 50. NTH/SINTEF | Trondheim | 02.11-03.11 | 1995 |
| 19. NTH/SINTEF | Trondheim | 10.11-11.11 | 1965 | 51. NFA/HIT | Porsgrunn | 03.10-04.10 | 1996 |
| 20. Sentr.inst.for ind.forskning | Oslo (Gaugstad) | 03.10-04.10 | 1966 | 52. NFA/Statoil forskningscenter | Trondheim | 16.10-17.10 | 1997 |
| 21. Chr. Michelsens Institutt | Bergen | 24.04-25.04 | 1967 | 53. Grand Hotel Terminus | Bergen | 05.10-06.10 | 1998 |
| 22. NTH/SINTEF | Trondheim | 13.11-14.11 | 1967 | 54. Statoils forskn.senter | Trondheim | 04.11-05.11 | 1999 |
| 23. Institutt for Atomenergi | Oslo (Gaugstad) | 12.05-13.05 | 1969 | 55. FFI/IFE/Unik | UniK Kjeller | 15.11-16.11 | 2000 |
| 24. NTH/SINTEF | Trondheim | 10.11-11.11 | 1969 | 56. HiSoT/Prinsens kino | Trondheim | 25.10-26.10 | 2001 |
| 25. OMI/Sverre Munch AS | Bergen | 12.11-13.11 | 1970 | 57. Høgskolen i Buskerud | Kongsberg | 23.10-24.10 | 2002 |
| 26. NTH/SINTEF | Trondheim | 08.11-09.11 | 1971 | 58. NTNU | Trondheim | 22.10-23.10 | 2003 |
| 27. Sentr.inst.for ind.forskning | Oslo (Gaugstad) | 25.11-26.10 | 1972 | 59. Høgskolen i Stavanger | Stavanger | 20.10-21.10 | 2004 |
| 28. NTH/SINTEF | Trondheim | 06.11-07.11 | 1973 | 60. Statoils forskn.senter | Trondheim | 25.10-26.10 | 2005 |
| 29. OMI/Universitet i Bergen | Bergen | 14.10-15.10 | 1974 | 61. NFA dagene | Gardermoen | 17.10-18.10 | 2006 |
| 30. NTH/SINTEF | Trondheim | 03.11-04.11 | 1975 | 62. Britannia Hotell | Trondheim | 24.10-25.10 | 2007 |
| 31. Rogaland Distriktshøgskole | Stavanger | 04.10-05.10 | 1976 | 63. Rica Hotell | Hammerfest | 28.08-29.08 | 2008 |
| 32. NTH/SINTEF | Trondheim | 31.10-01.11 | 1977 | 64. Statoils forskn.senter | Trondheim | 20.10-21.10 | 2009 |

Servomøtet 2009 was a 2-day event organised as a combination of plenary and parallel sessions. The first plenary presentation was given by Olav Egeland. He gave reflections about the need for universities to teach detailed problem solving, and not only understanding at an overview level. He also presented an overview of the development at the Department of Engineering Cybernetics since 1965. The second speech was given by Halvor Kjørholt who presented information about costs, time needed for drillpipe handling and non-productive downtime. The third talk was given by Gerhard Nygaard who presented control systems techniques applied to the drilling process. Topics which were presented were managed pressure drilling, excitation for system identification and the need to change a driller's focus. Svein Ove Aanesland presented topside operations and control challenges caused by phenomena such as drillstring elasticity and stick-slip friction. The next three presentations focused on managed pressure drilling (MPD). Øyvind Breyholtz presented results on nonlinear MPC for MPD operations. Fredrik Varpe presented MPD and related topics such as operator screen system, choke system and factors influencing bottom hole pressure. Svein Hovland presented experiences with MPD operations and the SINTEF model. The complete 2-day program is shown in the Table on the following page.



Left: Plenary session. Right: Coffee break.



Sigurd Skogestad presents in session 2B.

| Day 1 Plenary | |
|---|--|
| Olav Egeland: Reflections: Industry vs academia Halvor Kjørholt: Need for automation of drilling process as seen from an operator Gerhard Nygaard: Control theory applied to drilling Svein Ove Aanesland: Automatition of topside drilling operations Øyvind Breyholtz: Nonlinear MPC for coordinating pump rates and choke valve during MPD operations Fredrik Varpe: Pressure control at Gullfaks C Svein Hovland: Experiences from pressure controlled drilling using automatic choke-control | |
| Day 1 - Session 1A | Day 1 - Session 1B |
| Geir Hovland: Adaptive Backstepping Techniques for Motion Control of Hydraulic Drilling Equipment Jonas Aamodt Moræus: Target seeking flood light Raymond Kristiansen: Coordinated control of satellites in formation Pål From: Robots mounted on moving platforms | Jo Arve Alfredsen: Modern fishfarming needs cybernetics solutions - some ideas Jan Tommy Gravdahl: Nano-positioning Per-Olav Rusås: Estimation and control used in instrument for on-line spectroscopic measurement |
| Day 2 - Session 2A | Day 2 - Session 2B |
| Øyvind Stavdahl: Model-based classification of human motion Øystein Engelhardtzen: Collision avoidance and terrain following for HUGIN AUV Tor Arne Johansen: System for active safety in cars Christian Holden and Gullik Jensen: Parametric roll / Modeling and control of offshore pipelay operations Webjørn Rekdalsbakken and Ottar L. Osen: Intelligent control of 6DOF Stewart platform | Sigurd Skogestad: Self-optimising and explicit methods for on-line optimisation Bernt Lie: Recent methods for state estimation - examples of applications Bjarne A. Foss: Dantzig-Wolfe decomposition for RTO applied to Troll oil Elvira M.B. Aske: Coordinator MPC - from theory to industrial implementation Morten Hovd: Simplified explicit MPC |
| Day 2 Plenary | |
| Berit Moltu: IO and mobilisation of knowledge within the OPS units for operation and maintenance Frøy Birte Bjørneseth: Maritime Software Applications: Usability and graphical interfaces Vignleik Norheim: 'The big picture' - Intentions and real use of large screen solutions in control rooms Charlotte Skourup: Who are tomorrow's operators? | |

The 2010 Servomøtet will be organised in Aalesund for the first time before it returns to Trondheim in 2011.

